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Journal of Clinical and Nursing Research (JCNR) is an international, peer reviewed and open access journal that seeks to promote the development and exchange of knowledge which is directly relevant to all clinical and nursing research and practice. Articles which explore the meaning, prevention, treatment, outcome and impact of a high standard clinical and nursing practice and discipline are encouraged to be submitted as original article, review, case report, short communication and letters.

Topics covered by not limited to:

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- Clinical and nursing research to enhance patient safety and reduce harm to patients
- Ethics
- Clinical and Nursing history
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Table of Contents

1	Role of Nurses in the Management of Common Gynecological Diseases: Recent Advances <i>Hardeep Singh Tuli</i>
12	Analysis of the Risk Factors of Upper Limb Lymphedema after Breast Cancer Surgery and Nursing Care <i>Linlin Qian</i>
18	Analysis on the Influence of PBL Teaching Method on Knowledge Awareness Rate in Teaching of Elderly Lung Cancer Nursing <i>Qing Ji</i>
22	Study on the Value of the Theory of Protection Motivation in the Nursing of Spinal Fracture to the Quality of Life <i>Jianping Fan, Qi Wang</i>
27	Analysis on the Factors Related to the Accidental Pregnancy in 98 Teenage Girls <i>Yang Xu, Guixia Yang</i>
33	Assessment of Ankylosing Spondylitis Based on the Theory of Yin and Yang in Traditional Chinese Medicine <i>Yuan Cheng, Jichao Yin, Xinglv Hu, Penggang Xu, Yingchun Liu, Chengxiang Lei</i>
37	Treating Ulcerative Colitis by Activating Blood Circulation to Dissipate Blood Stasis <i>Yi Hu, Tao Yu</i>
40	Xinli Wen's Experience in Treating Chronic Gastritis with Insomnia <i>Xueyan Ma, Xinli Wen</i>
43	Ruixia Pei's Experience in the Treatment of Hypothyroidism <i>Xingyu Chen, Fen Zhang, Di Sun, Ruixia Pei</i>
47	Clinical Experience of "Harmonizing Method" based on Usage of Minor Bupleurum Decoction <i>Shuanglong Ji, Jiayong Zhang</i>

- 51 Professor Ruixia Pei's Clinical Experience in Treating Globus Hystericus with "Harmonizing Method"**
Di Sun, Ruixia Pei, Xingyu Chen, Fen Zhang
- 54 A Study on the Law of Birth and Formation of Yang-Deficiency Constitution Based on the Theory of Five Movement and Six Qi**
Jingyi Bai, Xinli Wen
- 58 Discussion on Traditional Chinese Medicine Understanding of Renal Cyst**
Ningning Li, Ping Fan
- 62 On the Modern Clinical Application of Wendan Decoction**
Yina Xiao, Mingjun Zhao, Zijuan He, Gejing Chen, Mingming Wei
- 65 Professor Xiaoyan Wang used Yinhuo Decoction to Treat Yang Insomnia from not Entering Yin Type**
Yihan Liu, Linlin Yang, Xiaoyan Wang
- 68 Collection of Professor Lihong Zhu's Experience in Treating Postpartum Hypogalactia of Blood Deficiency and Liver Depression Type**
Jie Wang, Xiaodan Yang, Zhenzhen Jia, Lihong Zhu
- 72 Professor Xiaoyan Wang's Experience in Treating Tinnitus with Qi Vacuity Pattern by Using Qi Monism**
Linlin Yang, Yihan Liu, Xiaoyan Wang
- 75 Evaluation of the Clinical Efficacy of Acupuncture and Moxibustion Combined with Repetitive Transcranial Magnetic Stimulation on Cognitive Function and Sleep Disorders in Patients with Mild Vascular Dementia**
Ningyao Wang, Guohui Xu, Nan Wang, Wuying Piao, Guanghui Gao
- 81 Application of Intensive Pain Nursing in Postoperative Nursing of Clinical Patients with Lung Cancer**
Fangming Sun
- 86 The Causes of Individual Differences in Autism Spectrum Disorder**
Yufei Jin

- 90 **Study on the Mechanism of Mulberry Root Bark Decoction in the Treatment of Chronic Obstructive Pulmonary Disease based on Network Pharmacology**
Jie Meng, Xuanguo Zhang
- 96 **Research Progress on Pathogenesis and Intervention Measures of Depression**
Yun Shang, Beibei Ge, Xiaolei Zhang
- 104 **Effect Observation of Process Diabetes Group Nursing on Patients with Diabetes Mellitus**
Menghu Zhang
- 108 **Application of Big Data Deep Learning in Auxiliary Diagnosis of Lower Extremity Arteriosclerosis Obliterans**
Linbo Liu, Yang Liu, Hongjun Wang, Yi Zhang, Zhijie Liao, Shengdong Du
- 113 **A Case of Perianal Necrotizing Fasciitis from Perianal Abscess with Integrated Chinese and Western Medicine Treatment**
Shenghua Du, Jingtao Sha, Xiangyan Yan, Peizheng Han
- 117 **Advances in Modern Pharmacology Research of Tabanus**
Yue Qu, Zhenyuan Hu, Yue Zhao
- 120 **Improved Epicanthus Correction Combined with Double Eyelid Surgery**
Zhisheng Li
- 125 **Effect Analysis of Hospital Nursing Management Based on Informatization**
Lijuan Zhang, Ling Sun, Huifang Cao, Shaofeng Zhu
- 130 **Practice and Effect Evaluation of Drug Reorganization in Patients with Chronic Obstructive Pulmonary Disease**
Peng Yan, Laiji Zhou, Chunwang Hua, Ping Gan
- 136 **Clinical Analysis of Dispelling Wind, Eliminating Lung and Relieving Cough Combined with Western Medicine in the Treatment of Cough Variant Asthma in Children**
He Huang

- 142** **Effect of Psychological Nursing on the Mental State and Quality of Life of Patients After Heart Valve Replacement for Rheumatic Heart Disease**
Lijuan Wu, Liping Feng, Hui Chen
- 147** **Research Progress of the Influence of Acromegaly on Cardiovascular Diseases**
Yalan Wang, Jiahe Xie
- 152** **Evaluation of Laparoscopy Combined with Intraoperative Gastroscopic Local Gastrectomy in the Treatment of Gastric Neuroendocrine Tumors**
Nannan Zhao, Xinxin He
- 157** **Logistic Regression Analysis of the Influencing Factors of Cryptogenic Stroke with Positive c-TCD**
Jing Wu, Guoping Ma, Jing Wang, Hongjuan Li, Lili Zhang, Lizhu Zhou
- 162** **Effect of Nursing Intervention on Improving the Cognitive Function of Patients with Mild Cognitive Impairment**
Li Sun, Zhenzhu Shang
- 167** **Effect of Psychological Intervention on Emotion of Patients with Tumor Radiotherapy**
Chao Wang, Bo Xiang, Bo Han
- 172** **Qualitative Study on Male Nursing Students' Cognition of Nine-Valent Preventive Vaccine**
Tiantian Jia, Junjuan Zhang, Jiajia Li, Lili Tian, Yufeng Liu, Wenjing Yu, Ruijuan Han
- 179** **China Elderly Care: A Confucian Legacy**
Yutao Song
- 189** **Clinical Analysis of Targeted Navel Drops in the Treatment of Diabetes Mellitus**
Yueping Zhu

Role of Nurses in the Management of Common Gynecological Diseases: Recent Advances

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Abstract: In recent years the role of the specialist nurse with respect to gynecology and women's health has gained significant importance. The advancement in the nursing practice has provided an insight to interact with patients to explore their history. Such hysteroscopy procedures may not only give a better feel to the patient but also explore the need for doctor treatment. The review updates about the ongoing advances in the field of nursing science to upgrade the life of patients with gynecological diseases. Evidence has suggested the promising role of nurses to motivate patients with improved health after the treatment. The present review will cover the various health issues of women including menstrual dysfunction, fertility, and management of pregnancy's termination, uro-gynecological issues, and gyne-oncology, etc. The role of nurses during the above health issue will be discussed via various procedures. Therefore, the present review will conclude the significant importance of nurses in women's health issues to sustain happiness and to strengthen the need to bring advances in the curriculum of nurses to full fill the requirement of medical staff.

Keywords: Gynecology; Menstrual problems; Papillomavirus; Fertility issues; Abortion; Cancer

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1. Introduction

Nurses are playing a key role to improve women's gynecological issues via medical counseling. In the last decade, the requirement for trained nursing staff has increased significantly. Nurses curriculum has also been revised a lot to empower them with advanced medical practitioner skills^[1-4]. Such trained practitioner nurses may have expertise (**Figure 1.**) in a diverse range of areas like obstetrics, gynecology, urogynecology, gynecologic oncology, and infertility, etc. Therefore, such practitioner nurses may be appointed at rural primary health care centers to help poor peoples. It has been estimated that out of 44 million health care staff, 21 million corresponds to nurses and midwives^[5-7]. Therefore, the rate of nurse's occupation is much higher which suggests promising carrier perspective of nurses to full fill the need of patient's healthcare. Recent researches have shown that a woman faces more health issues and frequent visit to hospitals in comparison to men. It has been estimated that all women may face minor /or major gynecological issues in their life. Mostly, the cases are minor and treatable with personal hygienic and medical counseling. However, some of the cases may turn into severe complications and required major surgeries and lifelong medical consultancy.

Therefore, a regular visit to medical centers and proper nursing care can prevent several gynecological health issues. For instance, a nurse practitioner starts a telephonic conversation with women patients with gynecological problems and instructs them if there is an emergency to visit the hospital or not^[8-10]. The educational skills of nurses ensure to retrieve the necessary information via hysteroscopy investigation to analyze the required test as well as disease diagnosis. Nurses apply a set of necessary questioners to know

sensitive issues including sexual history, contraception, and pregnancy, etc. Nurses are also trained for physical examinations of women patients with gynecological issues ^[11,12]. Therefore, such gynecological specialist nurses may help women patients a lot to omit their clinical symptoms. The present review is describing the advancement in the nursing profession to combat women's gynecological issues to ensure high-quality care.

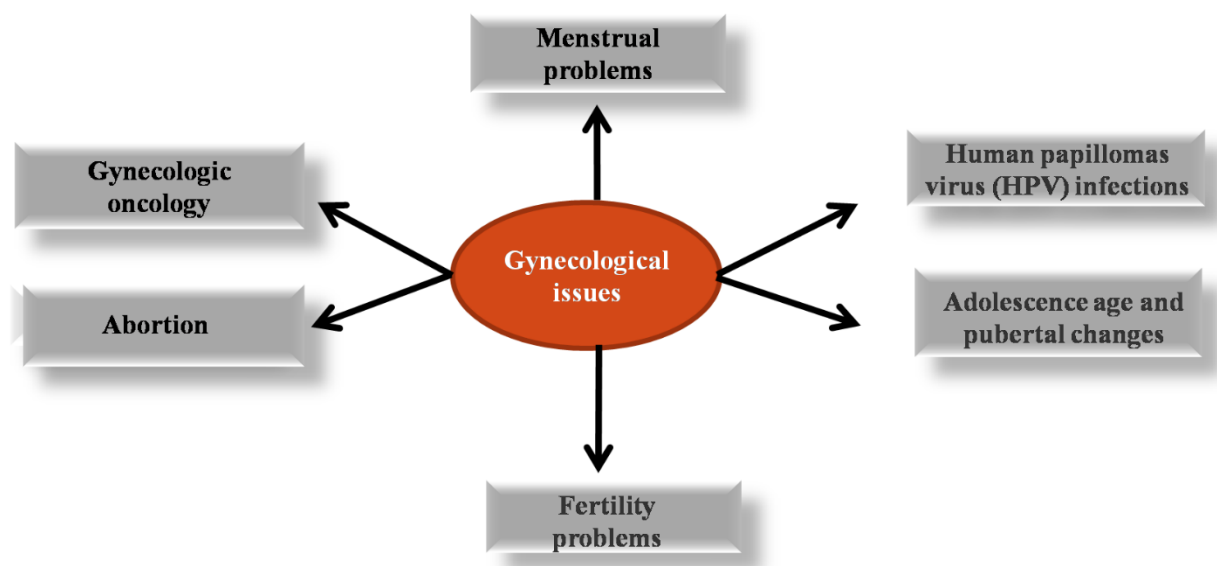


Figure 1. Immense potential of nurses to deliver in a diverse range of gynecological problems of women.

2. Gynecological issues in women

2.1. Menstrual problems

Problems in the menstrual cycle are considered to be one of the most common causes of women patients' consultancy ^[13,14]. Studies described 1 out of 20 women in the age group of 30 to 49 visits medical centers each year due to menstrual cycle issues. Several times it has been seen that women consider heavy menstrual bleeding a normal process. Even they feel embarrassed to discuss such issues socially and tried to manage themselves. During the last decade, this area of women's health has researched a lot and come up with numerous clinical improvements ^[15,16]. It has been observed that menstrual heavy bleeding issues disturb women's social and emotional relationships. Unregulated release of hormones is found to be associated with heavy bleeding issues in younger age women ^[17,18]. However, in many cases, fibroids and Polyps of endometrial may also be seen during the hysterectomy of patients. Such pathological issues can only be identified via clinical examinations ^[19,20]. A woman with a history of heavy menstrual bleeding undergoes physical examination for speculum and abdominal to explore the size of uterus and fibroids. In addition, patients are examined for total blood count and clotting disorders. If patients found with significant menstrual bleeding symptoms, then pharmacological treatment is initiated for up to 3-months. Several drugs including levonorgestrel, Tranexamic acid, mefenamic acid, may be considered to prevent heavy bleeding ^[21-23].

2.2. Human papillomavirus (HPV) infections to women's

HPV is responsible to cause skin warts in the cervix region and known to initiate cervical cancer in women. Out of 100 different types of papillomavirus, 40 are known to infect genital areas ^[24-26]. They are further divided into two categories including low risk and high risk of cancer-causing virus. HPV- 16 as well HPV 18 is found to be a common cause of cervical cancer. The HPV infection leads to cervical intraepithelial neoplasia or the formation of precancerous outgrowth ^[27-30]. In 70 % of the cases of women

with HPV viral infections had sexual intercourse history. However, mostly, this infection is self-healed by the body's immune system. Women are further encouraged to regular checkup and colposcopy of their cervix from nurse colposcopist ^[31-34]. Special training courses are being offered to train skilled nurses for such colposcopy testing of women. Such colposcopic examinations provide insights to detect the severity of diseases and infections. In most countries, colposcopy is highly recommended before starting any therapy, and colposcopists instructed to critically examined cytology and histology for accurate diagnosis ^[35].

2.3. Adolescence age and pubertal changes

Adolescence age is considered to be very important in women's life due to the progression of biological as well social maturity ^[36-39]. Nurses are provided training to help girls of adolescent age to tackle menstrual and congenital problems. During the pubertal time period, a young person develops the growth of secondary sex organs. Prominent growth of breasts is generally seen in young girls during puberty followed by development in other regions. It usually takes 18 months to complete the growth of secondary sex organs ^[40]. Recent studies demonstrated that puberty age is decreasing due to unhealthy lifestyles ^[41-43]. In many countries, the puberty age is decreased and started from 12.3 years instead of 15 years. Experience nurses ask a set of questions to the young girl and try to explore the reason for their visit to the medical center. Nurses are very well aware of the anatomy of adolescent girls and the ongoing changes in their reproductive parts ^[44,45]. For instance, the development changes of the vulva at the time of puberty are noticeable. Experience nurses always take such changes in mind before reaching any diagnostic decision. During medical examination young girls are found to be unfamiliar with the nomenclature of female anatomy and the changes of puberty stage.

2.4. Fertility problems

After one year of marriage women generally try to have a child in their life. In last few decades, it has been observed that couple avoids having parenthood before 35 years. Such delaying in family planning may affect female fertility ^[46-49]. If a couple not able to have a child even after having unprotected sex for more than a year should visit a medical center. There has been a diverse range of infertility reasons including ovulation disorders, fallopian tube, and uterine disorders ^[50-52]. In addition to this, lifestyle-associated and environmental factors may also cause infertility ^[53]. A couple facing problems to have child should decide to move health care centers and agree to go with initial checkups. Involvement of both husband and wife in initial assessment and questioners enable them to pursue the exact investigation and nursing care. Such primary examination and history evaluation not only help to locate risk factors but also explore other hidden causes of infertility. Nurses provide space to the women to gather maximum information to explore infertility reasons ^[54-56]. Nurses are trained to initiate sensitive and private talks including sexually transmitted diseases and abortion with women's to analyze the optimum cause ^[57-58]. Such investigations may identify the need for specialist doctors and further physical examinations.

2.5. Early pregnancy issues

There has been a set of guidelines for nurse practitioners for the early pregnancy unit to must-have clinical coordination and leadership quality. Women's safety should be the ideal goal during early pregnancy circumstances ^[59]. Such skilled nursing practitioner not only helps in effective treatment but also lower down the hospital stay of patients. Basics of embryology revealed the release of oocytes from the ovary and captured by fallopian tubes ^[60]. Fertilization occurs in the ampulla of the fallopian tube which results in the formation of a zygote followed by several cell divisions to form morula and blastula stages. At 5th day of fertilization, the blastocyst stage of the embryo moves forward in fallopian tubes and starts to implant in the uterus ^[61-62]. This is the time when blastocyst starts to produce a detectable amount of HCG (human

chorionic gonadotropin) in urine. On the 20th day, one can easily find the development of heart pulsation. Bleeding during this period is a time of concern and medical visit for women. They may feel intense pain, stress and be in a panic to investigate their concern about developing fetus ^[63]. Nurse practitioners try to investigate such cases by interacting with patients in terms of miscarriages. It may be a challenging perspective for nurse practitioners to provide the right guidance and counseling to the women patients suffering from bleeding and pain. Practitioners are suggested to confirm intrauterine pregnancy via transvaginal ultrasound ^[64-66]. As per the guidelines patient should be examined with full dignity and in the presence of a chaperone. There should not be any language barrier while doing the physical and hysteroscopy examination and a proper language translator should be provided. Early bleeding might be associated with miscarriage therefore it is recommended to evaluate thoroughly for the gynecological history of the patients ^[67-69]. Statistic's analysis suggests that out of four women one faces miscarriage issues. Such miscarriage incidences have been majorly seen during the initial 12 weeks of pregnancy.

2.6. Abortion

Millions of abortions are carried out each year globally due to several reasons. It has been seen that from the last decade the age profile of women's going for abortion changed a lot. Previously the women with abortion were majorly under the age of 25 but now a day's abortions cases observed with above 30 ^[70-72]. Ladies who are planning to undergo abortion required significant nursing care. Abortion is required to make lawful by taking the consent of a registered medical doctor. Generally, abortion is done if there's any death or permanent injuries associated with the risk to a pregnant lady. Recent studies have confirmed the significant role of nurses and midwives to handle pre-abortion cases ^[73,74]. During pre-abortion period, women need a positive environment, and should not feel alone. Such an environment allows women to disclose domestic violence, or sexual assault to further make sure that abortion is essential to conduct ^[75,76]. In several cases, it has been seen that women are determined for their decision to go with abortion, however, if they unsure then all the options should be discussed.

2.7. Menopause

Menopause is the condition when a women's menstrual cycle ends due to the natural aging process. At this stage, they will not be considered fertile as of loss of follicular activity and ovulation ^[77,78]. Women possessed six hundred thousand fertile oocytes at the time of puberty but the number decreased significantly during the natural aging process. At the age of 45 years, the majority of women's experiences irregularities in the menstrual cycle and eventually stops ovulation and entered in menopause phase ^[79]. The complex mechanisms of hormonal action are observed at the time of menopause. For instance, low secretion of estrogen, progesterone, testosterone, follicle-stimulating hormone (FSH), luteinizing hormone (LH) associated with loss of follicular activity ^[80-82]. In several countries around the 50th of the year, women's entered menopause and lost their reproductive life. Women gradually face peri-menopause to post-menopause phases and required regular medical and nursing healthcare ^[83-84]. Nurses are specially trained to support and understand the signs of menopause in women. Nurses provide briefings to women's patients about psychological and medical treatment strategies such as hormonal therapies to overcome peri and post-menopause phases ^[85,86]. Surgical menopause is the term where ovaries are removed due to one or several reasons including fibrosis, or tumor. In such cases, symptoms of menopause are found to be very severe towards women's health.

2.8. Sexual health of women

Pleasant and negotiated sex can foster closeness in the relationship and build trust between the couple. It has been considered that satisfying sex life not only enhances fertility but also strengthens mental health.

On the other hand, unhappy sex life may be responsible for stressful life [87-89]. Therefore, it has been essential to improving sexual life to enhance wellbeing in a cost-effective manner. Sexual health needs to be monitored to lower down the sexually transmitted infections, and unintentional pregnancies. The awareness about sexual health and reproductive life is essential to spread at health care and maternity centers. Nurses have been found to play an important role to provide confidential space to the women to share sensitive issues [90-92]. Patients should feel comfortable disclosing ongoing health problems. Nurses are encouraged to give person-centered care to women patients. Studies revealed that sexual health can enhance happiness in a patient's life. However, there should be a balance between sexual health and contraception methodology.

2.9. Gynecologic oncology

Cancer is unorganized growth of cells and considered to be one of the prime causes of mortality each year. Uncontrolled growths of tumors are found to show metastasis and spreading from one site to another. There have been a variety of cancer treatment strategies are available such as chemotherapy, radiotherapy, and surgical procedures [93-95]. Nurses are found to play an important role during cancer treatment of patients. Women who are facing gynecological cancer have to appear for examination in front of a multidisciplinary gynae medical team. At the time of cancer diagnosis, each patient is allocated a skilled nurse practitioner to look after for cancer care, in addition, to support emotionally [96-98]. Such trained nurse practitioners guide the patients towards their financial and psychological worries throughout the treatment journey. Nurses are provided with a set of questioners to explore the physical, spiritual, and social behaviors of the cancer patient to come up with promising cancer care oriented strategy. Such prior information at the time of diagnosis will not only speed up the cancer treatment efficacy but also strengthens patient's trust towards cancer therapies [99,100]. Nurse practitioners have to present the patient's report in multidisciplinary meetings and provides support to gynecology patients. Once treatment procedures of patients are completed, nurse practitioners provide a briefing on recurrence symptoms of the disease and guide them to supervise such signs.

3. Conclusion

Evidence suggested that women required regular counseling and health checkups to avoid serious gynecological disorders. Nurse practitioner guidance may provide an impressive roadmap to the girls to overcome the prickly journey from menarche to menopause and later on. Previous studies strengthen the role of nurses to educate women patients about the phases and consequences of disease and possible management of therapeutic strategies. Nurses are found to play a critical role before and after the patient surgery too. In the present scenario, the scarcity of medical staff in rural areas may be fulfilled up to a certain extent by trained and skilled nurse practitioners. Such gynecological specialist nurses can provide health information to women's patients as per NICE guidelines. Therefore, it is worthy to make nurses an integral part of clinical settings.

Disclosure statement

The author declares no conflict of interest.

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Analysis of the Risk Factors of Upper Limb Lymphedema after Breast Cancer Surgery and Nursing Care

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Abstract: *Objective:* To evaluate and analyze the influencing factors of upper limb lymphedema after breast cancer surgery, and to study effective nursing intervention measures. *Methods:* 500 cases of early breast cancer patients from October 2017 to December 2020 were selected, all patients underwent surgical intervention, retrospectively analyzed the basic clinical data of patients, and statistically analyzed the influencing factors of upper limb lymphedema. All patients with upper extremity lymphedema received high-quality nursing intervention, and the specific nursing effect was analyzed. *Results:* Logistic regression analysis showed that the risk factors of upper limb lymphedema after breast cancer surgery included hypertension, postoperative upper limb functional exercise, delayed healing of incision, radiotherapy and so on. After nursing intervention, the patients' elbow 10cm, elbow 10cm, wrist size value and VAS score were better than those before nursing ($P < 0.05$). The quality of life score of patients after nursing intervention was significantly better than that before nursing ($P < 0.05$). *Conclusion:* Hypertension, postoperative upper limb functional exercise, delayed healing of incision, radiotherapy and other factors can induce upper limb lymphedema after breast cancer surgery. Effective nursing intervention can alleviate the condition of patients with upper limb lymphedema and improve their quality of life, which is worthy of comprehensive promotion.

Keywords: Mammary cancer; Lymphedema of upper extremity; Occurrence factors; Nursing

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1. Introduction

Upper limb lymphedema has no multiple complications after breast cancer surgery, which can lead to limb movement dysfunction, and can also lead to negative emotions of patients, which seriously affect the prognosis. Therefore, it is necessary to deeply analyze the influencing factors of upper limb lymphedema after breast cancer surgery, and explore reasonable and effective nursing intervention programs. Therefore, to reduce the incidence of upper limb lymphedema after breast cancer surgery and improve the prognosis of such diseases Treatment effect of the disease ^[1-2]. This study summarized the basic clinical data of patients in our hospital, studied and systematically analyzed the high-risk factors of upper limb lymphedema after breast cancer surgery, and studied the effective nursing intervention program.

2. Material and methods

2.1. General information

500 patients with early breast cancer were selected from October 2017 to December 2020. All patients were diagnosed with breast cancer by comprehensive examination. The estimated survival time was more than three months. There were no cognitive and language disorders, non-bilateral breast cancer and recurrent

breast cancer, and no organ metastasis. They agreed to participate in this study. The basic clinical data of 500 patients were collected and analyzed. The range of age ranged from 24 to 65 years old, with an average of (45.38 ± 3.79) years old, including 248 cases on the left side, 252 cases on the right side, 104 cases in stage I, 248 cases in stage II and 148 cases in stage III.

2.2. Methods

The data of age, body mass index, lesion location, disease stage, axillary lymph node dissection, tumor volume, radiotherapy, chemotherapy and endocrine therapy, postoperative upper limb functional exercise, delayed healing, combined hypertension and infection were analyzed to determine the influencing factors of upper limb lymphedema after breast cancer surgery.

A total of 62 patients with lymphedema of upper limbs were treated with high-quality nursing intervention.

2.2.1. Skin tissue care

The nursing staff told the patients to wear soft and loose clothes to avoid skin tissue friction and scratch. If the patients have skin redness, swelling, heat, pain and ulceration, they need to inform the doctor in time and follow the doctor's advice for anti-infection treatment.

2.2.2. Comprehensive functional exercise

Postoperative functional exercise should be completed step by step to promote the disappearance of edema and improve the function of shoulder joint. Early rehabilitation exercise (within two weeks after operation).

- (1) The first section was clenching and loosening (24 hours after operation)
- (2) The second segment was wrist movement, wrist movement up and down, combined with internal and external rotation (48h after operation).
- (3) The third segment was forearm movement, forearm flexion and extension (3 days after operation).
- (4) The fourth segment was elbow movement, with the waist as the support point, the arm was raised properly, placed in front of the contralateral chest, and completed alternately on both sides (5 days after operation).
- (5) In the fifth segment, the healthy side held the affected elbow and raised it to the chest (7 days after operation).
- (6) In the sixth segment, the shoulder was relaxed and rotated forward and backward (9 days after operation).
- (7) The seventh segment was upper arm movement, and the upper arm was raised parallel to the ground (10 days after operation).
- (8) The eighth segment was neck movement, neck rotation in different directions, hands akimbo (11 days after operation).
- (9) The ninth section is body rotation. The arm swung forward and backward, and the upper body swung left and right (11 days after operation).
- (10) The tenth segment was shoulder lifting. The healthy side held the affected wrist, raised it to the chest, and stretched and stretched forward (14 days after operation).

2.2.3. Lymphedema massage

The nurses fully moved the wrist joint, elbow joint and fingers of the patients, and carried out acupoint massage on the upper limb lymph nodes to guide the patients to complete the abduction and adduction related exercises of elbow joint and shoulder joint, so as to alleviate the edema.

2.2.4. Dietary guidance and psychological counseling

Postoperative nursing staff should formulate healthy diet for patients, inform patients that the main principle of daily diet is low fat and low salt, increase the intake of calories, vitamins and protein, ensure that the daily diet is light and easy to digest, and avoid eating spicy food. Some patients with upper limb lymphedema after breast cancer surgery have serious negative emotions. Therefore, nursing staff need to pacify them, inform them of the pathogenesis and treatment plan of such complications, correct their misconceptions, give them full encouragement, and introduce the case data of successful patients, so that they can actively cooperate with the treatment intervention, thereby to promote the recovery of the disease.

2.3. Evaluation criteria

Logistic regression analysis was used to evaluate the influencing factors of upper limb lymphedema after breast cancer surgery.

2.4. Statistical methods

SPSS 23.0 software was used to calculate all kinds of data, the measurement data was ($\bar{x} \pm s$), the test method was t, the count data was (%), the test method was X^2 , if $P < 0.05$, there were differences between groups.

3. Results

3.1. Analysis of influencing factors of upper limb lymphedema after breast cancer surgery

Logistic regression analysis showed that the risk factors of upper limb lymphedema after breast cancer surgery included hypertension, postoperative upper limb functional exercise, delayed healing of incision, radiotherapy, etc. (Table 1.).

Table 1. Analysis of influencing factors of upper limb lymphedema after breast cancer surgery

Group	95%CI	SE	Wald	β
Complicated with hypertension	(1.135,19.127)	0.815	4.489	1.722
Postoperative upper limb functional exercise	(0.048,0.866)	0.765	4.669	-1.646
Delayed healing of incision after operation	(2.914,13.085)	1.197	3.529	2.138
Radiotherapy	(1.962,32.015)	0.773	8.004	2.196

3.2. Comparative analysis of nursing intervention before and after the elbow 10cm, elbow 10cm, wrist size and VAS score

After nursing intervention, the patients' elbow 10cm, elbow 10cm, wrist size and VAS score were better than before nursing ($P < 0.05$) (Table 2.).

Table 2. Comparative analysis of upper arm, forearm difference and VAS score ($\bar{x} \pm s$) before and after nursing intervention

Group	10 cm above elbow (CM)	10 cm below elbow (CM)	Wrist (CM)	VAS score
Before nursing (n = 62)	20.73 \pm 0.15	18.99 \pm 0.25	10.27 \pm 0.15	3.96 \pm 1.28
After nursing (n = 62)	18.18 \pm 0.49	17.72 \pm 0.16	9.12 \pm 0.06	1.45 \pm 0.27
T value	39.182	33.690	56.049	15.107
P value	0.000	0.000	0.000	0.000

2.3 Quality of life scores before and after nursing intervention were compared and analyzed

The quality of life score after nursing intervention was significantly better than that before nursing intervention ($P < 0.05$) (Table 3.).

Table 3. Quality of life score ($\bar{x} \pm s$) before and after nursing intervention

Group	Sociology	Emotion	Physiology	Function
Before nursing (n = 62)	17.38 \pm 5.24	17.44 \pm 5.16	18.31 \pm 5.65	10.36 \pm 2.97
After nursing (n = 62)	21.79 \pm 4.95	22.19 \pm 5.83	22.86 \pm 6.33	14.77 \pm 4.05
t value	4.817	4.803	4.222	6.914
P value	0.000	0.000	0.000	0.0

4. Discussion

The treatment of breast cancer can lead to the blocking of upper arm lymph reflux path, a large number of protein containing lymph components in the interstitial tissue, significantly increased filtration pressure, and decreased plasma protein content, resulting in a significant decrease in colloidal osmotic pressure, and induced capillary permeability, protein substances in the interstitial fluid cannot be effectively removed, lymph has a strong effect on the interstitial tissue Irritative effect, so that subcutaneous tissue fibrosis, lymph drainage limited continued to aggravate, and then the formation of lymphedema^[3].

To summarize and evaluate the data of this study, the influencing factors of upper limb lymphedema after breast cancer surgery mainly include hypertension, postoperative upper limb functional exercise, delayed healing of incision, radiotherapy and so on. The increase of blood pressure can lead to the increase

of the amount of material in blood vessels to the outside, which can significantly increase the amount of lymph production in patients, and then form lymphedema in upper limbs ^[4]. The failure of upper limb motor function training after operation can slow down the recovery speed of limb blood supply and lymph circulation, and a large amount of lymph remains in interstitial cells, leading to upper limb lymphedema. At the same time, the delayed healing of incision can lead to the aggravation of lymphatic vessel injury, the obstruction of collateral circulation and lymphatic vessel reconstruction, and then induce upper extremity lymphedema. Radiotherapy can cause serious damage to the body, which can lead to lymphatic and vascular occlusion in the radiation field, muscle fibrosis, lymphatic and venous compression, and lymphedema ^[5-6].

After the high-quality nursing intervention, the patients' elbow 10cm, elbow 10cm, wrist size, VAS score and quality of life score were better than those before the nursing intervention. High quality nursing of patients with upper extremity lymphedema as the core, nursing staff analysis of patients with disease characteristics, combined with their nursing service needs to develop various nursing interventions. Functional training can gradually restore the motor function of upper limbs, promote the return of lymph fluid to normal, form compensatory neovascularization of blood vessels and lymphatic vessels, significantly improve the living ability and motor ability of patients, and then improve their quality of life ^[7-8]. The massage of lymphedema of upper limbs is simple and noninvasive, and it can promote blood circulation and relieve edema by squeezing the deep tissue. At the same time, this study adds psychological nursing intervention measures, nurses give patients sufficient humanistic care, inform their disease-related knowledge, can maximize the improvement of patients' mental health, improve the degree of nursing cooperation, help to improve the prognosis.

In conclusion, hypertension, postoperative upper limb functional exercise, delayed healing of incision, radiotherapy and other factors can induce upper limb lymphedema after breast cancer surgery. Effective nursing intervention can alleviate the condition of patients with upper limb lymphedema and improve their quality of life, which is worthy of comprehensive promotion.

Disclosure statement

The author declares no conflict of interest.

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Analysis on the Influence of PBL Teaching Method on Knowledge Awareness Rate in Teaching of Elderly Lung Cancer Nursing

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Abstract: *Objective:* To study the effect of Project-Based Learning (PBL) teaching method in lung cancer nursing teaching and its influence on knowledge awareness rates. *Methods:* The research subjects were 50 nursing interns who entered the same hospital for internship in 2020. The numerical ranking method was used for blind-selection and grouping, where 25 nursing interns were divided into the control group and the internship group each. Among them, the nursing interns in the control group adopted routine nursing teaching management, and the nursing interns in the training group used PBL teaching method for teaching management. The teaching satisfaction rate, teaching quality and knowledge awareness rate of the two groups were compared. *Results:* Nursing interns in the practice group were better than the control group in their nursing knowledge awareness rate and teaching satisfaction rate after adopting the PBL teaching method, and $p < 0.05$. *Conclusion:* Through the implementation of PBL teaching method in the clinical nursing teaching of elderly lung cancer in conjunction with cancer nursing related problems, on-site answering is carried out in the way of nursing internship, so that the knowledge of nursing students in the practicing stage will be more in-depth, and the effects and quality of the nursing internship have been steadily improved, which has certain value of promotion in teaching.

Keywords: Elderly lung cancer nursing; PBL teaching method; Nursing teaching; Knowledge awareness rate; Teaching effect

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1. Introduction

PBL is a problem-oriented teaching method used in the elderly lung cancer clinical nursing internship, by taking the cases as a guide; taking the clinical lung cancer nursing-related problems as the basis; making the nursing interns as the main subjects of the heuristic internship education. This is so that the practical skills of nursing students in the internship stage are cultivated and the initiative and enthusiasm during the internship are improved^[1]. Chen Yue et al.^[2] studied the application of PBL teaching method in cancer pain nursing teaching show that this teaching method can improve the autonomous learning ability of nursing students during the internship and play a positive role in ensuring the steady improvement of teaching quality. In addition, He Jiaobo et al.^[3] have also researched on the application of PBL teaching method in cancer nursing internship nurses, and the results were similar to the former research, where the knowledge awareness rate and the teaching effect during the internship have been greatly improved. In view of this, this research mainly focuses on the application of PBL teaching method in nursing internship on elderly lung cancer. The research results are reported as follows.

2. Information and methods

2.1. Basic information

The research subjects are 50 nursing students who entered the same hospital for internship in 2020. The numerical ranking method was used to conduct blind-selection and grouping, and 25 nursing students were divided into the control group and the internship group each. Among them, the male to female ratio of interns in the control group was 5:20, aged 18 to 23 years old, with 10 undergraduates and 15 junior college graduates. The male-to-male ratio of nursing students in the internship group is 6:19, aged 18-22, with 8 undergraduates and 17 college graduates. There is no significant difference in the basic data of the two groups of intern nursing students, so comparative study can be conducted.

2.2. Internship methods

Intern nursing students in the control group adopted conventional nursing internship management, where teaching guidance was carried out in conjunction with teaching materials and clinical lung cancer nursing knowledge points, and rigorous teaching plans were formulated. After the internship had been completed and assessed, the teaching satisfaction questionnaires were filled up.

Nursing students in the internship group were introduced to PBL teaching methods on the basis of conventional nursing management teaching. The main teaching content includes:

- (1) To enter the clinical practice, it is necessary to clearly understand the clinical teaching tasks on lung cancer, guide the trainees to master the basic teaching knowledge points of PBL, and select practical and enlightening classic lung cancer nursing cases in internship teaching for nursing trainees to conduct nursing evaluation and nursing summary for patients with lung cancer.
- (2) Set up a nursing team with 3-5 people, with the group as basis, sort out and summarize the nursing problems of lung cancer discovered during the teaching process, and find out solutions and make detailed records. Meanwhile, the teacher will score and check the group's ability to answer questions and the compilation of report materials, and correct or supplement the existing inadequacies in time.
- (3) In the practice of nursing internship, the intern teacher should regularly lead the interns to conduct ward rounds, check the patient's physical signs, and consult the actual feelings of the patients to strengthen the interns' knowledge of lung cancer care as well as the medication management of patients etc. based on actual cases. In the process of teaching, we should also pay attention to the control of the learning atmosphere of nursing students, provide more guidance and more supervision, so that they can develop good habits of independent learning and active thinking ^[4].

2.3. Learning indicators evaluation

2.3.1. Evaluation of the mastery of theoretical knowledge.

Through the study of nursing students in the clinical nursing process of lung cancer, they will be evaluated on theoretical knowledge, practical skills and awareness of lung cancer-related knowledge upon the end of the term. Among them, the full score for theoretical knowledge and practical operation skills test is 100 points, and passing grade is 80 points. The requirement for awareness rate of lung cancer-related knowledge is 80%.

2.3.2. Evaluation of teaching satisfaction rate.

A self-made questionnaire was distributed to all participating nursing students. The survey was conducted anonymously to summarize and count the satisfaction of the nursing students with the internship teaching process.

2.4. Data processing

All survey data during the internship period were analyzed by the SPSS22.0 software, and the research data significance was confirmed with $p < 0.05$. The count data is expressed in the number of cases (n) and percentage (%), and the chi-square value test is performed; the measurement data is expressed in $\bar{x} \pm s$, and the t-test is applied.

3. Results

3.1. Statistics on the teaching quality and knowledge awareness rate of the two groups of interns

Upon comparison, it was found that the nursing students in the internship group which adopted PBL teaching have more obvious advantages than the control group in terms of teaching quality improvement and knowledge awareness rate, and the differences are significant. See **Table 1**.

Table 1. Statistics on the teaching quality and knowledge awareness rate of the two groups of interns

Group	Theoretical Knowledge (pts)	Practical Skills (pts)	Knowledge Awareness Rate (%)
Control (n=25)	77.88 \pm 2.55	78.51 \pm 5.23	20 (80.00)
Internship (n=25)	88.06 \pm 4.45	88.08 \pm 6.96	24 (96.00)
P	<0.05	<0.05	<0.05

3.2. Investigation and statistics on teaching satisfaction of the two groups of interns

It can be seen from **Table 2**, that the survey result of the teaching satisfaction of the nursing interns in the internship group which adopted PBL teaching method was 23, and the satisfaction rate was 92.00%, which is significantly higher than that of the control group which received conventional nursing education, and it is statistically significant.

Table 2. Comparison on teaching satisfaction of the two groups of interns

Group	Satisfied	Quite Satisfied	Dissatisfied	Satisfaction Rate (%)
Control (n=25)	13 (52.00)	6 (24.00)	6 (24.00)	19 (76.00)
Internship (n=25)	16 (64.00)	7 (28.00)	2 (8.00)	23 (92.00)
P			<0.048	

4. Discussion

According to the latest global cancer data released by IARC in 2020, lung cancer accounts for 11.4% of global new cancer cases and 18.00% of all cancer deaths. Among them, men are more likely to develop lung cancer. Smoking, air pollution, electrical radiation, gene mutations, and other chronic infections are the main factors for the high incidence of lung cancer. In view of this, during the treatment of lung cancer patients, taking appropriate nursing measures is the best choice to reduce the pain of treatment and improve the efficiency of rehabilitation. PBL teaching method is a new type of teaching method in the lung cancer nursing internship process, which can promote the thinking ability of the nursing interns in the learning process, the ability to solve practical problems, and the ability to summarize and organize the knowledge learned [5].

The results of this study show that the nursing interns in the internship group which carried out PBL were better than the control group in terms of improvement in the quality of nursing teaching and knowledge

awareness rate during the teaching process (theoretical knowledge score 88.06 ± 4.45 vs. 77.88 ± 2.55 ; practical skills score 88.08 ± 6.96 vs. 78.51 ± 5.23 ; knowledge awareness rate 96.00% vs. 80.00%), and the satisfaction rate on nursing teaching is also significantly higher than that of the control group (92.00% vs. 76.00%), and it has statistical research significance. During the internship stage, students have a better grasp and understanding of lung cancer treatment and nursing knowledge, which has good value for promotion in education.

Disclosure statement

The author declares no conflict of interest.

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Study on the Value of the Theory of Protection Motivation in the Nursing of Spinal Fracture to the Quality of Life

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Abstract: *Objective:* To analyze the effect of protection motivation theory on the quality of life of patients with spinal fracture. *Methods:* From August 2019 to September 2020, 72 patients with spinal fracture were selected and randomly divided into two groups. The routine nursing group was the routine nursing group, and the combined nursing with the theory of protective motivation was the dynamic nursing group. *Results:* The hospitalization time, detumescence time, healing time and muscle strength recovery time of group A were shorter than those of group B ($P < 0.05$). The VAS score and Barthel index score of the dynamic group were better than those of the conventional group ($P < 0.05$); The score of SF-36 in the group A was higher than that in the group B ($P < 0.05$). *Conclusions:* The application of protection motivation theory in the nursing of patients with spinal fracture can shorten the healing time of fracture, promote the recovery of muscle strength, relieve the pain of fracture, and then improve the ability of daily life and quality of life of patients.

Keywords: Spinal fracture nursing; Protection motivation theory; Quality of life; Application value

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1. Introduction

In orthopedic diseases, the risk of spinal fracture is higher, which is common in thoracolumbar fractures. Most of the patients with spinal fracture had a history of lumbar trauma. Physical examination showed spinal deformity, local tenderness and buttonhole pain. In severe cases, spinal cord injury may occur, affect motor function and sensory function, and even induce death. At present, most of the patients with spinal fracture are treated with internal fixation. In order to improve the effect of postoperative rehabilitation, scientific nursing intervention is supplemented to help patients return to society. However, the main content of routine nursing mode is to monitor the changes of patients' breathing, pulse, blood pressure, body temperature and other indicators, and to prevent complications such as venous thrombosis, pressure sores or aspiration pneumonia. It does not pay attention to the change of patients' self-care behavior, which limits the curative effect^[1]. In this paper, 72 cases of patients with spinal fracture were selected to explore the value of daily nursing motivation.

2. Material and methods

2.1. Information

From August 2019 to September 2020, 72 patients with spinal fracture were randomly divided into two groups. There were 23 males and 13 females, with an average age of (58.71 ± 3.28) years (range, 45-74 years); In the conventional group, there were 24 males and 12 females, aged from 46 to 75 years, with an average of (58.94 ± 3.31) years, including 7 cases of cervical spine fracture, 19 cases of thoracic spine

fracture and 10 cases of lumbar spine fracture. The selected samples were confirmed by X-ray and all of them were informed. The patients with liver, kidney and brain tumors were excluded. The ethics committee approved the study. The fracture site, age and gender of the two groups were compared, $P > 0.05$.

2.2. Methods

In the routine group, routine nursing was carried out, and the patients with spinal fracture were explained the hospital system after admission, and the patients and their families were led to be familiar with the hospital environment. Communicate with patients more, evaluate their psychological state, patiently explain the matters needing attention of spinal fracture. Guide patients to carry out various examinations and plan their daily diet according to the examination results. Preoperative preparation, pelvic floor muscle exercise and respiratory exercise were carried out one day before operation, and the operation process was informed at the same time. After the operation, the patients were instructed to carry out physical activities, and their family members were instructed to help the patients change their body position regularly. Postoperative regular attention to wound recovery, and guide patients to urinate correctly ^[2].

To carry out nursing care in combination with the theory of protection motive of the motor unit, the measures are as follows:

2.2.1. Create a nursing team

The nursing team was established by selecting experienced patients in the Department of spinal fracture nursing. The theoretical knowledge of protection motivation was trained for the team members. The internal and external susceptibility, reaction cost, reaction efficiency and severity of spinal fracture patients were judged in the form of variables. The individualized nursing scheme was determined according to the evaluation results of different patients ^[3].

2.2.2. Group education

Patients with spinal fracture were hospitalized for 1-4 weeks, and 60-90min health education was carried out. Videos and brochures were used to explain the development and outcome of spinal fracture, so as to guide the patients to correctly recognize the disease, so as to improve the patients' self-protection motivation. Meanwhile, the disease precautions and their impact on future life were informed, supplemented by psychological intervention. At the same time, assess the mastery of the patients, make the patients clear their own problems, and give guidance.

2.2.3. Individual intervention

During ward round, nursing staff should carry out individualized guidance according to the actual situation of patients, so as to strengthen the susceptibility and severity, and improve self-efficacy and response efficiency. Falls Risk Awareness Questionnaire (FRAQ) fall risk scale was used to determine the fall risk of patients with spinal fracture, and to inform the patients of the susceptibility and severity of secondary fracture, so as to improve the response efficiency and reduce the reaction cost of secondary fracture prevention. In order to improve the awareness of calcium supplement and enhance the efficiency of calcium intake, the awareness of calcium supplement should be corrected, and the effects of calcium deficiency on the body, as well as the potential risks and severity of calcium deficiency should be informed. In addition, during the nursing period, it is necessary to strengthen the communication with patients, weaken the internal and external returns, assist patients to form correct cognition by analyzing the internal factors caused by patients' daily behaviors, so as to promote patients to recognize the "benefits," such as guiding patients to scientifically recognize the pleasure brought by smoking and drinking, so as to weaken the internal returns, and at the same time, instruct patients' relatives and friends to communicate with patients more, to weaken

external returns ^[4].

2.2.4. Safety intervention

To reduce the risk of falls, the risk factors of falls were evaluated and preventive measures were formulated, such as instructing patients to stop after waking up, after getting up and after standing.

2.3. Statistical study

SPSS 21.0 was selected to calculate the relevant data of patients with spinal fracture, % and ($\bar{x} \pm s$) were selected to record the relevant counts and measurement indexes during treatment and care, and X^2 and t tests were performed.

3. Results

3.1. Analysis of recovery indexes of patients with spinal fracture

The time of hospitalization, detumescence, healing and muscle strength recovery of the patients in the dynamic group were shorter than those in the conventional group ($P < 0.05$). See **Table 1**.

Table 1. Analysis of recovery time of patients with spinal fracture ($\bar{x} \pm s$)

Group name	Length of stay (H)	Detumescence time (H)	Healing time (weeks)	Muscle strength recovery (weeks)
Group A (n = 36)	18.79 \pm 2.74	7.43 \pm 2.19	21.84 \pm 3.21	25.68 \pm 3.42
Group B (n = 36)	13.68 \pm 2.51	4.79 \pm 1.08	16.75 \pm 2.32	19.72 \pm 2.39
t	8.2511	6.4870	7.7109	8.5707
P	<0.05	<0.05	<0.05	<0.05

3.2. Analysis of VAS score and Barthel index score between groups

After nursing intervention, VAS score decreased and Barthel index score increased, compared with the conventional group, $P < 0.05$; Before nursing, VAS score and Barthel index of the two groups were compared, $P > 0.05$. As shown in **Table 2**.

Table 2. Analysis table of VAS score and Barthel index score in patients with spinal fracture (points, $\bar{x} \pm s$)

Group	VAS		Barthel index	
	Before nursing	After care	Before nursing	After care
Group A (n = 36)	7.41 \pm 0.59	2.69 \pm 0.38	64.38 \pm 3.79	85.19 \pm 4.23
Group B (n = 36)	7.42 \pm 0.61	3.51 \pm 0.42	64.43 \pm 3.81	73.24 \pm 3.47
t	0.0707	8.6866	0.0558	13.1050
P	>0.05	<0.05	>0.05	<0.05

3.3. Score analysis of quality of life between groups

The scores of quality of life in the intervention group were significantly higher than those in the control group ($P < 0.05$). As shown in **Table 3**.

Table 3. Analysis of quality of life in patients with spinal fracture (points, $\bar{x} \pm s$)

Group name	Somatic function	Mental health	Role physical	Social function
Group A (n = 36)	81.74 \pm 3.68	87.57 \pm 4.19	82.69 \pm 3.94	85.66 \pm 3.87
Group B (n = 36)	67.48 \pm 3.54	70.69 \pm 3.94	71.23 \pm 3.47	73.74 \pm 3.71
t	16.7559	17.6093	13.0967	13.3406
P	<0.05	<0.05	<0.05	<0.05

4. Discussion

Spinal fracture patients are often accompanied with spinal cord injury, which can affect muscle strength, and even lead to abnormal urination and defecation function. Most of the patients are treated with surgical treatment, and the postoperative patients have a long rest time. Therefore, the risk of deep vein thrombosis or other stress injury is high, which will affect the limb motor function and reduce the quality of life of patients. In this paper, the theory of protection motivation is applied to the nursing of patients with spinal fracture. Through the fall threat assessment, the awareness of the susceptibility and severity of secondary fracture of patients with spinal fracture is enhanced, the internal and external returns are weakened, and the reaction efficiency and self-efficacy of patients are improved. It is conducive to mobilize the enthusiasm of patients with spinal fracture, and make patients manage daily diet and transportation from the heart, to avoid the risk of falling. In addition, for patients with spinal fracture, calcium intake efficiency and exercise efficiency are important factors affecting bone health. However, affected by the condition of fracture, patients have low confidence in exercise behavior and calcium intake behavior. Therefore, collective education and individualized guidance can improve patients' cognition of scientific exercise and reasonable calcium intake, and instruct patients' relatives to communicate with patients more, which can reduce the cost of exercise Behavior, calcium uptake behavior and reaction cost [5]. Combined with the analysis of this study, the time of hospitalization, detumescence, healing and muscle strength recovery was shortened. VAS score decreased, Barthel index score increased, the quality of life score increased, suggesting that the effect of protective motivation theory in the nursing of patients with spinal fracture is better. The analysis of the reasons shows that the motivation group can effectively avoid the risk of secondary fracture, improve the self-efficacy and sensory efficacy of patients' prevention behavior, weaken the cognition of internal and external rewards, enhance the cognition of disease susceptibility and severity, and further improve the quality of life of patients Nursing cooperation, improve their quality of life.

In conclusion, the application of the theory of protective motivation in the nursing of patients with spinal fracture can improve the compliance of patients, and the rehabilitation effect is good, which has the promotion value.

Disclosure statement

The author declares no conflict of interest.

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Analysis on the Factors Related to the Accidental Pregnancy in 98 Teenage Girls

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Abstract: *Objective:* To understand the general information of adolescent girls with unplanned pregnancy and the information about abortion and reproductive health knowledge, analyze the influencing factors of unplanned pregnancy and explore the preventive measures. *Methods:* Using epidemiological investigation method, the adolescent females (age <19 years old) who volunteered requested pain deprivation in our hospital from January 2018 to December 2019 were examined by questionnaire with informed consultation, and the results were analyzed. *Results:* After screening, 98 valid questionnaires were received. The average age of girls were 16.81 years old, and the youngest was 13 years old. Employed girls accounted for 54.0%, students for 23.5% and unemployed people for 22.5%. Non-earners accounted for 38.8%, and those with monthly income less than 3,000 yuan accounted for 86.8%. 78.6 of those aged 16-18 had sex for the first time. The age of first sexual intercourse ≤15 years old accounted for 21.4%. The first abortion patients accounted for 84.7%, repeated abortion accounted for 15.3%. years old accounted for 19.05%. First abortion in the age ≤15 There was no statistical difference between the reproductive health knowledge mastery score and the family economic status, parents' occupation, parents' marital status, parents' sex education ($P > 0.05$). The score of reproductive health knowledge was statistically different from that of school sex education and hospital sex education ($P < 0.05$). *Conclusions:* The primary cause of unintended pregnancy is the lack of knowledge of contraception and reproductive health. Schools and hospitals are effective in sex education for adolescent girls. Relevant government departments, schools, families and hospitals should pay more attention to sex education and strengthen efforts to improve the quality of education, so as to further reduce the harm caused by accidental pregnancy of adolescent girls.

Keywords: Adolescent girls; Sex education; Accidental pregnancy; Abortion

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1. Introduction

With the progress of society, the first sexual life time of teenagers is ahead of schedule, and the rate of accidental pregnancy increases gradually, which seriously endangers the mental and physical health of girls. Therefore, it is necessary to give them correct education and guidance in time. In this study, the questionnaire was used to investigate the factors related to the unexpected pregnancy of adolescent girls, Analysis of the causes of unwanted pregnancies and explore preventive measures, reported below.

2. Methods

2.1. Survey subjects

From January 2018 to December 2019, our hospital asked for painless abortion (age <19).

2.2. Contents of the survey

Including the basic situation of patients, such as age, occupation, income, parental occupation, etc. The relevant information of reproductive information, such as the age of first sexual behavior, the age of first

abortion, the commonly used contraceptive methods, the way of sexual education and publicity, etc. Fill out the questionnaire of reproductive health knowledge and calculate the score. The preparation, filling and input of the questionnaire are the responsibility of the abortion operating room, and the corresponding quality control is adopted.

2.3. Statistical methods

The questionnaire number, double input and check, using EpiData 3.1 software to establish database, using Excel and SPSS 22.0 software for data analysis, using chi-square test and rate comparison for statistical analysis, $P < 0.05$ shows that the difference is statistically significant.

3. Results

3.1. General

The minimum age was 13 and the maximum was 18≤15.3 per cent, and 84.7 per cent, The average age was 16.81 years. 54.0% of employed persons, 23.5% of students. The proportion of unemployed people are 22.5%. 38.8% of persons without income. A monthly income of <3000 yuan accounted for 86.8 yuan. 38.0% of unwanted pregnant girls cohabiting with their sexual partners. The minimum age of a sexual partner is 14, up to 27. The average age is 18.22 years. 38.7% live with classmates/friends, 23.3% live with their parents. The top three parents are farmers, workers and individuals. The proportion of parents in a harmonious marriage was 86.7%. The proportion of marital discord is 10.2%. The proportion of unclear marital status of parents was 3.1%.

3.2. Abortion and contraception

The number of persons aged 16 to 18 years of initial sexual intercourse was 77, 78.6%. For the first time ≤ the age of 15 was 21, 21.4%. The number of first-time abortions was 83, 84.7%. For the first time ≤15 years of age, 19.05%. There were 15 repeat abortions, 15.3% ≤0 repeat abortions at the age of 15. The number of repeated abortions was 1. Four people ≤ three months apart from this abortion, 26.7% of repeat abortions. The remaining 11 people and this abortion interval is within a year. The main cause of this accidental pregnancy was 1.31.1% of the total number of people who have never taken contraception, Contraceptive failure accounted for 68.9%. Contraceptive losers use mainly condoms, extracorporeal ejaculation, emergency contraceptives and etc.

3.3. Premarital sexual attitudes

In this study, 35.7% of accidental pregnancy girls thought that premarital sex should not be performed at any time, 37.8% of accidental pregnancy girls thought that premarital behavior could be performed if they were to marry the man, and 26.5% of accidental pregnancy girls thought that if they had feelings with the man, they could have premarital sex.

3.4. Reproductive health knowledge score

42.9% of girls with unwanted pregnancies had active access to reproductive health knowledge and 57.1% had no active access to reproductive health knowledge.

The girls were divided into two groups according to different scores. The A group scored 4-14 ($n=43$) and the B group scored 15-24 ($n=55$). The main sources of reproductive health knowledge available to adolescent girls during unwanted pregnancies are schools, parents, hospitals and networks. According to chi-square test analysis, father's occupation had nothing to do with the score of reproductive health knowledge ($X^2=7.395$, $P=0.286$), mother's occupational and reproductive health knowledge score (X) was $X^2=12.435$, $P=0.133$), parents' marital status was not related to reproductive health knowledge score (X);

$X^2=2.545$, $P=0.280$), parental sex education had nothing to do with reproductive health knowledge score (X); $X^2=0.677$, $P=0.173$), school propaganda related to reproductive health knowledge score (X); $X^2=4.482$, $P=0.034$), hospital publicity related to reproductive health knowledge score (X); $X^2=5.252$, $P=0.022$). See **Table 1.** for details.

Table 1. Factors related to reproductive health knowledge score

	Reproductive health knowledge score		Total	P	X ²
	A group (4-14, n=43)	B group (15-24, n=55)			
Father's occupation					
Individual	5	15	20		
Workers	16	13	29		
Institutions and institutions	0	2	2		
Teachers	1	0	1		
Farmers	17	20	37		
Other	2	3	5		
Staff	2	2	4	0.286	7.395
Mother's occupation					
Individual	4	15	19		
Workers	12	9	21		
Institutions and institutions	0	2	2		
Teachers	0	1	1		
Farmers	17	16	33		
Other	1	4	5		
Unemployed	5	6	11		
Doctors	2	0	2		
Staff	2	2	4	0.133	12.435
Parental status					
Disparity	4	6	10		
Not clear	0	3	3		
Harmony	39	46	85	0.280	2.545
Parent sex education					
Yes	28	38	66		
Not taught	15	17	32	0.677	0.173
School sex education					
Not yet	16	10	26		
Access	27	45	72	0.034	4.482
Hospital sex education					
Not yet	24	18	42		
Access	19	37	56	0.022	5.252
Total	43	55	98		

4. Discussion

In recent decades, family planning services in China have made great achievements, but the past service focuses on married women of childbearing age, and the attention to unmarried teenagers is relatively small. With the development of society, the age of marriage and childbearing in our country is gradually delayed, which is contrary to the sexual physiological needs of teenagers, resulting in the increase of the number of accidental pregnancies of young girls in our country year by year ^[1-2]. According to statistics, there are about 15 million young girls giving birth every year, accounting for 20% of the world's total births, and the pregnancy rate of young girls in China is 3%, and the annual rate of increase is 6.9% ^[3]. Unforeseen pregnancy for young girls brings not only a heavy economic burden to society and family, but also a great harm to the physical and mental health of pregnant girls. Improving adolescent reproductive health literacy and reducing the rate of unwanted pregnancies among adolescent girls is a major focus of current research ^[4,5].

4.1. Characteristics of adolescent girls with unwanted pregnancies

In this survey, the minimum age was 13 years and the average age was 16.81 years. It is suggested that one of the main causes of accidental pregnancy is the age of primary sexual life. Although 54.0% of the employed population, the proportion of monthly income <3000 yuan is 86.8%, the income is on the low side and is not yet adult, which indicates that the education level is low. The above characteristics are consistent with the results of many other studies ^[6-8].

4.2. Factors related to accidental pregnancy in adolescent girls

Parents are the first teachers of children, and family sex education has a profound impact on adolescent sexual behavior. Many foreign literature reports that effective family sex education can effectively delay the age of first sexual behavior and reduce dangerous behavior ^[9-11]. Under the influence of conservative culture, the content of sex education given by Chinese parents to teenagers is relatively narrow and the effect is poor ^[12]. In this survey, the top three parents are farmers, workers and individuals, which reflects that the educational level of adolescent parents in this survey is relatively low, but from the relationship between parental sex education and adolescent reproductive health knowledge score, although the impact is small, the effect of visibility education is not ideal, may also be related to the small sample size ^[13]. Although most rural parents advocate adolescent sex education, their own knowledge is limited, they cannot say the specific contents that should be taught, and the ability to give adolescent sex education is limited, which is consistent with the results of this study. Sex education among left-behind young people in rural areas is more worrying. Studies have found that they have different degrees of psychological disorders and lower levels of sexual mental health ^[14].

Through the investigation of primary and secondary schools in Yongchuan District of Chongqing, it is found that only 22.4% of primary and secondary schools have youth sex education courses ^[15]. The huge sex education teacher gap cannot be filled in a short time, most of the domestic teachers for other subjects, students to the current school sex education recognition is low ^[16]. In this study, 73.5% of adolescents received sex education in schools, which is higher than other studies in China ^[15,17]. However, the quality of visibility education needs to be improved.

In this survey, 72.1% of girls with unwanted pregnancies did not use contraception, while 27.9% did not use proper contraception, such as in vitro ejaculation, safe period contraception, oral emergency contraception and so on. According to the score of the questionnaire of reproductive health knowledge, the adolescent girls who received the survey did not have enough knowledge of contraception, and did not have enough understanding of the harm caused by abortion, which was similar to other domestic survey results ^[18,19].

At present, the government distributes contraceptives free of charge mainly for women of childbearing age, but not for adolescents and unmarried women. The proportion of employed people in the survey was 54.1, but the income was on the low side. The proportion of students is 23.47, the proportion of unemployed people is 22.5, and the proportion of those without income is 38.8. Some people do not know enough about contraception, coupled with limited economic level, fluke psychology without contraception, resulting in accidental pregnancy.

4.3. Discussion on measures to reduce the incidence of accidental pregnancy among adolescent girls

The relevant government departments can further deepen the reform of the education system, increase the inclination of the education subsidy policy, expand the teaching staff, and strictly assess the work of sex education, and set up measures of rewards and punishments. Raise adolescent sex education to a new level of improving national quality and protecting reproductive health. The relevant departments of health administration can set up the Society of Reproductive Health Education and hold relevant training courses. The media departments can cooperate with the government to do a good job in sex education and propaganda, and combine with TV related health education programs to carry out propaganda and education. Schools should include subjects related to sex education in the syllabus, train professional teachers, regularly assess and evaluate relevant professional teachers, and test the reproductive health knowledge of young students. We can refer to the methods and methods of sex education in developed countries, take its essence and formulate sex education policies in accordance with our national conditions. In addition, the school can take the lead to set up the parents' school of reproductive health education, make up for the lack of parents' knowledge of reproductive health education, teach them the correct way to communicate with their children, and improve the knowledge level of parents' reproductive health.

Expand the coverage of adolescent girls in the family planning sector, with a focus on adolescents who have dropped out of school and avoid omissions in reproductive health information. Family planning departments can expand the distribution of free contraceptives to this part of the population, reducing their financial burden. Studies on post-abortion care (PAC) among adolescents show that PAC can effectively increase the rate of correct contraception among adolescents and reduce the incidence of repeated abortions [6,20]. We should focus on strengthening PAC construction and expanding the scope of PAC services. Hospitals should fully PAC the role of psychological comfort to girls with accidental pregnancy, at the same time, to popularize abortion related hazards and contraceptive knowledge, improve the follow-up rate of this part of the population, implement contraceptive measures, and reduce the rate of repeated abortion. Adolescents should be encouraged to implement long-acting reversible contraceptive methods (LARCs, long-acting reversible contraceptive), such as intrauterine devices and subcutaneous implants. In addition, adolescents should focus on the importance of safe sex to prevent the spread of sexually transmitted diseases such as AIDS, syphilis and so on.

Accidental pregnancy of adolescent girls is a topic of great concern in society. The present situation of accidental pregnancy of adolescent girls is not optimistic. The physical and mental health of teenagers is related to our future. It helps teenagers to establish correct sexual concepts, improve their knowledge of reproductive health, and avoid unnecessary harm.

Disclosure statement

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Assessment of Ankylosing Spondylitis Based on the Theory of Yin and Yang in Traditional Chinese Medicine

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Abstract: The theory of yin and yang in Chinese medicine signifies everything and can be used to divide everything in the world. The diagnosis and assessment of ankylosing spondylitis in Western medicine can also be divided by yin and yang. The current technologies used in Western medicine for detecting ankylosing spondylitis is summarized, divided, and reasoned with the philosophical views of yin and yang in traditional Chinese medicine.

Keywords: Traditional Chinese medicine; Ankylosing spondylitis; Yin and yang theory

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1. Yin and Yang theory as a simple and broad ancient Chinese philosophy

They are descriptions of the fundamental factors behind the laws of nature in ancient Chinese civilization, which promote the development and changes of the laws of nature. The principle of the yin and yang theory is widely used in every field of social life. All things in the universe can be divided into two categories according to their attributes: yin and yang. Yang has the characteristics of being vigorous, upward movement, growing, extroverted, stretched, clear, and active. In traditional Chinese medicine, yang represents the human body. All the functional states of invisible yang include excitement, activity, exercise, warmth, exuberance, etc. Yin has the characteristics of weakness, downward movement, contraction, elimination of accumulation, and quietness as far as traditional Chinese medicine is concerned. Yin represents the state of existence of all tangible yin bodies and substances in the human body, such as inhibition, quietness, lubrication, coldness, nutrition, filling, etc. Traditional Chinese medicine uses yin and yang, a macroscopic abstract concept of unity of opposites, to explain the different physiological functions and forms of the human body, as well as the correlation between them.

Ankylosing spondylitis (AS) is a common yet complex disease in orthopedics. It is a combination of ankylosis and spondylitis. It is a chronic and inflammatory rheumatic disease, in which it is characterized by pain and structural dysfunction. The pathogenesis of this disease has not been clearly understood. Most scholars believe that it is related to genetic factors, infection, immunological factors, endocrinological factors, etc. ^[1]. In recent years, the diagnosis, treatment, and evaluation of ankylosing spondylitis have been rapidly developing in Western medicine, and tremendous progress has been made especially in evaluation.

Although the curative effect of traditional Chinese medicine in the treatment of ankylosing spondylitis is accurate, it lacks the characteristics of traditional Chinese medicine. This article dialectically uses the theory of yin and yang in traditional Chinese medicine with regard to the evaluation methods for AS used in Western medicine.

1.1. X-ray – Yin-in-yin

The diagnosis of AS at home and abroad is mostly based on the New York diagnostic criteria revised in 1984^[2]. The standard requirement is the diagnosis of bilateral or unilateral sacroiliitis from an X-ray film. Based on X-ray films, the degree of the sacroiliac joint disease can be divided into 5 grades. The main observations in X-rays are abnormal tissue erosion, hyperplasia, and sclerosis of the anatomical structures of the sacroiliac joint. This can be appreciated by blurring of the subchondral bone margin, bone erosion, blurring of the joint space, increased in bone density, joint fusion, etc.^[3]. Yue Sheng^[4] compared X-ray, computed tomography (CT), and magnetic resonance imaging (MRI) in the diagnosis of AS and showed that the early diagnosis of AS sacroiliac joint disease with X-rays has important reference significance.

The detection range of X-rays includes the chest, abdomen, and bones. The targeted structures in the diagnosis of AS are the sacrum and iliac bones. This technology is not able to detect muscles, ligaments, and other soft tissues. X-rays can only look at yin, but not yang. Therefore, the yin-yang attribute in X-rays is yin-in-yin.

1.2. MRI – Yin-in-yin

In AS patients, 50% to 80% of patients have bone edema on MRIs^[5]. The MRI technology can distinguish acute from chronic lesions in AS patients. Hip MRIs can show early hip joint involvement for AS patients, especially those with symptoms of hip joint involvement but negative X-ray findings. Bi Xiaoxiao^[6] and other researchers have shown that in the diagnosis and evaluation of the acute inflammatory phase of AS, spine MRI has a high scanning effect in order to correct bone marrow edema and cartilage abnormalities. Compared with other scanning methods, MRI has obvious advantages in showing fat deposition, bone erosion, and tendon enthesitis. At the same time, MRI is also used as a scoring tool for AS. At present, AS spine MRI-a method, Berlin method, and SPARCC (Spondyloarthritis Research Consortium of Canada) method are mostly used. Studies have found that the SPARCC method has the highest sensitivity and consistency.

The fluids of various parts of the human body are collectively referred to as body fluids in traditional Chinese medicine. If soft tissues and bones are divided into yin and yang, soft tissues belong to yang, but as far as the body is concerned, their attributes are still yin. MRI mainly focuses on the yin part of body fluids and soft tissues. Therefore, the yin-yang attribute of MRI is yin-in-yin.

1.3. Ultrasound – Yang-in-yin

Ultrasound can display abnormal blood flow signals in the sacroiliac joint. It includes blood flow signals in the sacroiliac joint area, blood flow classification, blood flow display rate, blood flow spectrum classification and distribution, blood flow resistance index, etc.^[7]. It provides a basis for the assessment of activities in patients with ankylosing spondylitis. In the diagnosis of AS, abnormal blood flow signals can be observed at the sacroiliac joints. Ultrasound is a form of imaging, and the “blood” that this technology mainly observes is yin in TCM. Therefore, no matter how it is divided, the overall attribute of yin and yang in ultrasound belongs to yin. However, the observation of ultrasounds is a dynamic process. Due to the infinite separability of yin and yang, movement and static are obvious signs that distinguish yin and yang, so the yin and yang attribute of ultrasound is yang-in-yin.

2. Laboratory examination – Yin

Laboratory indicators are mainly based on bloods. Chinese medicine believes that the human body is composed of yin, yang, qi, blood, and body fluid. Among them, blood belongs to yin and is the material basis; qi, which is function and energy, belongs to yang. There is a saying in “Difficulty Sutra” that goes, “Qi governs the heart, but blood governs it.” Blood plays an extremely important role in human life. Yin and yang are constantly changing over time, where one goes up and down. As far as AS is concerned, the results of the laboratory indicators in the active phase and the chronic phase are quite different. In the active phase, its value is higher than the normal value. The yin-yang attribute of the index is yang whereas the yin-yang attribute of the index lower than the normal value is yin.

3. Dynamic surface EMG – Yin-in-yang

Dynamic surface electromyography (sEMG) is of great significance for the evaluation of the neuromuscular system. It has a strong advantage in the diagnosis of muscle diseases and is sensitive in assessing muscle function. The yin and yang attribute of sEMG is yang. However, the observation is not of the whole-body movement but only a certain muscle. First, in terms of a whole and a part, a whole is yang while a part is yin. Secondly, the observed muscle belongs to the human body and the inside is yin. Therefore, the yin and yang attribute of sEMG is yin-in-yang.

4. Summary and outlook

“Suwen – The Theory of Yang and Yin should be Xiangxiang” mentioned, “Examine the yin and yang, use softness and rigidity, treat yin in yang disease, and treat yang in yin disease.” As far as diagnostic evaluation is concerned, both the diagnosis and treatment belong to the same process. From this point of view, checking yin for yang disease and checking yang for yin disease also have the same scientific nature. According to traditional Chinese medicine, AS belongs to “gubi,” “kidney palsy,” and other categories. There are four types of symptoms:

- (1) kidney deficiency and marrow deficiency type;
- (2) yang deficiency and cold coagulation type;
- (3) blood stasis block type;
- (4) phlegm and dampness block type.

Yin, type 3, and type 4 are empirical and belong to yang. With these, better diagnostic and evaluation methods can be chosen for different types of symptoms. The symptoms of the two types of syndromes, kidney deficiency and marrow deficiency as well as yang deficiency and cold coagulation, are often insidious in onset associated with dull pain at the waist and spine, unfavorable with activities, aggravated with climate change, and occurring intermittently. For these two types of syndromes, the course of the disease is longer. Surface electromyography as well as other yin and yang attributes are used to assess patients' subjective activity ability. The treatment should be based on Tongli Meridian, nourishing Yang, and warming the kidney. The positive assessment technology provides supportive assistance for the subsequent treatment, recovery, and functionality of the patient. The main symptoms of the two syndromes, blood stasis block type and phlegm dampness block type, are tingling of joints, pain, which is heavy and fixed in nature, swelling, joint deformity, etc. Therefore, the examination and evaluation should use the technique with the yin-yang attribute being yin. The treatment is to promote blood circulation, remove blood stasis, dredge collaterals, and relieve pain. The purpose of it is to look for the cause, relieve pain, and restore life. As the saying goes, acute treatment is to relieve symptoms, while slow treatment is to cure the

root causes.

In order for TCM to develop, it needs to integrate modern medical knowledge and make up for its shortcomings. In order to do so, it is necessary to selectively integrate modern medical knowledge, philosophical thoughts, as well as scientific and technological achievements into TCM theories. It is important to realize the compatibility of TCM theories with Western doctors' understanding of pathology and diagnostic measures while using TCM theories, TCM ideologies, and TCM terminologies to express them in order to develop and enrich the field of TCM.

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Disclosure statement

The authors declare that there is no conflict of interest.

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Treating Ulcerative Colitis by Activating Blood Circulation to Dissipate Blood Stasis

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Abstract: Ulcerative colitis (UC) is a worldwide refractory bowel disease with unclear pathogenesis. Its lesions can lead to colorectal cancer over time. UC is classified as “diarrhea,” “dysentery,” and other categories in traditional Chinese medicine. Its etiology and pathogenesis in traditional Chinese medicine are complex, but it has been found that blood stasis plays an important role in its occurrence and development. Combined with modern research, the relationship between blood stasis and ulcerative colitis is analyzed in this article along with a discussion on the therapeutic effect of activating blood and removing blood stasis on the disease, aiming to provide new ideas for the treatment of UC.

Keywords: Ulcerative colitis; Diarrhea; Dysentery; Activating blood circulation to dissipate blood stasis

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1. Introduction

Ulcerative Colitis (UC) is a refractory intestinal disease caused by the interaction of environmental factors and genetic factors along with the presence of intestinal microorganisms, resulting in intestinal immune imbalance, barrier damage, and continuous inflammatory damage of the intestinal mucosa ^[1]. In recent years, the prevalence of ulcerative colitis in China is increasing gradually; however, there is a lack of effective treatment for this condition in Western medicine. According to the clinical symptoms of UC, UC is classified as “diarrhea,” “dysentery,” and other diseases. The course of the disease is long, and blood stasis plays an important role in its development, thus activating blood circulation to dissipate blood stasis is an important method to treat UC.

2. Relationship between blood stasis and ulcerative colitis in traditional Chinese medicine

In traditional medicine, spleen deficiency is the basis of UC while damp-heat, phlegm turbidity, and blood stasis are the main pathological factors, among which blood stasis runs through the beginning and the end of UC. Ulcerative colitis patients with weak spleen and stomach, endogenous phlegm turbidity, long yu heat, or concurrently with blood stasis poison, the flow of qi and blood to intestinal organs are blocked; damp-heat, phlegm turbidity, other evils, as well as intestinal qi and blood struggle with one another. Heat toxin fumigation of the intestinal organs causes damage to the lipid membrane and blood collaterals, leading to rotting flesh and poison in the blood; and finally, form ulcers. Whatever the etiology that causes poor blood flow such as affect-mind dissatisfaction and liver qi depression, it does not only reverse the spleen and damages both the spleen and stomach, but also affect the smooth flow of blood, forming stasis due to weakness caused by the inability of promoting the operation of blood. The deficiency of yang in the body or long illnesses injures the yang, resulting in the inner generation of yin and coldness; cold evil coagulates

the meridians, then blood coagulates astringently and runs slowly, resulting in blood stasis. Blood stasis does not disperse; it does not only affect the generation of new blood, but also hinders the distribution of qi and blood. This alternate development finally affects the recovery of patients with UC.

3. Relationship between ulcerative colitis and hemorheology

In recent years, many researchers have been observing the hemorheology of UC patients; it has been found that these patients often have high blood viscosity. In a study, Qunlian Lin and other researchers ^[2] found that blood viscosity, hematocrit, and fibrinogen index were significantly higher among UC patients. The high viscosity of blood causes the flow of blood to be slow, resulting in the formation of microthrombus, and eventually leading to intestinal mucosal capillary occlusion, intestinal mucosal tissue necrosis, as well as ulceration. Ji Qian and other researchers ^[3] found that patients with UC had significantly higher platelets, MPV (mean platelet volume), and D-dimer compared to those in the control group, suggesting that with UC, the patients' bodies are in a hypercoagulable state and thrombosis is one of the important pathogeneses of UC. In another study, Li Jiang and another researcher ^[4] found that the levels of D-dimer and fibrinogen in the plasma of patients with ulcerative colitis were significantly higher than those in the control group, and the partial thrombin time was significantly shorter than those in the control group, indicating that patients with UC have high blood coagulability state and secondary hyperfibrinolytic system. The high blood viscosity along with small intestinal microcirculation lumen in UC patients cause blood to remain and silt easily, resulting in capillary occlusion, followed by tissue ischemia and incomplete oxygen supply; in turn, a large amount of oxygen free radicals is produced, damaging the intestinal mucosa and eventually causing ulcers.

Many studies have shown that patients with ulcerative colitis have hypercoagulable and viscous blood, blood stasis and deposition of intestinal microcirculation, slow blood flow in capillaries, as well as the occurrence of thromboembolism, which is consistent with blood stasis in traditional Chinese medicine.

4. Research on the treatment of UC by activating blood circulation to dissipate blood stasis

Pharmacological experiments have shown that the blood-activating and stasis-resolving drug could promote metabolism, improve microcirculation, fight thrombosis, remove inflammatory products and cytotoxicity, promote tissue repair, as well as benefit ulcer healing. Clinical studies have shown that angelica injection and *Salvia miltiorrhiza* injection ^[5,6] can reduce D-dimer, inhibit platelet aggregation, reduce blood viscosity and hypercoagulable states, effectively improve blood circulation, and promote intestinal mucosal repair. In addition, it can also remove oxygen free radicals and reduce the damage of inflammatory reaction to intestinal cells. Yao Gong and another researcher ^[7] treated a group of UC patients with perfusion fluid, comprising of *Salvia* beverage, *Radix Paeoniae Rubra*, *Hirudo*, *Radix Pulsatillae*, and other drugs. The blood rheology and microcirculation of these patients effectively improved, indicating that promoting blood circulation and removing blood stasis can improve blood flow and promote ulcer healing. Pharmacological studies have shown that *Radix Paeoniae Rubra* can reduce the activity of coagulation factors, prevent the aggregation of red blood cells and platelets, increase the content of nitric oxide (NO), promote vascular relaxation, as well as aid in achieving anti-thrombotic effect ^[8]. The treatment of ulcerative colitis by activating blood circulation and removing blood stasis, according to syndrome differentiation, is able to remove blood stasis and rotting flesh, produce new blood, as well as promote the healing of colonic mucosal ulcer.

5. Conclusion

Although the etiology and pathogenesis of ulcerative colitis are unclear, patients are often in pathological

states, such as having high blood viscosity and intestinal microcirculation disorders. Promoting blood circulation and removing blood stasis can improve hemorheology, reduce inflammatory reactions, as well as promote tissue repair and ulcer healing. Therefore, activating blood circulation to dissipate blood stasis is an important rule in the treatment of UC. However, in clinical practice, the method of activating blood circulation to dissipate blood stasis should be used according to syndrome differentiation. At the same time, it is necessary to take into account the elimination of evil and not forgetting to support healthy energy as well as to avoid being obsessed with one law while forgetting the original.

Disclosure statement

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Xinli Wen's Experience in Treating Chronic Gastritis with Insomnia

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Abstract: Through reviews of chronic gastritis treatment literatures in the past 10 years, it has been found that most patients with chronic gastritis also have insomnia and other symptoms in addition to the manifestations of gastritis, in which modern medicine has found clear correlations between the two. In Professor Xinli Wen's practice, the professor believes that the pathogenesis of this disease is a mixture of cold and heat. In regard to treating the disease, the characteristic of "the desire to solve Jueyin disease" is well-grasped. Professor Wen emphasizes on the harmonization of the liver and spleen as well as the restrain from following the original prescription and application of its medicine. Therefore, she used Mume pill to increase and decrease the upper temperature and lower temperature in regulating cold and heat.

Keywords: Traditional Chinese medicine treatment; Chronic gastritis; Insomnia

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1. Introduction

Chronic gastritis, as one of the most common clinical diseases in gastroenterology, is usually related to HP (*Helicobacter pylori*) infection, esophageal reflux disease, autoimmune deficiency, diet, and other factors [1]. According to the pathological types, it can be divided into chronic superficial gastritis, chronic atrophic gastritis, and chronic erosive gastritis. In recent years, with the improvement of living standards as well as the changes in eating and living habits, the prevalence of chronic gastritis is on the rise. Most patients have insomnia besides digestive symptoms. This kind of disease seriously affects patients' life, work, and studies. It is gradually becoming one of the physical and mental health diseases that endangers human health. In recent years, domestic data have shown that about 50% of Chinese patients with chronic gastritis also have psychological disorders, among which the incidence of anxiety, depression, and insomnia is 38% [1]. Xiaoling Liu [2] found that among 914 patients diagnosed with chronic gastritis, patients with depression and anxiety accounted for 56% of the total number of patients.

2. Correlation between chronic gastritis and insomnia

Modern medicine has conducted numerous research on the relationship between chronic gastritis and insomnia. For example, Gaiqin Yang et al. [3] proposed that emotional stimulation can change the activities in humans' gastrointestinal tract via the brain-gut axis and brain-gut interaction, leading to chronic gastritis. It has also been found that gastrointestinal diseases can affect the central nervous system and cause patients to develop negative emotions, such as anxiety. Their interaction goes both ways. Meihua Lin [4] stated that the stomach is an emotional response organ. In a study by Yuhua Su, 86 insomnia patients were compared with 90 normal people; the study concluded that insomnia is closely related to the occurrence of chronic

gastritis and may be an independent risk factor for the disease ^[5]. As early as during the period of Huangdi Neijing, traditional Chinese medicine has put forward a view, “stomach discord makes sleeping uncomfortable,” to summarize the relationship between chronic gastritis and insomnia. This view implies that same as the brain-gut axis that is described in modern medicine ^[6].

3. Etiology and pathogenesis of chronic gastritis with insomnia

Chronic gastritis is under the categories of “stomachache” and “glomus and fullness” in traditional Chinese medicine. Its etiology includes the external contraction of evil Qi, diet, emotional stimulation, etc. The disease is focused on the spleen and stomach, closely related to the heart, liver, and spleen. Insomnia is attributed to the “inability to sleep” in traditional Chinese medicine, in which the disease is also focused on the heart, spleen, liver. It can be caused by emotional discomfort, liver depression, as well as heart and spleen deficiency. The common sites of chronic gastritis and insomnia are the heart, liver, and spleen.

Professor Wen believes that the disease is attributed to Jueyin disease in the syndrome differentiation of six meridians of Zhongjing. The “intersection of two yin” is the stage of alternating transformation of yin and yang Qi of human body. The two yin intersection is called Jueyin. Yin to the limit will be born yang, and to a certain extent will return. This is the physiology of Jueyin. From physiology to pathology, Jueyin disease ^[7] is when yang Qi cannot grow, and yang cannot emerge from yin; there are problems in the alternation and connection of yin and yang. Therefore, reversal heat and reversal cold can be seen in Jueyin disease, but the rise of Jueyin wind wood and the fall of ministerial fire can help the middle energizer, the spleen, and stomach. Therefore, it can be considered that the dysfunction of the spleen and stomach is the main cause of Jueyin disease. It has been considered that its pathogenesis is that the Qi mechanism of the middle energizer is blocked, yin and yang cannot intersect, the spleen is weak whereas the liver is prosperous, and the liver fire disturbs the mind, resulting in the difficulty to fall asleep. On the other hand, it is possible that the liver and stomach are discordant, which leads to “the mind being disturbed by upper fire and stomachache due to Qi going against the middle.”

4. Treatment of chronic gastritis with insomnia

Professor Wen’s clinical observation found that the symptoms of most chronic gastritis patients with insomnia aggravate between 1 to 3 at night, which is the “desired time for solution of Jueyin disease ^[8]” and the octant of Chou, Yin, Mao – Lin, Tai, and Dazhuang from the time of occurrence and aggravation of the disease. Jueyin belongs to B wood whereas Shaoyang belongs to A wood. Therefore, when Jueyin and lesser yang desire to dissolve, they coincide with Yin and Mao. If the channel is vigorous ^[9], then Jueyin receives help of yang Qi, and the disease can be solved when yin is exhausted, and yang is born. Therefore, if the symptoms increase from Chou to Mao, it is considered to be Jueyin disease. Professor Wen believes that Jueyin is a disease, which not only has a mixed yin and yang, but also the upstirring of the liver, which can be the cause and effect of each other. Therefore, the treatment with warm and dissipate easily helps heat on the reverse while single auxiliary heat easily helps cold depression. Only by sour contraction at the center, liver Qi can be collected so as to protect the body, achieve the effect of both virtual and real without attack and repair. On this basis, with the product of acrid, warm, bitter, and cold, scattered in the harvest without the rise and fall of cold and heat in order to take its turbulent potential between the auxiliary of yin and yang, Mume pill is used.

5. Conclusion

Chronic gastritis with insomnia is increasing due to the changes in modern social environment, work and lifestyle, as well as other factors. According to the theory of “five movements and six Qi,” Professor Wen

uses Mume pill to treat Jueyin disease. She emphasized the characteristics of Jueyin disease, desiring to be solved, and attaches importance to the relationship between Jueyin disease and the spleen as well as the stomach of the middle energizer. She proposed that Mume pill should not be applied in the treatment of gastritis accompanied by insomnia, and patients should not be given Mume pill when they have Jueyin disease, desiring to be solved. Clinical treatment should be based on different conditions of patients along with tongue, pulse, and accurate dialectics on the basis of the original prescription or following the prescription principle and compatibility characteristics of Mume pill so as to find the most suitable prescription for patients.

Disclosure statement

The author declares no conflict of interest.

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Ruixia Pei's Experience in the Treatment of Hypothyroidism

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Abstract: This study is to summarize Professor Pei's experience in treating hypothyroidism. Professor Pei has been engaged in clinical endocrinology for more than 30 years and has unique insights into hypothyroidism. She believes that the disease is caused by liver depression, phlegm binding, yin deficiency, and fire effulgence. The basic principles of treatment are regulating Qi movement and harmonizing viscera. During treatment, the emphasis is on the influence of emotions on the disease. Both the liver and spleen should be given equal attention and the medication should be mild with balanced cold and heat.

Keywords: Hypothyroidism; Case verification; Academic thought; Ruixia Pei

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1. Introduction

Hypothyroidism is a common clinical disease. It is characterized by an insidious onset and slow progress. The prevalence rate of the disease among women is often higher than that of men ^[1,2]. If women with hypothyroidism during pregnancy are not treated in time, there would be adverse effects on the mental and intellectual aspects of their babies ^[3-5]. In recent years, with the influence of the pace of life along with environmental factors, the incidence of hypothyroidism is increasing year by year. Studies have shown that the incidence of hypothyroidism in adults is 1.02% and the prevalence of subclinical hypothyroidism is 12.93%, in which most patients with subclinical hypothyroidism have no obvious symptoms ^[6]. At present, Western medicine mainly emphasizes on lifelong thyroid hormone replacement therapy while traditional Chinese medicine has its unique advantages in relieving symptoms and improving indicators ^[7]. According to the clinical manifestations of hypothyroidism, traditional Chinese medicine divides hypothyroidism into "nontoxic goiter," "vacuity taxation," "edema," and other categories ^[8].

Professor Ruixia Pei, a traditional Chinese medicine doctor in Shaanxi Province, has been engaged in clinical endocrinology, teaching, and scientific research for more than 30 years. She has rich clinical experience and profound theoretical attainments. She inherits the "harmonizing method" thought of Jingao Qin, attaches great importance to the liver and spleen during treatment, as well as the influence of negative emotions on the disease. The clinical effect is remarkable, which is deeply recognized by patients.

2. Etiology and pathogenesis

Professor Pei believes that the etiology and pathogenesis of hypothyroidism are closely related to emotions ^[9]. With the acceleration of urbanization, the pressures in people's lifestyles are gradually increasing, thus anxiety, tension, and depression are becoming more and more common. Imbalance emotions lead to liver

dysfunctions, loss of its regulation function, depression, and transformation into fire, suffering from yin essence, condensing humor into phlegm, and blockage of the front neck. On the other hand, it can lead to the stagnation of liver-Qi, transverse invasion of the liver into the spleen, dysfunction of the spleen in transport, as well as phlegm dampness and internal resistance caused by a strong liver but weak spleen. The spleen is the source of acquired constitution; it affects the muscles of the limbs, and it is the source of the biochemistry of Qi and blood. Deficiency of spleen Qi as well as the insufficiency of Qi and blood result in limb weakness, shortage of qi, loss of strength, somnolence, deterioration of memory, alopecia, chills, and other symptoms.

3. Principle of treatment

During treatment, Professor Pei emphasizes on the treatment of liver and spleen. The drugs used are usually cold drugs, which are assisted by the restriction from warm drugs. Five flavors are concentrated in bitter, sweet, and spicy. Meridian tropism is mostly attributed to spleen meridian and liver meridian, thus soothing the liver and strengthening the spleen while treating according to different symptoms are the focus. Patients with blood stasis block are treated with blood circulation products, such as *Rhizoma Ligustici* and *Curcumae Radix* whereas patients with water-dampness and stagnation, drugs that fortify the spleen, percolate dampness, activate Qi, and eliminate phlegm are used, such as *Poria*, *Rhizoma Pinelliae*, *Cortex Magnoliae Officinalis*, etc. On the other hand, *Rhizoma Dioscoreae*, *Corni Fructus*, *Radix Rehmanniae Preparata*, and other drugs that nourish the kidneys and strengthen the essence are added in cases of long-term disease, endangering the kidneys.

4. Example of a medical record

The first visit to a doctor (or hospital) on March 15, 2021: Mr. X, male, 32 years old. The patient came to see a doctor with the chief complaint of abnormal thyroid function for 2 years and generalized fatigue for more than 1 month. The patient was found with abnormal thyroid function through examination 2 years ago (specific data is unknown) and was diagnosed with hypothyroidism after visiting a local hospital but the patient was not compliant. One month ago, due to reduced cognitive function and general fatigue, he was found in another hospital for a re-examination. The thyroid function test showed that his FT3 (free triiodothyronine) and FT4 (free thyroxine) were normal, but TSH (thyroid stimulating hormone) level was 6.36 mIU/L and TGAb (thyroglobulin antibodies) level was more than 1000 U/mL. He was treated with oral levothyroxine sodium tablet (Euthyrox) 25ug, once a day. His current symptoms included tiredness, poor spirit, impaired memory, and daytime somnolence but he had difficulty to fall asleep at night. His intake of food was regular with normal defecation. His tongue was red with few mosses, and his pulse was thin. The TCM diagnosis was nontoxic goiter, deficiency, syndrome differentiation for hyperactivity of heart-liver fire, deficiency of both Qi and yin. The treatment was to clear the liver and reduce fire, nourish yin, the heart, and qi to invigorate the spleen. The formula was to add and subtract Minor Bupleurum Decoction combined with Pulse-Engendering Powder. The specific drugs are as follows: *Radix Glehniae*, *Radix Ophiopogonis*, *Radix Curcumae* vinegar 15 g, *Bupleurum chinense* vinegar, *Rhizome Pinelliae Preparata*, *Cortex Magnoliae Officinalis*, *Rhizoma Ligustici*, mix-fried licorice 10 g, *Schisandra chinensis* vinegar 6 g, stir-fried bitter orange 12 g, and *Radix Scrophulariae* 20 g. Six doses were given, decocted in water, 1 dose a day, taken in the morning and evening after meals. He was advised to regulate his emotions, work and rest regularly, as well as abstain from seafood, high iodine food, spicy irritants, and fried food.

The second visit on March 22, 2020: The patient mentioned that his palpitations significantly improved along with his daytime sleepiness and night rest. Otherwise, his food intake was good, and defecation was normal. His tongue was red with white moss and his pulse was thin. *Radix Scrophulariae* and *Rhizoma*

Ligustici were removed from the prescription, but 6g of *Herba Menthae* and 15g of wine *Cornus* were added. Similarly, 6 doses were given, and the decocting method was the same.

The third visit on March 29, 2021: The patient had no obvious palpitations after taking the medication but was slightly sleepy. Otherwise, his food intake was good, he was able to rest at night, and had normal defecation. His tongue was red with white and thick moss, and his pulse was thin. *Radix Rehmanniae Preparata* and wine *Cornus* were removed from the prescription, but 30g of *Radix Trichosanthis* and 15g of *Radix Rehmanniae Recens* were added. The decocting method was the same as before but this time, 12 doses were given.

In his subsequent follow-up visits, the above prescriptions were the basic prescriptions and were modified according to evidence. Until his visit on June 19, the patient had no obvious discomfort and his TSH level had returned to normal. The patient was instructed to stop his medication for observation while reviewing his thyroid function regularly, improving his mood, and adjusting his diet. He was reminded to come for follow-up if he feels unwell.

5. Conclusion

In summary, Professor Pei emphasizes on the influence of emotions on diseases. Based on the principle of regulating the functioning of Qi and harmonizing viscera, she attaches equal importance in soothing the liver, regulating Qi, strengthening the spleen, and tonifying deficiency. The medication used is gentle with barely any harsh products and the dosage is light in addition to a balanced cold and heat.

Disclosure statement

The authors declare that there is no conflict of interest.

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Clinical Experience of “Harmonizing Method” based on Usage of Minor Bupleurum Decoction

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Abstract: Minor Bupleurum Decoction is a common TCM compound and a classic prescription that can best reflect the “harmonizing method” of TCM. But there are many differences on the usage and dosage of Minor Bupleurum Decoction. Combined with the clinical treatment experience, this paper summarizes the experience of Minor Bupleurum Decoction in the clinical treatment of diseases. It is hoped that relevant suggestions can be provided for clinicians to improve the clinical therapeutic effect of Minor Bupleurum Decoction.

Keywords: Minor Bupleurum Decoction; Harmonizing method; Lesser Yang disease

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1. Understanding of “harmonizing method” and Minor Bupleurum Decoction

The eight methods of curing diseases in TCM are nothing more than sweating, vomiting, purgation, harmonizing, clearing, warming, dispelling and supplementing, which were proposed by Zhongling Zheng^[1], a great medical scientist in the Qing Dynasty, on the basis of summarizing the previous treatments. Among these eight methods, the “harmonizing method” is particularly special. “Harmonizing method” originates from traditional Chinese philosophy. In traditional Chinese medicine, it emphasizes the balance of Yin and Yang as well as Yin and Yang in equilibrium when curing. These are the embodiment of “harmony”. Huangdi Neijing · Suwen^[2] points out that “under the teachings of ancient saints, it is also called the vacuity evil and bandit wind. it should be avoided in time, the mood should be quiet and peaceful, eliminate distractions and delusions, in order to make the true gas smooth and mental concentration, and then diseases will not come,” “Carry on the recuperation exercise according to the correct health care method to, and live according to the laws of nature,” “When Yin prevails, Yang ails and when Yang prevails, Yin ails. When Yang prevails, there is heat; And when Yin prevails, there is cold. It shows that both inside and outside, Qi and blood, viscera and Yin and Yang are in a dynamic and relative harmonious state. If one side is too rich or too weak, or both are too rich or too weak, it can lead to disharmony of the body and produce diseases. Traditional Chinese medicine believes that this is the root cause of all diseases and the total pathogenesis of all diseases.

“Harmonizing method” is to reconcile the yin and yang of the body, so that the syndromes of cold and heat, deficiency and excess, and the partial prosperity and decline of Yin and Yang of Qi and blood in the viscera can return to peace and reach a state of neutralization. Throughout the history of traditional Chinese medicine, especially the application of “harmony method” in Zhang Zhongjing’s treatise on febrile diseases, is worthy of our study and reference in medication. Among them, the most convenient representative of Zhongjing Zhang’s use of “harmonizing method” is Minor Bupleurum Decoction. It is made up of seven kinds of medicine: Radix Bupleuri, Radix Scutellariae, Rhizoma Pinelliae, ginger, Radix Ginseng, Radix Glycyrrhizae and Fructus Jujubae. In the prescription, Radix Bupleuri and Radix Scutellariae dissipate

lesser Yang and depress heat seminal emission. Rhizoma Pinelliae and ginger powder can protect intestines and stomach and dissipate Qi depression at the same time. Radix Ginseng and Fructus Jujubae can benefit vital energy and strengthen the body resistance. Radix Glycyrrhizae can moderate the property of herbs. The whole description has the effects of harmonizing lesser Yang and regulating three cavities functioning of Qi. With the development of modern medicine and the deepening of scholars' research on Minor Bupleurum Decoction, its clinical indications have been continuously expanded. Pharmacological studies have shown that this prescription has many effects, such as regulating gastrointestinal, anti-bacteria, hypoglycemic, regulating body immunity, reducing urinary protein and anti-tumor^[3-6]. Clinically, as long as the pathogenesis is variated right, the essence of this prescription is grasped and cut according to the syndrome, different diseases can be treated together, and it can be applied to all kinds of clinical diseases and syndromes.

The original text of Treatise on Febrile Diseases^[7] says: Five or six days of typhoid fever, apoplexy, chill and fever alternation, fullness in the chest and rib-side, not wanting to eat, upset and vomiting, or chest felling trouble but not vomiting, or thirst, or abdominal pain, or rib-side is full of tightness, or palpitations below the heart, urination is not good, or not thirsty, body slight feeling heat, or cough, can be treated by Minor Bupleurum Decoction. These syndromes are lesser Yang syndrome analyzed from the dialectical perspective of the six channels, and the syndrome differentiation of the eight principles is half surface and half interior syndrome. Although Minor Bupleurum Decoction has only 7 flavors, its addition and subtraction formula are very flexible. If it can be appropriately modified, its indications can be quite wide and the therapeutic effect is better. The following will briefly describe the author's experience in the clinical application of "harmonizing method" of Minor Bupleurum Decoction from three aspects: the dosage, addition and subtraction method and decoction method of Minor Bupleurum Decoction.

2. Clinical dosage of Minor Bupleurum Decoction

As the main prescription of Lesser Yang disease, Minor Bupleurum Decoction has anti-inflammatory^[8], liver protection, cholagogue and other effects. According to the principle of "treating different diseases together," it has been widely used in clinical practice. In clinic, the author has encountered a patient, has a fever due to careless living in postoperative, eventually the disease enters a deferment state, and it repeats itself. Because it is the patient after the operation, the constitution is weaker than normal, cannot sweat and cannot use the purgative method. This time the author thought they can try to use Minor Bupleurum Decoction add and subtract to discriminate, that is, the traditional Chinese medicine treatment of the "harmonizing lesser Yang". The Treatise on Febrile Diseases mentioned: Typhoid fever and apoplexy, can use Minor Bupleurum Decoction, and we can only use this prescription, not all. Although Minor Bupleurum Decoction applied widely, but when use Minor Bupleurum Decoction we should seize one main symptom. The original reference to the application of Minor Bupleurum Decoction but see a card is. This syndrome, according to the author, emphasizes "fullness in the chest and rib-side", and this patient was postoperative cholelithiasis. The patient complained of distention and oppression in the stomach duct, and physical examination showed tenderness at the intersection of the line between the nipple and umbilical cord and the costal margin, which is just the right symptom. And it is important to note that Minor Bupleurum Decoction anti-febrile, the dosage of Radix Bupleuri must be big, dosage of Radix Bupleuri in Minor Bupleurum Decoction in original text of Treatise on Febrile Diseases is half a catty. If one liang is about equal to 3g to calculate, half jin (that is, eight liang) is 24g, which is still the most conservative conversion standard. If one liang are 15.625g, Radix Bupleuri can even be used to about 100g. The author has also seen the use of 125g Radix Bupleuri in clinical practice, and the anti-febrile effect is especially great. The patient was given Minor Bupleurum Decoction to verify the evidence. The dosage of Radix Bupleuri was up to 50g. The symptoms of repeated low fever were immediately relieved the next day after the taking

medicine, and then the medicine was adjusted and consolidated. After 5 days, the patient no longer had fever.

3. Clinical addition and subtraction of Minor Bupleurum Decoction

The application of the addition and subtraction method of the original text of Minor Bupleurum Decoction in Treatise on Febrile Diseases is also worthy of our research and discussion. After the clinical medication summary, the author concluded that except for Radix Bupleuri and roasted Radix Glycyrrhizae, several other drugs in Minor Bupleurum Decoction can be added or subtracted, because Radix Bupleuri can evacuate and reduce fever, and roasted Radix Glycyrrhizae can be combined and replenish benefits. These two drugs are the main drugs, which reflects “harmony.” For example, if the patient has cold and heat, full chest and flank pain and cough, the original formula of Minor Bupleurum Decoction can be used to remove Radix Ginseng, Fructus Jujubae and ginger, add half jin of Schisandra chinensis and two liang of rhizoma zingiberis. This prescription can not only reconcile lesser Yang, but also astringe lung Qi and relieve cough, which also reflects the method of “harmony.” Although there are no antitussive drugs in the whole prescription, Radix Bupleuri upbear, Rhizoma Pinelliae downbear, rhizoma zingiberis warms, Scutellaria baicalensis cools, Radix Bupleuri evacuates and Schisandra chinensis solidifies, Roasted Radix Glycyrrhizae and other medicines all reflect the wonderful function of “harmonizing method,” which makes the exterior and interior harmony, and the rise and fall of lung Qi can be adjusted, which can naturally achieve the function of eliminating heat and relieving cough. Other addition and subtraction methods of Minor Bupleurum Decoction also reflect this “harmony.”

4. Clinical decoction method of Minor Bupleurum Decoction

Clinically, the decocting method of Minor Bupleurum Decoction is more exquisite. The original text says [7]: “For the seven flavors, take two liters of water in a bucket, boil six liters, remove the waste, fry another three liters, warm one liter, and take it three times a day.” The main reason for removing dross and decocting is that Rhizoma Pinelliae is poisonous. It is advisable to add more water for a long time. Decocting Pinellia ternata also can fully remove the toxicity of Pinellia ternata and makes the drug harmony. In addition, Minor Bupleurum Decoction, as Zhongjing’s main prescription for the treatment of lesser Yang disease, mainly treats that lesser Yang cannot pivot, and the positive Qi and evil beat are bound between the outside and the inside, in a dilemma, or in the membrane, or under the threat, or in interstices. The parts seem different, but they are always in the category of lesser Yang. The pathogenesis of the disease is positive deficiency and evil solid, and the positive and evil stroke in lesser yang. The Neijing says: “thick Qi makes you hot, and thin Qi makes you pass. “So too much warming powder can not only consume healthy Qi and is not conducive to dispelling evil knot, but also lead to Qi blockage, fever and help evil. This is also why Radix Bupleuri is “flat and slightly cold”, but it can pivot Shaoyang instead of using cinnamon with warm Qi to treat lesser Yang syndrome. Therefore, in order to “slow and not precipitous medicinal potential, strengthen the body resistance, emmoved cardiac and fight knot,” Zhongjing achieved the goal by “remove dross and decoct” and “take a breather thick flavor.”

5. Summary

In clinical practice, the prescription compatibility of Chinese medicine, including the dosage and usage of Chinese medicine is a very deep knowledge. The mutual compatibility of drugs is not a messy patchwork, but on the basis of combining the condition, grasping the main contradiction of the condition, giving the main drug pair and reasonable prescription. Clinically, the rational use of “harmonizing method” to treat diseases can often play a multiplier effect with half the effort.

Disclosure statement

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Professor Ruixia Pei's Clinical Experience in Treating Globus Hystericus with "Harmonizing Method"

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Abstract: To summarize professor Pei's experience in treating globus hystericus. **Methods:** Learn from your teacher. **Results:** Professor Pei had been suffering from the disease for more than 30 years and had her unique views on the treatment of globus hystericus, which are mostly for emotional dysfunction, liver Qi is not comfortable, functioning of Qi is not adjusted, Yin and Yang imbalance. The basic principle of treatment is to grasp the core pathogenesis, take harmony as the method and balance as the duration, harmonize Qi, regulate Yin and Yang, use drugs to disperse the liver and rectify Qi, as well as auxiliary treatment with products to promote blood circulation, remove blood stasis, dryness and dampness, and clear heat.

Keywords: Professor Ruixia Pei; Harmonizing method; Globus hystericus; Case reports

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1. Introduction

Ruixia Pei, chief physician of Shaanxi famous traditional Chinese medicine, studied with Mr. Shanglin Gao, a national famous traditional Chinese medical doctor, inherited his thought of "harmonizing method," formed his own unique opinion, engaged in clinical work of traditional Chinese medicine for more than 30 years, has rich clinical experience, and has been committed to exploring the use of traditional Chinese medicine to relieve patients' pain and suffering, which is cheap and effective.

Globus hystericus is a common clinical non-organic disease, and the disease characterized by feeling something in throat, seeming to have plum-stone obstruction, cough and swallow not making it out, sometimes occurring and sometimes stopping, but not affect eating. "Globus hystericus" was first recorded in the Book of Nanyang for Life Saving in the Song Dynasty. The earliest records of diseases and syndromes were found in the Magic Pivot, Forms of Disease from Evil Qi in the Bowels and Viscera in the Late Warring States Period, which stated: "The heart pulse is very large, which is the throat jams", that is, there is something in the throat. Sui · Yuanfang Chao in Plum nuclear gas is mainly manifested as a foreign body sensation in the throat ^[1]: "If there is sunburn flesh slice in the pharynx, it is the phlegm knot in the chest and diaphragm, which is pulsated with Qi and contradicted the pharynx. The knot is like sunburn flesh slice." Traditional Chinese medicine thinks globus hystericus is main because of sentiment is not smooth, liver Qi pent-up, go up against liver meridian, knot in the throat or take the spleen to offend stomach, transport changes lose division, body fluid must lose manage, condense into phlegm, and nitrogen knot in the throat. Professor Pei thought these diseases are mostly caused by emotional dysfunction, liver Qi is not comfortable, functioning of Qi is not adjusted, Yin and Yang imbalance. when treating these diseases, we should take harmony as the method and balance as the duration, harmonize Qi, regulate Yin and Yang, use

drugs to disperse the liver and rectify Qi, as well as auxiliary treatment with products to promote blood circulation, remove blood stasis, dryness and dampness, and clear heat. The authors have the honor to consult with the teacher. Now they share a typical medical record as follows:

1.1. Medical record

First visit (to a doctor or hospital) (on November 5, 2020): Wu, male, 34 years old. The patient's main complaint was "foreign body sensation in esophagus for more than 10 years." 10 years ago, the patient had no obvious inducement, such as dry throat, itchy pharynx, foreign body sensation in the esophagus, nasal obstruction and other discomfort. He had been treated with oral drugs for many times (details are unknown), and the effect was poor. The patient had a history of chronic pharyngolaryngitis and variant rhinitis. "Inferior turbinectomy" was performed in Xi'an Fourth Hospital in 2007. Due to the unsatisfactory treatment results in other hospitals for many times, the patient was suffering from pain. In order to seek treatment of traditional Chinese medicine, he came here after being introduced by others. Symptoms is: Pharyngeal discomfort, more mucus production which are white and thin color, foreign body sensation in the esophagus, well sleep, as well as stool and urine adjustments. The tongue is red, the moss is thin and white, and the pulse is thin. Chronic pharyngitis is diagnosed in western medicine and globus hystericus (liver depression and spleen deficiency and phlegm Qi stagnation syndrome) is diagnosed in traditional Chinese medicine. Treatment principles: To soothe the liver and spleen, dissipate phlegm and disperse knot, Minor Bupleurum Decoction and Two Matured Ingredients Decoction are selected.

Prescription is: Radix Bupleuri 10g, Radix Glehniae 15g, Rhizome Pinelliae Preparata 10g, Radix Glycyrrhizae 6g, Radix Scutellariae 10g, Cortex Magnoliae Officinalis 10g, Fructus Forsythiae 10g, Flos Lonicerae 20g, Herba Asari 3g, Radix Curcumae 15g, dried orangepeel 15g, Poria cocos 15g, totally 6 doses, taking 1 dose a day, decocted with 400ml water and taking warm in the morning and evening after meals. Ask patients to avoid spicy, drink more water, smooth emotions and avoid wind and cold.

Second visiting (November 12, 2020): The patient complained that there was no snot, the feeling of foreign body in the esophagus disappeared, the pharyngeal symptoms improved, there was much sputum, the color was yellow and thick, which is easy to cough up, he felt a little stuffy in the afternoon, ate well, rested well at night, stool and urine is adjusted. His tongue is red, his coating is thin and white, and his pulse is deep and pulse. If the effect is not changed, he continued to use 12 pairs of the original prescription to consolidate the curative effect.

According to the "Mental Cultivation Methods of Laryngology · Globus Hystericus," "This disease... is caused by Qi depression of seven emotions, which leads to phlegm and accumulates between the chest and diaphragm." It is pointed out that the occurrence of globus hystericus is mostly related to the unfavorable Qi mechanism and the obstruction of phlegm and Qi in the throat ^[2]. Ming · Yikui Sun "Pearl in Red Water · Volume Three" clearly pointed out: "Sheng Sengzi says: Patient with globus hystericus, feel like a lump in the mediate of the throat. It was also said that phlegm agglomerates in the throat and cannot spit out or swallow ^[3]." It was pointed out that the pathogenesis of globus hystericus was liver Qi stagnation and spittoon gas interlocked in airway.

Director Pei is good at using "harmonizing method" to treat diseases. The word "harmony" has two meanings: one is to reconcile external evils, and the other is to reconcile internal organs. Through the method of reconciliation, the Qi machine of the human body can rise and fall orderly, and the growth and decline of yin and yang can be balanced. Director Pei believes that the disease is related to emotion. If the emotion is not smooth, the liver will lose its order, the liver Qi will be depressed, the Qi will turn into fire for a long time, and the liver meridian fire and gas will go up and down along the meridians. If it offends the throat, it can become globus hystericus. In the treatment of the disease, it is necessary to soothe the liver and strengthen the spleen. As far as this case is concerned, on one hand, the course of the disease is longer,

with long days of liver stagnation, loss dredging, liver Qi exploiting the spleen, dysfunction of the spleen in transport, body fluid transport disorder, accumulation and produce phlegm, phlegm and Qi obstructing each other in the airway. On the other hand, excessive daily thinking, anxiety and thought make Qi stagnation, lead to damage of the spleen and stomach, so that the spleen and stomach are not harmonious, and the disease is not cured. Thus, the treatment should take soothing liver and strengthening spleen, activating Qi and eliminating phlegm as the method, choose Minor Bupleurum Decoction, representative prescriptions for reconciliation, plus or minus. In the prescription, Radix Bupleuri is the most important medicine, with spicy and disperse characteristic, can enter the liver channels, which can soothe the liver and relieve depression, and clear the liver fire. It is combined with Rhizoma Pinelliae to regulate the whole body Qi machine, and the combination of Radix Scutellariae, Fructus Forsythiae and Flos Lonicerae enhanced the power of clearing heat and reducing fire. The prescription is mixed with a small amount of Herba Asari, which restricts the coolness of the drug. Rhizoma Pinelliae is apicy and warm which goes into the lung and stomach, reducing phlegm and resolving masses, normalizing stomach by guiding Qi downward. Aried orangepeel regulated Qi-flowing for activating stagnancy, eliminated dampness and eliminated phlegm. Rhizoma Pinelliae and dried orangepeel combined with each other not only enhance the function of eliminating dampness and eliminating phlegm, but also have the effect that when treating phlegm, we should first regulate Qi, and Qi smooth makes phlegm eliminate. Cortex Magnoliae Officinalis is bitter, spicy and warm, makes Qi down and eliminate glomus, help Rhizoma Pinelliae to reduce phlegm and inverse. Poria cocos is sweet less, moisture, and tonifying spleen. Moisture help Rhizoma Pinelliae phlegm function, and tonifying spleen eliminate the source of phlegm. Phlegm-Qi bind is easy to turn fire and injury Yin, so the Radix Ginseng in the original prescription of Minor Bupleurum Decoction is replaced by Radix Glehniae, which can not only nourish liver Yin, but also prevent the drug from being too warm and dry. Qi depression for a long time is afraid of consuming the blood, so Radix Curcumae can not only invigorate the blood, but also promote Qi circulation and remove obstruction in the collateral, as the Qi medicine in the blood. Radix Glycyrrhizae can moderate the property of the medicine; The whole prescription soothe liver and strengthen spleen, as well as regulate Qi-flowing for eliminate phlegm together. Let the functioning of Qi of the human body pass up and down, and the disease will heal. During the second diagnosis, the patient's symptoms were significantly improved and sputum was excreted, so the original prescription was continued to consolidate the treatment.

On one hand, when treating, director Pei paid attention to mental adjustment and psychological counseling to relieve patients' anxiety and help patients establish treatment confidence. On the other hand, the treatment must seek in this, grasp the key pathogenesis, distinguish the main symptoms and secondary symptoms, make good use of the prescription, clever compatibility of medicines, direct to the disease, and strive to cure.

Disclosure statement

The author declares no conflict of interest.

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A Study on the Law of Birth and Formation of Yang-Deficiency Constitution Based on the Theory of Five Movement and Six Qi

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Abstract: *Objective:* To explore the law of birth and yang deficiency constitution based on the theory of five movements and six qi, as well as to provide a new way to better realize the prevention of yang deficiency constitution. *Methods:* The data of TCM quality table and luck data were collected via questionnaires. According to the data of from the TCM quality table, the respondents were divided into yang deficiency constitution group and non-yang deficiency group. According to the luck data, the distributions of gestational age were compared between the two groups. *Results:* A total of 175 questionnaires were collected, of which 89 were non-yang deficiency constitution and 86 were yang deficiency constitution. The proportion of Ding year (15.1%) in the yang deficiency group was significantly higher than that in non-yang deficiency group (5.6%), in which the difference was statistically significant ($P < 0.05$). *Conclusion:* The possibility of yang deficiency constitution is higher.

Keywords: Five movement six qi; Yang deficiency constitution; Gestational period; Year transport; Prevention before illness

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1. Introduction

It is known that the concept of “not ill” has been discussed in Huangdi Neijing. The “not ill” state in traditional Chinese medicine (TCM) includes sub-health states in modern medicine. Therefore, the concept of treating “not ill” in TCM can be used in the prevention and treatment of people with sub-optimal health [1]. According to the 2017 National Physique Identification Report, yang deficiency constitution accounted for the largest proportion of biased constitution among sub-healthy people, up to 16.40%, and is closely related to IgA nephropathy, dysmenorrhea, and chronic fatigue syndrome [2].

The theory of five movements and six qi discusses the periodic law of natural change and its influence on human health and diseases. The influence of luck on innate constitution is regarded as the effect on the pregnancy of the fetus and the tendency of acquired diseases [3]. This study is based on the theory of five movements and six qi to explore the law of birth and Yang deficiency constitution in order to give full play to the advantages of traditional Chinese medicine in treating “diseases without illnesses” and to provide a new idea for the prevention of yang deficiency constitution.

2. Methods

2.1. Source of information

The data of 175 people in Shaanxi were collected via questionnaires, including TCM quality table and luck

data. The inclusion criteria were people who were able to complete the questionnaire independently.

2.2. Methodology

According to the Classification and Judgment of TCM Physique ^[4], the results of the calculation were checked by two people to avoid errors of judgment due to calculation errors. According to the date of birth, the Gregorian calendar was used to determine the main days of pregnancy.

2.3. Statistical methods

The data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26.0 software. $P < 0.05$ was considered statistically significant.

3. Results

3.1. Gender distribution analysis

The proportions of males and females in the yang deficiency group were 31.4% and 68.6%, respectively whereas in the non-yang deficiency group, the proportions were 48.3% and 51.7%, respectively ($P < 0.05$).

Table 1. Gender distribution

Gender	Yang deficiency	Non-yang deficiency	Total	χ^2 value	P value
Male	27 (31.4%)	43 (48.3%)	70	5.217	0.022
Female	59 (68.6%)	46 (51.7%)	105		

3.2. Analysis of the age transport subtypes of the two groups

Among the yang deficiency group, wood transport was the most (15.1%), soil transport was the least (2.3%), whereas among the non-yang deficiency group, gold transport was the most (19.2%), soil transport and fire transport was the least (4.5%). The distribution difference was statistically significant ($P < 0.05$).

Table 2. Analysis of the subtypes

Year of transport	Yang deficiency	Non-yang deficiency	Total	χ^2 value	P value
Excessive wood	10 (11.6%)	11 (12.4%)	21	0.022	0.882
Inadequate wood	13 (15.1%)	5 (5.6%)	18	4.276	0.039
Excessive fire	6 (7.0%)	4 (4.5%)	10	0.500	0.479
Inadequate fire	8 (9.3%)	5 (5.6%)	13	0.863	0.353
Excessive soil	7 (8.1%)	9 (10.1%)	16	0.205	0.651
Inadequate soil	4 (2.3%)	4 (4.5%)	8	0.002	0.960
Excessive gold	11 (12.8%)	19 (19.2%)	30	1.388	0.239
Inadequate gold	10 (11.6%)	13 (14.6%)	23	0.340	0.560
Excessive water	7 (8.1%)	7 (10%)	14	0.004	0.947
Inadequate water	10 (11.6%)	12 (13.5%)	22	0.137	0.711

4. Discussion

Yang deficiency constitution is the physical congenital state of the human body due to the deficiency of yang qi. According to the constitution theory in traditional Chinese medicine, the body and disease are

related. Constitution determines the tendency of a type of disease, and it is an important factor that determines the nature, status, course, and trend of a disease^[5].

Modern studies have found that the essence of sub-health is the imbalance of yin and yang caused by the deficiency of yang qi in the body^[6]. The study found that yang deficiency constitution is closely related to tumors^[7,8], elderly hypertension^[9,10], diabetes^[11], bronchial asthma^[12,13], osteoporosis^[14,15], infertility^[16], and so on. Therefore, it is of great significance to study the formation of yang deficiency constitution in regulating sub-health states.

Based on the theory of five transport and six qi, this study included Yang deficiency constitution and non-Yang deficiency constitution for comparative study. Through comparison, it was found that the possibility of Yang deficiency constitution formation increased in the year of Ding (lack of wood transport). In Huangdi Neijing, it has been mentioned, "It is not as good as, do be, threat and take." According to heavenly holistic thoughts, the human body easily forms yang deficiency constitution. The above suggests that theory and research coincide.

There are still shortcomings in this study, thus further studies with larger sample size is encouraged to provide further clinical evidence for the prevention and treatment of yang deficiency constitution.

Disclosure statement

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Discussion on Traditional Chinese Medicine Understanding of Renal Cyst

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Abstract: The article, from perspective of traditional Chinese medicine (TCM), summarizes etiology as well as pathogenesis, dialectical classification, and treatment method of renal cyst, and concludes that when treating the disease, the first thing to do is to supplement the kidney, then give treatment to the pathogen and tonify qi while attack the pathogen. Additionally, the key of the treatment is to have dynamic observation and timely treatment. In a word, TCM integrated treatment has unique advantage of treating the disease.

Keywords: Renal cyst; Deficiency; Stasis

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1. Introduction

Renal cyst is one or more cystic mass with uneven sizes in the kidney, which is not connected with the outside world, and the internal material is mainly liquid or semi-solid liquid. Its nature is benign. The clinical manifestations are low back pain, high blood pressure, low back lump, infection, hematuria, internal capsule hemorrhage, hydronephrosis, and cyst burst when severe ^[1]. There is no name of “renal cyst” in traditional Chinese medicine, and it is classified into “lumbago” and “accumulation” according to its characteristics and clinical manifestations. The etiology, pathogenesis and treatment of renal cyst in TCM are summarized as follows.

1. Explore the etiology and pathogenesis

“Qisong Yanji, Low Back Pain” states that low back pain has difference between deficiency and reality, and deficiency includes deficiency of kidney essence, Qi and blood. The reality is the invasion of wind, cold and damp heat or trauma caused by phlegm and blood stasis block the blood vessels of the two lumbar meridians, and pain is caused by incompetence. The theory in “Jing Yue’s Complete Work” of low back pain is mostly deficiency. Kidney essence and blood Qi gradually deficient, which is unable to normal nourish main and collateral channels, not thrive is painful. “Magic Pivot, The Beginnings of the Hundred Diseases” records that “Suddenly affected by the evil of external cold, sadness and anger, emotional failure, leading to upward inversion of Qi, viscera meridian Qi and blood is not smooth, Qi stagnation, blood coagulation, fluid transport loss, long time not go, accumulation becomes complete.” Xili Wu et al. ^[2] believed that the primary and acquired factors caused Yang Qi damage in the body, and the spleen and kidney were injured. The water transport was not good, and the deficiency of kidney Yang caused the loss of bladder transpiration and vaporization, and the water condensed into sputum. Qi gets warm to go, Yang deficiency makes Qi and blood run not smooth, phlegm and blood stasis intersection obstruction in the vein, blood stasis and phlegm turbidity in the kidney, condensation is not scattered, and finally form cysts.

2. Dialectical classification of TCM

Some scholars ^[3] divided its TCM syndromes into: Qi stagnation and temperature resistance type, Qi stagnation and blood stasis type, blood stasis and obstruction of collaterals type, accumulated blood stasis type, insufficiency of both the spleen and the kidney type. Li Luo and Zhibin Li ^[4-5] found that deficiency Qi and Yin type as well as dampness and hotness obstruction type were the most common syndromes in patients with renal cysts, while insufficiency of both the spleen and the kidney type as well as dampness, turbidity and stasis type were more common in patients with bilateral and multiple renal cysts.

3. Traditional Chinese medicine treatment

Renal cysts should be treated in stages. Yueqing Lu and Boxiang Tang ^[6-7] both believed that renal cysts in the early stage were mainly caused by solid pathogenic factors such as phlegm turbidity, dampness obstruction and blood stasis. In the medium term, the real evil last for a long time, transform to heat injuring Yin and appeared deficiency and solid inclusion; In the later stage, Qi, blood and Yin and Yang are deficient. On the treatment, early stage it should be given priority to warm phlegm and drink wet, the stage of deficiency and excess should be nourishing Yin and clearing heat, promoting blood circulation and removing stasis, and the later stage should be qi and promoting blood circulation, harmonizing Yin and Yang. The difference is that Mr. Tang practiced qi and blood circulation throughout the course of treatment. Liu Hongfang et al. ^[8] believed that in the early stage of the disease, the main methods were internal stasis of phlegm drink and collaterals obstruction by blood stasis; and treat with warm phlegm drink, blood circulation and collaterals. In the middle stage of the disease, phlegm and blood stasis can obstruct collateral, and the functions of spleen and kidney are maladjusted. The maladjustment of Qi movement leads to Qi stagnation, which can promote blood flow, and Qi stagnation leads to poor blood operation, astringent blood vessels, increasing blood stasis, and persistent drinking. It is necessary to strengthen spleen and kidney on the basis of eliminating phlegm and dispersing blood stasis. It should be noted that the dosage of this phase should be applied from a small dose, not for a long time, and can be stopped if it is clinically effective. In the later stage of the disease, spleen and kidney are gradually deficient, phlegm and blood stasis block renal collaterals and form accumulation. Body evil prosperous while positive declines; At this time, we should strengthen the strength of Tonifying the spleen and kidney, and should choose Ginseng Rehmannia Decoction. At this time, the accumulation of cysts is difficult to dissipate. At the same time, drugs for promoting blood circulation and dredging collaterals should be added as appropriate. In the late stage of the disease, both Yin and Yang of the kidney are deficient, damaging the kidney essence, essence does not turn into Qi, kidney Qi turns into division, phlegm turbidity, blood stasis and water stop in the body and cannot be discharged. The treatment should pay attention to tonifying kidney essence and choose Six-Ingredient Rehmannia Decoction. In this period, we should pay attention to the skillful use of Radix Rehmanniae Preparata, not limited to the use of Herba Taxilli, Radix Achyranthis Bidentatae and other spicy and warm kidney tonifying products.

At present, the main treatment of renal cyst in traditional Chinese medicine is treatment by Chinese herbs. The medication ideas are as follows:

- (1) Tonifying the kidney first: the kidney governs water and fluid, the essence, Qi and Yin and Yang of the kidney are sufficient, and the metabolism of body fluid is normal and orderly, especially the sufficient Kidney Yang is the key. Peng An et al. ^[2] adhered to the principle of “warming and dredging must be the first to control water” and adopted the method of “Warming Yang, activating blood circulation, strengthening spleen and benefiting water” to select Cinnamon Twig and Poria Pill and Chinese Peony Powder to treat renal cyst. Zhigang Tong ^[9] compared Eliminate Cyst Pill with traditional puncture sclerotherapy and proved that Eliminate Cyst Pill can effectively alleviate the

discomfort of patients and has a high cure rate. Professor bangben Zheng and Yuling Gou ^[10-11] both used Six-Ingredient Rehmannia Pill to treat renal cysts, and the clinical feedback was good.

- (2) Cure with evil: Professor Pu Gao ^[12] drew up Wuhai Decoction based on the method of resolving phlegm and removing blood stasis, which is tailored according to the syndrome, and the curative effect is very good. Professor Yulin Wang ^[13] made good use of the effects of Rhizoma Amorphophalli in removing blood stasis and swelling, reducing phlegm, resolving masses and relieving pain in the treatment of renal cysts. The author found that in the treatment of renal cyst, the products of breaking blood and eliminating syndrome and regulating Qi and eliminating stagnation were mostly added.
- (3) Tonification and purgation in combination: Wuyun Wang and Ming Gao ^[14-15] respectively used tonifying kidney and removing stasis prescription and self-made attack, supplement and eliminating cyst formula to treat patients with renal cyst, with good clinical effect.

4. Summary

The clinical manifestations of renal cyst are diverse. The key to treatment is dynamic observation and timely treatment. Traditional Chinese medicine has unique advantages in the comprehensive treatment of renal cyst. At present, there is still a lack of reports on the special traditional Chinese medicine therapies for renal cyst, such as moxibustion and acupoint application, which need further clinical exploration and verification.

Disclosure statement

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On the Modern Clinical Application of Wendan Decoction

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Abstract: Wendan Decoction is one of the commonly used prescriptions in clinical practice. It has a wide range of applications. On the basis of traditional Chinese medicine (TCM) syndrome differentiation, as long as it can be added or subdivided flexibly, it can be used to conquer various difficult and miscellaneous diseases seen in daily life.

Keywords: Wendan Decoction; Clinical application; The solution

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1. Introduction

Wendan Decoction comes from the important prescription for emergency preparation. It is composed of Rhizoma Pinelliae, Caulis Bambusae in Taenia, Fructus Aurantii Immaturus, dried orange peel, Poria cocos, and Radix Glycyrrhizae. It has the effects of regulating Qi-flowing for eliminating phlegm, clearing gallbladder and stomach [1]. Attending by the gallbladder depression phlegm disturbance caused by timidity easily startled, dizziness, palpitations, upset sleepless, and more different dreams in night; Or nausea, vomiting, hiccups, dizziness, epilepsy, whitish glossy coating of the tongue and slippery pulse string. The most common diseases treated are: Psychoneurosis, climacteric syndrome, schizophrenia, epilepsy, aural vertigo, bronchitis, coronary heart disease, peptic ulcer, chronic gastritis, cerebrovascular accident and other diseases [2]. At present, Wendan Decoction has been widely applied to the departments of internal medicine, otolaryngology, surgery, ophthalmology, pediatrics, infection and dermatology, etc., and also involves some difficult and complicated diseases, as well as still has a wide application prospect and development space [3].

1. Mental and nervous system diseases

The etiology of vertigo syndrome in western medicine research is complex. Peripheral vertigo accounts for about 80%. The most common is benign paroxysmal positional vertigo, followed by cervical vertigo, hypertension, arteriosclerosis, stroke and so on. Vertigo in traditional Chinese medicine is due to wind, fire, phlegm, deficiency and stasis, so there are “no dizziness without wind,” “no dizziness without phlegm,” “no dizziness without deficiency.” Wendan Decoction is applicable to vertigo caused by phlegm turbidity and obstruction. Clinically, it is a kind of disease dominated by dizziness and visual rotation [4]. Shengli Yan [4] and others randomly divided 80 patients with the disease into two groups and treated them with Wendan Decoction and Western Medicine (oral sibelium 10mg, if vomiting, then adds metoclopramide 10mg). The total effective rate of Wendan Decoction group was 95%, which was much higher than 80% of Western medicine group ($p < 0.05$), and the cure course of Wendan Decoction was significantly shorter than that of Western medicine group. The study concluded that: Wendan Decoction is a famous prescription

of traditional Chinese medicine and an important agent for treating phlegm. Clinically, Wendan Decoction has satisfactory effects on dizziness, nausea and stupidity, abdominal fullness and distention caused by phlegm heat and up to disturb as well as the resistance of phlegm turbidity. As long as it is diagnosed and treated according to syndrome differentiation and correctly added or subtracted drugs, all will get desirable satisfactory results.

2. Cardiovascular diseases

Hypertension and coronary heart disease are common diseases in cardiology. Qin Ouyang ^[5] and others randomly divided 60 patients with coronary heart disease into observation group and control group. The control group was given isosorbide mononitrate tablet 40mg, and the observation group was given Wendan Decoction on the basis of the treatment of the control group. The degree of coronary stenosis before and after treatment was observed by coronary CTA: The coronary Gensini score of the patients was calculated, and the total effective rate of the observation group was 90.00%, and that of the control group was 63.33% ($p < 0.05$). The results showed that the treatment of angina pectoris caused by Qi-deficiency and phlegm obstruction coronary heart disease with Shiwei Wendan Decoction combined with western medicine was more effective than that with western medicine alone under the observation of coronary CTA. In addition, Wendan Decoction is also widely used in the treatment of other cardiovascular diseases, with obvious effect and high safety factor, which is worthy of clinical use.

3. Respiratory diseases

Chronic obstructive pulmonary disease (COPD) is one of the common diseases of the respiratory system. At present, the etiology of COPD is not fully clarified, so there is no radical cure means ^[6]. Tianhao Li ^[7] and others randomly divided 42 patients with COPD in stable stage complicated with anxiety and depression into control group and treatment group, 22 cases in control group and 20 cases in treatment group. Two groups of patients were given Budesonide Formoterol (320 ug / 9 ug) with 2 times/day inhalation, and given anti-anxiety depression treatment. On the basis of the above treatment, the treatment group was treated with wendan Decoction for 4 weeks as a course of treatment. The results showed that Wendan Decoction combined with western medicine for the treatment of COPD combined with anxiety and depression, not only can significantly improve the lung function of patients, but also make patients anxiety and depression symptoms were significantly improved, and no obvious adverse reactions.

4. Digestive diseases

Bile reflux gastritis is one of the common diseases of digestive system. It is usually caused by excessive duodenal reflux in the non-surgical stomach. The duodenum, bile and other intestinal fluids mix with each other and flow back to the stomach of the body, which produces strong stimulation to the stomach of the body. Therefore, it is induced into bile reflux gastritis. Wei Zhao ^[8] and others randomly divided 60 patients into two groups. 30 patients in the treatment group were given Wendan Decoction and 30 patients in the control group were given domperidone and famotidine capsules orally. The course of treatment in both groups was 4 weeks. Results: The effective rate of the treatment group was better than that of the control group. In a conclusion, Wendan Decoction has a significant clinical effect on bile reflux gastritis.

5. Summary

Wendan Decoction has achieved good results in the treatment of diabetes, phlegm dampness infertility and Facial Recurrent Dermatitis. It is widely used in clinical practice, and Chinese medicine prescriptions also have great potential for excavation. Our generation has the obligation and responsibility to carry out this heavy responsibility.

Disclosure statement

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Professor Xiaoyan Wang used Yinhuo Decoction to Treat Yang Insomnia from not Entering Yin Type

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Abstract: Yinhuo decoction is recorded by Shiduo Chen, a doctor in the Qing Dynasty, in the Dialectical Record. It is mainly used to treat “tonsillitis with yin asthenia.” Its pathogenesis is deficiency of kidney Yin and Yang-function insufficiency of kidney Yang, resulting in vacuity heat floating upward. Professor Xiaoyan Wang, the tutor, believes that the general pathogenesis of insomnia is that Yang does not enter Yin. The application of Yinhuo Decoction in clinic to treat insomnia is quite effective.

Keywords: Yinhuo Decoction; Insomnia; Sleepless; Yang does not enter the Yin

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1. Compatibility characteristics of Yinhuo Decoction

Original recipe of Yinhuo Decoction: Radix Rehmanniae Preparata 150g, Morinda officinalis 50g, Poria cocos 25g, Radix Ophiopogonis 50g, northern schisandra 10g. In the prescription radix rehmanniae preparata is used more as principal drug, filling the true Yin. Shiduo Chen believes that “the medicine for tonifying Yang can be used less to work, while the medicine for tonifying Yin must be used more to take effect”. Yang Qi is mainly promoted by its nature, so the amount can rise with its nature, and the amount of Yin medicine is small, which is difficult to release ^[1]. Morinda officinalis is an adjuvant drug, which warms the kidney and helps Yang, supplemented by Radix Ophiopogonis. It can not only clear the upper heat and floating heat, but also nourish yin and moisten the lungs, reflecting the coexistence of gold and water. Poria cocos strengthens the spleen, can channel the water, coordinate the gasification of the triple energizers, run the central axis, help the floating Yang heat return to the lower energizer Kangua, and schisandra chinensis converges the Qi of the five directions to the groundwater Yin, enhancing the source of life. The whole recipe aims to return fire to the origin, treat Yin and Yang together, strengthen local Qi, nourish the yin with sour and sweet, and increase the source of life. Ke Li, a famous modern and old traditional Chinese medicine, is good at using Yinhuo Decoction plus Radix Asparagi and cinnamon to treat many diseases such as mouth sore, epistaxis and headache caused by kidney yin deficiency and ministerial fire flame upward ^[2-3].

2. Understanding of insomnia by doctors of past dynasties

Insomnia is called “no sleeping” and “no sleep” in the internal classic. It is considered that its pathogenesis is that evil Qi is attracted to the viscera and defensive Qi doesn't enter Yin. In the book In the Scriptures, sleepless is called “insomnia,” which puts forward that “if the gallbladder is cold, there will be no sleep” and “if the heart is weak, there will be no sleep.” It is considered that insomnia is related to cold gallbladder and deficiency of heart Qi. Yuanfang Chao believes that insomnia is due to the patient's serious disease,

physical deficiency, decline of viscera and vitality, deficiency of construction-yin and disharmony of construction-defense. Simiao Sun used Wendan Decoction to treat insomnia in “Valuable Prescriptions for Emergency.” He believed that the cause of insomnia was cold and took tranquilizing drugs. Shiduo Chen believes that insomnia is caused by heart-kidney imbalance.

3. Tutor’s understanding of the pathogenesis of insomnia

Under the theoretical guidance of the Internal Classic, the tutor analyzed from the “Qi monism” that the main reason for insomnia is that “Yang does not enter Yin”, that is, Yang is on the top and cannot hide in the kidney water. This kind of Yang that cannot dive is not a normal Yang. It is the dysfunction of the functions of Qi in the human viscera, resulting in a series of “dryness heat and fire evil,” which disturbs the mind, so it’s hard to sleep. There are several types that cause Yang Qi to not be hidden.

- (1) The liver Qi of reverting Yin does not rise, and the A gallbladder do not fall: The normal ascending and descending movements of A wood and B wood make the liver Qi of reverting Yin rise slowly and orderly, and the Qi of lesser Yang gallbladder meridian fall to the right. If the liver Qi rises and becomes weak, the A gallbladder will not fall, the gallbladder fire will rise, and will become phase fire, disturbing the state of mind and will not sleep. Liver Qi is budding Qi, and liver depression is mostly caused by weak start-up, so liver Qi cannot rise gently and orderly. Just exercise liver Qi to help liver rise and relieve liver depression. In clinic, tutors often use *Ramulus cinnamomian*, *Fructus evodiae*, low-dose *Radix Astragali seu Hedysari*, *Radix Bupleuri* and so on to raise budding Qi. If the patient has excessive liver depression, the dosage of *Radix Bupleuri* can be increased, *Herb Menthae*, *Radix Auckland* and *Radix Curcumae* are used to dispel liver depression. Liver belongs to Yin in physique and Yang in function. *Radix Angelicae Sinensis* and *Cornus* are used to supplement the liver physique and help the liver function.
- (2) The middle earth is damaged and the central axis is not transported: The Heart Source of the Four Saints says that “The spleen is F earth, and the spleen is mainly ascending by greater Yin, while stomach is E earth, mainly descending with Yangming ^[4].” The central axis of spleen and stomach is damaged, the function of raising clear and lowering turbidity is lost, the F earth does not rise, phlegm dampness and blood stasis block the middle energizer, and depression turns into fire, resulting in insomnia. Medicine uses high-dose *Radix Astragali seu Hedysari*, *Rhizoma Atractylodis Macrocephalae* and so on to turn the central axis, thicken earth Qi.
- (3) The Qi of lung and stomach does not drop: The Qi on the right road does not fall, blocking the functioning of Qi. Yang Qi cannot be hidden in the Yin of groundwater. Yang Qi floats on the top, resulting in dryness, heat and fire evil. The patient is difficult to sleep, feels upset, etc. The Qi of the lung and stomach does not fall, which will also lead to the loss of conduction in the large intestine, and the stagnation of heat in the intestine will disturb the mind. Heart-Draining Decoction and wine-treated rhubarb are used to reduce heart fire and Qi of lung and stomach.
- (4) Deficiency of kidney Yin and kidney Yang: After middle age, the patient had deficiency of kidney Yin and kidney Yang, and could not collect and store Yang Qi. The Dragon thunder fire disturbed the mind and couldn’t sleep. In the clinic, the Marrow-Sealing Elixir is often used to subdue Yang and seal the marrow, the *Radix Rehmanniae Preparata* nourishes the true Yin, and the *achyranthes* reduces the right way to enhance the source of life.

4. Examples of medical records

Patient Yang, female, 50 years old, complained of poor sleep in recent three years, falling asleep well but awakening early, which mostly ranging from 4:00 to 5:00 in the morning, difficult to fall asleep again after

waking up, dreamy, mostly nightmares, occasional dizziness, headache, dry lips, more thinking, poor mood, tired work, eating well, dry stool, defecating once every 4-5 days, and urination well. She was always in good health. The menstrual volume was less and the cycle was irregular in recent one year. Diagnosis was: Sleepless. Syndrome differentiation was: Deficiency of kidney Yin and vacuity heat floating upward. Prescription was: Yinhuo Decoction combined with Cinnamon Twig, Licorice, Dragon Bone, and Oyster Shell Decoction plus or minus. Radix Rehmanniae Preparata 30g, Morinda officinalis 15g, Poria cocos 30g, Radix Ophiopogonis 10g, Schisandra chinensis 6g, Radix Asparagi 10g, cinnamon 6g, Radix Angelicae Sinensis 30g, Ramulus Cinnamomi 15g, Radix Paeoniae Rubra 30g, crude dragon bone 30g, raw oyster shell 30g, roasted Radix Glycyrrhizae 15g, raw Rhizoma Atractylodis Macrocephalae 60g, Polyporus Umbellatus 10g and fried Semen Ziziphi Spinosae 10g. Totally there was 7 doses, taking 1 dose per day, decocted with water.

Second diagnosis: The patient complained that after taking the medicine, the symptoms of early waking were better than before, and she still had nightmares, dry lips and dry stool. In the original prescription, the dosage of radix rehmanniae preparata was increased to 45g, added wine-treated rhubarb 10g, Fructus Mume 10g, and followed by 7 doses.

Dialectical analysis was: The patient was usually tired and in menopause. The sky was exhausted, the liver and kidney were insufficient, the water was shallow, the Dragon thunder was burnt on the fire, and she was always dizzy and headache. Reverting Yin subsides, the A gallbladder turn up against the fire and disturb the spirit. Therefore, seeing poor sleep, thinking and having poor mood, we could use Yinhuo Decoction to lead the fire to the original, guide the dragon to the sea and strengthen the source of life. Ramulus Cinnamomi helps the sprout, the Os Draconis and oyster secure and contain the essence of the kidney and astringe the vitality. Radix Angelicae Sinensis and Semen Ziziphi Spinosae benefit liver yin and liver blood. 60g raw Rhizoma Atractylodis Macrocephalae mediate the middle Qi, that is, the meaning of “spleen governs the dispersion of essence and transportation.” Radix Paeoniae Rubra and roasted Radix Glycyrrhizae take the meaning of Peony and Licorice Decoction to reduce the upper A gallbladder. In the second diagnosis, the sleep of the patient was better than before, and there were still nightmares so the dosage of the radix rehmanniae preparata was increased. And her stool was dry, considering that the patient combined reverting Yin centralization, thermalization and Yang brightness visceral heat on the basis of the dragon thunder fire burnt. Thus, add Fructus Mume, wine-treated rhubarb to collect to drop off phase fire, close reverting Yin, decline Yang brightness.

Disclosure statement

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Collection of Professor Lihong Zhu's Experience in Treating Postpartum Hypogalactia of Blood Deficiency and Liver Depression Type

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Abstract: Professor Lihong Zhu proposed the syndrome type of “blood deficiency and liver depression” in the clinical treatment of postpartum hypogalactia, and discussed its main etiology and pathogenesis as Yin blood deficiency and liver Qi stagnation, with blood deficiency as the basis and liver depression as the standard. She self-made “Shugan Shengru prescription,” which was added and subtracted with symptoms, with remarkable clinical effect, and widened the thinking of diagnosis and treatment of postpartum hypogalactia.

Keywords: Postpartum hypogalactia; Blood deficiency and liver depression type; Clinical experience

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1. Introduction

According to the “DOHaD theory,” the “first 1000 days of life” from gestation to 2 years after birth is the plastic window period for reducing chronic diseases through nutritional intervention ^[1]. Breast milk can provide newborns with comprehensive, high-quality and sufficient nutrition to meet their needs in the process of growth and development. Postpartum hypogalactia refers to those who have little or no postpartum milk, which are not enough to feed the baby. Compared with western medicine, TCM syndrome differentiation treatment has obvious advantages because of its remarkable curative effect. Professor Lihong Zhu of Shaanxi University of Chinese medicine put forward the syndrome type of “blood deficiency and liver depression” and self-made” Shugan Shengru prescription with remarkable effect. Its experience is summarized as follows.

2. Explore the etiology and pathogenesis

Modern medicine points out that the hypothalamus secretes prolactin inhibitory hormone under the stimulation of endocrine dyscrasia, bad emotions and other factors, resulting in the reduction of prolactin synthesis and secretion, which is the main pathological mechanism of postpartum milk deficiency ^[2]. Traditional Chinese medicine believes that milk is sexual function of both sexes, which acts on Qi and blood, so that its postpartum with the pulse of the stomach ascending metaplasia, with the blood originated from the middle energizer spleen and stomach, depends on the regulation of liver Qi. Professor Zhu thinks there are two reasons for postpartum hypothalamus: First, the source of responsibility is insufficient, as stated in the General Treatise on the Cause and Symptoms of Diseases: “If you give birth, you will lose both blood and water, your body fluid will be exhausted, and your menstruation blood will be insufficient.” Modern women take thin as beauty, are deficiency of spleen and stomach elements and do not have enough

food. In case of postpartum water and blood coming out with the infant during labor, it consumes Qi and hurts blood, thoroughfare and controlling vessels deficiency and damages, and determines the source of lack of energy; Second, the obstruction of collaterals, breast collaterals, liver collaterals, labor anxiety, cesarean section wound pain, postpartum life changes and so on are easy to cause emotional injury of collaterals, and the blockage of Qi overflow leads to the failure of breast collaterals. In clinic, most parturients rely too much on breast pump, which can also damage liver collaterals. As Su'an Chen of Song Dynasty said: "If the milk is not good, it is mostly blood deficiency and hurt by worry and anger."

3. Differentiation of signs and symptoms of viscera and flexible medication

From the perspective of viscera, postpartum hypogalactia involves liver, spleen and stomach, which is consistent with the views of Su'an Chen, Wuze Chen and Qingzhu Fu ^[3]. Professor Zhu believes that this type is based on blood deficiency and marked by liver depression, which are cause and effect of each other. Blood deficiency is prone to imbalance of Qi mechanism, and poor blood circulation is blood stasis. Blood stasis makes poor Qi circulation and stagnation of liver Qi worse, forming a vicious circle of liver depression and blood deficiency, affecting the generation and secretion of milk. Due to the particularity of pregnancy, the demand for blood substances increases, and the body is in a state of relative blood deficiency. When blood and water are lost during delivery, the blood deficiency is even more serious. The liver loses enough blood to nourish and reach the nature of catharsis. Due to the influence of emotion, it is difficult to lower the milk due to the stagnation and occlusion of Qi function; Liver collateral injury and Qi stagnation are easy to turn blood stagnation into blood stasis, reduce the available blood in the pulse, and blood deficiency will cause no milk.

Based on the principle of "don't be constrained by postpartum, don't forget postpartum," Professor Lihong Zhu treats Qi and blood, soothes liver and dredges milk. Self-made Shugan Shengru prescription is: Radix Codonopsis 9g, fried Radix Astragali seu Hedysari 9g, Radix Angelicae Sinensis 9g, Tmedulla of stachyurus 9g, Armand's clematis 9g, Fructus Liquidambaris 9g, Radix Rhaponrici 9g, Bran-fried Rhizoma Atractylodis Macrocephalae 9g, fried hizoma Dioscoreae 9g, Poria cocos 9g, Radix Aucklandiae 9g, fried Nidus Vespae 9g, Flos Rosae Rugosae 9g, Radix Bupleuri 8g, roasted Radix Glycyrrhizae 5g. Radix Codonopsis, roasted Radix Astragali seu Hedysari and Radix Angelicae Sinensis are used to replenish Qi and nourish blood; Tmedulla of stachyurus, Armand's clematis, Fructus Liquidambaris and Radix Rhaponrici can dredge the meridians and collaterals to secrete milk, among which Tmedulla of stachyurus is good at dredging stomach Qi, reaching up and making milk generate, and Fructus Liquidambaris soothes the liver, regulates Qi and passes the meridian; Fried Atractylodes macrocephala, fried yam and poria cocos to strengthen the spleen, together with wood incense and fried beehives to promote Qi, so that the medicine for tonifying Qi and blood will not hinder the stomach, but not stagnate, and the regulation of Qi and blood will lead to blood circulation; Radix Bupleuri, Flos Rosae Rugosae and Radix Aucklandiae incense can relieve Qi depression, soothe the liver and neutralize the stomach; Roasted Radix Glycyrrhizae can moderate the property of herbs; The whole prescription is combined with tonifying and dredging, treating as a whole, the combination of dredging and nourishing, the tonifying of the liver and the recovery of the liver function, and the regulation of Qi and blood, so as to make the milk generate with source and flow smooth.

4. Examples

Zheng, female, 32 years old, G₂P₂. First visit (to the hospital): April 24, 2020. Postpartum milk is less than 47 days. 47 days ago, after delivery with forceps, there was less milk, the quality was clear and thin, and didn't feel fullness. Her facial complexion was lusterless, she often felt tired and weak, palpitation, impatient and irritable, and signed frequently. She had poor food intake, poor sleep, normal urine and stool

as well as thin body. Her tongue was light red, the moss was thin and white, and the pulse was thin. TCM diagnosis was: Postpartum hypogalactia (blood deficiency and liver depression type). Treatment was: Tonifying Qi and nourishing blood, soothing liver and nourishing milk. Prescription was: Radix Codonopsis 9g, roasted Radix Astragali seu Hedysari 9g, fried Rhizoma Dioscoreae 9g, Radix Aucklandiae 9g, Armand's clematis 9g, Tmedulla of stachyurus 8g, Radix Rhapontici 9g, Fructus Liquidambaris 9g, Flos Rosae Rugosae 9g, fried Nidus Vespae 9g, Bran-fried Rhizoma Atractylodis Macrocephalae 9g, Flos Albiziae 9g, Radix Bupleuri 9g, Poria cocos 9g, Radix Angelicae Sinensis 9g and roasted Radix Glycyrrhizae 5g. 9 doses of Chinese medicine granule, 1 dose per day, taken in morning and evening. Guide her breast-feeding, ask her to be careful in daily life, keep pleasant and has balance diet. Second diagnosis is: The symptoms were alleviated, the breast was slightly full, the milk was significantly increased, the quality was clear and thin, she sweated spontaneously and felt palpitations. She could eat and sleep well, had sticky stool and general mood. Her tongue was light red, her moss was thin and white, and the pulse was thin. Adjusted prescription was: Remove Radix Aucklandiae and Radix Bupleuri, add fried Rhizoma Atractylodis 9g, Radix Saposhnikoviae 9g, Fructus Tritici Levis 9g, mulberry 9g and Fructus Lycii 9g. The dosage was the same as before. Third diagnosis: Her milk was sufficient, didn't add milk at night and had sticky stool. The diagnosis and treatment are the same as above, but the effect is not better. Follow-up was conducted 2 weeks later, the patient complained of breast filling and no specific discomfort.

According to, the patient's postpartum thoroughfare and controlling vessels was not full of Qi and blood, the source of milk was insufficient, and the quality was clear and thin; The liver blood is insufficient. The Qi and blood are not up to, so the Yang Qi will be sluggish, and the spleen fails to move and transform, so she will feel tired and weak at that time; Liver depression is lost and she signs frequent. Palpitation is nothing more than loss of Qi and blood, loss of support for the heart, depression of the liver generates pathogenic fire, which can also disturb the mind and become palpitation. Combined with tongue and pulse, it is diagnosed as postpartum milk deficiency and syndrome differentiation as blood deficiency and liver depression. At the first diagnosis, Professor Zhu took tonifying Qi and nourishing blood as the first, and course the liver and promote lactation as the basis. She used the self-made Shugan Shengru prescription as the basic prescription to make the milk active and smooth. During the second diagnosis, the patient's milk increased and her mood improved, but she still had palpitations, sweating and sticky stool. The treatment focused on tonifying Qi and nourishing blood, strengthening spleen and calming heart, which was added and subtracted with the disease on the basis of the original prescription. The third diagnosis showed breast milk full, and it should be made slowly and slowly, and the defender should advance in order to consolidate the foundation, cultivate the origin and search for the primary cause of disease in treatment.

5. Summary

At present, the rate of exclusive breastfeeding in one month postpartum is 47% ~ 62%, and the rate of exclusive breastfeeding in four months postpartum is 16% ~ 34.4% ^[4]. Obstetricians should pay attention to and popularize the advantages of breast-feeding to pregnant women as soon as possible, and guide pregnant women to breast-feeding and scientific and balanced nutritional diet after delivery. Professor Zhu's experience in treating postpartum milk deficiency of blood deficiency and liver depression focuses on tonifying Qi and nourishing blood, but tonifying in combination with dredging and nourishing in combination with diet and life conditioning. The curative effect is quite good and worth popularizing.

Disclosure statement

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Professor Xiaoyan Wang's Experience in Treating Tinnitus with Qi Vacuity Pattern by Using Qi Monism

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Abstract: Tinnitus refers to the abnormal sound hallucinations in the ear or inside the skull when the patient lacks outside sound. In recent years, the incidence of tinnitus is increasing gradually, which seriously affects the quality of life of patients. Reducing tinnitus symptoms is one of the main purposes of clinical treatment. Professor Xiaoyan Wang applied the monism of Qi, combined with the dialectics of the six channels and the therapeutic effect was remarkable.

Keywords: Monism of Qi; Xiaoyan Wang; Tinnitus of Qi vacuity pattern

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1. Introduction

Tinnitus is a subjective symptom that occurs alone or together with other diseases or symptoms. Clinically, it is often accompanied by hearing loss, headache, dizziness, sleep disorder, inattention, emotional anxiety and depression ^[1]. Traditional Chinese medicine has rich experience and unique advantages in the treatment of tinnitus. Professor Xiaoyan Wang, chief physician, is a famous traditional Chinese medicine in Shaanxi Province. He has been engaged in clinical practice for more than 30 years and is good at treating various brain diseases and other internal injuries and miscellaneous diseases. The authors are very honored to learn from Professor Xiaoyan Wang and attend the clinic with the teacher. Now they summarize the experience of their mentor in the treatment of tinnitus with Qi vacuity pattern as follows.

2. Monism of Qi

Monism of Qi holds that six Qi is the realization of one Qi, and congenital kidney Qi and acquired Stomach Qi are the root of each other. One Qi is the original Qi, original Qi is the source of life, original Qi contains people's spirit that comes from being born. Ke Li, an old Chinese medicine, summarized it as "Original Qi is a little true Yang in the Kan, is the foundation of man's life." The mystery of life lies in this, and this is congenital kidney Qi. The middle Qi is also generated by the original Qi. The middle Qi is like an axis and the limbs are like a wheel ^[2]. Ke Li, an old Chinese doctor, believes that no earth can make a world, and earth can produce all things. The middle earth of the human body is the spleen and stomach (middle Qi). It rises on the left and falls on the right ^[3]. Mediation runs continuously, and the five internal organs can be raised and live forever. Therefore, it means "earth subdues fire." The "monism of Qi" holds that the Qi is the physiological process of the body to produce the qi of the five internal organs through the rise and fall of the functioning of Qi. Ascending liver Qi is on the left, descending lung Qi is on the right, floating heart Qi is on the top, sinking kidney Qi is on the bottom, and spleen and stomach are the middle Qi which are

in the middle. The spleen rises and the stomach falls, which is the hub of Qi movement. Therefore, the Qi of the five internal organs is actually one Qi, which is the specific embodiment of different stages of Qi movement ^[4]. The root of human vitality is based on the kidney and sprouts in the liver. Since things have taken root, sprouting can reflect the vitality of things. Therefore, whether the sprouting power of the liver is strong or not is another important key to human vitality. The kidney water generates, liver govern wood and grows upward. The liver qi rises left, the lung gold falls right, the functioning of Qi collects and falls, the cool and moist soil comes down, the spleen and stomach is in the middle, the supreme Yin and wet soil rises left, the Yang brightness dry soil falls right, the middle soil is the axis, the remaining viscera is the wheel, one Qi flows, circulates, and the cycle is endless ^[5].

3. Understanding tinnitus of Qi vacuity pattern from monism of Qi

Professor Wang believes that tinnitus due to qi deficiency is mostly caused by deficiency of original Qi, and deficiency of spleen and kidney due to improper diet and emotional exhaustion. Congenital deficiency of vital energy and Yang, weakening of viscera function, dysfunction of Qi and abnormal entry and exit of Qi function will not rise at the sight of the left road first: The spleen soil are in disorder, cold, damp, phlegm and blood stasis are hidden in the soil, which will turn into heat and fire for a long time, burn the wet soil, and cause no rise on the left road ^[6]. Second, see the right but not to drop: If the spleen is not upbearing the clear, the stomach is not descending the turbid, and the Yang brightness is dry and hot, and will consume Qi, blood and body fluid. If the spleen cannot carry out its body fluid for the stomach and disperse essence in the lung, the lung Qi will not fall; Yang brightness does not fall, carrying turbid pathogens such as wind, fire, phlegm and blood stasis to disturb the clear orifices ^[7]. Third, see the A gallbladder but not to drop: The gallbladder wood generates phase fire. Qin'an Zheng thought: "Phase fire is true fire". He believed that the deeper the phase fire falls, the stronger and sufficient the Yang root, the liver Qi did not rise, the Qi deficiency and Qi sank at the bottom, then generated cold, dampness, phlegm, turbidity and blood stasis, the A gallbladder did not fall, went straight up with it, beclouded clear orifices, the functioning of Qi was chaotic, the clarity and turbidity were reversed, the turbid evil stole the Yang position, clear orifices blocked, and made a sound, which was called tinnitus.

4. Characteristics of therapeutic drugs

Center-Supplementing Qi-Boosting Decoction was selected for treatment. Center-Supplementing Qi-Boosting Decoction: Supple the center and boost Qi, strengthen the spleen, upbear the clear and promote the liver qi. Prescription is: raw Radix Astragali seu Hedysari, radix ginseng, fried Rhizoma Atractylodis Macrocephalae, Radix Angelicae sinensis, Radix Bupleuri, Rhizoma Cimicifugae, dried orangepeel, and roasted Radix glycyrrhizae. The prescription takes a large amount of raw Radix Astragali seu Hedysari as the principal drug. A large amount of raw Radix Astragali seu Hedysari can strengthen the Middle Earth, fix the central axis, replenish the middle Qi and raise the liver Qi. Roasted Radix Glycyrrhizae harmonizes the internal organs, penetrates Yin and Yang, governs the positive Qi of Yin and Yang in the internal organs. Radix Ginseng replenishes the five internal organs, replenishes the true Qi of heart, kidney, lung and liver, calms the mind and benefits intelligence, and complements the body vitality of monarchs and officials. Fried Rhizoma Atractylodis Macrocephalae can help the earth Qi run, dry and moist, warm and harmonious. It is the biochemical source of Qi and blood, and can jack up the cemented medium earth. Radix Angelicae Sinensis nourishes the blood, nourishes the middle energizer to nourish the blood, replenishes the liver body, and uses Yin and Eang to help the Qi of B wood rise. Dried orangepeel dredges the collateral of the spleen and stomach, so that the medicine of the whole prescription supple but not stagnate. Radix Bupleuri, Rhizoma Cimicifugae, rise clear and reduce turbidity, and combine with Astragalus membranaceus, ginseng, Rhizoma Atractylodis Macrocephalae and radix glycyrrhizae, make the middle Qi down and drug

upward^[8]. Radix Bupleuri can also disperse stagnated liver Qi to relieve depression, harmonizing liver Qi. Rhizoma Cimicifugae disperses Yang brightness and stomach muggy^[9]. Add Radix Puerariae, tasting sweet and entering into the spleen, nature flavor is spicy and scattered. The first helps the spleen Yang rise clear, Yang rises and then Yin goes up. The second helps produce saliva and slake thirst, body fluid produces when Qi goes up, so it restricts the large dose of astragalus tepid. Take an overall view of the whole prescription, cultivate and supplement the Central Qi, strengthen the central axis of movement, rise and fall phase causes, and clear and turbid reset. Add and subtract are as follows: If the liver Qi is depressed and turns into fire due to depression, irritability, upset and bitter mouth, consider adding Radix Curcumae, Radix Aucklandiae, burnt Fructus Gardeniae, wine Radix Scutellariae, etc. If the patient is thirsty, add Radix Trichosanthis. If the patients are constipation, add raw Gypsum Fibrosum and wine-treated rhubarb.

5. Summary

Professor Wang believes that the majority of patients with tinnitus syndrome of Qi vacuity pattern are middle-aged and old, which are induced or aggravated by fatigue and emotion, and can be combined with psychological comfort therapy when necessary. This article is the authors' summary of their mentor's clinical treatment experience, lack of evidence-based medicine data, and there are some insufficiencies, which need to be further studied and improved.

Disclosure statement

The author declares no conflict of interest.

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Evaluation of the Clinical Efficacy of Acupuncture and Moxibustion Combined with Repetitive Transcranial Magnetic Stimulation on Cognitive Function and Sleep Disorders in Patients with Mild Vascular Dementia

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Abstract: *Objective:* To explore the clinical effects of acupuncture and repeated transcranial magnetic stimulation in patients with mild vascular dementia. *Method:* From May 2020 to May 2021, 40 patients with mild vascular dementia in Harbin Fourth Hospital (our hospital) were divided into the experimental group (20 cases, using conventional drugs + acupuncture + repeated transcranial magnetic stimulation) and the control group (20 cases, for example, the application of conventional medication). The improvement of cognitive function score, sleep quality score, quality of life score, and cerebral hemodynamics before and after treatment were compared between the two groups. *Result:* Before treatment, the difference in cognitive function score, sleep quality score, quality of life score, and cerebral hemodynamic index between the two groups of patients did not form, that is, $p > 0.05$; after treatment, the experimental group's cognitive function score was (19.45 ± 2.47) points, Sleep quality score (12.18 ± 2.09) , quality of life score (33.29 ± 4.08) , left cerebral blood flow velocity (65.76 ± 3.32) cm/s, right cerebral blood flow velocity (64.32 ± 3.25) cm/s, more For the control group, $P < 0.05$. *Conclusion:* In the clinical treatment of patients with mild vascular dementia, based on conventional drugs, combined with acupuncture and repetitive transcranial magnetic stimulation, the patients' cognitive function can be improved, and the quality of sleep and quality of life can be improved. Comprehensive clinical promotion.

Keywords: Acupuncture; Transcranial magnetic stimulation; Mild vascular dementia; Cognitive function; Sleep disorder

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1. Introduction

Vascular dementia is dementia caused by ischemic or hemorrhagic cerebrovascular disease and acute and chronic hypoxic encephalopathy. Cognitive disorders, affective disorders, mood disorders, and memory decline are often accompanied by symptoms, which directly affect the patient's daily routine, which is the quality of life and work ^[1]. However, there are no specific drugs in the clinical treatment of vascular dementia at this stage. It is necessary to combine the patient's condition and doctor's treatment experience in clinical treatment. Commonly used drugs mainly include donepezil hydrochloride and oxiracetam, but the effect is not satisfactory. Based on the continuous deepening of clinical research, many scholars believe that moxibustion and transcranial magnetic stimulation can be used in the treatment of such patients, which can fully optimize the efficacy and further improve their quality of life. It can be seen that the in-depth study and analysis of clinical treatment programs for patients with mild vascular dementia have certain practical significance. The following clinical studies will be carried out with patients with mild vascular

dementia as the main research objects.

2. Materials and methods

2.1. Basic information

The subject randomly selected 40 patients with mild vascular dementia who were treated in our hospital from May 2020 to May 2021 for statistical comparison. The two groups were divided into two groups according to the admission serial number. There were 20 cases in the control group, 11 males and 9 females. For example, the upper and lower age limits are 55 and 77 years old, the median age is (61.25±6.24) years old, and the course of disease is from 4 to 12 months with average course of (7.05±2.54) months. The experimental group has 20 cases, 10 males and 10 females, the upper and lower limits are 52 years old, 79 years old, and the median age (61.22±6.26) years old with the course of disease from 3 to 12 months and average course of (7.02±2.51) months. The statistics of the two groups of patients showed $p>0.05$, and the comparability was significant.

2.2. Method

The control group was treated with conventional drugs, taking Oxiracetam twice a day (National Medicine Standard: H20203177 Approval Date: 2020-04-23 Manufacturer: North China Pharmaceutical Co., Ltd. English Name: Oxiracetam Tablets), each dose was 0.8 grams^[2]. The experimental group was treated with conventional drugs + acupuncture + repeated transcranial magnetic stimulation. The usage and dosage of oxiracetam were the same as those in the control group, combined with acupuncture and transcranial magnetic stimulation. Acupuncture and moxibustion need to determine the specific acupoints, which generally consist of Shenting, Dazhui, and Baihui. If patients with liver and kidney deficiency, Ganshu and Shenshu points should be added; if patients with Qi deficiency, Qihai points should be added. If patients with phlegm obstructing the orifice, Zhongwan and Fenglong points should be added. Place the aconite cake with a thickness of 4-6 mm at Baihui point. After igniting the Qing moxa, press moxibustion on the aconite until the skin at the acupoints is flushed and hot to lift up the moxa, and then press the moxibustion again and repeat the procedure. It takes 20 minutes. For Shenting and Dazhui points, only Qing Moxa lighting and moxibustion should be used, each time is 20 minutes^[3]. For other points, fili-needle acupuncture should be used. The technique is mainly for flattening, replenishing, relieving, moxibustion once a day, six times a week, 4 weeks as a course of treatment, treatment time is 12 weeks, and it takes between two courses of treatment. One week apart. During transcranial magnetic stimulation treatment, the patient is required to be in a sitting position. The coil diameter of the magnetic stimulator is set to 12 cm, the peak stimulation intensity is 1.2T, the pulse duration is 100 seconds, and the frequency is 20 Hz. At the same time, the maximum stimulus intensity of the frontal lobe is set to 0.72T, and the number of stimuli per time is 30 times (a sequence). One sequence of treatments per day is sufficient. One treatment course is seven days, four consecutive treatment courses, and the interval between each treatment course is Three days.

2.3. Evaluation index

The experimental group and the control group were evaluated for cognitive function scores, sleep quality scores, quality of life scores, and cerebral hemodynamic indicators before and after treatment. Among them, refer to the Simple State Examination Scale (MMSE) to evaluate the patient's cognitive function, with a full score of 30 points. The higher the score, the higher the cognitive function; the reference to the Pittsburgh Sleep Quality Index (PSQI) to evaluate the patient's sleep quality, the higher the score Low means that the patient's sleep disturbances are less and the quality is higher; referring to the ADL, the indicators mainly include personal hygiene, eating actions, more action and excretion actions, etc. The number of items is 20,

if the patient can be autonomous 1 point for completion, 2 points for self-completed but longer time required, 3 points for completion with help from others, 4 points for difficult completion. The higher the score, the worse the patient's ability to live and the lower the quality of life ^[4]. The two groups received magnetic resonance examination and cerebral hemodynamic indexes before and after treatment.

2.4. Statistical analysis

The study used SPSS 17.0 software for data statistics, and the count data was expressed as %. The comparison between groups was performed by χ^2 test. $P < 0.05$ indicated that the difference was clinically statistically significant.

3. Results

3.1. Study the cognitive function scores of both groups before and after treatment

The indexes of the experimental group were compared with those of the control group, $P < 0.05$. (Table 1.)

Table 1. Comparison of cognitive function scores before and after treatment in the experimental group and the control group ($\bar{x} \pm s$)

Group	n	Cognitive function score	
		Before treatment	After treatment
Test group	20	14.23 \pm 1.88	19.45 \pm 2.47
Control group	20	14.21 \pm 1.84	16.52 \pm 2.64
t value		0.0340	3.6244
P value		0.9731	0.0008

3.2. Comparison of sleep quality scores between the experimental group and the control group before and after treatment

After treatment, the data between the groups were compared, $P < 0.05$. (Table 2.)

Table 2. Analysis of sleep quality scores before and after treatment in the two groups ($\bar{x} \pm s$)

Group	n	Sleep quality score	
		Before treatment	After treatment
Test group	20	17.78 \pm 2.43	12.18 \pm 2.09
Control group	20	17.74 \pm 2.46	15.59 \pm 2.65
t value		0.0517	4.5185
P value		0.9590	0.0001

3.3. The quality of life scores of the two groups of patients before and after treatment

After treatment, the score of the experimental group was better than that of the control group, $P < 0.05$. (Table 3.)

Table 3. The quality of life score analysis of the experimental group and the control group before and after treatment ($\bar{x} \pm s$)

Group	n	Life quality score	
		Before treatment	After treatment
Test group	20	46.35±3.32	33.29±4.08
Control group	20	46.32±3.36	40.04±4.25
t value		0.0284	5.1239
P value		0.9775	0.0000

3.4. Comparison of cerebral hemodynamic indexes before and after treatment in the experimental group and the control group

After treatment, the indicators between the groups were compared, $P < 0.05$. (Table 4.)

Table 4. Comparison of cerebral hemodynamic indexes before and after treatment in the two groups of patients ($\bar{x} \pm s$)

Group	n	Left cerebral blood flow		Right cerebral blood flow	
		Before treatment	After treatment	Before treatment	After treatment
Test group	20	45.21±2.13	65.76±3.32	45.77±2.22	64.32±3.25
Control group	20	45.24±2.11	53.01±3.44	45.73±2.25	52.41±3.34
t value		0.0447	11.9268	0.0566	11.4292
P value		0.9645	0.0000	0.9552	0.0000

4. Discussion

In traditional medicine of the motherland, vascular dementia is subordinate to “stroke dementia.” The cause of this disease is the inadequacy of the marrow sea and the deprivation of the brain. Therefore, many doctors point out that it is caused by renal dysfunction and insufficient kidney essence. Cerebral dystrophy is the key to the pathogenesis of dementia [5]. The clinical treatment of vascular dementia is mainly to alleviate its clinical manifestations and slow down the development of the disease. Usually combined with the patient's condition and the doctor's clinical experience, medication is given, mainly donepezil hydrochloride and oxiracetam. The oxiracetam selected in the study can activate creatine kinase, and the receptors that act on aspartate will also increase significantly, and the affinity for uptake of choline will also increase, which is more conducive to choline metabolism and makes the brain The effect on glucose and oxygen is improved, so that the patient's memory impairment is improved. In addition, Oxiracetam can effectively activate, protect and repair nerve cells, improve the patient's memory, and realize the improvement of thinking and learning ability. But it is worth noting that although drug treatment can effectively alleviate the patient's condition, the long-term effect is not ideal.

In the study, patients in the experimental group were treated with conventional drugs + acupuncture + repetitive transcranial magnetic stimulation. Compared with the control group, all indexes were $P < 0.05$. This shows that patients with mild vascular dementia are treated with drugs, acupuncture and transcranial magnetic stimulation, and their cognitive function, sleep state and quality of life are significantly improved. In other words, acupuncture and transcranial magnetic stimulation are effective in treating patients with mild vascular dementia [6]. The reason is that patients choose the head acupoints as the main acupoints in acupuncture treatment, which can achieve the therapeutic purpose of removing blood stasis and dredging

collaterals. The main point of Baihui point is treated by aconite cake pressing moxibustion, and Dazhui point and Shenting point are treated with moxibustion with moxibustion, which can achieve the effect of removing blood stasis, dredging collaterals and filling marrow. In addition, transcranial magnetic stimulation is a non-invasive and safe cortex stimulation. It is mainly divided into low frequency and high frequency. It is repeatedly applied to the cortex after short and strong magnetic field pulses, and the magnetic field formed by the coil can penetrate the patient's scalp and the skull makes the current appear in the cortex, changes the excitability of the local cortex of the brain, realizes the effective transformation of sebum metabolism, improves the plasticity of the patient's brain tissue, and accelerates the speed of its functional recovery ^[7]. At the same time, transcranial magnetic stimulation treatment can improve the patient's cerebral blood flow, regulate its neural circuits and neurotransmitters, and adjust the ion balance and anti-apoptotic effects. Especially in the treatment of patients with vascular dementia, it can reshape the overall neural network, regulate the effects of acetylcholine and neuropeptide transmitters, and improve the mental state, cognitive impairment and sleep quality of the patients. Improve their quality of life ^[8].

In general, using conventional drugs as the basis of treatment, combined with acupuncture and repetitive transcranial magnetic stimulation to treat patients with mild vascular dementia can not only improve their cognitive function, but also benefit their sleep quality and quality of life. Thus, the patient's clinical symptoms can be improved, so it has a higher clinical application value.

Disclosure statement

The author declares no conflict of interest.

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Application of Intensive Pain Nursing in Postoperative Nursing of Clinical Patients with Lung Cancer

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Abstract: *Objective:* The intensive pain nursing was added to the surgical nursing of lung cancer and the clinical nursing effect was discussed. *Methods:* 50 patients with lung cancer received in our hospital from January 2020 to June 2021. The observation group was given intensive pain nursing and the control group was given routine nursing. The clinical nursing effects of the two groups were studied. *Results:* The pain degree of the two groups was improved after nursing. The pain relief effect of the observation group was higher than that of the control group, and the nursing effect of the two groups was different ($P < 0.05$). *Conclusion:* In the postoperative nursing of patients with lung cancer, the intervention of intensive pain nursing can relieve the pain of patients, which is worth popularizing.

Keywords: Intensive pain nursing; Lung cancer surgery; Application

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1. Introduction

Lung cancer is the fastest-growing malignant disease in China in recent 30 years. It is also a common primary malignant tumor in clinic, which seriously threatens the health and life safety of our people. At present, the development of medical science and technology has not developed specific drugs for lung cancer, the most effective clinical treatment for lung cancer is surgery. The main complaint of lung cancer patients after surgery is pain, which requires nursing intervention. If the patient's pain nursing is not ideal, it may cause the patient's slow postoperative recovery and affect the patient's entry into normal life. This paper mainly takes intensive pain nursing to intervene the postoperative recovery stage of patients, and studies the application effect of this nursing.

2. Materials and methods

2.1. General information

50 patients with lung cancer received in our hospital from January 2020 to June 2021 were selected as the object of study. In the observation group, 25 patients were treated with intensive pain nursing intervention, including 12 males and 13 females; The average age was (60.12 ± 3.98) years and the body weight was (58.64 ± 3.71) kg. Control group, with a total of 25 patients, including 14 male, 11 female, used conventional nursing intervention. It's average age was (60.23 ± 3.72) years, and body weight was (58.81 ± 3.64) kg. There was no difference in basic data between the two groups ($P > 0.05$), which has comparability.

2.2. Methods

The control group was given routine nursing such as analgesic drugs or analgesic pump, and the observation group was given pain nursing. Patients should be closely monitoring their vital signs after operations, focusing on monitoring blood pressure, heart rate and other indicators. It is necessary to input painkillers to patients, pay attention to the patient's main complaint, and observe the patient's state.

2.2.1. Education and training of medical staff

The professional operation of medical staff plays a decisive role in the treatment of patients. The patients in the observation group were treated with standard analgesic pump, and the nurses were trained in pain control. Doctors with anesthesia experience explained the meaning of pain, mastered the classification of pain, defined the steps of pain care and the use of analgesic drugs for the nurses ^[1]. Formulate a phased pain relief plan for patients, inject painkillers into patients according to the nursing plan, strengthen the monitoring of patients' physical indicators, communicate more with patients, ask patients about the effect of painkillers, and conduct the next injection before the pain relief effect of patients is eliminated, so as to maintain the curative effect of drugs in patients and relieve the physical pain and psychological pressure caused by pain. The dose of drugs should be strictly controlled to prevent the body from tolerating drugs, reduce the effect of pain relief, and avoid adverse reactions of patients to drugs ^[2].

2.2.2. Popularization of pain

Introduce the pain level and causes to patients, so that patients can have a certain psychological cognition, introduce the action mode and mechanism of analgesic drugs, and explain the use effect of analgesic drugs. Guide patients to learn some non-drug analgesic relief methods, and explain the possible complications caused by pain to patients. We should evaluate the pain of patients, reasonably control the dosage of drugs according to the state of patients, and give targeted nursing methods to different patients. After effectively alleviating patients' pain, we should timely give patients encouragement and comfort, enhance patients' confidence, and make patients believe that the pain is only temporary, with scientific treatment methods and strict postoperative nursing, the pain will eventually be overcome, the pain will eventually disappear. And make the patients actively cooperate with treatment as well as actively carry out postoperative recovery ^[3].

2.2.3. Carry out psychological counseling

For cancer patients, scientific treatment is only half of the success, while the other half comes from psychological counseling. Regular psychological counseling is applicable to any disease, especially for lung cancer patients. Therefore, it puts forward higher requirements for the professionalism of medical staff ^[4]. The patient's emotional changes and psychological changes play a certain objective role in the whole course of treatment. When talking, the medical staff should behave naturally, sincerely express their concern and sympathy for the patient, ask for the patient's opinion and provide the needed help, so that the patient has a sense of trust to the nurse, and can tell the nurse about the change in heart. Therefore, capturing patients' anxiety and psychological changes is also one of the daily works of medical staff. Appropriate psychological care is given at the right time to eliminate patients' concerns, stabilize their emotions, stimulate patients' confidence in treatment, and makes patients actively and optimistically cooperate with medical staff. If the patient's anxiety, fear, depression and other negative emotions caused by pain cannot be resolved for a long time, the nursing staff should report in time and take necessary measures for the patient, for example, let the psychologist consult him. Nurses should regularly carry out psychological one-to-one counseling activities for patients. Most lung cancer patients are vulnerable in psychological and physiological aspects. Nurses can take the initiative to communicate with patients, eliminate patients'

tension, reduce patients' pessimistic expectations and after surgery, guide family members to take good care of patients in life and spirit, and conduct psychological counseling for patients through various means. Play some relaxed music for postoperative patients, relieve their anxiety and tension, and play some wonderful movies, football matches and other films that can attract patients' attention, so as to relieve patients' pain and eliminate adverse factors hindering patients' recovery [5].

2.2.4. Later recovery

Cancer patients are different from other patients, their inner activities are more complex, and their later recovery is also more difficult. At the same time, their postoperative recovery also needs strong professional guidance, so medical staff should pay regular return visits to patients to guide their families in some professional postoperative care. Regular return visits by medical staff can greatly reduce the worries of patients during rehabilitation, alleviate the contradictions between patients and their families, and let their families actively participate in helping patients establish anti-cancer beliefs. Every cancer patient's desire for life is very strong. Lung cancer patients are also eager to restore a normal life. What they need is not sympathy, but people's help and support. Therefore, it is necessary to establish a good nurse patient relationship with patients and their families, encourage their families and friends to be considerate and take care of patients, and often visit patients to make patients feel warm [6].

2.3. Exclusion criteria

The digital evaluation method was used for pain evaluation. The data of 12 hours, 24 hours and 48 hours after operation were collected for evaluation. The higher the score, the heavier the pain of patients.

2.4. Statistical analysis

SPSS24.0 statistical software was used to process the data, and the counting data were expressed in (n /%) and χ^2 test, as well as the measurement data are expressed in ($\bar{x} \pm s$) and t test. As $P < 0.05$, the difference is statistically significant.

3. Results

Table 1. Comparison of pain improvement effect between the two groups at 12h, 24h and 48h after surgery [$\bar{x} \pm s$ / min]

Group	12h	24h	48h
Observation group (n=25)	7.23±1.52	5.91±1.06	4.63±1.35
Control group (n=25)	8.92±1.60	6.89±1.64	5.70±1.59
t value	3.829	2.509	2.565
P values	0.000	0.016	0.014

4. Discussion

With the development of society, the incidence and mortality of lung cancer are increasing. Especially in developed countries, the incidence rate of lung cancer is even higher. Most lung cancer patients are in the late stage. The existing treatment methods are difficult to control, resulting in higher mortality. According to the unified world cancer mortality rate, lung cancer ranks first [7].

The first choice for clinical treatment of lung cancer is surgical treatment. For early cancer, the survival rate of patients is more than 80% through effective treatment [8]. However, most patients with lung cancer will have complications after surgical treatment. Pain is the main complaint of patients. In addition, patients

will also have dyspnea and fatigue, especially the elderly and weak may also cause the original diseases such as chronic bronchitis and emphysema, which has a great impact on the postoperative life of patients, and professional nursing intervention is needed. Now, it is relatively simple to evaluate the therapeutic effect of lung cancer from the resection of tumor tissue. The recovery of patients and the rate of complications need to be taken into account. After receiving surgical treatment, lung cancer patients can effectively prolong their survival time. Patients need to be cared for in their postoperative recovery, so that patients can face their postoperative life in a better state in terms of physiology and psychology, so as to improve the effect of surgical recovery. The general routine nursing model has some defects. Pain nursing intervention can effectively alleviate the pain symptoms of patients. In this study, the pain scores of patients in the observation group at 12-48 hours after operation are lower than those in the control group, indicating that intensive pain nursing plays a positive role in postoperative nursing. Secondly, strengthening pain nursing also has a good dredging effect on patients' emotions, which can effectively improve patients' psychological state and improve patients' quality of life. Pain nursing can greatly promote patients' return to normal life after operation. During the implementation of pain care, the nurses are patient-centered for their services. In the service process, the nursing concept of the nurses is more advanced, the nursing intervention path is more standardized, they can have a more professional judgment on the state of the patients, effectively help and guide the patients in terms of pain and psychology. And the patients' satisfaction with clinical nursing work is also improved, which can make the patient enter the normal life state faster.

It can be seen from the above that the effect of postoperative pain nursing for patients is better than that of routine nursing. It can effectively improve the degree of pain and effectively relieve the negative emotions of patients. It has great application value in clinical nursing and is worth popularizing.

Disclosure statement

The author declares no conflict of interest.

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The Causes of Individual Differences in Autism Spectrum Disorder

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Abstract: Autism spectrum disorder (ASD) is characterized by various symptoms including impaired social interactions, unusually repetitive behaviors, and highly restricted interests etc. People with ASD differ significantly on their clinical profiles and the causes of such individual differences are not yet fully understood. The present paper provides an overview of the causes of individual differences in ASD from three different perspectives: genetic, environmental, and neurobiological perspectives. The present paper also describes one study design in detail within each perspective (i.e., classical twin design, epidemiological case-control design, and magnetic resonance imaging), and explains how each study design is informative about the causes of ASD.

Keywords: Autism spectrum disorder; Causes; Individual differences

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1. Introduction

Autism spectrum disorder (ASD), also known as autism, is a complex neurodevelopmental disorder that emerges early in life and is associated with long-term disabilities ^[1]. Symptoms of ASD include impaired social communication and interaction, highly restricted interests, unusually repetitive behaviours, and varying degrees of intellectual disability ^[2]. Manifestation of autism symptoms can be highly heterogeneous. Affected individuals may differ significantly on their clinical profiles ^[3]. The causes of individual differences in vulnerability to ASD are not yet fully understood. To provide a comprehensive overview of the aetiology of ASD to date, the present essay aims to draw evidence from three different perspectives: genetic perspective, environmental perspective, and neurobiological perspective. Within each perspective, the present essay will outline one specific study design that is used to investigate the respective perspective. The study designs include classical twin study, epidemiological case-control study, and magnetic resonance imaging (MRI).

2. Genetic perspective

Twin studies of autism conducted from 1970s onwards have revolutionized the way people understand the determinants of ASD ^[4]. Results from twin studies were the first clear evidence that genes play a substantial role in the aetiology of ASD ^[5]. One of the most extensively used study design in behavioural genetics is the classical twin study ^[6]. The classical twin method draws a comparison between two types of twin pairs, monozygotic (MZ) and dizygotic (DZ) twins. MZ twins are derived from the same fertilised egg and therefore are genetically identical, whereas DZ twins are derived from two separate fertilised eggs and thus share 50% of their genetic material ^[6]. By comparing MZ and DZ twins reared together, the classical twin design can untangle the relative contribution of genes from environmental effects in ASD ^[6].

In a pioneering twin study, Folstein and Rutter^[7] analyzed 21 twin pairs. They reported that the MZ twins were 36% concordant for autism, while the concordance rate for DZ twins was 0% – that is, one met the criteria for autism diagnosis, the other did not. Such result illustrates the importance of genetic influences in the causes of autism^[7]. However, the sample size of this early twin study was rather small. In a more recent twin study, researchers recruited 277 twin pairs and the concordance rate for ASD was significantly higher in MZ twins – 88% in MZ twins compared to 31% in DZ twins^[8]. In addition, in a population-based twin study, 37570 twin pairs were analyzed, and it was reported that the heritability rate of ASD was estimated as 87%^[9]. Taken altogether, the results from classical twin studies demonstrated a strong genetic influence in the causes of ASD, suggesting that autism is a highly heritable disorder.

Nonetheless, like any other study design, the potential limitations of the classical twin study should be noted when interpreting its findings. One major limitation is the generalizability of twin studies. It is important to consider whether the samples drawn from twins are representative of the general population^[4]. However, apart from twin studies, studies using other designs such as family study also support the important role of genes in ASD by demonstrating that increased genetic relatedness associates with increased risk for ASD^[10].

3. Environmental perspective

Since the concordance rate for ASD in MZ twins was never 100%, it suggests that some other factors other than genetics were also involved in the development of autism. Studies of ASD have shown that environmental risk factors play a small to moderate but potentially causal role^[4]. One study design that is often used to investigate environmental factors of ASD is epidemiological case-control design, which assesses the association between an exposure to risk factors and an outcome^[11]. By comparing frequency of exposure in case participants to control participants, researchers seek to determine whether the exposure to risk factors may have contributed to the onset of the condition^[12].

Evidence have indicated that individual vulnerability to ASD may be increased through environmental factors such as maternal diabetes and advanced paternal age. In a recent case-control study, Connolly et al.^[13] compared mothers of children with diagnosed ASD to mothers of children without any developmental disorder. The results showed that maternal diabetes was significantly associated with an approximately 1.5-fold increased likelihood of ASD in the offspring^[13]. Another risk factor associated with increased vulnerability to ASD is advanced paternal age. Frans et al.^[14] conducted a population-based case-control study with 5936 individuals affected with ASD and 30923 unaffected individuals. The results suggested that paternal age over 35 years at birth was associated with significant risk increase of ASD in offspring, and the highest risk was found in paternal age 50 years or older^[14]. A possible explanation behind the paternal age effect is that the association may be explained by an increased rate of *de novo* mutation in older father's sperm, and such genetic mutations were found to increase the risk for autism^[14].

However, findings from epidemiological case-control studies should be interpreted with caution due to limitations in the design. A major limitation of case-control studies is that they may suggest an association, but they do not illustrate causation^[11]. Further studies are needed to demonstrate the cause-effect relationship between exposures to environmental risk factors and increased risk of ASD.

4. Neurobiological perspective

The causes of ASD could also be discussed from a neurobiological perspective, where the individual differences in vulnerability to autism are observed in the brain. One study design that is often used to investigate brain-based differences is MRI. MRI is a type of non-invasive imaging technique that can yield detailed three-dimensional images of the brain by using strong magnetic fields and radio waves^[15]. It can aid our understanding of the individual vulnerability to autism by showing how the brain develops

structurally different in people with ASD, and thus providing insight into the underlying neural mechanisms of autism ^[2].

In a longitudinal MRI study, Langen et al. ^[3] scanned participants with ASD and control participants at the mean age of 9.9 years and 12.3 years. The results indicated that, compared to the controls, participants with ASD showed an increased growth rate of striatal structures, and repetitive behavior – a core symptom of ASD – was correlated with faster growth rate of striatal structures. These findings demonstrate how altered neural development is associated with autism. However, this MRI study is retrospective in nature since autism can often be diagnosed at age of 2. Thus, it is not clear whether it is change in brain development that is driving the repetitive behavior or the other way around ^[3]. In a prospective MRI study, MRI scans were obtained from infants who are at high risk of developing ASD, that is, those with an older sibling diagnosed with ASD ^[1]. The infants were scanned multiple times during the first 24 months of their life, and the behavioral assessments for ASD was carried out at age 24 months. It was found that the development pathways for white matter fiber tracts differed significantly between infants who received a diagnosis of ASD at 24 months compared with infants not diagnosed. Such finding suggests a neurobiological foundation of ASD since the altered white matter pathways began before the onset of core behavioral symptoms in autism ^[1].

However, MRI studies should also be interpreted in mind with its limitations. First, ASD participants recruited for MRI studies are often those without intellectual disability so that they can complete MRI scans successfully. This might make the results less generalizable to the broader population of individuals with autism ^[16]. Additionally, to date, findings from MRI are not definitive and since MRI studies have been particularly difficult to replicate, more work needs to be done before findings from MRI studies can be reliably used as biomarkers of ASD ^[2].

5. Conclusion

In conclusion, taken the aforementioned genetic, environmental and neurobiological perspectives together, the causes of individual differences in vulnerability to ASD are not yet clear-cut. Each perspective has contributed to the underlying mechanisms of autism to a certain extent as shown by twin studies, epidemiological case-control studies and MRI studies in the present essay. It will be of importance for future research to continue deepening our understanding of the causes of ASD.

Disclosure statement

The author declares no conflict of interest.

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Study on the Mechanism of Mulberry Root Bark Decoction in the Treatment of Chronic Obstructive Pulmonary Disease based on Network Pharmacology

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Abstract: *Objective:* Study the mechanism of Mulberry Root Bark Decoction in the treatment of COPD based on network pharmacology. *Methods:* The active components and predictive targets of Mulberry Root Bark Decoction were screened by TCMSP database. The disease targets of COPD were collected by searching GeneCards, DisGeNET, PharmGKB and TTD databases. Using R language to draw Venn diagram, and get the key target of Mulberry Root Bark Decoction in the treatment of COPD. Cytoscape was used to construct the regulatory network of drug active ingredient disease target. The key targets were imported into string database to construct protein-protein interaction network, and the core targets were obtained by network topology analysis with Cytoscape software. Finally, the Bioconductor platform and R language were used for GO and KEGG enrichment analysis. *Results:* There were 142 active components and 255 drug targets in Mulberry Root Bark Decoction. 1941 COPD targets were retrieved. There were 129 common targets of Mulberry Root Bark Decoction and COPD; Eight core targets of PPI network were obtained. GO function analysis is involved in oxidative stress, cellular chemical stress and other biological processes. Cell components such as cell membrane raft and membrane region involve molecular functions such as ubiquitin like protein ligase and DNA binding transcription factor. KEGG mainly includes PI3K-Akt signal pathway, tumor necrosis factor signal pathway, IL-17 signal pathway, etc. *Conclusion:* Quercetin, luteolin, kaempferol, wogonin and other active components in Mulberry Root Bark Decoction act on PI3K / Akt, TNF, IL-17, TCR and other signal pathways through Jun, TP53, MAPK1, IL6 and other targets to play an anti-inflammatory and reduce oxidative stress response role. The results of this study can provide a reference for further study on the mechanism of Mulberry Root Bark Decoction in the treatment of chronic obstructive pulmonary disease.

Keywords: Mulberry Root Bark Decoction; Network pharmacology; COPD; Action mechanism

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1. Introduction

COPD belongs to the category of “lung distention” in traditional Chinese medicine. COPD is mainly characterized by persistent airflow restriction, and its clinical manifestations are cough, chest tightness, asthma and so on. At present, COPD is the fourth leading cause of human death. The pathogenesis of the disease remains to be clarified. Studies have shown that it is closely related to inflammation and oxidative stress [1]. Glucocorticoids and bronchodilators are commonly used to treat the disease clinically, but long-term use is easy to produce drug resistance and toxic and side effects on the body. Therefore, it is of great significance to find safe and effective traditional Chinese medicine for the treatment of COPD. Mulberry

Root Bark Decoction comes from the Encyclopedia of Ancient and Modern Medicine System. It main used to treat the symptom of lung Qi excess, phlegm fire exuberant and feeling short of breath. Modern traditional Chinese medicine is mostly used to treat COPD. According to clinical observation, Mulberry Root Bark Decoction can effectively improve its clinical symptoms, arterial blood gas indexes and pulmonary function ^[2]. At present, the mechanism of Mulberry Root Bark Decoction in the treatment of COPD is not clear, and there is a lack of experimental research. Therefore, this study uses the method of network pharmacology to explore the specific molecular mechanism of Mulberry Root Bark Decoction in the treatment of COPD from a micro perspective through data collection, sorting and analysis.

2. Methods and results

2.1. Screening of components and potential targets of Mulberry Root Bark Decoction

The chemical constituents and action targets of Mulberry Root Bark Decoction, such as Cortex Mori, Rhizoma Pinelliae, Fructus Perillae, bitter apricot kernel, Bulbus Fritillariae, Fructus Gardeniae, Radix Scutellariae and Coptis chinensis were searched by TCMSP database. According to the pharmacokinetic (ADME) parameters, the oral bioavailability ($OB \geq 30\%$) and drug like index ($DL \geq 0.18$) were set as the screening conditions to obtain the effective active components and potential targets of Mulberry Root Bark Decoction. UniProt database standardized the obtained target proteins, and finally obtained 157 active components and 1944 targets of Mulberry Root Bark Decoction.

2.2. COPD disease target acquisition

Taking “chronic obstructive pulmonary disease” as the keyword, 2117 targets were obtained by searching genecards, PharmGKB, TTD and disgenet databases. After the above targets were de duplicated, 1941 targets of COPD were obtained.

2.3. Network construction of active components and key targets of Mulberry Root Bark Decoction in the treatment of COPD

The potential targets of active components of Mulberry Root Bark Decoction were matched with COPD disease targets by R language, and 129 common targets were obtained. It is introduced into Cytoscape to construct the regulation network of “active ingredient - key target”. The network shows that there are 227 nodes and 729 edges. Among them, PTGS2, PTGS1, AR and NOS2 are the target genes with the top four connectivity values, and quercetin, luteolin, kaempferol and wogonin are the drug active components with the top four connectivity values. See **Figure 1**.

2.4. Construction of protein interaction network (PPI) of Mulberry Root Bark Decoction in the treatment of COPD

The common targets of Mulberry Root Bark Decoction and COPD were imported into string database to obtain the protein-protein interaction relationship. Import it into Cytoscape software, score the network with CytoNCA plug-in, take the value greater than the median value as the screening condition, further obtain the core protein interaction relationship, and construct the PPI core network, as shown in **Figure 2**. Finally, 8 PPI network core proteins were obtained, which were JU, TP53, MAPK1, IL6, TNF, RELA, MYC and IL2.

2.5. GO and KEGG enrichment analysis

Go ($P < 0.05$) and KEGG enrichment analysis ($P < 0.05$) were performed on the core targets of Mulberry Root Bark Decoction in the treatment of COPD through R language and Bioconductor platform, as shown in **Figure 3**. and **4**. Go analysis items show the biological processes which include oxidative stress, cell

chemical stress, etc. Molecular function is related with ubiquitin like protein ligase, DNA binding transcription factor and so on. Cell components mainly involve cell membrane raft, membrane micro region and so on. KEGG mainly involves signal pathways such as PI3K / Akt, TNF, IL-17 and TCR.

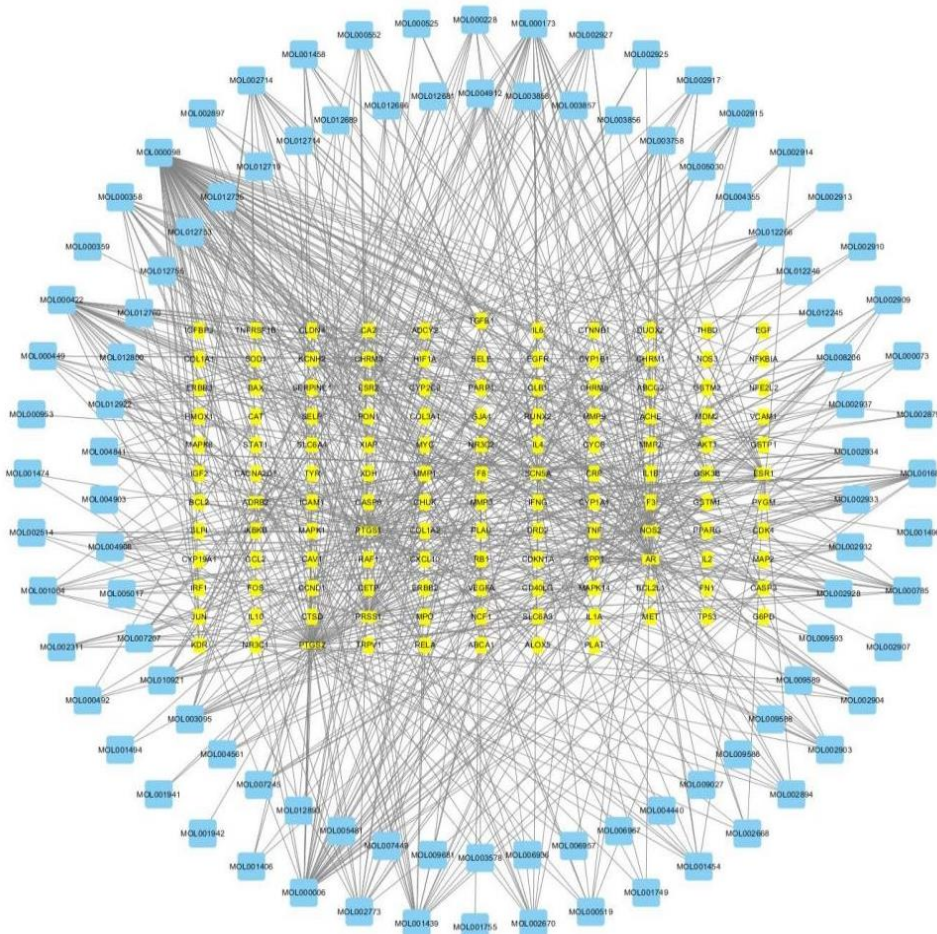


Figure 1. Regulation network of active components - key targets of traditional Chinese Medicine

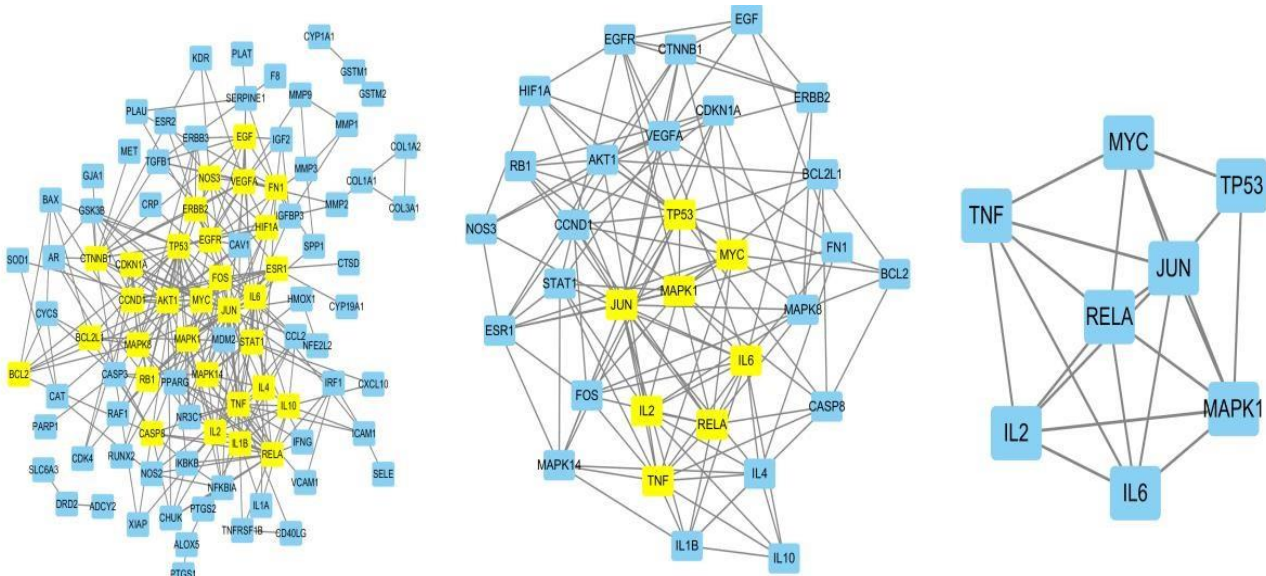


Figure 2. PPI core protein interaction

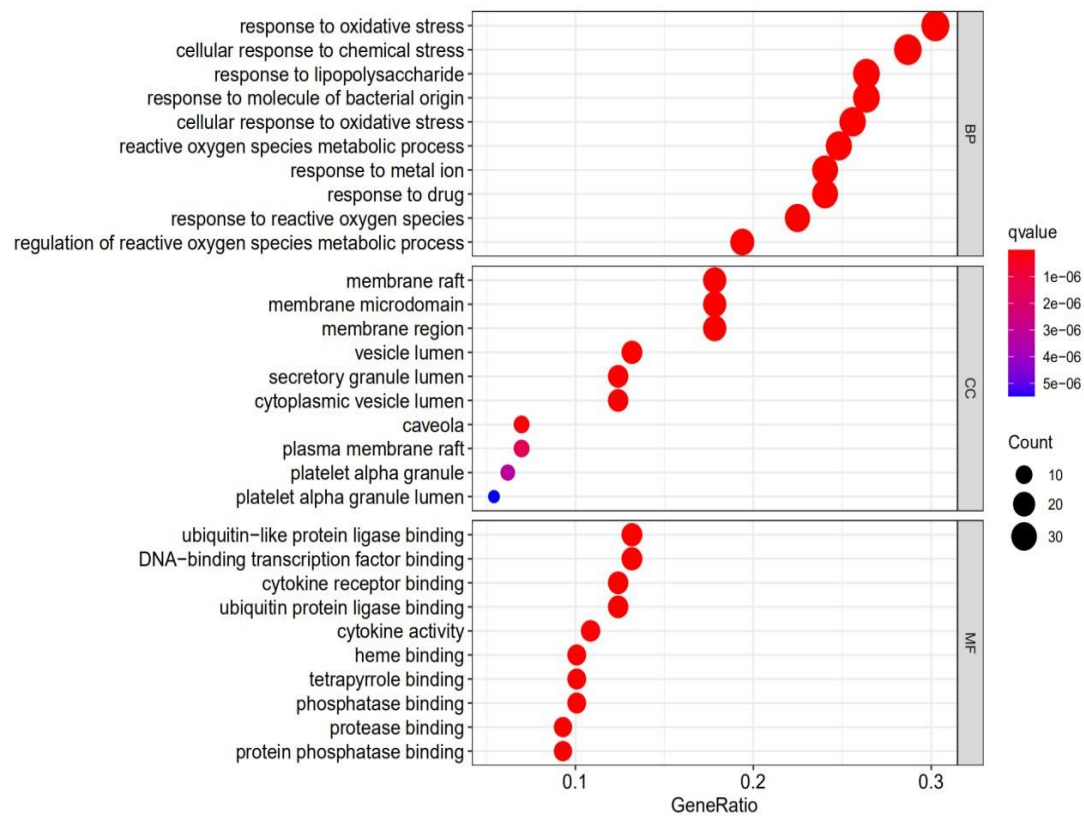


Figure 3. Bubble diagram of go function analysis

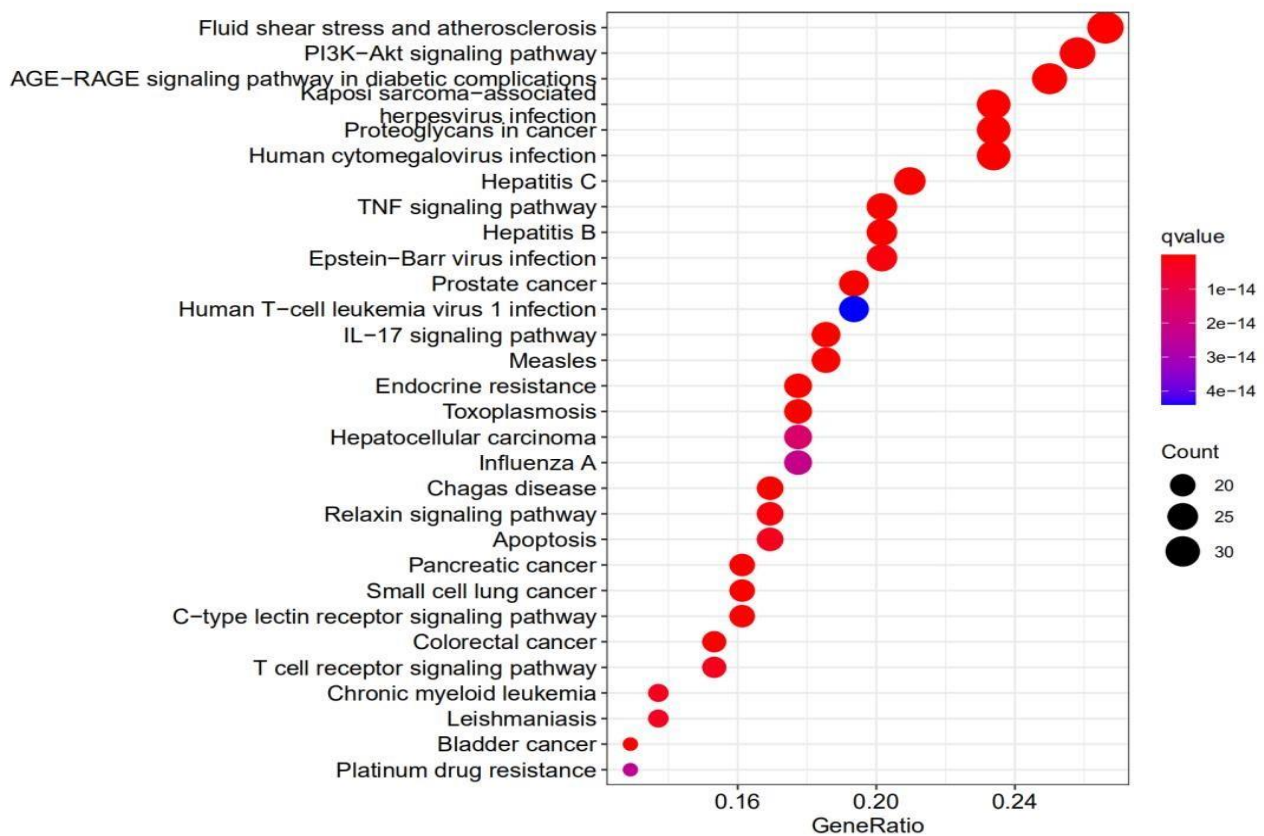


Figure 4. Bubble Diagram of KEGG enrichment pathway

3. Discussion

The results showed that the main active components of Mulberry Root Bark Decoction were quercetin, luteolin, kaempferol, wogonin and so on. Studies have shown that quercetin can down regulate proinflammatory factors IL6 and TNF- α , up regulate anti-inflammatory factor IL10, as well as reduce inflammatory factor and reduce TGF- β 1 and α -SMA to inhibit apoptosis. At the same time, it can reduce the aggregation of neutrophils, CD11b + / CD11c + macrophages and CD8 + T cells in the lungs of COPD mice, so as to play a therapeutic role [3]. Luteolin significantly inhibited the expression of TNF- α and IL-10 mRNA in lung tissue, which play a significant role in anti-oxidation and anti-inflammatory [4]. Kaempferol inhibits TNF- α and IL-6 levels and NF- κ B activation to reduce oxidative stress response and inflammation-induced injury [5]. Wogonin could significantly inhibit the inflammatory response of macrophage RAW264.7, down regulate the level of intracellular ROS and extracellular TNF- α , and play anti-inflammatory and antioxidant role [6].

PPI core protein interaction diagram showed that the active components of Mulberry Root Bark Decoction acted through JUN, TP53, MAPK1, IL6, TNF, RELA, MYC, IL2 and other key targets. JUN regulates inflammation by targeting IL-1 β synthesis and macrophage activation [7]. Activation of MAPK1 can release cytokines such as TNF- α and IL-6, which play a key role in the expression of proinflammatory factor [8]. IL-6 is mainly produced by monocyte macrophages, Th2 cells, vascular endothelial cells, etc., which can activate T cells, differentiate and proliferate as well as participate in inflammatory response [9]. TNF can improve the phagocytosis of neutrophils and promote the adhesion of neutrophils to endothelial cells, thus stimulating the body to produce an inflammatory response.

The results of pathway enrichment showed that PI3K / Akt, IL-17 and other signal pathways were the main pathway of Mulberry Root Bark Decoction in the treatment of COPD. PI3K Akt can reduce the activation of NLRP3 and IL-18 and reduce airway inflammation in COPD by inhibiting the expression of ASK1 and TSC1 in this pathway [10]. IL-17 signaling pathway is involved in inflammation and immune system diseases. Helper T cells 17 recruit and activate neutrophils in the airway by secreting IL-17 and IL-23, so as to involve in the inflammatory response.

In summary, this study analyzed the active ingredients, key targets and main pathways of Mulberry Root Bark Decoction in the treatment of COPD through network pharmacology. It was found that quercetin, luteolin, kaempferol, baicalin and so on in Mulberry Root Bark Decoction play an anti-inflammatory role and reduce oxidative stress response through JUN, TP53, MAPK1, IL6 and TNF and other target spot on PI3K/Akt, TNF, IL-17 and other signaling pathways. Traditional Chinese medicine compound has the characteristics of multi-component and multi-target. This study only discusses the molecular mechanism of treatment from the micro perspective, and its specific mechanism needs to be further verified by experiments.

Disclosure statement

The author declares no conflict of interest.

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Research Progress on Pathogenesis and Intervention Measures of Depression

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Abstract: With the wide spread of the epidemic, the long-term closed lifestyle and the sharp reduction of physical activities, many people have mental health problems such as panic, anxiety and depression. At present, there are few studies on the effect of exercise on depression. Therefore, the study selected exercise intervention therapy and other intervention methods to evaluate the intervention effect of depression, and explored the effect of exercise intervention by evaluating depression scale and effective indicators. Hope this can provide a new idea for exercise intervention as an adjunctive therapy for depression on drug treatment.

Keywords: Epidemic; Depression; Exercise intervention

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1. Introduction

Depression is also called depressive disorder, which is a mental disease characterized by various clinical manifestation, complex causes and persistent depression. The main symptoms are depressed mood, loss of fun, easy to be sad, sleep disorder and even suicidal tendency in severe cases^[1]. Therefore, it is particularly important to pay attention to people's mental health and reduce the prevalence of depression during the epidemic. Pathogenesis and clinical treatment of depression has attracted more and more attention, and there is still big dispute existed in the effectiveness of various therapies. In this paper, the key words are: Epidemic, depression, pathogenesis, exercise intervention and so on are the keywords. Relevant literatures included in the data base of CNKI, PubMed, Web of Science were searched to review the pathogenesis and different intervention methods' effectiveness of depression, so that we can put forward effective intervention measures for depression treatment.

2. Pathogenesis of depression

Depression is a chronic syndrome characterized by low mood, pessimism, and cognitive and sleep disorders. It is characterized by high morbidity, high suicide rate, low consultation rate and low treatment rate, etc. Current theories on the pathogenesis of depression mainly include the following (**Figure 1**).

2.1. Abnormal neurotransmitters and their receptors

According to the earliest "monoamine" theory, depression is mainly due to the abnormality of neurotransmitters and their receptors, such as the decrease of 5-HT, dopamine and norepinephrine (NE) levels in cerebrospinal fluid of patients with depression, the disorder of central nervous system, the disorder of norepinephrine (NE) system and the significant decrease of NE in hypothalamus. The expression activity of NE receptor was up-regulated and the number increased, leading to receptor hypersensitivity. The use of drugs that deplete NE can induce depression, suggesting that NE dysfunction plays an important role in

the occurrence of depression.

2.2. Neurodegeneration and endocrine disorder

Imaging studies have found that patients with depression have neurodegeneration of marginal structure dominated by hippocampus and reduced hippocampal volume, which may be the pathological basis of cognitive impairment in patients with depression. Depression is also closely related to neuroendocrine. The hypothalamic-pituitary-adrenal axis (HPA) in patients with depression is hyperfunctioning, and the serum cortisol concentration is increased, which also plays an important role in the occurrence of depression.

2.3. Increased inflammatory cytokines

Immune molecules play an important role in the pathogenesis of depression. A certain degree of inflammation is often accompanied by depression, resulting in the increase of proinflammatory cytokines, such as tumor necrosis factor and interleukin-1 secretion, resulting in the decrease of 5-HT level in cerebrospinal fluid. Therefore, the increase of inflammatory factors has also become an important indicator of depression.

2.4. Abnormal brain-derived neurotrophic factor

Abnormality of brain-derived neurotrophic factor (BDNF); BDNF is involved in the plasticity of neurons in some brain regions. Many studies have shown that the concentration of BDNF in patients with depression is lower than that in ordinary people, and will gradually increase after treatment. Therefore, the abnormality of BDNF is also a key factor leading to depression.

2.5. Epigenetic mechanism

More and more evidence show that epigenetic can regulate the risk of depression. Strong and long-term environmental stimulation will cause changes in chromosome structure, resulting in changes in hippocampal morphology and structure and loss of neuronal function. Hippocampal formation function decreases and neuronal function regresses, which will lead to depression.

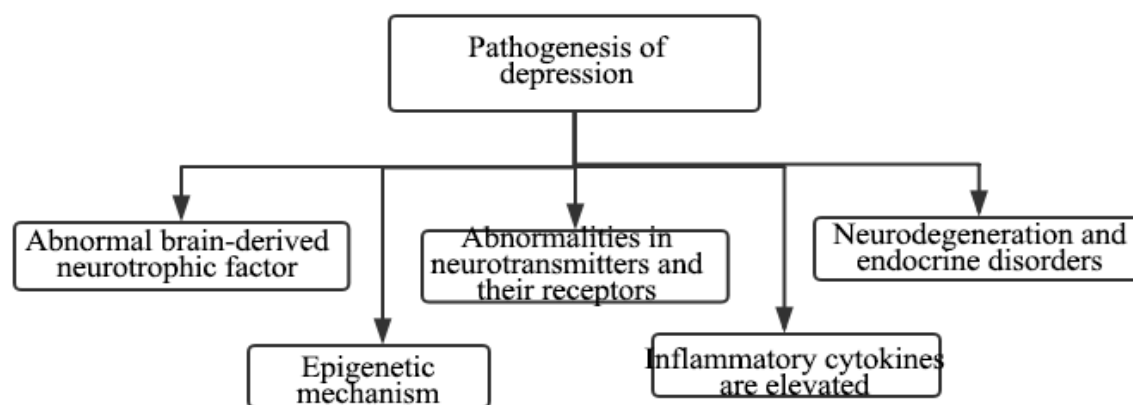


Figure 1. Several theories on the pathogenesis of depression

3. Interventions

3.1. Drug interventions

For a long time, the treatment of depression mainly includes drug therapy and non-drug intervention therapy. At present, drug treatment is a common means of depression. Although it can effectively improve the physical symptoms of patients, it has the disadvantages of high recurrence rate and large side effects. Antidepressants take effect slowly. Generally, the symptoms can only appear after taking drugs for more

than 6 weeks (**Table 1.**), and the cognitive improvement of patients has not been carried out.

Table 1. Effects of different drugs on depression

Author	Interventions	N	Cycle	Adverse reaction	Marked effective rate	Effect
Miao Pan	Clomipramine	30	6 months	33%	40%	Adverse reactions appear; The efficacy is not obvious ^[2] ;
Hongjie Wang	Trazodone	40	8 weeks	15%	95%	Adverse reactions appear; It is effect on the whole ^[3] .
Luping Zhao	Reboxetine	42	8 weeks	16 cases	76.1%	Adverse reactions appear; It has high drug compliance ^[4] .
Hongli Li	Sertraline	40	6 weeks	17.5%	85%	Adverse reactions appear; It's efficacy is slow ^[5] .
Zhiyong Ren	Duloxetine	55	6 weeks	16%	87.2%	Adverse reactions appear; It has low drug compliance ^[6] .
Suhua Meng	Mirtazapine	41	6 weeks	21.95%	70.73%	Adverse reactions appear ^[7] ;
Zhiyong Ren	Agomelatine	55	6 weeks	13%	89%	It has fatal hepatotoxic adverse reactions ^[6] ;
Tianliang Zhang	Bupropion	45	8 weeks	52.7%	82.2%	Adverse reactions appear; It has side effects on stomach ^[8] .

3.2. Non drug interventions

3.2.1. Psychological intervention

Psychological intervention therapy is a kind of psychotherapy. Different from other therapies, doctors mainly affect patients' psychological activities through language. As an auxiliary form of drug therapy, this treatment method is gradually used at home and abroad. This therapy has potential therapeutic value for the rehabilitation of depression. A large number of studies show that simple psychotherapy is effective in the acute stage of depression. At the same time, the professionalism of employees, the universality of treatment costs and the recurrence of depressive symptoms all make psychological intervention therapy not popular. (**Table 2.**)

Table 2. Effects of non-drug intervention on depression

Author	Intervention mode	Measurement method	Pre-intervention score	Post-intervention score	Effect
Hui Wu	Psychological intervention	PHQ-9 Depression Scale	15.43±2.73	5.13±1.26	Effective in the early stage; Prevention and control first; Mitigation ^[13]
Shuya Wang	Psychological intervention	LES life events scale	2.45±0.49	1.16±0.36	Effective in the early stage; Mild depression; Mitigation ^[14]
Jianfang Xie	Psychological intervention	Hamilton depression scale	28.6±3.2	11.2±2.1	Drug binding; Recurrent; Mitigation ^[15]
Jian Wang	Psychological intervention	Beck Depression Questionnaire (BDI)	45 points	0 points	Overall effectiveness; Individual cases ^[16] ;
Shunxi Chen	Psychological intervention	SDS scale	59 points	54 points	Mild depression; The effect is not obvious ^[17]
Haihua Zhang	Music therapy	Hamilton depression scale	22.30±2.59	3.60±1.67	Mild or moderate depression; Partially valid
Tao Jin	Music therapy	Hamilton depression scale	24±8	8±5	Medical assistance; Small sample size ^[11]
Ping Tong	Behavioral analysis therapy	Hamilton depression scale	27.8±5	9.6±3.7	Limited applicability and investigation indicators ^[18]
<u>M.Zeme</u> stani	Behavioral activation therapy	Beck Depression Inventory	28.77±3.37	15.38±2.25	Small sample size; Mild or moderate depression; High recurrence rate ^[12]

3.2.2. Music intervention

The therapeutic effect of music therapy on depression has also been studied by scholars. Depression is mostly seen in liver Qi stagnation. Music therapy can alleviate liver depression and effectively improve the mood and quality of life of depressed patients ^[9,10]. It is convenient, effective, safe and cheap. It is more and more used in clinical treatment, and commonly used in moderate and mild depression. However, it is only effective for some patients, and the therapeutic effect of music therapy alone is limited, It needs to be combined with drug treatment to show good results ^[11].

3.2.3. Behavioral activation intervention

Behavioral activation therapy refers to activating patients' behavioral activities by providing patients with activities with a high sense of pleasure and control, increasing patients' sense of participation and improving their positive attitude towards life. Through behavioral activation therapy, choosing the lifestyle patients

like can effectively improve the symptoms of moderate and mild depression ^[12]. Some studies have shown that behavioral activation therapy is an effective and relatively simple treatment method in theory. Its mechanism is based on the principle of operant conditioning to re-establish the active contact between the patient and the outside world. The treatment strategy is to establish a regular life and change the state of long-term meditation.

3.3. Exercise intervention

At present, antidepressants are mostly used in the treatment of depression. With the adverse reactions, drug dependence and drug compliance caused by antidepressants, people have to find new treatment measures with safety, effectiveness and feasibility. In contrast, the effect of exercise therapy on the effective relief of depression is equivalent to that of drug treatment, and it is a treatment method without side effects and environmental protection for health ^[19]. (**Table 3.**)

3.3.1. Team sports

Exercise intervention therapy refers to a physical training method that uses instruments, bare hands or the patient's own strength to restore the patient's whole body or local motor function and sensory function through a certain exercise mode. Studies have shown that patients with depression need more support, cooperation and atmosphere of exercise, and regular cooperative exercise can effectively improve the state of depression ^[20]. Yanchun Peng et al. has made research on improvement effect of depression through different forms of exercise, and the outcome shows: Basketball, volleyball, football, jogging and other forms of exercise can regulate mental health to varying degrees, and there are no adverse reactions. Some studies have described the effect of short cycle aerobic exercise on depressive symptoms and cardiopulmonary function, and adopted self-made treadmill exercise prescription: A total of 3 weeks of aerobic exercise intervention has been carried out and the results showed that aerobic exercise could significantly improve the symptoms of depression. Emotion is directly related to the degree of depression. Pleasant activities help to alleviate depressive symptoms. Regular Latin dance exercise shows that rhythmic music and medium-intensity physical activities have a significant effect on improving patients' negative emotions ^[21]. Regular physical activity can help relieve symptoms of depression and anxiety and boost mood. Through 10 weeks of yoga practice, depressive psychological disorders, mood, anxiety and sleep disorders of the patients with depression have been significantly improved.

3.3.2. Taijiquan sports intervention

Taijiquan requires the consistency of speed, movement and the group. A 16 week Taijiquan training study of 36 patients showed that: The scores of depression scale, serum cortisol, and serum inflammatory factor IL-6 in the exercise group were decreased, without adverse reactions and toxic side effects, which had a positive effect on human health and depressive symptoms ^[22]. Kexin Ren ^[23] and others believe that due to age the content of nitric oxide (NO) in human serum gradually decreases, and the activity of total nitric oxide synthase (TNOs) in serum decreases, which is easy to lead to a large number of diseases. Research finds that: Long term regular practice of Taijiquan is beneficial to improve the content of No and the activity of TNOs in serum. By practicing Taijiquan 5 times a week for 60 minutes each time for 12 weeks, it can improve human physical and mental health without adverse reactions. Qing 'an Zhou et al. ^[24] received 24-style simple Taijiquan by professional teachers. After 24 weeks of intervention, serum tumor necrosis factor (TNF)- α and TNF- β indexes were effectively reduced, and soluble tumor necrosis factor receptor (STNF-R)1 and STNF-R2 levels were significantly increased. It can effectively improve people's sleep disorders and improve the activity of serum. Studies have found that the volume of frontal cortex and hippocampus in patients with depression gradually shrinks through imaging, which is closely related to the occurrence of

depression ^[25]. The study on the effectiveness of health Qigong and Wuqinxi on mild depression shows that health Qigong and Wuqinxi significantly improved the scores of depression scale, prefrontal lobe and hippocampal metabolism indexes such as NAA/Cr and Cho/Cr, without adverse reactions and toxic side effects.

Table 3. Effects of sports on depression

Author	Movement mode	Cycle	Duration	Effective index	Effect
Yanchun Peng	Basketball, volleyball, football and so on	1 week / 1 times	60 minutes	Depression scale	Effective improvement of psychological state; None Adverse reaction
An Wen	Treadmill exercise	1 week / 6 times	15 minutes	Depression scale	Maximal oxygen uptake was effectively improved; No adverse reaction
Yi Yuan	Dance	1 week / 3 times	80 minutes	SDS international depression scale	Effective improvement of heart rate; No adverse reaction
Wenli Bao	Yoga	1 week / 4 times	90 minutes	SDS international depression scale	Effective improvement: No adverse reactions appear ^[20] ;
Jinxia Chen	Taijiquan	1 week / 3 times	60 minutes	HAMD24 depression scale	Serum cortisol and serum inflammatory factor IL-6 were effectively improved; No adverse reactions appear ^[22] ;
Kexin Ren	Taijiquan	1 week / 5 times	60 minutes	Serum NO content;	Serum TNOs activity was effectively improved; No adverse reactions appear ^[23] ;
Qing'an Zhou	Taijiquan	1 week / 2 times	60 minutes	Serum TNF- α , TNF- β STNF-R1 and sTNFR2 levels;	PSQI factors were effectively improved; No adverse reactions appear ^[24] ;
Xiang Cheng	Wuqinxi	1 week / 3 times	40-60 minutes	Depression scale;	The metabolic indexes NAA / Cr and Cho / Cr in prefrontal lobe and hippocampus were effectively improved; No adverse reactions appear ^[26] ;

4. Conclusions and advises

- (1) Commonly used drugs have certain clinical effects, but the disadvantage is that they will bring more adverse reactions to patients, such as the fatal hepatotoxic reaction caused by agomelatine, and the compliance of drug treatment is low. Therefore, drug treatment alone may not be the best way to treat depression.
- (2) Psychological intervention therapy, which starts from the patient's mood, self-confidence and other spiritual aspects, gives correct guidance, positive encouragement, and helps improve the patient's psychological treatment. Psychotherapy has not been popularized. The professionalism of psychotherapists, the degree of cooperation of patients and the effectiveness of patients all make psychotherapy not popular in the treatment of patients with depression.
- (3) Exercise promotes nerve regeneration function, effectively improves hippocampal nerve regeneration function and neural plasticity in the brain, and improves the body's regulatory ability. The curative effect on patients is comparable to that of drugs. Improve physical quality and mood of patients through exercise.
- (4) At present, it is inconvenient to go out. Taijiquan is a kind of exercise method suitable for home practice. It pays attention to breathing, expiration and inspiration skills, emphasizes the exercise of all parts of the body, and has the health concept of internal cultivation and external practice, and pays equal attention to both inside and outside. It is a very effective fitness exercise. However, there are few reports on Taijiquan improving the mental health of patients with depression. Therefore, it is of great significance to carry out large sample clinical research to clarify the exact curative effect of Taijiquan on depression.

Disclosure statement

The author declares no conflict of interest.

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Effect Observation of Process Diabetes Group Nursing on Patients with Diabetes Mellitus

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Abstract: *Objective:* Discuss the clinical effect of the process diabetes nurse group in the treatment of diabetes patients. *Methods:* A total of 58 patients with diabetes who received treatment in our hospital from January 2021 to June 2021 were selected, and the 58 patients were divided into two groups by random number table. In one group, 29 patients were treated with process diabetes group nursing, which was recorded as the observation group; in the other group, 29 patients were treated with conventional care, which was recorded as the control group. Nursing satisfaction, compliance behavior of patients, and adverse incidence were analyzed. *Results:* After nursing, the data of the two groups were summarized. The score of compliance behavior in the observation group was 91.23 ± 4.56 , which was significantly better than that in the control group (75.13 ± 5.23). The t values of the score of compliance behavior were 12.4952, $P < 0.05$. The qualified rate of fasting blood glucose in the observation group was 100 %, which was significantly higher than that in the control group (62.07 %), $P < 0.05$. According to the questionnaire analysis, there were 18 patients in the observation group who were very satisfied, 8 patients who were satisfied and 3 patients who were not satisfied, with a total satisfaction rate of 89.66%, and in the control group, there were 4 patients who were very satisfied, 15 patients who were satisfied and 10 patients who were not satisfied, with a total satisfaction rate of 65.52%. The control group was significantly inferior to the observation group, and $P < 0.05$ was regarded as statistically significant. *Conclusion:* Adopting the process of diabetes group nursing can effectively enhance the compliance behavior of patients, and effectively control the blood sugar index of patients, and improve the satisfaction degree of patients.

Keywords: Process diabetes group nursing; Diabetes; Blood glucose value

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1. Introduction

According to the statistics of the World Health Organization (WHO), the number of global adult diabetes has reached 463 million in 2019, and it is expected that this number will still increase significantly in the future, and it is expected to reach 700 million by 2045 ^[1]. According to the Research Report on Market Supply and Demand Situation and Competitive Strategy of Diabetes Drug Industry in China (2020-2026): China's diabetics has reached 122 million in 2019, ranking first in the world. At present, China has gradually entered the aging era, and the population of middle and old age is growing rapidly. Considering the growth trend of elderly type II diabetics, it is estimated that by 2028, there will be more than 149 million diabetics in China, which seems to have become a disaster area ^[2]. Cardiovascular and nervous system complications caused by long-term hyperglycemia are extremely common in diabetes mellitus, among which cardiovascular diseases have the highest mortality. After a large number of clinical trials and studies, it is concluded that effective control of blood glucose and lipid levels can significantly reduce the risk of diabetes complications. In order to achieve stable blood lipid and blood glucose levels of patients, in addition to the necessary standardized drug treatment ^[3], patients also need to provide necessary dietary

guidance and exercise guidance. It is of great clinical application value for patients' family members to cooperate in the treatment process to improve the compliance rate of patients after discharge.

2. Materials and methods

2.1. General information

A total of 58 patients with diabetes who received treatment in our hospital from January 2021 to June 2021 were selected, and the 58 patients were divided into two groups by random number table. In one group, 29 patients were treated with process diabetes group nursing, which was recorded as the observation group; in the other group, 29 patients were treated with conventional care, which was recorded as the control group. The observation was approved by the ethics committee and the patient was informed. Patients with severe diseases other than diabetes were excluded, and patients confirmed as diabetes by blood glucose test were included.

2.2. Methods

Both groups of patients were treated with routine nurse, which covers diet, exercise, medication and patient monitor. By reasonably controlling the patient's diet, reduce the probability of increasing the increase of blood glucose, and reduce the content of blood glucose in patients through other methods. On this basis, in addition to routine nurse, Patients in the observation group also need the process oriented group nurse. The specific processes are as follows:

- (1) Formulate the diabetes nurse team training plan and establish a professional nurse team. The nurse team includes department doctors, specialist head nurses, nurses, nutritionists, psychological counselors, nursing department staff, etc. Before nursing, standardized training should be conducted for the nursing team to clarify the responsibilities of each department, so as to form a nursing team with collaborative guidance and implementation, supervision and restriction. Theoretical and operational assessment should be conducted for the trained nursing staff to test the group members' mastery of the use of glucose meter and insulin ^[4].
- (2) Implement the plan and improve the nurse process. Firstly, establish personal data files, understand the cognitive status and condition of patients, conduct inquiry and evaluation, and establish targeted flow-based nursing programs; Carry out one-to-one nursing guidance to ensure that patients master the methods of insulin injection and the prevention and treatment of complications ^[5].
- (3) Understand the patient's condition and problems existing in the treatment at any time and process them in time. At the same time, understand the patient's psychological state, provide psychological counseling for patients with bad mood, and improve the patient's treatment compliance.
- (4) After the patients were discharged from the hospital, regular follow-up survey was conducted to record the cognitive status and self-management ability of the patients, and timely put forward nursing suggestions for the adverse conditions of the patients after discharge.

2.3. Observation indexes

Nurse satisfaction is divided into three levels, 85-100 points are very satisfied, 60-84 points are satisfied, and less than 60 points are dissatisfied. The anonymous questionnaire form process survey is adopted, and the satisfaction is (satisfied + very satisfied) / total number of cases; Compliance behavior (compliance), adopts the form of score, and the full score is 100; And it also includes the standard rate of blood glucose control.

2.4. Statistical methods

The compliance behavior and the number of complications of the two groups were tested by t-test and expressed in ($\bar{x} \pm s$). The count data of nurse satisfaction and blood glucose control compliance rate of the elderly in the two groups were expressed in (%). Through X^2 test, when $P < 0.05$, the difference between the two groups has statistical significance.

3. Results

3.1. Comparison of the compliance behavior and blood glucose control compliance rate of the two groups

After nursing, the data of the two groups were summarized. The score of compliance behavior in the observation group was 91.23 ± 4.56 , which was significantly better than that in the control group (75.13 ± 5.23). The t values of the score of compliance behavior were 12.4952, $P < 0.05$. The qualified rate of fasting blood glucose in the observation group was 100 %, which was significantly higher than that in the control group (62.07 %), $P < 0.05$. (Table 1.)

Table 1. Comparison of compliance behavior and number of complications between the two groups ($\bar{x} \pm s$)

Group	Number of cases	Compliance behavior ($\pm s$) \bar{x}	Qualified rate of fasting blood glucose n (%)
Observation group	29	91.23 ± 4.56	29 (100)
Control group	29	75.13 ± 5.23	18 (62.07)
t/ X^2		12.4952	13.5745
P		0.0000	0.0002

3.2. Comparison of nursing satisfaction between the two groups

According to the questionnaire analysis, there were 18 patients in the observation group who were very satisfied, 8 patients who were satisfied and 3 patients who were not satisfied, with a total satisfaction rate of 89.66%, and in the control group, there were 4 patients who were very satisfied, 15 patients who were satisfied and 10 patients who were not satisfied, with a total satisfaction rate of 65.52%. The control group was significantly inferior to the observation group, and $P < 0.05$ was regarded as statistically significant. (Table 2.)

Table 2. Comparison of nurse satisfaction between the two groups [n (%)]

Group	Very satisfied	Satisfied	Dissatisfied	Satisfaction
Observation group (n = 29)	18 (62.07)	8 (27.59)	3 (10.34)	26 (89.66)
Control group (n = 29)	4 (13.79)	15 (51.73)	10 (34.48)	19 (65.52)
X^2				4.8581
P				0.0275

4. Discussion

Diabetes is a metabolic disease with hyperglycemia as the main clinical indication and accompanied by glucose, lipid and metabolic disorders caused by insufficient insulin secretion and function. At the same

time, patients can also show a range of symptoms, including increased blood pressure, disorders in glucose and lipid metabolism. Due to long-term metabolic abnormalities, many diabetic patients suffer from multiple organ dysfunction, such as chronic changes, insufficiency or even failure of organs such as heart, eyes, kidney, blood vessels and nerves. Macrovascular (heart disease, hypertension and lower extremity vascular disease), microvascular (diabetic retinopathy, diabetic nephropathy) and neuropathy are the major chronic complications of type 2 diabetes. Among them, heart disease and hypertension induced strokes are the leading causes of death in diabetic patients.

To sum up, adopting the process of diabetes group nursing can effectively enhance the compliance behavior of patients, and effectively control the blood sugar index of patients, and improve the satisfaction degree of patients.

Disclosure statement

The author declares no conflict of interest.

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Application of Big Data Deep Learning in Auxiliary Diagnosis of Lower Extremity Arteriosclerosis Obliterans

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Abstract: At present, the incidence rate of arteriosclerosis obliterans (LEASO) of the lower extremities is significantly increased by aging and lifestyle changes. It is of great importance to predict the LEASO effectively and accurately by analyzing the imaging data of the lower extremities ^[1]. At this stage, China has entered the era of big data and artificial intelligence. Medical institutions at all levels can produce a large number of lower limb vascular image data every day. Using big data deep learning technology to intelligently analyze a large number of image data, and then carry out auxiliary diagnosis, so as to improve the diagnosis and treatment effect of LEASO is the focus of clinical research.

Keywords: Big data; Deep learning; Arteriosclerosis obliterans of lower limbs; Auxiliary diagnosis

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1. Introduction

LEASO is a chronic progressive ischemic disease of the lower limbs due to the formation of atherosclerotic plaques of the lower extremities. The clinical incidence rate is increasing significantly year by year. At this stage, the research on LEASO mainly focuses on the selection of surgical scheme and postoperative follow-up evaluation of patients requiring surgical treatment, and there is still a lack of research and Analysis on the early diagnosis and prediction methods of LEASO ^[2-3]. In order to avoid the adverse effects of doctors' lack of clinical experience and insufficient resources of medical institutions on LEASO diagnosis, this paper focuses on the application of big data processing, artificial intelligence and deep learning technology in LEASO diagnosis, hoping to provide reference for clinical diagnosis and treatment of LEASO.

2. Analysis on the current situation of LEASO diagnosis methods

LEASO is a multifactorial atherosclerotic plaque in the lower limbs, which can lead to lower limb artery stenosis or occlusion. The patient's condition is characterized by chronic progressive progress. At present, the incidence rate of LEASO is significantly increased due to the aging of population and lifestyle changes. Statistics show that the overall incidence rate of LEASO in China is about 3-10%, among which the incidence rate of 15-20% is over 75 years old. The patients' condition is progressively aggravated. Early diagnosis and timely intervention can significantly improve the prognosis of ^[4-6].

The conventional methods for clinical diagnosis of LEASO are color Doppler ultrasound and CTA. Color Doppler ultrasonography can clearly display the morphological structure of vascular wall and vascular cavity, and determine hemodynamic indexes. It is noninvasive and easy to operate. It can

accurately diagnose arteriosclerosis stenosis, and its sensitivity and specificity are more than 90%. However, ultrasonography has high requirements for doctors' clinical experience and is prone to misdiagnosis and missed diagnosis. It is often used as the main scheme for large-scale screening and postoperative follow-up [7-8]. CTA examination can show the location, degree and scope of arterial tissue lesions, with high diagnostic accuracy, but the diagnostic cost is expensive, special equipment is required, and contrast agents are required during the diagnosis, which can cause varying degrees of damage to the patient's renal function [9-10]. Some medical institutions take DSA examination as the gold standard for the diagnosis of LEASO. This scheme can clearly display the scope, degree and location of the patient's lesions, evaluate the collateral circulation and distal outflow tract, and complete the internal treatment of vascular lumen. However, this examination method is invasive and can lead to the aggravation of limb ischemia [11-12]. At present, the demand of Chinese residents for medical services has increased significantly, the imbalance of medical resources between urban and rural areas is prominent, the equipment allocation of some grass-roots medical institutions is incomplete, and the talent reserve is insufficient, resulting in the low early diagnosis rate of chronic diseases such as LEASO, which seriously affects the effect of disease treatment [13]. Big data processing technology can integrate and make use of the technical advantages and experience of class III medical institutions in diagnosing LEASO to realize the intelligent diagnosis of LEASO, which helps to improve the diagnosis and treatment level of grass-roots medical institutions and avoid doctors' influencing the disease diagnosis and treatment results due to factors such as insufficient clinical experience and equipment. Its clinical application value is worthy of in-depth research.

3. Analysis on core problems and technical route of image big data intelligent diagnosis LEASO

The main problems to be solved in image big data intelligent diagnosis of LEASO include how to realize quantitative diagnosis and evaluation of LEASO by using LESO image video sequence lesion tracking and automatic detection technology; How to improve the single data-driven mode to form a LEASO diagnosis mode combining image expert knowledge, clinical detection and image [14]. The technical route of image big data intelligent diagnosis LEASO is relatively complex. It is necessary to give priority to the establishment of image big data intelligent diagnosis LEASO intelligent image database, which includes patient medical records, clinical indicators, images, expert knowledge, etc. After that, it is necessary to preprocess the database, establish a perfect image database, and form a multi-scale, cross time, feature and semantic data fusion through feature association, representation and extraction. After the above steps are completed, focus location and tracking (semi supervised deep learning model, multi-scale adaptive tracking strategy, deep learning and f-rcnn), feature extraction and fusion (deep enhanced feature fusion learning, risk diagnosis quantitative evaluation algorithm, feature modeling and small sample learning) [15].

4. Image big data intelligent diagnosis and LEASO prediction analysis based on convolutional support vector machine

4.1. Convolutional neural network and support vector machine

Convolution neural network is a representative algorithm of deep learning. It is a pre feedback neural network based on neural network and adding convolution operation, mainly including feature extraction and hierarchical classification. Feature extraction requires low dimensional data to effectively represent the relevant content of the image. The classification involves complex contents. Researchers detect and classify pulmonary tuberculosis in CT, and detect and classify skin cancer by using human skin tissue photos. According to the characteristics of medical images, the researchers optimized the computational cost of google net model and introduced the basic mode of model fusion. The results show that the image classification effect of the fusion mode is significantly better than that of the original model. Support vector machine is a linear classifier. Researchers use support vector machine to comprehensively analyze renal

ultrasound images, which can realize the accurate diagnosis of a variety of renal diseases. The accuracy of routine ECG in the diagnosis of acute myocardial infarction is low. The comprehensive analysis of gene expression related data by support vector machine can significantly improve the diagnostic accuracy [16].

4.2. Construction of convolutional support vector machine model

4.2.1 Convolutional support vector machine

In the process of constructing the mode, it is necessary to give priority to establishing a complete convolution neural network framework structure including full connection layer, pooling layer and convolution layer. There are certain differences in the output patterns of different levels. The convolution layer contains several convolution cores, which can extract the detailed characteristics of the output data. The specific calculation formula of the input and output of the convolution layer is

$$(1) \quad z_{u,v}^l = \sum_{i=-\infty}^{\infty} \sum_{j=-\infty}^{\infty} x_{i+u,j+v}^{l-1} \cdot K_{roti,j}^l \cdot \chi(i,j) + b^l,$$

$$(2) \quad \chi(i,j) = \begin{cases} 1, 0 \leq i, j \leq n \\ 0, others \end{cases},$$

$$(3) \quad a_{u,v}^l = f(z_{u,v}^l),$$

The output characteristics of the upper layer are input as the pool layer, which can complete the law and screening of data information. The specific calculation formula is

$$z_{i,j}^{l+1} = [\beta^{l+1} \sum_{u=ir}^{(i+1)r-1} \sum_{v=jr}^{(j+1)r-1} (a_{u,v}^l + b^{l+1})]^{\frac{1}{p}}$$

Through the analysis of the formula, the position relationship between the hyperplane and the sample can be determined, and then the accurate prediction category of the sample can be obtained.

4.2.2 Comparative algorithm analysis

The comparison algorithms mainly include naive Bayes, support vector machine, convolutional neural network, etc. naive Bayes belongs to the classification algorithm. The probability statistics theory is used to classify the data. The precondition is that the data attributes are independent. The maximum output of probability can be realized through this algorithm. Support vector machine belongs to linear classification mode and has good generalization ability. It can realize accurate classification by inputting the classification value of specific label in operation. Convolution neural network belongs to pre feedback neural network. Convolution related operations are integrated in the solution process, and it has a deep structure. This model has good application effects in natural language processing and computer vision.

4.2.3 Algorithm related description

The CT images of patients with LEASO were included as the research data office resources. The structure of single-layer pooling, three-layer convolution and single-layer full connection layer was adopted, and SVM classifier was introduced. The number of convolution kernels used in 1 convolution layer is 6 (5×5),

the number of convolution kernels used in the 2-layer convolution layer is 8 (3×3), the number of convolution kernels used in the 3-layer convolution layer is 10 (3×3), rely is used as the activation function.

4.2.4 Basic process analysis of LEASO prediction

The data preparation of LEASO prediction needs to be completed first, followed by training data and test data. In the process of training data, training set and verification set can be formed, and support vector machine, naive Bayes, convolutional neural network and convolutional support vector machine can be extended to form verification model together with test data. In the data preparation stage, a suitable number of LEASO patient data should be included and divided into test data and training data. The test data is mostly used to evaluate the performance of the model, and the training data is used to train and improve the model. In the process of data preprocessing, the picture needs to be adjusted to 64×64 . Reasonably set the gray image and input it into SVB, CNNs and Nb for simulation training. During the test, the patient picture shall be used as the input data, and the input value shall be included in the training model, so as to achieve accurate prediction.

5. Conclusion

At present, the clinical incidence rate of LEASO is increasing year by year. It is important to accurately predict and diagnose the disease and implement targeted treatment intervention. Image big data intelligent diagnosis LEASO is based on the deep-seated intelligent extraction of vascular image features. It can realize the automatic detection and diagnosis of LEASO by using modeling and multimodal algorithm, convolution support vector machine model, etc. through the strong feature extraction and classification ability of neural network, it can realize the accurate prediction of LEASO, which is worthy of comprehensive promotion and application.

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A Case of Perianal Necrotizing Fasciitis from Perianal Abscess with Integrated Chinese and Western Medicine Treatment

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Abstract: This article discusses a case of perianal necrotizing fasciitis from perianal abscess with integrated Chinese and western medicine treatment. It has been concluded that the treatment of perianal necrotizing fasciitis from perianal abscess should focus on dispelling evil, tonifying deficiency, or attack and supplement at the same time in order to achieve the purpose of dispelling evil without harming the right while supporting the right without leaving evil.

Keywords: Necrotizing fasciitis; Infection; Sepsis

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1. Introduction

Necrotizing fasciitis is an acute and critical disease under the category of anorectal diseases. It is a severe infectious disease caused by multiple bacteria (including aerobic and anaerobic bacteria) around the anus and urogenital triangle ^[1]. The disease is characterized by a large-scale progressive necrosis of the dermis, subcutaneous tissue, and fascia without involving the muscles. Its onset and progress are rapid. In addition, the infection easily spreads to the perineum, abdomen, and even the whole body, resulting in complications such as sepsis, septic shock, and multiple organ failure (MODS). The death rate of the disease is as high as 9% to 25% or even higher. This article discusses a case of perianal necrotizing fasciitis from perianal abscess with integrated Chinese and Western medicine treatment.

2. Case analysis

Patient H, male, 28 years old, was admitted to the emergency department at 0953 hour on November 30, 2019, with perineal and abdominal swelling as well as pain after a perianal abscess surgery. The admission examination (lithotomy position) by a specialist was as follows: upon visual examination, the surgical incision was not healed at 3 and 5 points around the anus with a size of about 10cm × 8cm and 6cm deep with foul, turbid, and blackened exudate as well as necrotic tissue at the edge; the skin around the anus and perineum was dark red, the skin out of the scrotum was broken, and there was fetid exudate; on his left side, there was redness spreading from bottom to the chest, and on his right side, the redness spread from bottom to the umbilicus; digital rectal examination revealed that the edge of the anal incision was soft and tender, the penis was edematous, scrotum was swollen, and purulent ulceration was noted; the mass at the abdomen and right anterior chest was firm, tender, and twisted under the skin.

Upon admission, the investigation results were as follows: white blood cell (WBC) was $14.0 \times 10^9/L$ (↑), red blood cell (RBC) was $3.18 \times 10^{12}/L$ (↓), hemoglobin (HGB) was 115 g/L (↓), neutrophils percentage (NEUT) was 92.20% (↓), absolute count of neutrophils (NEUT#) was $12.95 \times 10^9/L$ (↑), lymphocytes percentage (LYM%) was 4.70% (↓), absolute count of lymphocytes (LYM#) was $0.66 \times 10^9/L$ (↓), and platelets were within normal range; international normalized ratio (INR) was 1.42 (↑), thrombin time (TT) was 16.0 seconds (↑), prothrombin time activity percentage (PT %) was 49.40% (↓), fibrin degradation product (FDP) was 6.5 ug/ml (↑), potassium (K) was 3.4 mmol/L (↓), iron (Fe) was 5.6 mmol/L (↓), calcium (CA) was 1.81 mmol/L (↓), urea was 123 mmol/L (↓), procalcitonin (PCT) was 1.89 ng/ml (↑). The nine items of blood transfusion were negative, and ECG showed sinus tachycardia.

Diagnosis upon admission: (1) necrotizing fasciitis; (2) sepsis; (3) electrolyte disorder. After excluding the contraindications, the debridement of the necrotizing tissue was performed in the operating theatre on the November 30. The events of the surgery were as follows: after general anesthesia, the lithotomy position was routinely disinfected; a large amount number of purulent discharge was noted from the original surgical incision at the back of the anus; on finger diagnosis, the wound reached deep to the pelvic rectal space, and the abscess cavity spread to the scrotum on both sides and upward, with necrosis and ulceration on the scrotum surface, redness over the abdomen and the right chest wall, as well as swollen and twisted mass; the original surgical incision was expanded, the infected necrotic tissue was removed until there were no fresh infected fasciae, it was gradually removed upward along the necrotic part to the scrotum, bilateral testicles were protected, and subcutaneous fat was separated from the fascia layer; at the same time, the incision in the hip was increased and a rubber band was hung between each incision to promote smooth drainage; necrotizing fascia and adipose tissue were gradually removed from the left inguinal mass up to the left anterior chest, and the surgical method of skipping relay incision and short-cut drainage was used. The right side was treated in the same way. The skin margin was trimmed, the bleeding was fully stopped, the wound was cleaned with hydrogen peroxide as well as normal saline, and it was wrapped with oil gauze. Considering the large area of infection, affecting the waist, back, buttocks, perineum, chest, and abdomen, as well as the possible life-threatening situations, such as septic shock, nausea, arrhythmias, respiratory arrest, cardiac arrest, electrolyte disorders, and multiple organ dysfunction syndrome, the patient was transferred to ICU after the surgery.

Diagnosis upon transferring to ICU (2229 hour on November 30, 2019): (1) necrotizing fasciitis; (2) sepsis; (3) electrolyte disorder – hypokalemia and hypocalcemia; (5) abnormal liver function; (6) hypoproteinemia; (7) anemia. In consideration of the serious infection and the pending etiological results, meropenem and linezolid were administered. The antibiotic regimen was adjusted after the etiological results were out.

At 2220 hour on November 30, 2019, the patient's serum albumin was measured at 22.8 g/L and 20% human albumin was infused.

At 1044 hour on December 1, 2019, the patient regained consciousness but still had fever; his maximum body temperature was 38°C. The 12-hour in and out volume was as follows: the total intake was 3295ml and total output was 1350ml (all urine output). The blood investigations were as follows: magnesium (Mg) was 1.1 mmol/L (↑), Fe was 5.3 mmol/L (↓), CA was 1.77 mmol/L (↓), D-dimer (D-D) was 2.6 ug/ml (↑), activated partial thromboplastin clotting time (APTT) was 37.6 seconds (↑), INR was 1.51 (↑), TT was 18.1 seconds (↑), PT-% was 44.9 (↓), FDP was 7.0 ug/ml (↑); PCT was 2.46 ng/ml (↑), WBC was $15.1 \times 10^9/L$ (↑), RBC was $3.26 \times 10^{12}/L$ (↓), NEUT% was 86.20% (↓), LYM% was 8.80% (↓), C-reactive protein was 54.52 mg/L (↑), total protein (Tp) was 19.50 g/L (↓), ALT was 51 u/L (↑), AST was 47 u/L (↑), direct bilirubin (DBL) was 19.3 umol/L, total bilirubin (TBL) was 24.5 umol/L, Tp 39.7 g/L. Gastric occult blood test was positive. The patient's infection index, body temperature, and exudate were high. Meropenem and linezolid were administered continuously to fight infection. Pantoprazole, vitamin

K1, and Kangfuxin solution were given to inhibit acid, protect the gastric mucosa, and supplement coagulation factors. Necessary blood transfusion was done based on the hemoglobin levels. The doctor debrided and changed the dressing of the wound as well as applied Xiaozhong Cuyu decoction to reduce the inflammation. The prescription was as follows: 30 grams of *Herba Portulacae*, 15 grams of *Cacumen Platycladi*, 15 grams of *Rhizoma Atractylodis*, 15 grams of *Radix Saposhnikoviae*, 15 grams of *Fructus Aurantii*, 30 grams of *Rhizoma smilacis glabrae*, 20 grams of *Cortex Phellodendri*, 30 grams of *Herba Taraxaci*, 12 grams of *Rhizoma Bletilla*, 12 grams of *Rhizoma Corydalis*, and 12 grams of *Radix Sanguisorbae*.

At 0957 hour on December 2, the patient's vital signs were relatively stable, and his body temperature was lower than before. His PCT decreased but the ratio of leukocytes to neutrophils was still high. The treatment with meropenem and linezolid continued along with the dressing and the application of Xiaozhong Cuyu decoction.

On the evening of December 3, it was found that *Escherichia coli* was positive in the pus culture, and it was sensitive to meropenem and imipenem. Linezolid was stopped and the measures of multidrug resistance prevention and isolation were strictly implemented. The patient's body temperature reduced, and the infection indexes, such as hemogram and PCT, decreased. Vitamin K1 was stopped, human albumin was continued to be supplemented, and reduced glutathione was injected to protect the liver and lower transaminases.

On December 4, debridement of the necrotizing tissue was performed again as follows: after general anesthesia, in the lithotomy position, the skin outside the wounds on both sides of the abdomen was red and swollen, and the infection had spread near the axillary midline; the rubber band was removed between each incision, the necrotic tissue was completely removed from the wound, the wound was repeatedly washed with hydrogen peroxide and normal saline, the normal skin around the wound was cleaned, the wound at the abdominal wall and chest wall was sutured, vacuum sealing drainage (VSD) dressing was placed over the wound according to the size of the wound, the wound was covered with Iodoform gauze, the semi permeable membrane was placed, and the drainage pipe was connected to the negative pressure device. After the surgery, hemoglobin was 88 g/L (↓). In consideration of anemia caused by intraoperative bleeding and infection, 2 units of red blood cell suspension were infused to correct the deficiency. The rest of the treatment was the same as before.

On December 5, 2019, the patient had venous plexus thrombosis of the left lower limb and was treated with low molecular weight heparin. A drainage tube was placed in the affected area and connected to a negative pressure; drainage and suction was continued with saline. At 2120 hour, hemoglobin was still 88 g/L (↓), and 2 units of erythrocyte suspension were infused.

At 1005 hour on December 6, 2019, the patient suddenly developed shivers and high fever along with chest and abdominal pain; his heart rate was 128 beats per minute, breathing rate was 42 breaths per minute, invasive blood pressure was 178/95 mmHg, oxygen saturation was 88%, body temperature was 38.7°C, and harsh breath sounds were heard in both lungs with reduced breath sounds in both lower lungs. The doctors in the ICU immediately arranged for rescue and contacted the anorectal department as well as the surgeons to change the wound dressing and evaluate the condition. In view of the high fever and chills, the possibility of an aggravation of infection and blood inflow were considered; thus, linezolid was added. Samples for blood culture, secretion culture, and urine culture were taken, and the patient was given dexamethasone for support. Blood gas showed that his oxygenation index was 113 with high potassium and low sodium. Considering acute respiratory distress syndrome (ARDS) and intracellular potassium shift, sodium ion supplement and calcium were given to protect the cardiomyocytes. Color ultrasound revealed bilateral pleural effusion and edema over both lower limbs. Albumin and furosemide were given to reduce the swelling while maintaining the acid-base balance of water and electrolytes. The patient was also given

oral Chinese decoction, mainly for clearing heat and detoxification, nourishing Yin and blood, promoting blood circulation, as well as cooling the blood. The specific prescription was as follows: 20 grams of Radix Astragali seu Hedysari, 2 grams of Radix Rehmanniae Preparata, 20 grams of Radix Rehmanniae Recens, 15 grams of Radix Scrophulariae, 20 grams of Radix Angelicae Sinensis, 10 grams of Radix Trichosanthis, 20 grams of Bulbus Fritillariae Thunbergii and Herba Taraxaci, 10 grams of vinegar frankincense, 10 grams of vinegar myrrh, 20 grams of fried Rhizoma Atractylodis Macrocephalae, 20 grams of Poria cocos, 30 grams of Flos Lonicerae, 20 grams of Fructus Forsythiae, 12 grams of Platycodon grandiflorum, 12 grams of Radix Paeoniae Rubra, 10 grams of roasted Radix Glycyrrhizae, and 15 grams of Radix Pseudostellariae.

On December 7, the patient's pus culture was positive for extended spectrum beta-lactamase *Escherichia coli*, and his blood culture was positive for gram-negative bacteria. Levofloxacin was added to meropenem and linezolid.

From December 8 to December 11, 2019, the patient's condition gradually stabilized, and the infection index decreased. During that period, the patient had poor appetite; thus, he was given oral mosapride to promote gastrointestinal motility in addition to the decoction of four-drug juice and rhubarb powder to activate Qi and dredge the inner organs. Then he was transferred to the anorectal department for further treatment. The anorectal department continued the anti-infectives and regularly monitored various indexes. In the early stage, the medical prescription was changed to twice a day, mainly with detoxification ointment and detumescence ointment to promote wound drainage and reduce inflammation. In the later stage, Jiu Hua ointment was used to promote the growth of granulation tissue and accelerate wound healing.

On December 30, the patient was discharged in a stable condition.

3. Conclusion

Once perianal necrotizing fasciitis is diagnosed clinically, surgical debridement must be carried out immediately, supplemented by effective anti-infectives, nutritional support, and symptomatic treatment. Although perianal necrotizing fasciitis is caused by external toxins and evil excess, it is actually due to the internal deficiency of healthy Qi, which is very easy to turn yellow or sink in. In the process of treatment, it is necessary to weigh the rise and fall of good and evil, focus on dispelling evil, tonifying deficiency, or attack and supplement at the same time so as to achieve the purpose of dispelling evil without harming the right, and supporting the right without leaving evil [2]. In view of traditional Chinese medicine, Xiaozhong Cuyu decoction was used in this case to reduce swelling, promote healing, and reduce local inflammatory reaction; traditional Chinese medicine was also taken orally to clear heat, detoxify, nourish Yin and blood, as well as to activate and cool the blood, resulting in excellent outcomes.

Disclosure statement

The authors declare that there is no conflict of interest.

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Advances in Modern Pharmacology Research of Tabanus

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Abstract: Tabanus is a traditional Chinese medicine. In recent years, various protein active components derived from the Tabanus salivary gland have been explored, and many promising components were found to have therapeutic effect. The rich active components in its salivary gland have pharmacological effects, such as anti-platelet aggregation, anti-inflammatory, anti-infection, immunosuppression, anti-angiogenic, and anti-tumor effects. This paper summarizes findings from the related articles about Tabanus in recent years with a special focus on its pharmacological effects so as to provide reference for its further development and utilization.

Keywords: Tabanus; Salivary gland; Protein active substance; Pharmacological action

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1. Tabanus

Tabanus is the whole dry female of multicarrier or other insect of the same genus of the family ophididae, diptera, Brachycera, Class Insecta. It is a traditional Chinese medicine. Tabanus, commonly called gadfly, is used to overcome blood addiction, expel blood stasis and dredge meridians. It is mainly used to cure the accumulation of blood stasis, blood storage and closure of blood stasis meridians.

2. Various components of Tabanus

Certain studies found that the salivary gland (SGE) of tabanus contains protein peaks with pharmacological activities ^[1,2]. A large number of fatty acids and other substances were identified in the components of Tabanus ^[3]. Jin et al. extracted mucopolysaccharide, which is the anticoagulant component, from Tabanus ^[4]. Jiang et al. found that gadfly is rich in copper, chromium, manganese, strontium, iron and zinc ^[5].

3. Pharmacological action of Tabanus

It was found that cecropin-TY1, immunomodulatory protein HA and immunoregulin TPs in Tabanus SGE had strong immune and anti-inflammatory effects ^[2,6,7]. Immunomodulatory protein HA inhibits the maturation and phagocytosis of macrophages ^[6]. Tabimmunoregulins increased the production of IL-10 and decreased IFN- γ secretion ^[2]. Zhai found that Tabanus extract had inhibitory effect on the ear swelling in mice ^[3]. Li et al. found that Tabanus compound decoction can inhibit the swelling of mice, reduce the writhing times of mice, prolong the pain threshold of hot stimulation in mice, and has anti-inflammatory and analgesic effects ^[8].

Tablysin ^[1] and tabhibitins ^[2] compete with fibrinogen to bind GPIIb/IIIa and inhibit platelet aggregation. Tabkunins can inhibit the hydrolytic activity of trypsin, thrombin, elastase and chymotrypsin on the chromogenic substrate ^[1]. Zhang et al. proved that vasotab TY combined with GPIIb/IIIa can easily

pass through the lung tissue, and the liver is the main target organ ^[9]. The vasodilation activity of *Tabanus* SGEs is resistant to high temperature ^[10]. Another study showed that *Tabanus* pod may act as a blocker of integrin receptor-mediated cell adhesion ^[11]. Apyrase TY can inhibit adenosine diphosphate (ADP)-induced platelet aggregation ^[1,12]. Apyrase removes inorganic phosphorus from adenosine triphosphate (ATP) and ADP, thereby preventing platelet aggregation.

Another experiment found that antigen 5-like protein (named TabRTS) in *Tabanus* salivary gland can significantly inhibit angiogenesis *ex vivo* and *in vivo* ^[13]. TabRTS may play an anti-angiogenic role by targeting $\alpha 1 \beta 1$ integrin. Tablysin-15 can inhibit endothelial cell proliferation induced by fibroblast growth factor (FGF) and inhibit angiogenesis *in vitro* ^[14]. Deng et al. found that Tlysin-15 has anticancer effect on human melanoma cells and binds integrin $\alpha V \beta 3$ to inhibit proliferation, migration and invasion of tumor cells ^[15]. Deng et al. found that Tlysin-15 binds to $\alpha V \beta 3$ *in vitro* to inhibit the proliferation, migration and invasion of breast cancer cell lines ^[16]. Si and Lang described the potential of MTs as biomarkers for cancer diagnosis and prognosis ^[17].

Defensin-Ty1, cecropin-Ty1 and atactin-Ty3 in *Tabanus* SGE showed anti-bacterial activity against the tested microorganisms ^[2]. Cecropin-Ty1 is an adenosine monophosphate (AMP) with anti-bacterial activity ^[2]. Cecropin-Ty1 plays an important role in anti-inflammatory treatment of sepsis and endotoxic shock caused by Gram-negative bacterial infection ^[18].

The vasoactive substance vasotab in *Tabanus* SGE may have a similar effect on myocardium as calcium channel antagonist ^[10]. Vasodilation occurs through the mechanism of strong calcium channel blocking. Takác et al. experimented with the extract of *Tabanus* SGE and found that SGE increased coronary blood flow and made the ventricle contract without affecting the heart rate or rhythm ^[19].

Metallothionein (MTs) TY1 and TY2 of *Tabanus* SGE ^[2] are metal binding proteins that protect cells and tissues from metal toxicity and oxidant damage ^[20]. Tablysin-15 significantly inhibited bone loss in mouse models and reduced the expression of osteoporosis marker genes, including *MMP-9*, *TRAP*, *CTSK* and *c-Src* ^[21].

4. Discussion

In recent years, experiments on various components of *Tabanus* salivary gland to explore their anti-platelet aggregation, anti-inflammatory, immunosuppression, anti-angiogenic, anti-oxidation, and anti-cancer effects as well as their efficacy in the treatment of osteoporosis have laid a foundation for the further research and development of *Tabanus*. This also provides a new idea for drug development. The immunosuppressive active components of *Tabanus* salivary gland hold immense research prospect and potential, but the research on whether there are immunosuppressive components in *Tabanus* extract is not sufficient at present. The role of *Tabanus* and its salivary gland in angiogenesis is recognized. More data are still needed for their applications in treating angiogenesis diseases, including tumor, psoriasis, internal rheumatoid arthritis, and cerebral infarction. Some scholars regard its value in analgesia, but the in-depth studies on the mechanism of analgesia remain scarce. Hence, the value of *Tabanus* as a valuable insect traditional Chinese medicine needs to be further explored and developed.

Disclosure statement

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Improved Epicanthus Correction Combined with Double Eyelid Surgery

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Abstract: *Objective:* To explore the clinical effect of improved epicanthus correction combined with double eyelid surgery. *Methods:* From February 2019 to February 2020, 70 patients with epicanthus who underwent surgical treatment were treated as study participants. The computer 1:1 grouping method was adopted. Thirty-five patients in the reference group were treated with epicanthus correction, and 35 patients in the experimental group were treated with improved epicanthus correction combined with double eyelid surgery. The operation effect was compared. *Results:* The satisfaction scores of morphological aesthetics and prognosis recovery in the experimental group were higher than those in the reference group ($P < 0.05$). The recurrence rate of scar hyperplasia and epicanthus in the experimental group was lower than that in the control group ($P < 0.05$). *Conclusion:* The improved epicanthus correction combined with double eyelid surgery can engender ideal correction effect and reduce postoperative adverse outcomes. Therefore, the combined operation scheme is feasible.

Keywords: Improved epicanthus correction; Blepharoplasty: Primary blepharoplasty; Epicanthus; Surgical effect

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1. Introduction

Epicanthus is a common eye feature of Asians, referring to the longitudinal arc skin folds at the inner canthus, with an incidence of more than 50% in Asian population and more than 70% in single eyelid population. Due to the particularity of the physiological structure of Asian eyelid plate, the connection between orbicularis oculi muscle and tendon membrane is missing, the aponeurosis junction of levator palpebrae muscle moves downward, and the fat in front of eyelid plate is prominent; these contribute to the single eyelid phenotype in Asians. When the eyes are opened, the inner canthus is covered by the epicanthus, forming a special eye shape ^[1]. In recent years, with the continuous improvement of living standards and the pursuit of improvement of eye aesthetics, the proportion of patients undergoing epicanthus correction in clinic has gradually increased in recent years. Epicanthus correction can effectively improve the epicanthus and reshape eye aesthetics, which is in line with the aesthetics of the public in today's society. With the continuous optimization of medical technology and the optimization of double eyelid surgery, the improved techniques can enlarge the eye according to the anatomical characteristics of the eye by prolonging the eye fissure, which is a common surgical treatment scheme for eye beauty ^[2]. In this study, the effectiveness of improved epicanthus correction combined with double eyelid surgery was evaluated.

2. Data and methods

2.1. General information

From February 2019 to February 2020, 70 patients with epicanthus who underwent surgical treatment were treated as study participants. The computer 1:1 grouping method was adopted. There were 35 patients in the reference group, comprising of 15 males and 20 females with an age range of 18-35 years and an average

age of 26.34 ± 3.62 years. The reference group consists of 28 patients with mild epicanthus and 7 patients with severe epicanthus. There were 35 cases in the experimental group, comprising of 12 males and 23 females with an age range of 18-37 years and an average age of 26.31 ± 3.59 years. The experimental group consists of 29 patients with mild epicanthus and 6 patients with severe epicanthus. The baseline data of epicanthus patients in the two groups were statistically compared, and the difference was comparable ($P > 0.05$).

The inclusion criteria of this study are as follows: (i) all patients were informed of the research project and signed on the authorization consent forms; and (ii) all patients received epicanthus correction, double eyelid surgery and phase I plastic surgery according to the doctor's advice. The patients had good cognitive function and could cooperate with the operation independently.

The exclusion criteria of this study are as follows: (i) patients with previous eye surgery; (ii) patients with poor surgical compliance or contraindications; (iii) patients who refuse to participate in the study or fall off halfway due to subjective factors.

2.2. Methods

In order to ensure the objectivity of the study, the surgical operations of the selected patients were completed by the same surgical team. In the experimental group, 35 patients underwent improved epicanthus correction combined with double eyelid surgery. Before operation, a targeted operation plan was formulated according to the situation of the patient's epicanthus, the surgical incision was established according to the direction and severity of the patient's epicanthus, and the patient was given local invasive anesthesia. 5 ml of 2% lidocaine was mixed with 2 drops of 0.1% adrenaline injection as local anesthetic, 0.5 ml of local anesthetic was taken into bilateral inner canthus. The operation was performed after ensuring the anesthetic effect of the operation. The patient was guided to assume the supine position. The patient was told to open his/her eyes to observe the position of inner canthus and set the turning point. The shape of double eyelid was designed according to the patient's facial contour and the patient's beauty needs. The surgical incision line was established, and No. 11 scalpel was used to cut the flap and surrounding tissue along the operation line. The fascia tissue was cut off in the same direction of the epicanthus. The flap was released so that it transposed by itself. After the epicanthus disappears or reduces, the exposure of the lacrimal caruncle was increased, and the exposure effect was observed. If it is not ideal, the angle can be adjusted appropriately to promote the disappearance of the epicanthus, and the inner canthus should be horseshoe-shaped. After the operation, absorbable suture was applied. Attention should be paid to avoid muscle tension during suture. After surgical suture, the double eyelid line and the flap may not be in the same arc. Combined with double eyelid surgery, the lower eyelid and orbicularis oculi muscle were removed, starting from the medial side and extends to the inner canthus. The epicanthus, subcutaneous fascia tissue and orbicularis oculi muscle at the inner canthus were removed. After the operation, the local part was gently pressed with sterile gauze for one day, Appropriate antibiotics were selected for anti-infection treatment 5 days after operation to reduce the incidence of postoperative infection.

The patients in the control group were treated with epicanthus correction.

2.3. Evaluation criteria

The self-made satisfaction score scale was used to quantitatively score the satisfaction of epicanthus correction, and the "yes-and-no" methods were used to evaluate the morphological aesthetics and prognostic recovery effect. The total score was 100 points. The higher the score, the higher the satisfaction. Cronbach's alpha of this study is 0.76, indicating high reliability. The adverse surgical outcomes such as scar hyperplasia and epicanthus recurrence were observed in the two groups.

2.4. Statistical analysis

The statistical software SPSS version 24.0 was used for hypothesis verification. The count data was expressed in percentages (%) and analyzed by Chi-squared test. The measurement data was expressed in mean \pm standard deviation and analyzed by *t*-test. $P < 0.05$ was set as the basic expression of statistical difference.

3. Results

3.1. Satisfaction score of epicanthus correction in two groups

As shown in **Table 1**, The satisfactory scores of patients in the experimental group on morphological aesthetics and prognosis recovery were significantly higher than those in the reference group ($P < 0.05$).

Table 1. Satisfaction score of epicanthus correction in two groups

Group	N	Morphological aesthetics	Prognostic recovery effect
Reference group	35	76.25 \pm 8.06	72.15 \pm 7.96
Test group	35	92.15 \pm 10.14	90.63 \pm 9.87
T value		7.262	8.622
P value		0.000	0.000

3.2. Statistics of postoperative adverse outcomes in two groups

As shown in **Table 2**, the rate of postoperative scar hyperplasia and epicanthus recurrence in the experimental group was significantly lower than that in the reference group ($P < 0.05$).

Table 2. Statistics of postoperative adverse outcomes of patients in two groups

Group	N	Scar hyperplasia	Epicanthus recurrence
Reference group	35	6 (17.14%)	5 (14.29%)
Test group	35	1 (2.86%)	0
X ²		5.117	4.826
P value		0.008	0.27

4. Discussion

Epicanthus, as a common eye surgery in Asia, can effectively alleviate the condition of epicanthus through the rearrangement of local skin tissue. In recent years, with the continuous improvement of medical technology and surgical methods, the curative effects of these methods have also shown improvement in the application of epicanthus. At the end of the 20th century, clinical scholars used the combination of epicanthus correction and double eyelid surgery. During the operation, personalized skin incision was set to reduce the scar of inner canthus, correct the misshapen tissue, expose the lacrimal caruncle, and improve the quality of operation. The concealment of postoperative scar is effective, and this method can effectively deal with the skin tension of inner canthus. Thus, this is conducive to the early healing of postoperative incision and aesthetics.

According to the latest research, the occurrence of epicanthus is mainly due to the dense connective tissue cellulose and muscle fibers in the eyes. When it tilts into the fold of epicanthus, the inner orbicularis oculi muscle and superficial fibers of the inner canthus ligament would slide into the inner canthus fold since the orbicularis oculi muscle originates from the inner canthus ligament. The lack of skin leads to the increase of muscle tension and skin tension, which result in epicanthus eventually. The surgical measures

can effectively correct the wrong structure, dislocation and abnormal connective fiber tissue, restore the orbicularis oculi muscle to the normal physiological structure, effectively prolong the vertical skin, deal with the local shear force to the greatest extent, effectively avoid the occurrence of postoperative scar, effectively reduce postoperative recurrence, and obtain the best eyelid appearance ^[3]. Z-plasty was performed on the surgical incision, rearranged according to the arrangement of the patient's epicanthus skin. This technique extends the vertical skin, sets the surgical tangent, ensures that the lacrimal caruncle is fully exposed, releases the subcutaneous fascia tissue after fully loosening the subcutaneous tissue, improves the adhesion of orbicularis oculi muscle, promotes the re-healing of subcutaneous tissue and orbicularis oculi muscle under normal structure, improves the healing effect of postoperative incision, and effectively reduces postoperative scar ^[4]. The subcutaneous fascia tissue and orbicularis oculi muscle with epicanthus displacement at the inner canthus can be removed through the improved epicanthus correction combined with primary blepharoplasty, so as to promote the upward movement of the double eyelid radian, the position of orbicularis oculi muscle and the double eyelid line formed at the inner canthus, thereby effectively alleviating the situation of epicanthus and improving the correction effect. Thus, it has significant advantages in clinical application ^[5]. According to the research and analysis of the data, the patients in the experimental group were more satisfied with the morphological aesthetics and prognostic recovery effect than those in the reference group. The improved epicanthus correction can ensure the pertinence of the operation by designing a reasonable surgical incision and planning the surgical tangent according to the epicanthus situation and patients' beauty needs. The operation was combined with double eyelid surgery and phase I plasty. Suturing under tension-free condition can significantly reduce tissue adhesion, reduce tension, reduce postoperative scar hyperplasia, restore nature after operation, and obtain better aesthetics. Besides, the degree of acceptance among the patients is high. According to the statistics of adverse outcomes, the rates of postoperative scar hyperplasia and epicanthus recurrence in the experimental group were significantly higher than those in the reference group ($P < 0.05$).

In conclusion, the improved epicanthus correction combined with double eyelid surgery can obtain ideal correction effect and reduce postoperative adverse outcomes. Therefore, the combined operation scheme is feasible.

Disclosure statement

The author declares no conflict of interest.

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Effect Analysis of Hospital Nursing Management Based on Informatization

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Abstract: *Objective:* To explore the effect of hospital nursing management based on informatization. *Methods:* 167 inpatients from different departments in our hospital from June 2020 to November 2019 were randomly selected and divided into control group and observation group. 83 cases in the control group were treated with traditional nursing management mode; 87 cases in the observation group used modern nursing information management system for information-based nursing management, and then compared the two groups in terms of nursing management efficiency, patient basic nursing, ward management, specialized nursing and nursing satisfaction, so as to verify the clinical application effect of information-based nursing management. *Results:* After the application of information-based nursing management mode, the construction and application of information management system made the nursing management process more standardized and accurate. Therefore, the clinical nursing efficiency, basic nursing, ward management, specialized nursing and nursing satisfaction of the observation group were better than those of the control group. *Conclusion:* In the practice of hospital inpatient nursing management, the scientific use of information technology and information management system can significantly improve the efficiency of patient nursing management and nursing satisfaction, and play a key role in improving the prognosis of patients. Therefore, it is worth popularizing and applying in the whole hospital and even the national grass-roots hospitals.

Keywords: Nursing management; Promotion of information technology; Nursing efficiency

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1. Introduction

With the increasing investment of the National Health Management Commission in grass-roots hospitals and the further improvement of the national scientific and technological level, hospital informatization has achieved all-round development. Information management systems based on emerging technologies such as Internet of things, big data and cloud computing are widely used in hospital nursing management. On the basis of boosting the optimization of hospital management process, it has effectively promoted the improvement of China's medical service level. In order to explore the innovative model and application effect of information-based nursing management in grass-roots hospitals, Chen Guanglan^[1] and others randomly selected 230 patients from different departments of a hospital for hospitalization, divided them into research group and control group, and then applied traditional nursing management and information-based nursing management to the two groups of research objects respectively. By comparing the incidence of adverse events and the mastery of nursing knowledge under different management methods, it was found that the study was significantly better than the control group, which fully verified the great clinical application value of information-based nursing management mode. Through clinical trial research, 167 subjects were treated with different nursing management modes, and then the clinical effects of the two management modes were compared. The specific research process and results are reported as follows:

2. Data and methods

2.1. Clinical data

167 inpatients under nursing management in our hospital from June 2020 to November 2019 were randomly selected and divided into two groups by random number method, including 83 cases in the control group, 40 males and 43 females, with an age range of 24-70 years and an average age of (48.25 ± 5.22) years. Traditional nursing management was implemented; There were 84 cases in the observation group, 41 males and 43 females, aged about 22-69 years, with an average age of (46.35 ± 6.02) years. Information-based nursing management was implemented. The study has passed the review of hospital ethics committee, and there is no significant difference in general data such as basic diseases, age and gender characteristics between the two groups ($P > 0.05$).

3. Method

3.1. The control group used traditional nursing management.

3.1.1. The observation group adopted modern information-based nursing management, as follows:

Establishment of information nursing management system

Outpatient management system: Combined with the practical experience of hospital daily management, outpatient service is the busiest place and the place where patients spend the longest time. Registration, payment and treatment all need to wait in line for a long time, in order to reduce the workload of outpatient doctors and reduce the treatment time of patients, touch networked computers are installed in the hospital registration office, cashier's office, guide desk and treatment room respectively, so that patients can query the number of doctors on duty and patients at any time, so as to make reasonable choices; After successful registration, the basic information of registered patients will be transmitted from the computer at the registration office to relevant departments, so that the receiving doctors and inspectors can timely understand the basic situation of patients, so as to effectively reduce the waiting time of patients and greatly improve the efficiency of outpatient nursing ^[2].

Medication management system: After the patient completes the diagnosis and treatment, the patient's medical record information, doctor's orders, prescriptions and other information will be stored in the hospital medication management system. At the same time, the QR code information on the patient's Registration Bill will be connected with the pharmacy management system. When the patient takes the medication, only the QR code on the registration bill needs to be aligned with the window scanner. After reading the QR code information on the Registration Bill. The drug name and dosage on the doctor's order will be stored in the computer, and the drugs will be distributed by themselves, which not only improves the work efficiency, but also ensures the drug safety of patients.

Nurse order processing management system: In order to facilitate nurses to accurately execute doctors' orders, a special doctor's order management system can be set up with the help of Internet information technology. After diagnosing a patient, the doctor will input the doctor's order into the ward computer and transmit it to the computer terminal of the nurse station. The resident nurse station will appear a reminder to process the doctor's order, which is specific to the person. The nurse can verify and confirm the doctor's order through the computer of the nurse station, and then apply for the doctor's order medicine. The processed doctor's orders are printed through the infusion card module to facilitate nurses to execute doctor's orders more accurately, quickly and conveniently, which can significantly improve the efficiency of doctor's order processing ^[3].

Patient daily care processing system: A unique mode table is set in the patient's daily nursing processing system. When the nurses adjust the information, it is only determined according to the specific situation of the patient, and the patient's information is only collected by the patient's bedside handheld computer, which greatly simplifies the work flow of the nurses and greatly improves the nursing quality.

Medical record query system: When building the patient medical record information query system, scientifically integrate the computer information technology. Patients can query the specific conditions of various treatment inspection records, charge details and nursing items through hospitalization number and name, so as to clarify the condition and understand the hospitalization expenses.

3.1.2. Informatization of nursing management

(1) Improve nursing quality control system

A three-level nursing quality monitoring system of nursing department, department head nurse and department quality control team were established. Department managers and head nurses should check the patient's ward in an all-round way. Once problems are found, they should immediately enter relevant information into the quality control system and check it after rectification to ensure the effective improvement of nursing quality ^[4].

(2) Electronic nursing medical record management

The head nurse and nursing quality control management personnel of the Department dynamically monitor the qualified rate and quality of patients' electronic nursing medical records, including writing quality, nursing link quality, terminal quality and so on. Proofread the text in the medical record, check whether there are typos, typos, modification, deletion and other problems. At the same time, the head nurse can also check the primary nursing records through random sampling. Before patients are discharged from hospital, nursing quality management is emphasized in order to form a joint, scientific and standardized electronic nursing medical record ^[5].

(3) Implement the core nursing system

After completing various nursing management work such as doctor's order, the nursing staff shall scan the drug label with PDA and check with the patient's wristband information. After computer scanning, the drug information used by the patient within one day will appear in the doctor's order execution details. During patient drug management, it is only necessary to perform detailed operations according to the doctor's order, it avoids wrong or less drugs.

(4) Nursing records

In order to facilitate the query of nursing records, nurses can record the nursing contents on the nursing records, which can be further improved and supplemented after one day's work. Generally, it cannot be changed after 24 hours. When recording nursing information, nurses are required to treat it carefully and write it correctly, so as to facilitate the succeeding nurses to clearly understand the nursing services received by patients before.

(5) Implementation of evaluation system

After receiving the patients in the ward, the responsible nurse needs to conduct a comprehensive and detailed evaluation of the specific situation of the patients. If the receiving patients are high-risk patients, they need to be evaluated once or twice a week. Once the patient's condition changes during the treatment, they need to be evaluated at any time. The head nurse needs to evaluate the accuracy of the patient's condition evaluation completed by the nursing staff every week ^[6].

3.2. Observation indicators

The effects of patient nursing management, basic nursing, ward management, specialized nursing and nursing satisfaction under the two nursing methods were compared.

3.3. Statistical methods

SPSS19.0 statistical software was used to analyze and process the relevant data. The counting data was

expressed in %, the comparison was expressed by X^2 test, and the measurement data was $\bar{x} \pm s$ expressed by t test. The difference was statistically significant ($P < 0.05$).

4. Results

4.1. Comparison of clinical nursing effects between the two groups

The effective rate of clinical nursing under the two nursing modes was 98.80% in the observation group and 90.36% in the control group. The x^2 test result was 4.3043. The effectiveness of the observation group was significantly higher than that of the control group, and $P < 0.001$. See **Table 1**.

Table 1. The clinical nursing effects of the two groups were compared [n (%)]

Group	Recovery	Remarkable effect	Better	Invalid	Efficient
Control group (n = 83)	28 (33.73)	39 (46.98)	8 (9.63)	8 (9.63)	75 (90.36)
Observation group (n = 84)	41 (48.80)	35 (41.66)	7 (8.33)	1 (1.19)	83 (98.80)
X^2					4.3043
P					0.0380

4.2. Comparison of nursing satisfaction between the two groups

Compared with the control group, the nursing satisfaction of patients in the observation group was significantly higher than that in the control group (98.80% > 86.74%), the difference was statistically significant ($P < 0.05$). See **Table 2**.

Table 2. Survey and comparison of patients' nursing satisfaction [n (%)]

Group	Number of cases	Very satisfied	Satisfied	Dissatisfied	Total satisfaction
control group	83	30 (36.14)	42 (50.60)	11 (13.25)	72/86.74
Observation group	84	54 (64.28)	29 (34.52)	1 (1.19)	83/98.80
X^2					9.1083
P					0.0025

5. Discussion

With the further advancement of China's medical and health reform, it is urgent to apply modern information technology science to hospital nursing management, and establish a perfect outpatient management system, electronic medical record management system, doctor's order execution system and patient's daily nursing processing system in combination with cloud computing technology and computer network technology. It not only facilitates the normal development of nursing staff's daily nursing management, but also plays a positive role in improving nursing efficiency, improving patient nursing effect and improving patient nursing satisfaction. Combined with clinical trial practice, this study conducted a targeted nursing model study on 167 selected patients. It was found that under the application of information nursing model, 86.74% of the patients; In terms of nursing effect, among the 84 patients in the observation group, only 1 was ineffective, and the nursing effective rate was 98.80%, while among the 83 patients in the control group, 8 were ineffective, and the nursing effective rate was only 90.36%, which fully verified

the clinical application value of information-based nursing management. In addition, the scientific application of information-based nursing management can significantly improve the work efficiency of nursing staff.

The main reasons are as follows:

- (1) Through the construction of relevant information systems, the procedures of patient registration, waiting and payment can be simplified, the investment of hospital human resources can be reduced, and the waiting time can be shortened.
- (2) Information management has effectively reduced the workload of nursing staff, and the operation of relevant information systems has replaced the manual work in the past, such as registration, waiting and so on. At the same time, the information system can accurately reflect the situation of doctors on duty, so that patients have more diversified choices.
- (3) In the past, some work with poor professionalism and low technical content required nurses to complete, but after the introduction of information system, patients and their families can complete the operation through the system.

By optimizing the nursing process and saving working time, nurses have enough time to study nursing technology and knowledge, so they are handier in completing various nursing tasks, and the nursing quality and nursing satisfaction have been effectively improved.

Disclosure statement

The author declares no conflict of interest.

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Practice and Effect Evaluation of Drug Reorganization in Patients with Chronic Obstructive Pulmonary Disease

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Abstract: *Objective:* To explore the feasibility of drug reorganization in clinical practice through the drug reorganization service of clinical pharmacists for patients with chronic obstructive pulmonary disease (COPD) in respiratory and critical care department, and to evaluate the effect of the service in multiple dimensions. *Methods:* a total of 100 patients with COPD admitted from January to July 2021 were randomly divided into two groups with 50 patients in each group. One group was treated with drug reforming intervention and the other group was not treated with intervention. Statistics and data analysis were carried out from three aspects: patient compliance, satisfaction and medication deviation. *Results:* (1) compliance: 48h after admission, there was no significant difference between the two groups ($P>0.05$); According to the data statistics on the day of discharge and after one month, the compliance of the two groups was statistically significant ($P<0.05$), which was higher in the reorganization group. (2) Satisfaction: There was no significant difference between the two groups after admission. However, after drug reforming intervention by pharmaceutical staff, the results of reforming group were better and statistically significant ($P<0.05$). (3) Medication deviation: There were 50 deviations in the reorganization group, of which drug omission accounted for 52%, which was the main factor. After communicating with clinicians, the clinicians' acceptance rate of the reorganization scheme reached 94.12%. *Conclusion:* The implementation of drug reorganization service can effectively prevent the medication deviation of COPD patients, save the cost of patients, improve the satisfaction and compliance, and ensure the medication safety of patients.

Keywords: Drug reforming; Compliance; Satisfaction; Medication deviation

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1. Introduction

Chronic obstructive pulmonary disease (COPD) is one of respiratory diseases, incidence rate is higher, especially in elderly patients. The patients are relatively old and have poor physical function^[1]. They often merge many diseases, and patients have many kinds of medication. There are often drug deviations, that is, the difference between the dosage, variety, dosage form, taking method and cycle of medication. Therefore, the rationality and standardization of medication for such patients are particularly important^[2]. Drug reorganization has been widely carried out in European and American countries. It is to collect and record the medication history of patients and form the medication list before admission^[3]. Pharmaceutical personnel, doctors, nurses and other parties work together to accurately intervene unreasonable medication behaviors by comparing with the medication list before admission, so as to ensure the safety and rationality of medication^[4]. At present, the work has been incorporated into the daily assessment of pharmacists in developed regions abroad, but our work is still in the development stage, and there is no unified standard for system and mode^[5]. This study carries out drug reorganization for COPD patients, collects relevant data

and makes statistical analysis, draws relevant conclusions according to the results, and deeply discusses the necessity and importance of drug reorganization, so as to provide reference for the establishment of drug reorganization mode for COPD patients.

2. Data and methods

2.1. Subjects

100 patients with COPD admitted to our hospital from January to July 2021 were randomly selected and divided into two groups, with 50 people in each group. The subjects in the reorganization group carried out drug reorganization services within one day after admission or admission.

2.2. Methods

(1) COPD patients were screened out through the admission diagnosis of medical record system; (2) Record the medication list of the patient by asking about the medication of the patient. (3) According to the medication situation, drug reorganization is carried out, including stopping taking the drugs before admission, continuing to take the drugs before admission, adding new drugs, and forming a new drug list [6].

2.3. Evaluation criteria

2.3.1. Compliance

evaluate the compliance of patients in three time periods, and fill in the compliance evaluation form, which is 48h after admission, the day of discharge and one month after discharge. The evaluation mainly includes four parts: (1) whether to take medicine continuously (2) whether to forget to take medicine (3) whether to stop taking medicine when symptoms improve (4) whether to take the dose as required, 1-4 points for each part. After statistics, the scores in the scoring table are summarized. If the score is ≥ 12 , the compliance is good, and if the score is < 12 , the compliance is poor.

2.3.2. Satisfaction

Survey shall be conducted on the day of discharge. The evaluation includes six parts (1) service attitude (2) effect of diagnosis and treatment (3) diagnosis and treatment scheme (4) drug cost (5) medication guidance (6) rehabilitation guidance. Each part has 1-4 points. After statistics, the scores are summarized. If the score is ≥ 18 , the satisfaction is good, and if the score is < 18 , the satisfaction is poor.

2.3.3. Medication deviation

Register the medication situation of patients, record the medication deviation such as repeated medication, medication without indication and drug omission, and summarize the data for analysis.

2.4. Statistical Analysis

SPSS 22.0 software was used for data analysis, and the measurement data were tested by T test and expressed as ($\bar{x} \pm s$). Statistical data were compared by χ^2 test, $P < 0.05$, indicating statistical significance.

3. Results

3.1. Compliance

patients' compliance was investigated and evaluated in three different time periods, which were 48h after admission, the day of discharge and one month after discharge. The results were expressed by the good compliance rate (good compliance rate = number of people with good compliance / total number). After statistics, the results of good compliance rate are as follows: (1) 48h comparison between the two groups,

($P > 0.05$); (2) Comparison between the two groups on the day of discharge ($P < 0.05$); (3) comparison between the two groups one month after discharge ($P < 0.05$). See **Table 1**. After pharmaceutical care, the good compliance rate on the day of discharge and one month after discharge was significantly higher than that of 48 hours after admission ($P < 0.05$). See **Table 2**. and **Table 3**.

Table 1. Comparison of good compliance rate between the two groups (%)

Group	48h after admission	Discharge day	1 month after discharge
Non reforming group (n = 50)	52	58	44
Reforming group (n = 50)	54	82	78
X ²	0.04	6.857	12.148
P	0.841	0.009	0.000

Table 2. Comparison of good compliance evaluation rate of reorganization group at 48h after admission and on the day of discharge (%)

Time	Good rate
48h after admission	54
Discharge day	82
X ²	9.007
P	0.003

Table 3. Comparison of good compliance evaluation rate of reorganization group at 48h after admission and 1 month after discharge (%)

Time	Good rate
48h after admission	54
One month after discharge	78
X ²	6.417
P	0.011

3.2. Satisfaction

comparison the satisfaction survey was conducted when the patients were discharged from the hospital. The recovery rate of the questionnaire in both groups was 100%. A total of 1 person in the reforming group and 7 persons in the non-reforming group are dissatisfied. After statistical analysis, $P < 0.05$, there was statistical significance between the two groups. See **Table 4**.

Table 4. Comparison of patient satisfaction

Group	Satisfied (example)	Dissatisfied (example)
Non reforming group (n = 50)	43	7
Reforming group (n = 50)	49	1
X ²	4.891	
P	0.027	

3.3. Analysis on medication deviation of reforming group

3.3.1. General data and types of medication deviation

In the study of 50 patients in the reorganization group, the types of drugs used per capita reached (6.96 ± 2.03), involving 425 medical orders, including 17 patients with medication deviation and 127 medical orders, including 50 with deviation, including drug omission, repeated medication, frequency error, etc. See Table 5.

Table 5. Types of medication deviation

Type	Number of articles	Percentage (%)
Drug omission	26	52
Repeated medication	7	14
Frequency error	6	12
Medication without indication	4	8
Dose error	4	8
Incompatibility or adverse interaction	3	6

3.3.2. Adjustment of medication deviation

According to medication deviation, the clinical pharmacist shall reorganize the scheme and feed it back to the attending physician. In this study, pharmacists intervened in 50 doctor's orders, involving 17 patients, including 25 suspension of medication, 12 adjustment of medication and 28 adjustment schemes; Results only one patient's reorganization scheme was not accepted, and the acceptance rate was 94.12%.

4. Discussion

With the gradual advancement of pharmaceutical reform in China, drug reorganization has been paid more and more attention with the attention of clinical pharmacists and pharmaceutical care. The author focuses on evaluating and analyzing the effect of drug reorganization in COPD patients in several different dimensions, as follows:

4.1. Effects of drug restructuring services on medication compliance

Medication compliance reflects the degree of cooperation of patients with clinical treatment and plays an important role in the process of patient treatment. The results showed that the compliance of the reformed group was better than that of the non-reformed group on the day of discharge and one month after discharge, and the compliance of the two groups on the day of discharge and one month after discharge was better than that at admission. The patients in the study are older, have decreased physical function and memory, and are easy to forget to take medicine. Clinical pharmacists should pay more attention to this kind of population in their daily work. Therefore, such people need regular education to improve the medication compliance of such patients.

4.2. Impact of drug reorganization on satisfaction

Satisfaction is a response of patients to their actual feelings about the clinical treatment process. After research, the satisfaction of the two groups has been significantly improved after pharmaceutical care, which also shows that the clinical service of pharmaceutical personnel can improve the satisfaction of patients to a certain extent.

4.3. Intervention of clinical pharmacists on medication deviation

The intervention of medication deviation is an important link in drug reorganization. In this study, most patients are older and have basic diseases. There are 425 medical orders involving drugs in the study, including 50 medical orders with medication deviation, and the incidence of medication deviation is 11.8%. This may be related to the behavior of patients in the process of clinical treatment, including voluntary withdrawal and unauthorized change of drugs. At the same time, the treatment level and sense of responsibility of the attending doctors are also different. Unreasonable treatment and non-standard medication may also be part of the reasons for medication deviation.

To sum up, COPD is one of the common diseases in the respiratory and critical care department. The patients are older, have weak memory, low compliance, and medication deviation is common. Drug restructuring services can not only improve the above situation, but also ensure the medication safety of COPD patients. However, the development of drug reorganization still has a long way to go. It needs not only pharmaceutical personnel, but also the cooperation of doctors and nurses. The establishment of the reorganization scheme can help reduce the medication deviation, patients can better follow the doctor's advice, improve the treatment effect and improve the patient satisfaction. At present, the acceptance rate of drug reorganization in China is lower than that in developed countries, and it is still in the exploratory stage. It is not paid enough attention and has not been widely used. However, this work is the key development direction of pharmaceutical work in the future and needs to be gradually popularized. Before popularization, we should do a good job in paving the way. First, we should train medical personnel and pharmacists in relevant knowledge. Let them understand the purpose and significance of drug reorganization, increase the communication and cooperation among doctors, drugs and nurses, and better promote the process of drug reorganization; Secondly, it is necessary to improve the position of clinical pharmacists in the process of drug reorganization. The division of labor and responsibilities of doctors, drugs and nurses in the process of clinical treatment are different. Doctors pay more attention to the diagnosis and treatment of diseases. Nurses are mainly responsible for specific operation and daily nursing. Pharmacists have rich knowledge of pharmacology and pharmacy and are more professional in the use of drugs. In recent years, drug reorganization has been the daily work of clinical pharmacists in many countries, and it is an important guarantee measure for drug safety; At the same time, we should establish a standardized and standardized drug reorganization system to promote in the whole hospital, integrate drug reorganization into the medical record system by using information means, and gradually improve the hospital network service framework.

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Clinical Analysis of Dispelling Wind, Eliminating Lung and Relieving Cough Combined with Western Medicine in the Treatment of Cough Variant Asthma in Children

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Abstract: Objective: This study mainly explores the clinical effect of dispelling wind, eliminating lung and relieving cough combined with western medicine in the treatment of cough variant asthma. **Methods:** 80 children with cough variant asthma accepted by our hospital from January 2018 to December 2020 were randomly selected for the study and divided into two groups. One group was the reference group (40 cases) treated with procaterol hydrochloride tablets and montelukast sodium, and the other group was the research group (40 cases). The method of eliminating wind, eliminating lung and relieving cough was combined with procaterol hydrochloride tablets and montelukast sodium to observe and compare the curative effects of the two groups. **Results:** There was no significant difference in TCM symptom score and eosinophil (EOS) count between the two groups before treatment ($P > 0.05$); After treatment, the TCM symptom scores of coughs, pharyngeal itching, expectoration, nasal congestion and nasal itching in the research group were lower than those in the reference group, and the EOS count was lower than that in the reference group ($P < 0.05$); The effective rate of research group was higher than that of reference group ($P < 0.05$). **Conclusions:** For children with cough variant asthma, Qufeng Sufei cough relieving method combined with procaterol hydrochloride and montelukast sodium can improve children's symptoms and reduce eosinophil count.

Keywords: Dispelling wind; Eliminating lung and relieving cough; Procaterol hydrochloride; Montelukast sodium; Children; Cough variant asthma; Clinical effect

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1. Introduction

Cough variant asthma CVA is a special type of bronchial asthma in children and the main cause of chronic cough in children. When children suffer from cough variant asthma, the main clinical manifestations are repeated cough and dry cough. It often occurs at night or early in the morning. It is characterized by cough attack or aggravation when smelling peculiar smell, intense activity, crying, dietary stimulation, etc. If the child's condition persists, it may even develop into typical asthma, which will seriously affect the child's quality of daily life and growth^[1]. In addition, in recent years, the changes of urban living environment and pace of life, related urban pollution and academic pressure have also led to the gradual increase of the incidence of cough variant asthma. Once it is ill, it needs to be treated as soon as possible. At present, drugs are often used in clinical treatment, such as bronchodilators, glucocorticoids and leukotriene receptor antagonists. Although they can improve the symptoms of children to a certain extent, the drugs have certain side effects, and the disease may relapse after stopping the drugs, so the limitations of drugs are high,

Therefore, it is of great clinical value to explore a more reasonable and safe treatment scheme ^[1]. The syndrome of wind phlegm blocking lung in children with cough variant asthma is more common. The method of eliminating wind, eliminating lung and relieving cough combined with western drugs procaterol hydrochloride tablets and montelukast sodium can quickly improve children's symptoms and reduce eosinophil count.

1.1. Basic data

The subjects of this study are 80 children with cough variant asthma treated in our hospital from January 2018 to December 2020. The children are divided into two groups by random number table method. One group is the reference group, 40 cases, the proportion of men and women is 23:17, the age is between 3-12 years old, the average age is (6.71 ± 1.05) years old, the shortest course of disease is 2 months, the longest is 6 months, and the average course of disease is (2.78 ± 0.24) Months; The first group was research group, 40 cases, with a male to female ratio of 24:16, aged between 3-11 years, with an average age of (6.68 ± 1.01) years. The shortest course of disease was 2 months and the longest was 5 months, with an average course of disease of (2.94 ± 0.25) months; There was no significant difference in the above data ($P > 0.05$).

1.1.1. Inclusion criteria:

Diagnostic criteria of Western medicine: It meets the diagnostic criteria of CVA in the guidelines for the diagnosis and treatment of chronic cough in Chinese children (revised in 2013) ^[2]:

- (1) Cough for more than 1 month, manifested as dry cough, no wheezing, more than vigorous exercise, attack or aggravation at night and early morning
- (2) The individual or first and second degree relatives have a history of allergic diseases and the allergen test is positive
- (3) Antibiotic treatment was ineffective and there was no infection
- (4) The use of anti-asthma drugs is effective
- (5) The diurnal variability of bronchial provocation test or peak expiratory flow was positive.

1.1.2. TCM Syndrome Differentiation Standard

Refer to the clinical diagnosis and treatment guidelines of Pediatrics of traditional Chinese medicine children's cough variant asthma ^[3] revision of wind phlegm blocking lung syndrome.

1.1.3. Symptoms see

Dry cough, sticky phlegm, difficult cough, itchy nose, stuffy nose, sneezing, itchy throat, red tongue, white and greasy fur, slippery pulse.

1.1.4. Inclusion criteria

- (1) Meet the above diagnostic criteria of Western medicine and TCM syndrome differentiation criteria
- (2) Children in clinical attack stage
- (3) All patients in this study were informed and signed the study consent.

1.1.5. Exclusion criteria

- (1) Children with chronic cough caused by chronic bronchitis, pertussis, cardiogenic cough and other factors

- (2) Dysfunction of liver, kidney, heart and lung and other important organs
- (3) Poor treatment compliance and incomplete clinical data affect the efficacy evaluation
- (4) Allergic to therapeutic drugs.

2. Method

Reference group: Procaterol hydrochloride tablets (25μg) (gyzz h10930017 of Zhejiang Otsuka Pharmaceutical Co., Ltd.), half a tablet for 3-5 + years old, 1 tablet for 6-12 years old, twice a day, in the morning and before going to bed; Montelukast sodium chewable tablets (Hangzhou moshadong Pharmaceutical Co., Ltd. 5mg / tablet, gyzz j20130054 4mg / tablet, gyzz j20130053), 3-5 + years old 4mg / time, once a day, 6-12 years old 5mg / time, once a day, lasting for 14 days.

On the basis of the above, research group developed Qufeng Sufei Zhike Decoction by the author. The basic formula is as follows: 10g mulberry leaves, 10g mulberry peel, 9g almond, 6G Suzi, 10g Peucedanum, 10g honey roasted loquat leaves, 6G dry earthworm, 6G cicada molting, 6G Magnolia (fried), 10g fried beef seeds, 6G tangerine peel and 5g licorice; 3-4 years old, light weight, dose reduction; Add or subtract with symptoms. If cough occurs frequently, loquat leaves can be added to 15g, runny nose is clear and thin, and Schizonepeta tenuifolia and Fangfeng can be added; Pharyngeal itching, obvious pharyngeal pain, plus mint and forsythia; Yellow phlegm, red tongue and yellow fur, plus Scutellaria and gardenia; Decoct 150-200ml of soup with water, take it twice in the morning and evening or a small amount frequently, and continue the treatment for 14 days. If the symptoms are obviously relieved in the second week, the medium dose of the prescription shall be reduced.

2.1. Observation indicators

The TCM symptom scores of the two groups before and after treatment were observed and compared. The symptoms were cough, pharyngeal itching, expectoration, nasal congestion and nasal itching. The scores were 0, 1, 2, 3 and 4 respectively. The corresponding symptom degrees were asymptomatic, mild, moderate and severe symptoms. The lower the score, the higher the effect of symptom improvement. The changes of eosinophil count (EOS) were detected before and after treatment.

Clinical effect evaluation: After treatment, the symptom score decreased by more than 70%, and the curative effect was significant; If the symptom score of children is reduced by 50-70%, the effect evaluation is effective; If the symptom score is not reduced after treatment, the effect evaluation is invalid; Total effective rate = (markedly effective + effective) / total number of cases × 100% [4].

2.2. Statistical analysis

SPSS 23.0 processing and analysis, using T and χ^2 for test, and expressed in ($\bar{x} \pm s$) (n / %). If $P < 0.05$, there is a difference in the data.

3. Results

3.1. Observe the improvement of symptoms

Table 1. shows the statistical data of symptom scores of the two groups. There was no significant difference between the two groups before treatment, $P > 0.05$; After treatment, the symptom scores of coughs, pharyngeal itching and expectoration in the research group were lower than those in the reference group ($P < 0.05$).

3.2. Statistics and comparison of eosinophil count changes

There was no significant difference in eosinophil count between the two groups before treatment ($P > 0.05$);

the eosinophil count of the two groups decreased after treatment, and the research group was lower than that of the reference group ($P < 0.05$) (Table 2).

3.3. Observe and compare the effective rate of treatment

The curative effect evaluation statistics showed that the effective rate of research group was higher than that of reference group ($P < 0.05$) (Table 3).

Table 1. Comparison of TCM symptom scores before and after treatment ($\bar{x} \pm s$)

Time	Group	Cough	Pharyngeal itching	Expectoration	Nasal congestion and itching
Before treatment	Reference group	2.51±0.34	2.42±0.25	1.01±0.25	2.35±0.41
	Research group	2.53±0.29	2.39±0.28	1.02±0.34	2.41±0.42
	t	0.2831	0.5055	0.1499	0.6465
	P	0.7779	0.6147	0.8813	0.5198
After treatment	Reference group	1.87±0.28	1.84±0.22	0.61±0.17	1.05±0.25
	Research group	1.45±0.21	1.21±0.15	0.42±0.15	0.58±0.14
	t	7.5895	14.9640	5.3003	10.3742
	P	0.0000	0.0000	0.0000	0.0000

Table 2. Comparison of eosinophil count ($\bar{x} \pm s$, $10^9/L$) between the two groups before and after treatment

Group	N (example)	Before treatment	After treatment
Reference group	40	0.84±0.23	0.61±0.11
Research group	40	0.82±0.21	0.41±0.09
t		0.4308	9.4398
P		0.6677	0.0000

Table 3. Comparison of effective rates between the two groups

Group	N (example)	Remarkable effect	Effective	invalid	Total effective rate
Reference group	40	14	16	10	75.00
Research group	40	17	20	3	92.50
χ^2					4.5006
P					0.0338

4. Discussion

As a special type of asthma, cough variant asthma has repeated attacks, which will have a great impact on children's growth and development and quality of life. It must be treated as soon as possible. In the current routine treatment of Western medicine, procaterol hydrochloride tablets can inhibit acetylcholine, block cough reflex, have anti-allergy, and improve patients' pulmonary edema and respiratory hyperresponsiveness. As a leukotriene receptor antagonist, montelukast sodium can bind to leukotriene receptor, effectively inhibit inflammatory factors, and block the maturation process of eosinophils, so as to improve children's symptoms, reduce airway inflammatory infiltration and alleviate airway

hyperresponsiveness [5].

From the analysis of traditional Chinese medicine, the occurrence of cough variant asthma is mainly related to the function of eliminating phlegm, wind and depression in the lung. The pathogenesis is mainly wind phlegm blocking the lung and loss of depression in the lung. Therefore, the main principle of treatment is to dispel weathered phlegm and eliminate lung and reduce Qi. Using the author's self-made Qufeng Sufei Zhike decoction can give play to its unique advantages. In the decoction, mulberry leaves can clear the lung and moisten dryness, mulberry white skin can relieve lung and asthma, almond can dispel phlegm and relieve cough, and perilla has the effects of moistening intestines, relieving defecation, relieving fever and relieving cough; Qianhu has the functions of reducing Qi and resolving phlegm, dispersing wind and clearing heat. Loquat leaves have the effects of clearing lung and stomach, reducing Qi and resolving phlegm; Dry earthworm has the effect of clearing lung and relieving asthma; Cicada molting has the functions of evacuating wind heat and relieving cough. Magnolia can dispel wind cold, dredge nose orifices, stir fry cow seeds to facilitate swallowing, orange peel to regulate qi, produce licorice, clear heat and detoxify, and roasted licorice can reconcile various drugs.

In addition, according to modern pharmacological research, mulberry leaves contain flavonoids, coumarins and steroids, which can play an anti-inflammatory role. The bitter almond contained in almond can inhibit the respiratory center to a certain extent, so as to achieve the effect of relieving cough and asthma, and improve immune function [6]; Perilla seed contains Perillaldehyde, which can dilate skin blood vessels, reduce bronchial secretion, reduce bronchospasm, and have the effect of relieving cough and expectoration; Loquat leaves contain amygdalin, which can play the role of expectorant and anti-asthmatic; Loquat leaves contain loquat glycosides and ursolic acid, which have antitussive effects, and can play anti-inflammatory and anti-allergic effects; Gandilong has sedative and anticonvulsant effects, and the Lumbrokinase component can improve hemorheology, inhibit platelet aggregation, block histamine receptor and play an anti-asthmatic role to a certain extent; Magnolia contains volatile oil and other components, which has the effects of anti-inflammatory, analgesic and improving microcirculation; The components contained in licorice can produce glycyrrhetic acid, which can reasonably inhibit inflammation and have anti allergic effect [7]. Clinical practice research found that on the basis of routine western medicine treatment programs of procaterol hydrochloride and montelukast sodium, combined with Qufeng Sufei Zhike formula, it can play a synergistic role, give full play to their respective treatment advantages, enhance clinical efficacy, help children quickly control disease symptoms and improve their quality of life. In this study, the TCM symptom scores of the research group were lower than those of the reference group, and the eosinophil count index was lower than that of the reference group. The treatment efficiency was higher than that of the reference group, and the data comparison had statistical difference.

In conclusion, Qufeng Sufei antitussive method combined with western medicine can play a significant effect on cough variant asthma, reduce eosinophil count and improve clinical symptoms, which can be popularized and applied in clinic.

Disclosure statement

The author declares no conflict of interest.

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Effect of Psychological Nursing on the Mental State and Quality of Life of Patients After Heart Valve Replacement for Rheumatic Heart Disease

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Abstract: *Objective:* To explore the effect of psychological nursing on the mental state and quality of life of patients after heart valve replacement for rheumatic heart disease. *Methods:* Seventy-four patients with rheumatic heart disease that underwent heart valve replacement in Zhenjiang First People's Hospital from January 2017 to May 2020 were selected as the research subjects. Thirty-seven patients that were treated from January 2017 to September 2018 were included in the control group. Routine care was provided for the patients in the control group. From October 2018 to May 2020, the Department of Cardiothoracic Surgery improved their preoperative and postoperative psychological care. Thirty-seven patients that were treated during this period were included in the research group. The research group received psychological nursing care in addition to routine care. The effects of different nursing modes on the quality of life and postoperative mental state of the patients were determined. *Results:* The scores for depression, anxiety, somatization, and compulsion in the research group were significantly lower than those in the control group ($p < 0.05$); the scores for the quality of life of patients in the research group were significantly higher than those in the control group ($p < 0.05$). *Conclusions:* Strengthening psychological nursing for patients with rheumatic heart disease is helpful to improve their quality of life and mental state after heart valve replacement.

Keywords: Psychological nursing; Rheumatic heart disease; Heart valve replacement; Quality of life

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1. Introduction

Surgical treatment is the most important treatment for rheumatic heart disease, among which heart valve replacement is the most common type of heart surgery^[1]. In the clinical practice of nursing patients after heart valve replacement for rheumatic heart disease, it has been found that the curative effect of heart valve surgery is acceptable and excellent results have been achieved in improving patients' cardiopulmonary function and exercise capacity. However, the early postoperative mental state and quality of life of patients, which are important factors that affect the prognosis, have always been an important topic in clinical nursing. In this study, psychological nursing was applied during perioperative nursing for patients after heart valve replacement for rheumatic heart disease in order to improve the mental state and overall quality of life of patients.

2. Data and methods

2.1. General information

Seventy-four patients with rheumatic heart disease that underwent heart valve replacement in Zhenjiang First People's Hospital from January 2017 to May 2020 were selected as the research subjects. Thirty-seven

patients that were treated from January 2017 to September 2018 were included in the control group. From October 2018 to May 2020, the Department of Cardiothoracic Surgery improved their preoperative and postoperative psychological care. Thirty-seven patients that were treated during that period were included in the research group. The research group comprised of 15 male patients and 22 female patients; age ranging from 41 years old to 67 years old, with a mean age of 52.86 ± 2.37 ; 26 cases with grade II cardiac function and 11 cases with grade III cardiac function; 21 cases of single valve replacement and 16 cases of double valve replacement. The control group comprised of 17 male patients and 20 female patients; age ranging from 39 years old to 68 years old, with an average age of 52.17 ± 2.49 ; 28 cases with grade II cardiac function and 9 cases with grade III cardiac function; 23 cases of single valve replacement and 14 cases of double valve replacement.

The inclusion criteria were patients that met the surgical indications without any contraindications related to heart valve replacement. The exclusion criteria were patients with cognitive impairment ^[2], patients that were unable to communicate normally due to language, mental, or hearing impairment, and patients with malignant tumors or with liver, kidney, or respiratory dysfunction. There was no significant difference between the two groups ($p > 0.05$).

2.2. Nursing methods

The control group received routine nursing care, which included admission education, nursing according to doctor's advice, discharge guidance, etc. However, psychological nursing was added for the patients in the research group. First, psychological nursing was provided preoperatively. Preoperative patients often have worries and fears. Nurses should observe and evaluate the psychological state of patients as well as provide appropriate psychological nursing interventions to reduce the psychological pressure faced by the patients so as to not affect the curative effect of the surgery. The measures that can be taken include communicating with patients, understanding the causes of the worries and fears, as well as conducting targeted psychological counseling. If patients do not understand the worries caused by the surgery, nurses should explain the process of the surgery, intraoperative cooperation, and postoperative precautions; guide the patients to view the surgery with a correct attitude and modify their preoperative psychological state. Nurses can also communicate with patients' family members, encourage them to give more support through actions and words, as well as strengthen the feelings of patients in regard to family support, thus reducing preoperative anxiety and panic among patients ^[3]. Second, postoperative psychological nursing was also provided. Postoperative patients often have limited activity and experience chest pain. In this state, patients would tend to develop negative emotions. Due to the pain at the surgical site, postoperative training compliance would reduce significantly, and some patients do not even dare to cough. This is not conducive to the rehabilitation of patients. Therefore, nurses should reinforce nursing guidance and provide psychological comfort to patients. Nursing guidance includes teaching patients abdominal breathing and effective coughing methods so as to avoid sputum accumulation, which increases the risk of lung infection, informing patients about the importance of rehabilitation training for the recovery of heart and lung function, as well as encouraging them to actively cooperate with the training. At the same time, music relaxation training, music therapy, and mindfulness decompression intervention can also be used to reduce the feeling of pain. If necessary, sedative and analgesic drugs can be used according to the doctor's prescription.

2.3. Observation indicators

- (1) Postoperative mental state: Symptom Checklist-90 (SCL-90) was used. This checklist included 9 evaluation factors: depression, anxiety, somatization, compulsion, paranoia, hostility, terror, interpersonal sensitivity, and psychoticism. Finally, the scores for the positive items and the total

score were calculated. The higher the score, the better the mental state of the patient.

- (2) Quality of life: 36-Item Short Form Survey (SF-36) was used to evaluate the quality of life of the patients from the two groups at discharge. The evaluation dimensions include life vitality, mental health, physiological function, social function, physical pain, overall health, emotional function, physiological function, and total score. The higher the score, the better the patient's quality of life.

2.4. Statistical analysis

Statistical Package for the Social Sciences (SPSS) version 24.0 statistical software was used to process the data. The counting data were expressed in (n / %), χ^2 test, and the measurement data were expressed in ($\bar{x} \pm s$), t test. The difference is statistically significant if $p < 0.05$.

3. Results

3.1. Multidimensional comparison of the postoperative mental state between the two groups

The mental state scores, average scores, and total scores of the patients in the research group were significantly lower than those in the control group ($p < 0.05$) (Table 1).

Table 1. Comparison of the multiple dimensions of postoperative mental state between the two groups ($\bar{x} \pm s$ / min)

Group	Research group (n = 37)	Control group (n = 37)	T value	p value
Depression	1.94±0.26	2.37±0.32	6.344	<0.001
Anxiety	1.71±0.19	2.15±0.25	8.523	<0.001
Somatization	1.51±0.37	1.84±0.52	3.145	<0.001
Compulsion	2.06±0.42	2.47±0.53	3.688	<0.001
Paranoia	1.63±0.32	2.07±0.45	4.847	<0.001
Hostility	2.04±0.27	2.55±0.34	7.145	<0.001
Terror	1.42±0.18	1.78±0.26	6.925	<0.001
Interpersonal sensitivity	1.98±0.25	2.43±0.41	5.700	<0.001
Psychoticism	1.52±0.27	1.94±0.36	5.677	<0.001
Equal share	1.87±0.31	2.17±0.43	3.442	0.001
Total score	154.46±12.88	193.28±16.49	11.285	<0.001

3.2. Multidimensional comparison of the quality of life between the two groups

The scores for the quality of life of the patients in the research group were significantly higher than those in the control group ($p < 0.05$) (Table 2).

Table 2. Multidimensional comparison of the quality of life between two groups ($\bar{x} \pm s$ / min)

Group	Research group (n = 37)	Control group (n = 37)	T value	p value
Vitality	80.26±4.97	71.53±4.18	8.177	<0.001
Mental health	69.42±3.72	62.18±3.15	9.035	<0.001
Physiological function	89.15±4.13	80.26±3.22	10.326	<0.001
Social function	79.48±2.18	72.13±3.47	10.910	<0.001
Physical pain	73.53±2.69	63.54±5.29	10.239	<0.001
Overall health	78.64±3.98	70.82±3.27	9.234	<0.001
Emotional function	79.43±4.11	72.65±3.22	7.899	<0.001
Physiological function	75.52±5.15	64.19±4.28	10.292	<0.001
Total score	614.72±17.43	553.84±12.79	17.129	<0.01

4. Discussion

After surgery for rheumatic heart disease, patients would experience significant trauma, and the rehabilitation cycle often takes a considerable amount of time. Therefore, patients are tend to develop negative emotions, such as sadness, anxiety, and pain. A poor mental state for long term increases the risk of depression and other diseases. It is also a risk factor for other complications, such as myocardial ischemia and arrhythmia, which would seriously affect the rehabilitation of patients' cardiac function. Timely and effective psychological nursing is of great significance to reduce patients' negative emotions and improve their rehabilitation enthusiasm [4,5]. Therefore, in this study, psychological nursing was applied in the nursing of patients after their valve replacement for rheumatic heart disease. The results showed that the mental state scores, average scores, and total scores of patients in the research group within the dimensions of depression, anxiety, somatization, and compulsion were significantly lower than those in the control group ($p < 0.05$). The results also showed that the mental state of the patients significantly improved in all dimensions. The is because psychological nursing has improved the compliance of patients and established their confidence to overcome diseases, thus resulting in the stabilization of their blood pressure and heart rate as well as improving the curative effect of the surgery. Careful postoperative nursing guidance enables patients to gain emotional support and introduces various ways for patients to relieve their emotions. This in turn helps to reduce the stress response, psychological burden, and relevant postoperative complications caused by surgery. It also helps to reduce the excitability of the sympathetic nervous system as well as the release of catecholamine in children, thus slowing down the heart rate and reducing the risk of arrhythmia. In addition, the quality of life scores of patients in the research group in regard to various dimensions, such as life vitality, mental health, physiological function, social function, physical pain, overall health, emotional function, physiological function, and total score, were significantly higher than those in the control group ($p < 0.05$), suggesting that the implementation of humanistic care and psychological nursing measures can improve the quality of life of patients after surgery. Preoperative health education deepens patients' understanding of their surgery and helps to reduce their psychological burden. After surgery, its emphasis is on psychological intervention measures, such as mindfulness decompression and music therapy, in order to reduce the postoperative pain experienced by patients. At the same time, it encourages patients to carry out rehabilitation training as soon as possible, laying a solid foundation of improving the quality of life of patients postoperatively.

In conclusion, it is beneficial and worthy of promotion to strengthen psychological nursing for patients with rheumatic heart disease as it helps to improve the quality of life and mental state of these patients after heart valve replacement.

Disclosure statement

The authors declare that there is no conflict of interest.

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Research Progress of the Influence of Acromegaly on Cardiovascular Diseases

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Abstract: Acromegaly is a progressive disease caused by an increased in the levels of growth hormone (GH), followed by an increased in the levels of insulin-like growth factor-1 (IGF-1). Most cases are caused by GH-secreting pituitary adenomas. Long-term exposure to excessive GH would affect all systems of the body, of which the cardiovascular system has the highest incidence rate and mortality rate. This review discusses the influence of acromegaly on cardiovascular diseases and its treatment.

Keywords: Acromegaly; Cardiomyopathy; Hypertension; Arrhythmia; Vascular damage

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1. Introduction

Acromegaly is a rare disease. Its clinical features develop insidiously, and its diagnosis is often delayed ^[1]. The dysregulation of growth hormone secretion is usually caused by GH-secreting pituitary adenomas, thus leading to acromegaly – a disorder of disproportionate bone, tissue, and organ growth ^[2]. Due to the direct and indirect effects of GH and IGF-I on the cardiovascular system, involving a series of abnormalities of cardiac structure and function, acromegaly patients tend to develop cardiovascular complications, in which the mechanism is complex ^[3,4]. Due to the challenges in early diagnosis, it is often misdiagnosed clinically, resulting in an increased risk of mortality.

2. Acromegalic cardiomyopathy

In patients with acromegaly, long-term exposure to high levels of GH and IGF-1 will lead to acromegalic cardiomyopathy, which is characterized by concentric biventricular hypertrophy and diastolic dysfunction. In addition, progressive damage to the systolic function will lead to heart failure and arrhythmias, resulting in the deterioration of the cardiac function. The prolonged secretion of GH and IGF-1 in excess affects cardiac morphology and performance, resulting in concentric biventricular hypertrophy. This is due to the increase in the width of cardiomyocytes, indicating that new sarcomeres are closely juxtaposed. The most significant histological abnormalities are the increased in extracellular collagen deposition, myofibril disorder, monocyte necrosis, and lymphomonocyte infiltration; all of which will gradually damage the structure of the whole organ. This would eventually lead to systolic or diastolic dysfunction ^[5]. Excessive GH or IGF-1 causes an increase in sodium-water storage in the kidneys, sympathetic tension, insulin resistance, dyslipidemia, etc., resulting in the changes of cardiac structure and finally heart failure ^[6]. Several studies have shown that acromegalic cardiomyopathy may occur without the involvement of cardiovascular risk factors ^[7]. In fact, this type of cardiomyopathy seems to be specific for acromegaly.

Some morphological changes can be reversed, and cardiac insufficiency can be improved by controlling the levels of GH.

Acromegalic cardiomyopathy has a complex pathophysiology. In the early stage, there is enhanced myocardial function, decreased peripheral vascular resistance, and increased cardiac output. In the mid-stage, it is characterized by myocardial hypertrophy, which leads to the proliferation of myocardial fiber tissue due to inflammatory reactions. This in turn results in progressive interstitial remodeling and deterioration of cardiac diastolic and systolic function. Advanced acromegalic cardiomyopathy is characterized by significant dilation of the chambers, severe systolic and diastolic dysfunction, as well as high peripheral vascular resistance, which eventually leads to congestive heart failure ^[8]. The exact mechanisms of short-term GH exposure and cardiac insufficiency as well as long-term GH exposure leading to final heart failure are unclear, although they seem to be associated with the development of myocardial fibrosis and inflammation. Generally, if the treatment is not successful for many years, concentric hypertrophy and diastolic dysfunction would develop, leading to diastolic heart failure, and the complications of diabetes and high blood pressure may further lead to the deterioration of the cardiomyopathy. The excessive cardiovascular risk associated with acromegaly has long been recognized ^[9]. It has been reported that transsphenoidal adenomectomy can reduce left ventricular mass index and improve diastolic function if the disease is controlled ^[10]. In patients treated with somatostatin analogues, the left ventricular mass index decreases rapidly; the impact on cardiac morphology and function as well as the diastolic filling can be appreciated after 6 months of treatment. After 6-12 months of treatment, the effect is very significant ^[11], and the improvement of diastole and systole is more obvious not only in patients who have achieved disease control, but also in young patients with a short duration of GH and IGF-1 hypersecretion before intervention ^[12].

3. Hypertension

Hypertension is one of the most important negative prognostic factors affecting the mortality of patients with acromegaly. Although the exact prevalence is unclear, it is reported that 50% of these patients suffer from hypertension ^[13]. Excessive GH may lead to insulin resistance and smooth muscle cell hypertrophy, leading to an increased in vascular resistance. Excessive GH will also cause an increased in sodium-water reabsorption. Heavy plasma volume load and insulin resistance are related to renin-angiotensin-aldosterone system hyperactivity and impaired nitric oxide production, resulting in impaired vasodilation function; thus, the occurrence of hypertension through these mechanisms ^[14,15]. Experimental studies on acromegaly have shown that endogenous digitalis-like factors play a role in the regulation of body fluids and electrolytes. Therefore, high levels of growth hormone can trigger the continuous release of these factors and increase blood pressure ^[16]. There may be another contributing factor to hypertension in these patients. Most patients with acromegaly have obstructive sleep apnea syndrome, which leads to hypoxia. This increases the sympathetic tension; thus, the contraction of endothelial function eventually leads to hypertension ^[17].

The relationship between the severity of hypertension and the levels of GH or IGF-1 has been investigated; however, the results have been inconsistent. A recent article analyzed this relationship, and its results showed that when the IGF-1 concentration is overtly high, the blood pressure level is positively correlated with the level of IGF-1, whereas if the IGF-1 level is within the normal range, the blood pressure level is inversely proportional to the IGF-1 concentration ^[18]. This analysis included several studies, most of which were performed in non-acromegaly patients and supported the direct relationship in a state of significantly elevated IGF-1. Acromegaly patients usually suffer from hypertension without any gender bias ^[19]. Due to the impact of hypertension on the incidence rate and mortality rate, early treatment of hypertension is essential. It has been shown that the reduction of GH level after successful treatment of acromegaly lowers blood pressure and significantly reduces the use of antihypertensives.

4. Arrhythmias

Arrhythmias are relatively rare in patients with acromegaly. However, if they occur, they may be related to the changes in the structure of the heart, especially in cardiomyopathies ^[20]. ECGs and ambulatory ECGs have recorded ectopic beats, paroxysmal atrial fibrillation, paroxysmal supraventricular tachycardia, sick sinus syndrome, ventricular tachycardia, and even bundle branch blocks in patients with acromegaly, mainly during exercise ^[21]. 48% of patients with acromegaly have complex ventricular arrhythmias, while only 12% of non-acromegaly patients have this condition. The frequency of ventricular premature beats increases with the duration of acromegaly. The severity of ventricular arrhythmia is related to the quality of the left ventricle. It has been reported that the incidence of late potentials on ECG in patients with active arrhythmia is 56%. This may induce arrhythmia and increase the QT interval variability in patients with acromegaly. In order to combat potentially life-threatening arrhythmias in acromegalic cardiomyopathy, implantable cardioverter defibrillator (ICD) has been used in patients as primary and secondary prevention of sudden cardiac death. The reason for the frequent occurrence of ventricular tachycardia among these patients is the presence of myocardial fibrosis and scars caused by acromegaly ^[22].

5. Vascular damage

Studies have shown that the carotid intima-media thickness in patients with acromegaly is increased compared to healthy subjects ^[23]; however, there are several cases where healthy people also have an increased carotid intima-media thickness ^[24]. The incidence rate of coronary heart disease in patients with acromegaly varies widely in different countries. This may be related to the cardiovascular risk factors of atherosclerosis and coronary heart disease, such as age, gender, diet, etc. Cardiovascular risk factors have a greater impact compared to long-term exposure to GH or IGF-1 ^[25]. IGF-1 has a direct or indirect effect on immune cells, endothelial cells, and vascular smooth muscle cells. Endothelial nitric oxide synthase induces the production of endothelial nitric oxide, but in the absence of tetrahydrobiopterin or L-arginine, nitric oxide synthase is uncoupled to produce precursors of most reactive oxygen species rather than nitric oxide (NO). This would eventually lead to endothelial cell dysfunction, which is related to the occurrence and development of atherosclerosis ^[26]. By increasing the precursors of reactive oxygen species, reducing NO availability, and increasing the production of oxidized low-density lipoprotein, it promotes the formation of foam cells from mononuclear cells invading the vascular wall, which further aggravates the inflammation and damage ^[27]. The expression of nitric oxide and nitric oxide synthase decreases in patients with active acromegaly, and the expression of nitric oxide synthase and nitric oxide is negatively correlated with GH or IGF-1 levels ^[28].

6. Conclusion

GH is mainly involved in regulating body growth, including cardiac development and function. It plays a direct or indirect role by stimulating its tissue effector, IGF-1. GH, IGF-1, and its binding peptides act directly or indirectly on the cardiovascular system through various secretory ways. Insufficient or excessive GH production would affect the incidence rate and mortality of cardiovascular diseases. Although drug therapy is beneficial to patients who do not need surgery, ultimately, the control of hormone levels would lead to a reduction in mortality, emphasizing the importance of early identification and treatment.

Disclosure statement

The authors declare that there is no conflict of interest.

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Evaluation of Laparoscopy Combined with Intraoperative Gastrosopic Local Gastrectomy in the Treatment of Gastric Neuroendocrine Tumors

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Abstract: *Objective:* To analyze the clinical effect of laparoscopy combined with intraoperative gastrosopic local gastrectomy in the treatment of gastric neuroendocrine tumors. *Methods:* A total of 100 patients with gastric neuroendocrine tumors that were treated in the Affiliated Hospital of Chifeng University from January 2016 to March 2021 were selected as the research subjects. They were divided into two groups by the digital table method. The control group underwent laparoscopic partial gastrectomy while the research group underwent laparoscopy combined with intraoperative gastrosopic partial gastrectomy. The curative effects of the two groups were compared. *Results:* There was no significant difference in the number of surgical lymph node dissections between the two groups ($p > 0.05$); the amount of bleeding in the research group was lower than that in the control group; the operation time, time taken to get out of bed, gastrointestinal function recovery time, time taken for first eating, and hospital stay were shorter than those in the control group ($p < 0.05$); the incidence of complications and the recurrence rate in the research group were lower than those in the control group ($p < 0.05$). *Conclusion:* Laparoscopy combined with intraoperative gastrosopic local gastrectomy in the treatment of gastric neuroendocrine tumors has significant clinical effect and high safety.

Keywords: Laparoscopy; Gastrosopy; Local gastrectomy; Clinical efficacy; Gastric neuroendocrine tumor

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1. Introduction

Neuroendocrine tumors are mainly heterogeneous tumor diseases occurring in neuroendocrine organs, which can occur in multiple organs or tissues. Among them, gastric neuroendocrine tumors are more common. This type of tumor mainly involves argyrophilic cells at the bottom of the gastric mucosal tube. Once suffering from the disease, patients do not usually show specific symptoms. They have certain similarities with gastric tumors, and they need to be treated in time, otherwise when distant metastasis develops, there would be more harm to affected patient^[1]. At present, there are many clinical treatments for this disease, such as endoscopic submucosal dissection and mucosal resection, which can achieve certain curative effects, but the surgical requirements and technology are relatively high. In recent years, it has been found that laparoscopy combined with intraoperative gastrosopic local gastrectomy has a unique advantage and it is able to achieve excellent results. In regard to that, this study explores the therapeutic effect of laparoscopy combined with intraoperative gastrosopic local gastrectomy.

2. Material and methods

2.1. Basic data

In this study, 100 patients with gastric neuroendocrine tumors were selected from the Affiliated Hospital

of Chifeng University from January 2016 to March 2021. The selected patients were divided into two groups by the digital table method. The control group comprised of 50 cases; the proportion of men to women was 25:25; the age range was 29 to 64 years old, with an average age of 50.37 ± 1.58 ; their average body mass index was 21.85 ± 2.69 kg/m²; the average tumor size was 5.84 ± 1.51 cm. The research group also comprised of 50 cases; the proportion of men to women was 26:24; the age range was 30 to 66 years old, with a mean of 50.41 ± 1.61 ; their average body mass index was 21.91 ± 2.71 kg/m²; the average tumor size was 5.86 ± 1.49 cm. There was no significant difference in the above data based on the calculation by a statistical software ($p > 0.05$).

Inclusion criteria: (1) met the criteria of gastric neuroendocrine tumors by biopsy and pathological diagnosis confirmation [21]; (2) flat abdomen without rebound pain and tenderness; (3) all patients were informed and voluntarily signed the study consent form; (4) approved by the hospital ethics committee. Exclusion criteria: (1) other malignant tumor diseases; (2) surgical contraindications; (3) mental illnesses and cognitive impairments.

2.2. Methods

For the research group, when laparoscopy combined with intraoperative gastroscopic partial resection was carried out, the patients were maintained in a supine position and general anesthesia was given. An incision was made at the lower end of each patient's umbilicus about 0.5cm, with an incision length of about 1cm, and a deliberate induction of carbon dioxide pneumoperitoneum. During the surgery, the gastroscope was accurately placed from the esophagus to the stomach under a detailed laparoscopic and gastroscopic monitoring. The specific location of the tumor was then determined. A laparoscope was used by the surgeon to mark the tumor envelope tissue. After the mark line was lifted, 45mm and 65mm linear cutting closures were used to remove the gastric neuroendocrine tumor. After successful removal, interrupted suturing was performed. Finally, the complete resection of the tumor was confirmed via gastroscopy. Without any active bleeding in the gastric cavity, the mirror was then withdrawn.

The patients in the control group underwent laparoscopic partial gastrectomy. The patients were first instructed to maintain a supine position and general anesthesia was given. The position of the incision and the pneumoperitoneum induction were consistent with that of the research group. The carbon dioxide pneumoperitoneum was reasonably controlled at 13 mmHg. Each patient's abdominal cavity was explored in detail by laparoscopy. After the position of the tumor had been determined, 1-2 stitches of suture under laparoscopy were made. The cutter was then closed with the help of an endoscopic linear cutting obturator. When the tumor had been completely contained, the cutter was closed without any bleeding noted.

The patients in the two groups required fasting, gastric acid inhibition, and rehydration. Only after preliminarily recovery, they were allowed to have liquid diet and anti-infection treatment in time.

2.3. Observation indicators

The surgeries of both the groups were observed, including the number of surgical lymph node dissections, operation time, and surgical bleeding. After operation, the time taken to get out of bed, gastrointestinal function recovery time, time taken for first eating, and the length of hospital stay were observed.

Postoperative complications such as surgical site infection, gastric motility disorders, and incision exudation were observed. The patients were followed up one year after discharge to determine the tumor recurrence.

2.4. Statistical analysis

Statistical Package for the Social Sciences (SPSS) version 23.0 was used for processing and analysis; t-test

and chi-square test (X^2) were used for testing, $(\bar{x} \pm s)$ (n /%). There is a difference in the data if $p < 0.05$.

3. Results

3.1. Surgical treatment

Based on the data in **Table 1**, there was no significant difference in the number of lymph node dissections between the two groups, $p > 0.05$; the operation time of the patients in the research group was shorter than that of the control group; the amount of bleeding of the patients in the research group was lower than that of the control group ($p < 0.05$).

Table 1. Comparison of surgical treatment indexes ($\bar{x} \pm s$)

Group	N (example)	Number of lymph node dissections (piece)	Operation time (min)	Surgical bleeding in volume (ml)
Control group	50	34.15±13.57	79.71±11.54	64.12±18.45
Research group	50	35.01±14.05	58.46±10.71	37.15±15.11
t		0.3113	9.5439	7.9968
p		0.7562	0.0000	0.0000

3.2. Postoperative recovery indicators

The time taken to get out of bed, gastrointestinal function recovery time, time taken for first eating, and the length of hospital stay of the patients in the research group were shorter than those in the control group ($p < 0.05$) (**Table 2**).

Table 2. Comparison of postoperative recovery indexes ($\bar{x} \pm s, d$)

Group	N (example)	Time taken to get out of bed	Gastrointestinal function recovery time	Time taken for first eating	Length of hospital stay
Control group	50	3.12±0.98	4.25±1.07	5.42±0.98	14.15±3.58
Research group	50	2.64±0.75	3.01±0.85	4.25±0.87	12.07±2.85
t		2.7504	6.4163	6.3132	3.2142
p		0.0071	0.0000	0.0000	0.0018

3.3. Postoperative complications

The incidence of complications among the patients in the research group was lower than that in the control group ($p < 0.05$) (**Table 3**).

Table 3. Comparative complication rate (n /%)

Group	N (example)	Surgical site infection	Gastric motility disorders	Incision exudation	Total incidence
Control group	50	4	1	2	7 (14.00)
Research group	50	1	0	0	1 (2.00)
X^2					4.8913
p					0.0269

3.4. Follow-up recurrence rate

One year after discharge, the follow-up survey found that four patients from the control group had recurrence, and the recurrence rate was 8.00% whereas all the patients in the research group recovered without any recurrence, and the recurrence rate was 0.00%. The recurrence rate of the research group was lower than that of the control group ($p < 0.05$) with a significant difference ($X^2 = 4.1667$, $p = 0.0412$).

4. Discussion

Gastric neuroendocrine tumor is a tumor disease that is derived from neuroendocrine cells. Its degree of tumor differentiation is low, but it is a highly malignant tumor in nature. Lymph node metastasis or distant metastases may occur in the early stage, causing great harm to the patient's health; thus, it must be treated as soon as possible [3,4]. At this stage, surgical treatment is the first choice in clinical practice, mainly because the growth of gastric neuroendocrine tumors is relatively slow and most of these tumors have local infiltration and growth characteristics; thus, surgical resection is still the main treatment.

In the past, various investigations for these tumors were required before treatment. If the tumor does not involve the proper muscle layer and there is no ulceration, endoscopic mucosal dissection can be performed. In view of traditional open surgery, due to its large incision and surgical trauma, it increases the risk of infection and has high limitations. With the rapid development of minimally invasive concept and technology, laparoscopy has been gradually applied in clinical practice. Laparoscopy combined with gastroscopy for local gastrectomy has unique advantages. During the procedure, detailed observation and determination of the location of lesions can be made via gastroscopy. This can effectively prevent damage to other tissues due to blindness. At the same time, gastroscopy can be combined with surgery; it ensures complete resection of a focus and avoid missed minimally invasive surgical resections. In addition, it can also be used for specific types of tumors with high surgical safety [5-8]. Based on the results of this study, all surgical indexes of the research group were better than those of the control group. In addition, the postoperative complications and 1-year follow-up recurrence rate were lower among the patients in the research group compared to the control group. The difference in the data was significant.

In conclusion, laparoscopy combined with intraoperative gastroscopic local gastrectomy in the treatment of gastric neuroendocrine tumors has achieved significant clinical efficacy and high surgical safety.

Disclosure statement

The authors declare that there is no conflict of interest.

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Logistic Regression Analysis of the Influencing Factors of Cryptogenic Stroke with Positive c-TCD

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Abstract: *Objective:* To explore the influencing factors and logistic regression characteristics of cryptogenic stroke in patients with positive transcranial doppler bubble test (c-TCD). *Methods:* A total of 134 cases of cryptogenic stroke that were diagnosed by Tianshui First People's Hospital from November 2018 to April 2020 were selected according to the TOAST (Trial of ORG 10172 in Acute Stroke Treatment) classification criteria. According to c-TCD results, there were 70 cases of right to left shunt that were included in the positive group and 64 cases without right to left shunt in the negative group. Gender, age, smoking, diabetes, hypertension, and factors affecting the positive rate of foam were analyzed. According to the abnormal embolism scale scores, logistic regression equation was used to analyze the independent influencing factors. *Results:* The influencing factors of cryptogenic stroke in patients with positive c-TCD were correlated with age, gender, and abnormal embolism scale scores ($p < 0.05$). For each grade increase in age, the proportion of positive foam test was calculated to be 3.21 times, and the proportion of female to male was calculated to be 2.25 times. For each grade increase in the scores, the proportion of positive foam test was calculated to be 2.55 times. *Conclusion:* Female, older age, and higher scores in the abnormal embolism scale are the influencing factors for cryptogenic stroke in patients with positive c-TCD.

Keywords: Positive c-TCD; Cryptogenic stroke; Influencing factors; Logistic regression

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1. Introduction

In recent years, many studies have shown that cryptogenic stroke is closely related to patent foramen ovale, where about 44% of cryptogenic stroke patients have patent foramen ovale. Contrast-enhanced transcranial doppler (c-TCD) is a new investigation method at the present stage. It has the advantage of being accurate and quick in the screening of patent foramen ovale^[1,2]. In this study, 135 patients with cryptogenic stroke were selected to analyze the influencing factors of c-TCD positive patients.

2. Material and methods

2.1. General information

A total of 134 patients that were diagnosed with cryptogenic stroke in Tianshui First People's Hospital from November 2018 to April 2020 were selected according to the TOAST classification criteria. The inclusion criteria were patients that had conformed to the TOAST classification standard and signed the informed consent form. The exclusion criteria were those who refused or did not meet the conditions for c-TCD and those who were not able to perform the Valsalva maneuver.

2.2. Methods

The blood flow of the left middle cerebral artery was temporarily measured by Delikai's transcranial

doppler ultrasound monitor. 9 ml of normal saline was fully mixed with 1 ml of air and a drop of blood, and then injected through the vein in the elbow. The venous state and the number of microembolic signals in the patients within 30 seconds after Valsalva maneuver were observed. The diagnosis according to the International Consensus Criteria (ICC) included: Negative – no microembolic signal detected; Grade I – a small degree of shunting with 1~10 microembolic signals detected; Grade II – medium volume diversion with more than 10 but less than 25 microembolic signals detected; Grade III – more than 25 but less than 60 microembolic signals detected in the case of a large degree of shunting; Grade IV – more than 60 microembolic signals detected; Positive – Grade I~IV, i.e. with right to left shunt; Negative – microembolic signals negative without right to left shunt. The single and multiple factors affecting the positive rate of c-TCD were analyzed.

2.3. Observation indicators

Age, gender, underlying diseases, smoking history, and abnormal embolism scale scores were observed. The scores of the abnormal embolism scale were assessed by the RoPE (Risk of Paradoxical Embolism) scale. The total score that can be obtained from the scale was 10 points; one point each for no smoking history, no TIA or stroke history, no history of diabetes, no history of hypertension, and cortical infarct on imaging while patients of 18-29 years old were appointed 5 points, 4 points for those 30-39 years old, 3 points for 40~49 years old, 2 points for 50-49 years old, 1 point for 60-69 years old, and 0 point for ≥ 70 years old.

2.4. Statistical analysis

Logistic regression analysis was performed by Statistical Package for the Social Sciences (SPSS) version 18.0. The difference is considered statically significant if $p < 0.05$.

3. Results

3.1. Clinical analysis

According to the c-TCD results, among 134 patients with cryptogenic stroke, 70 patients were complicated with right to left shunt and 43 patients were the intrinsic type. After Valsalva maneuver, 27 patients were complicated with right to left potential type, including 33 patients with grade I shunt, 10 patients with grade II shunt, and 27 patients with grade III shunt. Among the 134 patients with cryptogenic stroke, 64 patients had no right to left shunt. The gender and age of the two groups were comparable ($p > 0.05$).

3.2. Single factor analysis

The influencing factors of cryptogenic stroke in patients with positive c-TCD were correlated with age, gender, and abnormal embolism scale scores ($p < 0.05$) (**Table 1**).

Table 1. Single factor influencing the positive rate of c-TCD in cryptogenic stroke patients

Factors		Total number	Positive number	Positive rate	χ^2/Z	<i>p</i>
Gender	Male	85	39	46%	3.764	0.039
	Female	49	31	63%		
Scores	< 4	17	6	35%	7.825	0.02
	4-6	61	26	43%		
	> 6	56	38	68%		
Age	< 40	16	9	56%	1.501	0.133
	40-60	92	45	49%		
	> 60	26	16	62%		
Hypertension	Yes	56	28	50%	0.193	0.727
	No	78	42	54%		
Diabetes	Yes	11	3	27%	2.994	0.07
	No	123	67	54%		
Smoking	Yes	63	28	44%	2.994	0.078

3.3. Logistic regression analysis

Using the logistic regression equation, it can be concluded that age, gender, and abnormal embolism scale scores are independent factors. With increasing age at each level, the proportion of positive foam test was calculated to be 3.21 times, and the proportion of positive foam test for female to male was calculated to be 2.25 times. The proportion of positive foam test was calculated to be 2.55 times with each grade increase in terms of the scores (**Table 2**).

Table 2. Logistic regression analysis

		B	S.E.	Wals	df	Sig.	Exp (B)	95% C.I. of exp (B)	
								Lower limit	Upper limit
Step 1A	Age	1.189	.559	4.522	1	.033	3.284	1.098	9.829
	Gender	.851	.558	2.327	1	.127	2.342	.785	6.992
	Diabetes	-.733	.828	.783	1	.376	.480	.095	2.437
	Smoking	.025	.527	.002	1	.962	1.026	.365	2.878
	Scores	.835	.382	4.786	1	.029	2.305	1.091	4.870
	Constant	-5.133	2.037	6.349	1	.012	.006		
Step 3A	Age	1.166	.551	4.475	1	.034	3.209	1.089	9.451
	Gender	.810	.405	3.998	1	.046	2.249	1.016	4.977
	Scores	.937	.354	7.026	1	.008	2.552	1.277	5.103
	Constant	-5.304	1.696	9.784	1	.002	.005		

The incidence of complications among the patients in the research group was lower than that in the control group ($p < 0.05$) (**Table 3**).

4. Discussion

Exploring the etiology and pathogenesis of cryptogenic stroke can provide an important reference for its clinical diagnosis and treatment. In recent years, abnormal embolism and other factors have been gradually

found to be correlated to this disease. Abnormal embolism is the formation of thrombus at the right side of the heart or its distribution from the venous system. After falling off, it shunts from right to left and enters the systemic circulatory system through an abnormal arterial communicating branch or the atrioventricular notch, resulting in an embolism of the great arteries [3-4]. The causes of abnormal embolism include pulmonary arteriovenous malformation, atrial septal tumor, patent foramen ovale, etc. The early detection of the causes can reduce the incidence of stroke.

In this study, 134 patients with cryptogenic stroke were examined by c-TCD, and 70 cases showed positive results. This shows that c-TCD is a safe and an effective method to investigate cryptogenic stroke, which can significantly improve the detection rate of cryptogenic etiology, reduce the risk of misdiagnosis and missed diagnosis, as well as has a strong guiding significance for secondary prevention [5]. The analysis of c-TCD positive patients with cryptogenic stroke revealed that there was no difference in the positive rates of c-TCD between cryptogenic stroke and risk factors such as smoking, diabetes, and hypertension. However, in regard to gender difference and abnormal embolic scale scores, there was a significant difference in the positive rate of c-TCD [6]. In view of the results from this study, the influencing factors of cryptogenic stroke patients with positive c-TCD are related to age, gender, and abnormal embolism scale scores. For each grade increase in age, the proportion of positive foam test was calculated to be 3.21 times and the proportion of female to male was calculated to be 2.25 times. The proportion of positive foam test for the increase in scores for each grade was calculated to be 2.55 times. In other words, being female, older in age, and having a greater score in the abnormal embolism scale would result in a higher positive foaming test.

In the clinical diagnosis of cryptogenic stroke patients with suspected PFO, c-TCD can be performed first. After screening and determining the presence of PFO, transesophageal echocardiography can be carried out to determine the size of the gap and the anatomical relationship of the PFO. Moreover, c-TCD can be performed at bedside with high sensitivity, repeatability, and non-invasive advantages. It can be widely popularized in clinical practice as a screening method. It does not only reduce the pain experienced by patients to a large extent, but also increase their compliance.

In conclusion, female, old age, and higher scores obtained in the abnormal embolism scale are the influencing factors for cryptogenic stroke patients with positive c-TCD.

Project

The research belongs to the stage result of a project (Project plan number: 2021-SHFZKJK-5207).

Disclosure statement

The authors declare that there is no conflict of interest.

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Effect of Nursing Intervention on Improving the Cognitive Function of Patients with Mild Cognitive Impairment

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Abstract: *Objective:* To explore the effect of nursing intervention on improving the cognitive function of patients with mild cognitive impairment. *Methods:* Sixty patients with mild cognitive impairment in Weifang Hospital of Traditional Chinese Medicine from January 2020 to January 2021 were randomly selected for this study. They were divided into two groups: a reference group (routine follow-up and daily health education) and a research group (nursing intervention based on the reference group). *Results:* Before nursing, there was no significant difference in the MoCA, MMSE, ADL, SDS, and SAS scores between the two groups ($p > 0.05$). After intervention, the MOCA score and MMSE score of the research group were lower than those of the reference group, the ADL score of the research group was higher than that of the reference group, and the quality-of-life score of the research group was also higher than that of the reference group ($p < 0.05$). *Conclusion:* Early nursing intervention for patients with mild cognitive impairment can effectively improve their cognitive functions and daily abilities.

Keywords: Mild cognitive impairment; Cognitive function; Nursing intervention

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1. Introduction

Mild cognitive impairment mainly refers to the mild impairment of cognitive function caused by various pathological factors. Mild cognitive impairment significantly reduces patients' ability in carrying out activities of daily living and may even lead to the development of Alzheimer's disease, which would have a great impact on their quality of life along with their physical and mental health. Therefore, it is necessary to intervene as soon as possible in order to improve patients' cognitive impairment and their quality of life^[1]. Based on this, the effect of nursing intervention on improving mild cognitive impairment has been explored.

2. Material and methods

2.1. Basic data

The subjects that were included in this study were 60 patients with mild cognitive impairment in Weifang Hospital of Traditional Chinese Medicine from January 2020 to January 2021. The inclusion criteria were patients that had met the diagnostic criteria of mild cognitive impairment as well as those that had signed the informed consent form for this study. The exclusion criteria were patients with serious physical diseases, decreased cognitive function due to other mental diseases or factors, as well as those with visual, hearing, or language impairment. The patients with mild cognitive impairment were divided into two groups by the

digital table method. There were 30 cases in the reference group; the proportion of men to women was 19:11; their age range was between 56 to 74 years old, with an average age of 61.34 ± 2.56 . There were also 30 cases in the research group; the proportion of men to women was 18:12; their age range was between 57 to 73 years old, with an average age of 61.45 ± 2.48 . There was no significant difference between the two groups ($p > 0.05$).

2.2. Methods

The reference group underwent routine follow-up and daily health guidance whereas the research group received nursing intervention. The nursing intervention for the research group was carried out in different areas.

(1) Life ability nursing

The nurses guided and helped the patients to effectively rebuild their self-care ability. They guided the patients in their daily life activities and actively encouraged them to participate in collective activities, such as Tai Chi and origami, so that the patients were able to come into contact with the environment as much as possible, change their life attitude, and avoid mental decline.

(2) Psychological nursing

The nurses had to quickly gauge the psychological status of the patients, eliminate the loneliness experienced by the patients as much as possible, and provide care to these patients in view of their emotional vulnerability. For patients with language barriers, the nurses had to slow down their speed of speaking and take care of the patients patiently.

(3) Diet nursing

The nurses had to reasonably design personalized diet plans according to the actual situation of the patients and help them to establish a proper nutritional diet structure. They had to ensure that the patients consumed food with higher contents of vitamins and proteins while appropriately adding fruits and vegetables to increase their unsaturated fatty acid levels as well as improve their bodies' condition. These are all conducive for the rapid recovery of the disease.

(4) Intellectual training

In regard to intellectual training, memory training was first conducted. Various trainings were carried out in strict accordance with the theoretical standard of 3R mental stimulation. It was mainly divided into three steps: training of past memories, training of physical positioning, and stimulation training to improve the memory of the patients. Finally, behavior training was conducted to reasonably guide patients to form appropriate behaviors, promote basic common sense to effectively awaken the memory in the patients' brains, and encourage them to memorize behavior to avoid loss.

(5) Social lectures

When the condition of the patients improved to a certain extent, the nurses had to provide family nursing knowledge to the patients and their family members in order to ensure that the patients were able to master basic disease prevention and rehabilitation knowledge, improve and cultivate awareness in regard to prevention and health care, as well as timely carry out supervision and management with the help of social lectures. These are carried out so that when an abnormality occurs, it can be handled promptly to avoid other adverse events.

(6) Regular follow-up

The patients were regularly followed-up for about 15 or 30 days via telephone or door-to-door visits. During the follow-up, the patients were urged to carry out various daily trainings to ensure that there would be an effective improvement in regard to their cognitive functions.

2.3. Observation indicators

The improvement of the cognitive functions of the two groups were observed and compared. The Montreal cognitive assessment (MoCA) was used to evaluate the improvement of cognitive function before nursing, 2 weeks, 4 weeks, and 8 weeks after nursing. The lower the score of the scale, the better the improvement effect of the patients' cognitive dysfunction.

The mini-mental state examination (MMSE) was used to evaluate the intelligence status and cognitive impairment of the patients. The higher the score, the higher the intelligence status of the patients. At the same time, the activity of daily living scale (ADL) was used to evaluate the patients' ability in carrying out activities of daily living. The higher the score, the higher the patients' living ability [2].

The improvement of anxiety and depression in the two groups was evaluated by using Zung's Self-Rating Anxiety Scale (SAS) and the Self-Rating Depression Scale (SDS). The dividing value was 50. The higher the score, the more serious the patients' anxiety and depression. The 36-Item Short Form Survey (SF-36) was used to evaluate the improvement of the patients' quality of life. The full score was 100 points with regard to the patients' physiological function, mental health, mental state, and social function. The higher the score, the higher the patients' quality of life [3].

2.4. Statistical analysis

Statistical Package for the Social Sciences (SPSS) version 23.0 was used for processing, analysis, and t-test. They were expressed in ($\bar{x} \pm s$). There is a difference in the data if $p < 0.05$.

3. Results

3.1. Improvement of cognitive function

Comparing the data in **Table 1**, there was no significant difference in MoCA scores between the two groups before nursing, $p > 0.05$. However, after nursing, the MoCA score of the research group was lower than that of the reference group ($p < 0.05$).

Table 1. Comparison of MoCA scores before and after nursing ($\bar{x} \pm s$) between the two groups

Group	N (example)	Before nursing	2 weeks after nursing	4 weeks after nursing	8 weeks after nursing
Reference group	30	32.25±3.96	30.87±3.51	29.09±3.02	28.25±2.14
Research group	30	32.31±3.85	28.09±2.12	27.71±2.09	26.66±1.95
t		0.0595	3.7133	2.0581	3.0080
p		0.9528	0.0005	0.0441	0.0039

3.2. Improvement of living ability

As shown in **Table 2**, there was no significant difference between the two groups before nursing, $p > 0.05$. After nursing, the MMSE and ADL scores of research group were higher than those in the reference group ($p < 0.05$).

Table 2. Comparison of MMSE and ADL scores ($\bar{x} \pm s$) before and after nursing between the two groups

Group	N (example)	MMSE		ADL	
		Before nursing	After nursing	Before nursing	After nursing
Reference group	30	21.46±1.58	23.05±1.16	73.59±4.52	76.27±3.59
Research group	30	21.51±1.63	25.18±1.04	73.48±4.37	80.12±4.02
t		0.1206	7.4884	0.0958	3.9125
p		0.9044	0.0000	0.9240	0.0002

3.3. Psychological status

As shown in **Table 3**, there was no significant difference in the SAS and SDS scores between the two groups before nursing ($p > 0.05$). After nursing, the SAS and SDS scores of the research group were lower than those of the reference group ($p < 0.05$).

Table 3. Comparison of SAS and SDS scores ($\bar{x} \pm s$) before and after nursing between the two groups

Group	N (example)	SAS		SDS	
		Before nursing	After nursing	Before nursing	After nursing
Reference group	30	50.03±2.54	41.37±2.05	50.12±2.45	40.48±2.01
Research group	30	50.11±2.39	37.64±1.87	50.34±2.61	37.58±1.94
t		0.1256	7.3628	0.3366	5.6860
P		0.9005	0.0000	0.7376	0.0000

3.4. Quality of life assessment

The quality-of-life score of the research group was higher than that of the reference group ($p < 0.05$) (**Table 4**).

Table 4. Comparison of quality-of-life scores between the two groups ($\bar{x} \pm s$)

Group	N (example)	Physiological function	Mental health	Mental state	Social Function
Reference group	30	80.13±2.56	80.25±2.61	81.37±3.16	80.39±2.85
Research group	30	85.47±3.11	86.35±3.84	86.57±4.52	86.74±4.67
t		7.2611	7.1960	5.1643	6.3573
P		0.0000	0.0000	0.0000	0.0000

4. Discussion

Mild cognitive impairment is a common disease. With the continuous extension of the course of disease, it may eventually develop into Alzheimer's disease if there is no timely intervention; thus, having serious impact on the patients' daily life. In regard to that, timely intervention is needed to improve cognitive functions [4].

According to relevant studies, early and timely nursing intervention for patients with mild cognitive impairment can play a significant role. In the process of nursing intervention, it is necessary to guide patients to carry out various daily life activities, help them to effectively rebuild their abilities, improve their mentality, life attitude, and their compliance. Intelligence and cognitive function training can effectively awaken patients' memory as well as improve their memory function and cognitive function.

Other than that, psychological nursing and dietary guidance can help patients establish good psychological state and dietary structure as well as provide favorable conditions for disease rehabilitation. At the same time, conducting social lectures and educating patients with relevant knowledge and prevention skills provide opportunities for patients to return to the society. Finally, by following-up and supervising these patients, it would be possible to timely gauge the patients' recovery, find out existing problems, and ensure that timely intervention can be carried out for the improvement of patients' cognitive functions ^[5-8]. The results from this study have shown that the improvement effect seen in all the scoring indexes of the research group after nursing was higher than that of the reference group ($p < 0.05$).

In conclusion, nursing intervention for patients with mild cognitive impairment can improve their cognitive functions, reduce adverse psychological emotions, as well as improve their life ability and quality of life.

Disclosure statement

The authors declare that there is no conflict of interest.

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Effect of Psychological Intervention on Emotion of Patients with Tumor Radiotherapy

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Abstract: *Objective:* To explore the emotional impact of psychological nursing intervention on patients with malignant tumor radiotherapy, and further verify the specific application value of this nursing model in the oncology department. *Methods:* A total of 129 patients with tumor radiotherapy admitted to our hospital from June 2018 to June 2021 were selected as subjects, and they were divided into control group and observation group by random number method. Among them, 64 cases in the control group received routine clinical nursing. 65 cases in the observation group received psychological nursing intervention. Then, the clinical nursing effect, self-rating anxiety scale (SAS) score, self-rating depression scale (SDS) score, immune function level change condition and clinical nursing satisfaction were compared under the two nursing modes, in order to fully verify the clinical application value of psychological nursing intervention mode for patients with cancer radiotherapy. *Results:* Comparing the clinical indexes of the two groups, SDS and SAS scores of the observation group were significantly lower than those of the control group. In terms of nursing satisfaction, the observation group is 96.92% and the control group is 90.62%, the difference was significant, and had clinical statistical significance ($P < 0.05$); After the comprehensive evaluation of the immune function of the two groups, it was found that the observation group was significantly better than the control group, and the difference between the two groups was statistically significant ($P < 0.05$). *Conclusion:* In the mode of psychological nursing, medical staff can carry out precise psychological nursing intervention and nutritional nursing for patients according to the specific conditions and treatment process of patients, which can greatly promote the psychological stability of patients, significantly reduce patients' negative emotions. In addition, the scientific implementation of psychological nursing intervention in the treatment of tumor radiotherapy patients can effectively strengthen the improvement of the immune function of patients, which has a very important application value to improve the physical function of patients, promotes the patient's body rehabilitation, and is worth in the field of widespread application.

Keywords: Psychological nursing; Chronic pelvic inflammatory disease; Radiotherapy

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1. Introduction

Tumor is one of the most common malignant diseases in the field of clinical medicine. The incidence of this disease is high and has a trend of gradual increase, which can seriously affect the physical and mental health of patients and cause a series of family and social problems. At present, in clinical treatment of tumor diseases, radiation therapy is often used to irradiation tumor lesions with radiation, inhibit or kill cancer cells, and then achieve the effect ^[1]. In the process of treating cancer patients with radiotherapy, it is also necessary to carry out psychological nursing intervention for patients, relieve the psychological pressure of patients, improve the compliance behavior of patients, so as to promote the rehabilitation of patients, which is reported as follows.

2. Materials and methods

2.1. General information

129 tumor patients admitted to our hospital for radiotherapy from June 2018 to June 2021 were randomly divided into two groups. 64 cases in the control group, aged from 21 to 61 years, with an average age of (54 ± 3.27) years, received routine clinical nursing; 65 cases in the observation group, aged from 26 to 64 years, with an average age of (55 ± 4.11) years, were treated with psychological nursing intervention. The research content has been approved by the ethics committee. All the recruited patients meet the clinical diagnostic criteria of tumor diseases and need radiotherapy treatment mode. There is no significant difference in the general data of patients ($P > 0.05$).

2.2. Methods

The control group was given routine nursing.

Observation group added psychological nursing intervention on the basis of routine nursing, the methods are as follows:

2.2.1. Establish a good relationship between nurses and patients

Nurses should strengthen communication with patients, encourage patients to tell themselves their psychological feelings, and patiently listen to the inner voice of patients, so as to meet the actual psychological needs of patients to the greatest extent; At the same time, the causes of the negative emotions generated during the treatment of patients were analyzed, so as to provide targeted psychological counseling for patients; In addition, we should patiently answer the questions raised by patients, do not forget to pay attention to the explanation of radiotherapy knowledge, and formulate a detailed and careful treatment plan according to the patient's disease situation, so as to maximize the patient's confidence in healing. For patients who still have doubts, they can be guided to visit the radiotherapy center to understand the radiotherapy process from a macro perspective, so as to further improve the degree of treatment coordination.

2.2.2. Correct treatment of adverse reactions in radiotherapy

Before the implementation of radiotherapy, nursing staff should fully inform patients of the possible side effects and coping methods in the process of radiotherapy with what they have learned, so as to promote patients to treat the adverse reactions of radiotherapy correctly and reduce panic.

2.2.3. Experience exchange

Medical staff should encourage patients to actively participate in the cancer rehabilitation group of the hospital, and let the members of the group who have successfully received radiotherapy to transmit relevant experience, so as to effectively improve their degree of cooperation in radiotherapy treatment, improve their resistance, and regain their confidence in overcoming the disease.

2.2.4. Psychological nursing

The important role of psychological nursing is to relieve the patient's nervous mood, inform the patient of the treatment and treatment process. Different patients have different needs for psychological care. According to the specific situation and needs of patients, intervention nursing is carried out. During the treatment of patients, we should always pay attention to the patient's condition progress and psychological state, timely deal with and solve problems when we find them, so that patients can actively cooperate with the work of medical staff to strengthen the treatment effect. And after the patient was treated and discharged, help patients to overcome difficulties, regain the confidence to return to society, so as to achieve the purpose

of psychological nursing intervention [2-3].

2.3. Observation indexes

The scores of self-rating anxiety scale (SAS), self-rating depression scale (SDS), the level of immune function and clinical nursing satisfaction were observed in the two groups.

2.4. Statistical methods

SPSS18.0 statistical software was used to analyze and process the relevant data. The counting data was expressed in %, the comparison was expressed by X^2 test, and the measurement data was expressed by t test. The difference was statistically significant ($P < 0.05$). ($\bar{x} \pm s$)

3. Results

3.1. Comparison of clinical nursing effect between the two groups

The effective rate of clinical nursing under the two nursing modes was 98.46% in the observation group and 85.94% in the control group, and the X^2 test result was 41.4384. The effectiveness of the observation group was significantly higher than that of the control group, and $P < 0.001$. (Table 1.)

Table 1. Comparison of clinical nursing effect between two groups [N (%)]

Group	Recovery	Remarkable effect	Effective	Inefficient	Effective rate
Control group (n = 64)	30(46.88)	12(18.75)	13(20.31)	9(14.06)	55(85.94)
Observation group (n = 64)	35(53.85)	17(26.15)	12(18.46)	1(1.54)	64(98.46)
X^2					41.4384
P					0.0000

3.2. Comparison of SDS and SAS scores between the two groups

Comparing the SDS score and SAS score of patients after the two nursing modes, the SDS score and SAS score of the observation group were significantly lower than those of the control group ($P < 0.05$). See Table 2.

Table 2. Comparison of SDS and SAS scores of the two groups ($\bar{x} \pm s$, scores)

Group	Number of cases	SDS score		SAS score	
		Before nursing	After nursing	Before nursing	After nursing
Control group	64	65.1±6.5	46.7±5.1	62.5±6.5	50.6±4.5
Observation group	65	64.9±6.2	54.6±4.8	61.8±7.0	55.2±4.1
t		0.1788	9.0610	0.5883	66.1694
P		0.8583	0.0000	0.5574	0.0000

3.3. Comparison of nursing satisfaction between the two groups

Compared with the control group, the nursing satisfaction of patients in the observation group was significantly higher than that in the control group (96.92% > 90.62%), the difference was statistically

significant, $P < 0.05$. See **Table 3**.

Table 3. Survey and comparison of patients' nursing satisfaction [n (%)]

Group	Number of cases	Very satisfied	Satisfied	Dissatisfied	Total satisfaction
Control group	64	36(56.25)	22(34.37)	6(9.37)	58/90.62
Observation group	65	43(66.15)	20(30.76)	2(3.07)	63/96.92
X^2					47.0870
P					<0.001

3.4. Comparison of immune function between the two groups

After the evaluation of the immune function of the two groups of patients receiving different nursing modes, it was found that the immune function level of the observation group was significantly higher than that of the control group, and the difference between the two groups was statistically significant ($P < 0.05$), as shown in **Table 4**.

Table 4. Comparison of immune function of patients under two modes of care ($\bar{x} \pm s$)

Group	Number of cases	CD3+	CD4+	CD8+
Control group	64	45.41±6.74	21.63±5.07	23.19±6.15
Observation group	65	82.87±9.83	29.77±8.84	26.88±8.88
t		25.2051	6.4021	2.7397
P		0.0000	0.0000	0.0070

4. Discussion

Malignant tumor has become one of the three major diseases threatening human life and health. In the treatment of such diseases, the most commonly used clinical method is radiotherapy. Due to the poor understanding of radiotherapy knowledge in the past, many patients showed resistance and low cooperation in the course of radiotherapy treatment, which seriously affected the treatment effect. Therefore, it is necessary to carry out psychological nursing intervention in radiotherapy treatment [4-5].

This study took 129 patients with tumor radiotherapy as the object, 64 cases received routine clinical nursing, and the other 65 cases received routine nursing + psychological nursing intervention, that is, on the basis of routine nursing mode, targeted psychological counseling, i.e. comprehensive nursing management, was provided for their bad psychology, so as to eliminate the negative emotions of patients and regain self-confidence. After a period of care, compared the two groups of patients with clinical nursing effect, self-rating anxiety scale (SAS) score, self-rating depression scale (SDS) score, immune function level changes and clinical nursing satisfaction, we can find that the clinical nursing effect, immune function level and clinical nursing satisfaction of the observation group were significantly higher than that of the control group. The SAS and SDS scores of the observation group were significantly lower than those of the control group, indicating that the nursing model has a good application effect [6-8].

In a word, the application of psychological nursing intervention in the treatment of tumor radiotherapy patients has very important clinical application value to improve the prognosis and cure effect of patients, which is worthy of wide promotion and application in the clinical field.

Disclosure statement

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Qualitative Study on Male Nursing Students' Cognition of Nine-Valent Preventive Vaccine

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Abstract: *Objective:* To investigate the cognition degree of male nursing students to HPV and nine-valent vaccine and the influencing factors of male willingness to receive nine-valent HPV vaccine. *Methods:* Qualitative research semi-structured interview was conducted on male nursing students, and phenomenological research method was used to record, transcribe, encode and classify the interview data and extract the topic. The number of interviews was determined according to the information saturation. *Results:* Seven themes were summarized in this study, which were mainly divided into two aspects. The promotion of vaccination includes two aspects: self-benefit and benefit of others. The prevention of vaccination mainly includes low awareness rate, feminization of vaccine information, high cost and safety and effectiveness. *Conclusion:* Male nursing students have low cognition degree and inoculation intention to human papillomavirus and nine-valent vaccine, so it is necessary to further strengthen publicity and carry out college education to improve vaccination.

Keywords: Male nursing students; HPV; Nine-valent vaccine; Intention to vaccinate; Qualitative research

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1. Introduction

Human papillomavirus (HPV) is a common reproductive tract infection virus. High risk HPV (HR-HPV) persistent infection can cause cervical cancer, and is also associated with the occurrence of vaginal cancer, vulvar cancer, anal cancer, penile cancer and oropharyngeal cancer. It is an important public health problem in the world, especially in developing countries ^[1]. HPV infection is the most common sexually transmitted disease, usually infecting sexually active young people ^[2]. In 2014, WHO has shown that HPV vaccination can reduce the risk of sexually transmitted diseases, and thus reduce the incidence rate of cervical cancer in women ^[3]. At present, the research on HPV vaccine mostly uses quantitative research to describe the current situation and influencing factors, pays more attention to women, and lacks attention to men, especially focusing on the qualitative research on male nursing students' cognition and vaccination intention. Male nursing students are future health professionals, most of whom are aged from 16 to 26. They meet the target population of nine valent HPV vaccination. They play an important role in providing the public with HPV screening and protection methods ^[4,5]. The purpose of this study is to understand the influencing factors of male nursing students' awareness of HPV virus and willingness to vaccinate with nine valent HPV vaccine, so as to provide reference basis for smoothly carrying out effective cervical cancer intervention measures in the future and promoting the popularization of nine valent HPV vaccine in China.

2. Research object and method

2.1. Research object

To interview 12 male nursing students from 3 colleges and universities in Henan Province from June to

August 2020. Inclusion criteria:

- (1) Full time male nursing students enrolled in the national uniform.
- (2) Informed and agreed.
- (3) Good language communication skills and clear language expression.

Exclusion criteria: Researchers who have participated in similar research in recent half a year. The determination of sample size is based on the repeated occurrence of respondents' data and no new topics in data analysis, that is, the data will stop after reaching saturation ^[6].

A total of 12 male nursing students were included in this study, which were numbered with English letters A ~ L. Among them, there are 1 technical secondary school student, 2 junior college students, 4 undergraduates and 5 postgraduates. See **Table 1.** for general information of respondents. The study meets the requirements of the Helsinki declaration.

Table 1. General information of 12 respondents

Letter	Educational level	Age (years)	Are there any brothers / sisters	Have a history of asexual life	Monthly living expenses	HPV vaccination history	HPV cognitive sources
A	Secondary specialized school	18	No	Yes	2000	Nothing	Internet
B	Junior college	20	No	Nothing	1300	Nothing	Classmate
C	Junior college	22	Yes	Nothing	2600	Nothing	Newspapers and periodicals
D	Undergraduate	21	No	Yes	1500	Nothing	Friend
E	Undergraduate	19	Yes	Nothing	1800	Nothing	Classmate
F	Undergraduate	22	Yes	Nothing	1400	Nothing	Brochures, students
G	Undergraduate	24	Yes	Yes	3000	Nothing	Friend
H	Master	24	No	Yes	2000	Nothing	Students, websites
I	Master	26	No	Yes	2400	Nothing	Classmates and doctors
J	Master	24	Yes	Yes	2000	Nothing	Internet
K	Master	25	No	Yes	3600	Nothing	Lecture
L	Master	23	Yes	Yes	2300	Nothing	Classmate

2.2. Research methods

Guided by the phenomenological method of qualitative research, this study collected data in the form of face-to-face interview and recorded simultaneously. Literature review was conducted before the interview. By consulting 2 gynecologists, 1 doctor of nursing and 2 gynecological clinical nursing experts, the interview outline was formulated as the interview guide and continuously improved during the interview. Male nursing students who met the inclusion criteria were introduced to the purpose, significance and time of the study, and their consent was obtained on the recording. In order to protect privacy, the research results are anonymous. Three male nursing students were selected by objective sampling method for pre interview to determine the final interview outline.

The interview outline includes:

- (1) What do you think are the effects of nine valent HPV vaccine?
- (2) What do you think of the risk of HPV infection?
- (3) Do you think men should be vaccinated with nine valent HPV vaccine? Why?
- (4) What sources have you heard of HPV and nine valent HPV vaccine?
- (5) What do you want to know about the nine valent HPV vaccine?

Record the interview truthfully, listen carefully and observe the emotional changes of the respondents. The interview time of each interviewee is 30 ~ 50 min. the interview recordings and relevant written materials are classified and kept to maintain their integrity. Sort out the data and input the recorded data into the computer for transcription within 24 hours.

2.3. Data analysis

The interview data are analyzed and sorted out by Colaizzi 7 step analysis method, and the interview records are carefully read to extract meaningful statements^[7]. Encode, collect and extract recurring ideas. Return the ambiguous analysis results to the respondents for verification, listen to the opinions of the respondents and form the final theme.

3. Results

3.1. Factors that promote participants to receive nine valent HPV vaccine

3.1.1. Self-benefit

Vaccination with nine valent HPV vaccine is an effective intervention for male nursing students themselves. Some studies have pointed out that HPV infection is one of the most important factors of penile cancer^[1]. Among genital cancers with positive human papillomavirus (HPV) DNA, HPV-16 is the most common type in men, followed by HPV-18. The nine valent HPV vaccine can reduce the incidence rate of HPV above 6, 11, 16 and 18 of the disease, and has a preventive effect on diseases with 96.7% HPV 31, 33, 45, 52 and 45. It can reduce the incidence of malignant tumor in cervical, vulva, vagina, anus and penis, which are covered by HPV subtype^[8]. Participant H: "I know nine-valent vaccine injection mainly aimed at women, also heard that many men will HPV infection, HPV in addition to lead to cervical cancer, and the incidence of anal cancer and prostate cancer as well as related, from the vaccine research and development to the public after a series of clinical trials, don't worry about it too much side effect, cost nothing for your health. It's a very small investment." Participant D: "Now you spend thousands of yuan on vaccination, and maybe you will save hundreds of thousands of yuan for chemotherapy in the future. It's really cost-effective."

3.1.2. Benefits to others

Vaccination with nine valent HPV vaccine not only benefits future spouses and families, but also actively promotes the vaccination behavior of peers. HPV infection is mainly caused by sexual transmission. It is a sexually transmitted disease with strong infectivity, high infection rate and high recurrence rate. Participant K: "I was concerned about the nine valent HPV vaccine, because my girlfriend, the incidence rate of cervical cancer is too high now, showing a younger trend. I have been urging my girlfriend to inoculate. If we two can reduce the incidence rate by vaccination, that is very necessary." Prevention and intervention of HPV must be carried out between men and women, so that the incidence rate of cervical cancer can be reduced. HPV vaccine can protect its own sexual partners while protecting itself. The potential role of male nursing students in promoting positive attitudes towards vaccination can be used as positive contributors to share positive vaccination experience with unvaccinated peers.

3.2. Factors preventing participants from getting HPV vaccine

3.2.1. Low awareness rate

Insufficient knowledge of HPV virus and nine valent HPV vaccine. Some studies have pointed out that, the main reason why college students are unwilling to receive HPV vaccine is that they don't understand the vaccine and think they don't have the risk of related diseases^[9]. It was learned from the interview that some male nursing students were not clear about HPV virus. When asked who was most likely to be infected with HPV, 8 participants said that people with chaotic private life, sex workers, lack of attention to cleanliness and low immunity were easy to be infected. Participant C: "I think HPV infection is similar to HIV infection, and the susceptible people are those with unstable sexual partners. In addition, it is best not to smoke, which is easy to cause low immunity." Participant G: "Even boys should pay attention to local cleanliness, which is good for their girlfriends." When asked if he had any experience in HPV classroom education, (laughter) participant B said: "It seems that there was gynecology and obstetrics nursing in freshman year. At that time, the teacher only talked about HPV in class. After listening to the class, he felt that he should pay more attention to his personal hygiene and wash his underwear frequently, because it was not the focus of the exam, and he didn't pay much attention to this aspect later." Participant J: "I checked the human papillomavirus (HPV) on the Internet before, but I didn't see the introduction about the incidence of men, so I think it doesn't seem to be a problem for men (laughter)."

3.2.2 Feminization of vaccine information

Compared with the research on HPV infection and female reproductive health, the impact of HPV on male reproductive health has not been paid enough attention^[10]. From the interview results, 10 male nursing students, even if they have heard of HPV and nine valent HPV vaccine, think that the vaccinated population is women and men do not need to be vaccinated. This is largely due to the widespread misunderstanding of the role of the vaccine. At the initial publicity stage, the vaccine was only sold to girls. Most people linked HPV infection with cervical cancer and thought that men had little to do with HPV. All 12 participants believed that HPV vaccination was mainly an intervention designed to prevent cervical cancer in girls or women. When asked if you think men need to be vaccinated with nine valent HPV vaccine, participant A expressed surprise: "Since HPV infection can lead to cervical cancer, men will not get this disease. Does it have anything to do with us?" Participant B: "Isn't the nine valent vaccine the cervical cancer vaccine? All female students in our class are discussing this matter. I don't think men need vaccination at all." Participant J: "I've heard of it (HPV vaccine) and it's still in the ads on those websites. However, most of the above are that HPV will affect women and cervical cancer, and we don't see anything that has an impact on men's health."

3.2.3 High vaccination cost

Some participants made it clear that the high cost was the main factor leading them not to receive the nine valent HPV vaccine. Despite the great desire for vaccination, the obvious benefits and necessity of vaccination are still being weighed against major concerns about affordability. Participant I: “As a student, I have no source of income. Basically, my living expenses depend on school subsidies and the support of my family. I heard that the nine valent vaccine has a high coverage of the virus. I am also very eager to get vaccinated, but the vaccination cost is about 4000 yuan. Although I know that vaccination is beneficial to promoting my health, it is actually not cost-effective for men (helpless).” Participant E: “The nine-valent vaccine is expensive. If a doctor recommends it to me, I will doubt his purpose of giving me such an expensive vaccine, whether he can profit from it, etc. Besides, it is not a necessity for men. If doctors give us a vaccine like pneumonia and hepatitis B, we will certainly inoculate it for health reasons.”

3.2.4. Safety and effectiveness

Some participants were concerned about the safety and efficacy of nine valent HPV vaccine. Common adverse reactions of nine valent HPV vaccine include: General adverse reactions such as pain, swelling, induration and pruritus after injection, and occasional dizziness and syncope. However, some distorted and untrue reports from the media have spread wrong information to the public, resulting in a low level of understanding of the safety and effectiveness of the vaccine, and most people are skeptical. The nine-valent vaccines have been on the market for a short time, and the long-term control effect is still unknown. Participant L: “I learned from consulting the literature that it takes more than ten years or even decades to develop from HPV infection to cervical cancer, while the nine valent vaccines have been on the market worldwide for only five years. At present, there is no clinical data at home and abroad that the vaccine is effective in preventing cervical cancer. I can only estimate theoretically whether vaccination can bring me long-term and effective protection.” Participant C: “If the nine-valent vaccine really works as advertised in the press, why hasn’t the country vigorously promoted the vaccine, included in medical insurance or given some preferential policies to encourage the vaccination of school-age people?”

3.2.5. Imbalance between supply and demand

Since the outbreak of novel coronavirus pneumonia, the nine valent HPV vaccine is seriously inadequate as an imported vaccine. The nine valent vaccine is difficult to make appointment and vaccination. Participant H: “When I looked through the circle of friends, I found that several female students and female friends were asking where to get the nine-valent vaccine. Some could not make an appointment after the first injection. If the vaccination could not meet the needs of women, even if I felt it necessary, I would consider delaying the injection.” The vaccinated population is more passive, so as to reduce the vaccination rate.

4. Discussion

4.1. Risk perception and cost independently and jointly affect the decision-making of male nursing students

The feminization of HPV and nine valent HPV vaccine information affected the knowledge level of participants, leading many participants to believe that human papillomavirus vaccine has nothing to do with their health. According to the interview, male nursing students generally have low awareness of human papillomavirus and nine valent HPV vaccine, which is basically consistent with the survey in other regions in China ^[11]. Improving male nursing students’ HPV related knowledge will greatly increase their willingness to vaccinate HPV vaccine. Male nursing students are an important group. They are future health professionals. They should have a certain understanding of human papillomavirus infection and vaccination.

In addition, male nursing students also belong to the risk group in terms of human papillomavirus infection and related complications ^[12]. Only when male nursing students understand the harmfulness of HPV virus, such as persistent high-risk HPV virus infection may lead to cervical cancer and penile cancer, will they be willing to take the initiative to understand how to prevent these adverse outcomes. In addition, participants expressed concern about the high cost of imported nine-valent HPV vaccine and looked forward to developing domestic vaccine with high cost performance as soon as possible, so as to promote vaccination. Many participants said that before attending this interview, they had never seriously considered vaccination with nine-valent vaccine. They would consult their doctors about HPV vaccination at their next visit.

4.2. The awareness rate of nine valent HPV vaccine increased with the increase of male nursing students' education

This study shows that the level of HPV knowledge, HPV vaccine cognition and attitude of nursing master students is significantly higher than that of undergraduates and college students, which is consistent with the research of Ouyang lichen ^[13] and Zeng Xiaomin ^[14]. When asked about HPV vaccine, what relevant knowledge do you want to know urgently? Most participants were interested in the number, time and place of vaccination. However, when asked where male nursing students will continue to acquire HPV related knowledge in the next step, college students and undergraduates said that they are more likely to accept medical lectures and special lectures, indicating that medical professionals play an important role in publicity and education activities. The postgraduate students prefer to consult the literature, which shows that the more information education they get, the higher their ability to integrate computer resources and absorb information.

4.3. The promotion prospect of nine valent HPV vaccine in male nursing students has a long way to go

The emergence of HPV vaccine has upgraded the prevention mode of cervical cancer. It is believed that cervical cancer can become the first cancer that can be completely eradicated through comprehensive preventive measures ^[15]. Improving the vaccination rate of nine valent vaccine can indirectly protect unvaccinated individuals through mass immunization, and encourage vaccination as a standard behavior. At present, the safety and effectiveness of the three vaccines listed in China have been verified by clinical trials. However, due to China's large population and limited awareness of HPV, and the nine valent HPV vaccine is not included in medical insurance as a bivalent vaccine, the vaccination rate is not ideal, and the promotion in China is facing great challenges. At present, the vaccination cost of nine valent vaccine is about 4000 yuan. As a developing country, if the vaccine is included in the immunization regulations, the economic burden will be heavy. Therefore, it is necessary to develop a cost-effective, safe and effective vaccine as soon as possible in combination with the actual situation of our country.

5. Conclusion

It is suggested that college education should use various forms and combined with the professional background of nursing to strengthen the knowledge of male nursing students about cervical cancer and preventive HPV vaccine, regularly popularize science on the bulletin board, and correct their incorrect information and behavior. The government should establish a systematic and scientific publicity mechanism in combination with the media to comprehensively and systematically publicize and educate the correct prevention and treatment knowledge of HPV infection. The focus of health education can focus on the effectiveness, safety and vaccination related knowledge of nine valent HPV vaccine, so as to improve men's cognition and vaccination willingness. At present, there is no effective solution to the imbalance between supply and demand of nine valent HPV vaccine. It is suggested that APP should be designed

specifically, and WeChat official account should be combined to carry out HPV related knowledge propaganda and online appointment of HPV vaccine, so as to provide convenient inoculation for inoculant. This interview is limited to male nursing students. In the future, we can further study from the perspective of teachers and obstetricians to obtain more accurate information and improve the vaccination rate.

Disclosure statement

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China Elderly Care: A Confucian Legacy

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Abstract: This paper explores the Confucian roots of elderly care expectations and how these expectations may influence the current state of the elderly and elderly care in modern China. This paper posits that the outdated expectations combined with recent urbanization trends has put unrealistic pressures on society to adequately care for a rapidly aging population. Until expectations are adjusted to reflect modern day families and realities, the elderly will continue to struggle with a sense of inadequate care, which can lead to mental health issues and feelings of isolation. Once the shackles of Confucian expectations are removed, families, governments and private institutions will have the freedom to be more creative in the way they imagine solutions for elderly care.

Keywords: China elderly care; Mental health; Confucian culture; Retirement

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1. Introduction

The lack of adequate elderly care and the increasingly fragile mental state of elderly throughout China has garnered increasing attention in recent years. According to a 2013 survey of elderly mental health across China conducted by Xinli Teng, more than 10% of the more than 33,000 people surveyed over the age of 50 suffered from some kind of mental health issue. Indeed, among the nearly 550 elderlies surveyed in northwestern parts of China, over 50% reported experiencing poor mental health ^[1]. While these statistics alone are alarming, the fact that the elderly are receiving this kind of attention in China signals the breadth and depth of the problem. There are certainly practical issues with elderly care such as overcrowding in nursing homes and lack of nurses and doctors devoted to the growing population, but it is important to consider deeper cultural and historical aspects that could also be contributing to this problem. Digging into the changes in the way that traditional values are lived out in China's rapidly modernizing society can provide insight into some of the more fundamental causes of the mental health crisis currently unfolding among the elderly. Indeed, it would seem that the current untenable state of elderly care in China at least in part results from the tension between increasing urbanization as well as changing social norms and the ubiquity of Confucian ideals lingering throughout education and culture. The elderly people in today's China are not getting the care they expect based upon their training in Confucian principles. In general, the elderly living in urban areas often find it hard to socialize, while the elderly living in rural areas are often unaccompanied and lonely to the point where a great amount of them experience serious mental health problems ^[2]. The root of such issues can be traced back to Confucius and the standards he set for elderly care, a care that must be carried out with reverence and that must attend to both the physical, emotional and mental health of elderly individuals ^[3]. Thus, to fully understand the state of elderly in China and their care, it is important to look through the historical and cultural lens of Confucius to see how these values and expectations clash with present day realities.

2. The Elderly

This paper defines elderly people as people past the age of retirement in China. In modern China, 2020 legislation set the retirement age for men at 60 and for women, at 50^[4]. The reason this paper utilizes the retirement age as an indicator of old age is that past retirement age, the elderly will be in more need of “elderly care” and are more likely to experience mental health problems. According to Guilan Li and Shujing Wei, more than 50% of retired people researched were found to have some degree of mental health issues ^[5]. Furthermore, in mental health research regarding the elderly, studies also define elderly as over the age of 50, and since this paper references those studies to help paint the current landscape of elderly care in China, it is important to be referencing the same age group. However, in different times throughout the history of China, the retirement age differed, often due to the fact that the average life span was shorter than it is today; in some dynasties, a retirement age was nonexistent. During these points in history, this paper defines “the elderly” in ancient China as those who have children over the age of 18 because children were considered responsible for caring for their parents once they became adults, which was the age of 18.

3. The Analects and Filial Piety

In China, traditional values stem from Confucius and the principles that his students codified. Confucius was a politician, teacher, and philosopher who became one of the most important persons in the history of China through the spread of his principles. His ideology formed the foundations of the ancient Chinese values throughout dynasties, even down to today. When he was alive, he had many students that observed him and recorded his sayings that have been organized in a book called “The Analects”. The Analects was published roughly around 300 A.D. These sayings have been preserved well and have been used to construct the basis of Chinese culture for the past 2000 years. In fact, students of all ages, primary school, middle school and high school, learn about Confucius and Confucianism through parts of the Analects in their textbooks in all parts of China. Students are still tested on portions of The Analects on the Gaokao, the Chinese college entrance exam. Significant portions of these analects are devoted to the way that elderly should be viewed and treated by younger generations ^[6]. Within the 20 chapters of the Analects, the first, second and fourth chapters (Xue Er, Wei Zheng and Li Ren) all recorded teachings of Confucius about filial piety and elderly care. Some of the values stated in the Analects may seem antiquated and hard to apply in the modern context, but the idea of obedience and thoughtful care is engrained in the minds of many in their upbringings. This sense of responsibility for parents and the elderly in general continues to affect societal norms and family decision-making in the present day and so it is in this context in which Confucius’ legacy in this regard will be examined.

The Analects provide a record of what Confucius taught his students about filial piety. It is these statements that shaped societal beliefs, values, norms and expectations about the elderly, their place in society and their care. One such statement was recorded by Zi You, a student of Confucius, who asked his Master – Confucius – what filial piety means. Confucius replied that, “Filial piety nowadays means the support of one’s parents. But dogs and horses likewise are able to do something in the way of support; without reverence, what is there to distinguish the one support given from the other? ^[7]” While this response seems like a series of riddles rather than an answer, it was understood to mean that supporting parents with food and shelter was far from enough. What distinguishes humans from animals is not the behavior, but the intention. Animals may support their parents in similar ways as humans do, but it is the reverence and the respect humans have the ability to show their parents that differ from animals. This concept remains one of the key values regarding treatment of the elderly. Children could provide elderly parents the most luxurious house and food, but without a filial heart wanting to care for their parents, the efforts would all be considered in vain. Conversely, some may lack the money to provide the best for their parents, but when they care for their elderly parents with their true heart, that is considered to be fulfilling filial piety according to

traditional Chinese values. Another quote from The Analects reinforces this idea. Confucius responded to another student's query about what filial piety really entailed by explaining, "The difficulty is with the countenance. If, when their elders have any troublesome affairs, the young take the toil of them, and if, when the young have wine and food, they set them before their elders, is this to be considered filial piety?"^[8] Confucius made it clear that simply providing food on the table does not fulfill filial piety. It is doing so with a heart that is truly loving and respecting the elderly parents and the surrounding circumstances that can be called filial piety.

4. Filial Piety Throughout Chinese History

While such noble standards can seem quite unrealistic and perhaps even impractical, a study of Chinese history reveals how they were very concretely worked into the fabric of governance and of daily life. In fact, starting in the Sui Dynasty around 581 A.D., the crime of "Not filial" was ruled as one of the ten worst crimes one could commit. These ten crimes were the ones that could be punished by death, and this law remained in force throughout all of the dynasties. It was only removed when the last dynasty – The Qing dynasty – ended in 1912 A.D.^[9] The details of what could be classified as "Not Filial" were first recorded in the law of the Tang Dynasty, beginning around 618 A.D. One such classification was "reporting the crimes of one's parents"^[10]. In other words, if one's parents committed a crime and the child decided to report it to local authorities, it was the child that deserved punishment for reporting the crime of their parents. Meanwhile, even though the parents did commit a crime, when the child reported it, they could be exonerated from the punishment because they shall be considered as turning themselves in for the crime when their child reported it, with the punishment falling on the child. The punishment was severe beating among other physical tortures, which certainly made children think twice before reporting any illegal activity of a parent. The crime of treason was the only exception to this law. In other words, if one's parents were planning rebellion against the country, and the child reported it to the government, the child would not be guilty of "not filial"^[11]. In ancient Chinese dynasties when rules were made based on Confucian principles, the idea of loyalty underlay much of the law, with loyalty to the state and loyalty to parents being two of the most important types. In the eyes of dynasty governments, being filial was the second most important expectation just after loyalty to country based upon the degree of punishment. Loyalty to the emperor was similar to being filial to one's parents in many ways as both would require much obedience and the spirit of devotion. Therefore, most governments throughout the dynasties required their citizens to be filial by law, expecting that a sense of loyalty would grow out of this reverence and obedience. Throughout the recorded history of more than 2000 years of dynastic China, an emphasis on enforcing filial piety remained a central pillar of each emperor's rule. Even when the Qin Dynasty circa 200 A.D. distanced itself from Confucian ideals in the political arena and killed many Confucian scholars, it did not alter or interfere with the Confucian ideals regarding filial piety and the corresponding laws.

The second crime of not being filial was building a new private household while one's parents or grandparents were still alive. "Not having private money" has always been one of the ground rules of demonstrating filial piety in traditional Chinese values. While one's parents or grandparents are still alive, every direct kin should stay within the big family and let the elderly handle the money. However, this crime did not result in the most severe punishment – some dynasties had laws that regulated punishments of three years in jail for this crime, others only regulated beatings. The third crime of not being filial was not taking care of one's parents properly. If the parents reported to the government that their children did not give their best efforts to take care of them, the children would receive punishment. The punishment varied in different dynasties. In the Xia Dynasty, which was the first Chinese dynasty recorded in history, around 270 A.D., not taking care of one's parents could be punished by inking words on faces, cutting off noses or feet, and death depending on the degree of the crime^[12]. In the Qing Dynasty, which was the last Chinese

dynasty, not taking care of one's parents could be punished by beatings with huge sticks, and exile of 1000 miles from home ^[13]. The last law defining 'not filial' forbade children beating or cursing their parents. If one ever beat or cursed his/her parents, no matter the degree of the beating and cursing, he would be considered not filial and be punished by death ^[14]. Sometimes, death was not deemed enough for this crime. The child could be tortured to death and the body might be hung on city walls to warn others ^[15]. Considering the severity of the punishment, it is reasonable to compare this crime to that of treason – "Betrayal of the country." These two seemingly vastly different types of crimes deserved the most gruesome death and shame in ancient Chinese societies because they represented a direct violation of the traditional Chinese value of "obedience." China recognized the necessity of its citizens first being taught to unswervingly obey their parents so that they would be more predisposed to submit willingly and peacefully to the Chinese monarchy. Thus, the monarchs had a vested interest in regulating and building filial piety in their subjects to ease the burden of governance and law enforcement as children grew into adults. This explains why such extreme filial piety laws remained in effect throughout the duration of the Chinese dynastic system, especially the Confucian definition of filial piety, which strongly emphasizes the importance of reverence and obedience.

These laws then led to many traditions forming around how to carry out adequate filial piety; some of these traditions even became laws. One example of a filial tradition that was codified into law around 618 A.D. during the Tang Dynasty was the tradition of "Shou Xiao" ^[16], which deals with honoring one's parents and other elderly relatives when they die. This law stated that when a parent died, the child must honor that parent by staying at home and regularly burning tributes such as paper flowers and money for three years. This could mean a total of 6 years if parents died at different times in addition to other time periods specified for the death of relatives of different proximities to the individual. During this time, one must stay at home, avoiding any kind of social interaction. In addition, one must not shower, cut hair or change out of the traditional clothes meant for the purpose of "Shou Xiao" for three entire years ^[17]. The law of "Shou Xiao" applied to government officials as well as ordinary citizens, which provides some insight into the seriousness of filial piety in ancient China. In fact, the law even regulates the punishments for government officials that chose to hide the deaths of their parents to avoid "Shou Xiao," a punishment of up to three years of imprisonment.

Stories of famous individuals living out the ideals of filial piety served as another way to establish it as a bulwark of Chinese society and values. One such story handed down throughout generations centered on a Han Dynasty emperor. This emperor personally took care of his mother when she was severely ill in bed. It is told that he mixed medicine for his mother every day and always tasted the medicine to see if it was too bitter or too hot before serving it to his mother. When his mother was at her sickest point, he only allowed himself to sleep after assuring himself that his mother was asleep, and even then, only for short amounts of time ^[18]. The story also emphasized how the emperor was able to rule the country well even while showing such filial devotion. During his reign, there were no famines, and the citizens were healthy and happy under his rule. This tale thus implies that if children prioritize the care of their parents, other aspects of their lives will also go well and fall into place.

One of Confucius' students, Zhong You, was also known for his dedication to filial piety. He grew up in poverty and it was told that during this time, he only allowed himself to eat vegetables that he found on the roadside, while carrying rice for tens of miles back to his parents for their consumption. After he made his wealth by working his way up through the government, he would miss his parents, saying "Even though I still want to carry rice for my parents, they are gone ^[19]." Confucius praised him for being truly filial "Your serving your parents can be called trying your best when they were alive and missing them while they are gone ^[20]." Again, this example sets a high standard for others to aim for and implies that even while depriving himself in the fulfillment of this standard, he achieved wealth and success in the long-run

and is even remembered until today for his commitment.

Thus, filial piety was spread throughout society, from emperors to the peasants, and was seen as a unifying national value. The emperors had a vested interest in keeping such a value at the forefront of their subjects' minds given that it set a precedent of respect, self-sacrifice, and obedience. From the Tang Dynasty that began in 618 A.D. all the way through to the end of the Qing Dynasty in 1912, every single Chinese citizen was expected to be obedient to the laws and expectations around filial piety. To be a government official, one must always be filial. No matter how able a government official was deemed, once he broke the expectations of filial piety, he would face punishment. For instance, head of the cabinet in the Song Dynasty, arguably the second most powerful person in the country, was specifically required to follow the laws of "Shou Xiao" and would be evaluated for the position once they came back after three years ^[21]. The fact that the most powerful leaders were expected to obey the traditions of filial piety shows the esteem people held for filial piety and how it worked its way into social norms. Such obedience stemming from respect and care for parents certainly eased the governing burden for emperors and reduced the likelihood of rebellion. For instance, during the Qing Dynasty and the Yuan Dynasty, both of which had emperors of a different race than the majority Chinese, following the Confucian principles was important for political purposes, such as preventing rebellion. The emperors who came from minority groups claimed identity with the Han majority through the shared belief in Confucius. Their commitment to his values enabled them to rule China without any significant backlash during their respective reigns. Given how widespread and strict the expectations surrounding filial piety were for 1294 years, even though China has grown more modern in almost every way, the traditions of filial piety still very much influence and are part of the beliefs and value systems of Chinese citizens today.

During the transition from dynastic China to modern China, government structures changed entirely and the society progressed into a republic. Cultural changes occurred right alongside social changes. Just as the emperor of the Qin Dynasty killed Confucian scholars for total authority, getting rid of the old traditions became one of the focuses in advancing to the new modern China. Traditions such as pre-planned marriage, polygamy and many others were prohibited. However, Confucius remained a positive figure and his ideas remained relevant in modern China. From primary school to high school, multiple sections of the *Analects* and sayings of Confucius were added into the textbooks. In both Zhong Kao and Gao Kao, which are the qualifying tests to enter high school and college, Confucius was a frequent topic. Chinese diplomats quote Confucius often, such as "Jun Zi Tan Dang Dang, Xiao Ren Chang Qi Qi," which means that decent people do not have to worry about anything because they have no wrongdoings and can be generous, while the indecent are often miserly because of their ill intentions. Confucian ideas have become a sign of Chinese culture and are even viewed as the root of it to the extent that the ideal human being is defined by Confucian ideology: Kindness and Reverence ^[22]. Even today, one of the most important ways of exhibiting this kindness and reverence is through filial piety.

5. Modernization and Urbanization of China

When Confucius was teaching about filial piety, he based his teachings on the expectation that the children will be living in the same household with their parents. Nowadays, however, many children may live in cities hundreds of miles away from their parents due to urbanization. It is important to compare the situation of households back then and the expectations nowadays to better understand the challenges of elderly care in modern China. During Confucius' time, even though the number of people in individual households could vary greatly, there remains historical traces of the average number of people in a household dating back to 400 A.D. through the "Hu Ji" policy.

The "Hu Ji" policy was first put into place during Confucius' time. "Hu" means household, which was generally understood to include 5 people – two parents, the eldest son and potentially his wife and children

if he married. “Ji” means place of origin. The “Hu Ji” policy allowed the government to record the number of people in each family for the convenience of taxes. However, “Hu” referred to a different number of individuals assumed to be within a single household in different dynasties. When the dynasty was richer and more stable, there tended to be more people in a household. For example, “Hu” meant 10 people in a single household in one Chinese province during the Ming Dynasty. During Confucius’ time, “Hu” referred to 5 people in a single household ^[23]. This number assumed that the eldest son would live in his parents’ house to care for them until their death. Younger children could leave the household and build their own homes, but it was considered the duty of the eldest to remain and carry out the duties of filial piety. This norm, coming out of Confucian teachings regarding filial piety, is what created the standard for three-generational families. While it may have created slight annoyances in terms of lack of autonomy or this added responsibility regarding parents, this “Hu” standard did not materially inhibit the son’s lifestyle since his work and family would be in that same town regardless. However, as China has modernized and developed sprawling metropolises that attract labor in the hopes of higher salary and better living conditions, this tradition of ‘Hu’ has become especially burdensome. Now, children need to choose between fulfilling their filial piety and taking a job or making a move that promises a better future for themselves and their immediate family. More and more young adults feel stuck between wanting and feeling pressured to carry out their filial duties while knowing that practicality demands a move or career change.

Despite this growing challenge, the three-generational household remains the trend even until today. In comparative terms, Chinese families have had (and continue to have) a fairly high rate of three-generation households. For example, studies show that 40-50% of urban Chinese families lived in three-generation households in the mid-1980s compared to the U.S. figure of approximately 18 percent according to research done by Xie Xiao Lin and Yan Xia to determine the differences in the attitudes towards the elderly in modern China ^[24]. However, the percentage of such households is declining, as Treas and Wang found that 79% of men and 65% of women aged 60 and older in the metropolitan city of Shanghai favored a separate residence. Elderly born in rural areas prefer to remain in their hometowns rather than move to the metropolis where their children may reside. This causes a problem in elderly care because of the physical distance between the elderly parents and the adult children. It reduces the ability of children to carry out the filial duties to the extent that Confucius dictated. Besides the distance, young adults also struggle to provide the necessary monetary support for their elderly parents when living in cities with high costs of living. However, even when the younger generation makes enough money to physically care for their parents, the distance still prevents the comprehensive care outlined by Confucius. A research study exploring the social constraints in modern society affecting filial piety found that China has changed so enormously in the last century that the concept of filial piety and expectations of elderly care will have to change as well. When Confucius taught his students about filial piety, his students could provide in-person care on a daily basis, while urbanization has made in-person contact much harder for many families in China, preventing the adult children from fulfilling the expectations of their parents and the standards set by Confucius.

Even in a “perfect” scenario, where the adult children have the resources to provide for their parents in big cities and the parents are willing to live in the big cities, problems still exist, preventing the carrying out of traditional Confucian elderly care. When Confucius’ students, Zi You, asked what filial piety was, Confucius emphasized that adult children must provide economic support, alongside reverence and emotional support. And yet, this emotional support has proved especially difficult to provide. According to an article published in Harvard Magazine detailing the results of a field research study on elderly care, “the issue for frail elderly is really their isolation and loneliness, and desire for mobility.” Picture an elderly parent in a small apartment in Shanghai, living with their child, son or daughter-in-law and grandchild. The husband and wife leave for work, the child goes to school, and the elderly individual is left alone from breakfast to dinner time. Even after school, the child plays music and video games that the elderly cannot

enter into or understand. This is the reality of some of the three-generational households in big cities such as Shanghai and Beijing. It is not strange then that some of the elderly would prefer assisted living in elderly care facilities rather than living with their children and grandchildren. However, this goes against Confucian principles for carrying out adequate elderly care and goes to show how difficult it is to carry out in China's rapidly modernizing society.

Indeed, despite the changing circumstances arising from modernization and urbanization, in many Chinese families, adult children may feel that they are breaking a Confucian expectation to take care of their parents at home if they put them into group care. Placing one's parents in elderly care facilities does not seem to fulfill the Confucian requirement of self-sacrifice and complete mental and physical care because it implies that the children are not really paying attention to their parents, not providing for them with their loving heart. However, it has become clear that the pace of urban life and its requirements also prevent this kind of total care even if parents live with their children. The problem, then, seems to lie within the expectation itself. It is simply unrealistic for much of the population to really follow the rules set by Confucius. Under such exacting expectations set by ancestors and the elderly themselves, it leaves little room for adult children to adapt to changing times and still provide adequate care. And yet, a rethinking and reimagining of the system is critical if the elderly is to be physically and emotionally cared for in modern China.

6. The Challenges in Creating a Modern Solution to Elderly Care

Part of the challenge in transitioning to more of a nursing home model for elderly care in China is the current overcrowding, under-resourced and understaffed state of the few nursing home facilities already existing. This lack of quality facilities means that children would be especially looked down upon if they allow their parents to go to such a place as they age. While the elderly care policy and provisions in China have been transforming gradually, until recently, institutional elderly care was rare and limited to the so-called "Three No's"—people with no children, no income, and no relatives. Such elderly were often public welfare recipients. Institutionalized elders were stigmatized. In the mid-1990s, China implemented reforms to decentralize the operation and financing of state welfare institutions. Since then, these institutions have shifted their financial reliance from public funding to more diversified revenue sources, including privately paying individuals. Elderly care homes have proliferated, primarily in the private sector in urban areas. In recent years, the Chinese government has increased its efforts to build residential elder care services by actively promoting the construction of senior housing, homes for the aged, and nursing homes. Such efforts are gradually destigmatizing the idea of elderly care facilities, but there is still much work to be done in terms of building more quality facilities and building acceptance for such forms of elderly care in mainstream culture.

However, even with the efforts the government is making for nursing institutions many government-owned nursing facilities remain underfunded and understaffed. There are not enough nurses, and the facilities are often overcrowded. Lin, a 53-year-old elderly care worker in the central city of Wuhan, has been in the industry for over five years. She was so busy that the interviewer could barely talk to her during her work hours. The pressure and workload these nurses face is uncontrollable. There are often too many elderly people that require individual attention. What has kept her doing this job is the moral obligation she feels towards this demographic rather than the salary, which is meager at best. It is simply unrealistic for several nurses to tend to several dozen elderly people. Lin herself admitted that her salary did not match up with the workload she had to endure, and one of the reasons she had not left for a much easier job, like a nanny, was that she felt somewhat responsible for the elderly people, as they absolutely depended and relied on the nurses and the facility.

Given such conditions, it is simply unrealistic for thoughtful individual care, as the number of the elderly people is often multiples of the number of nurses, which means that the elderly people may not receive support designed for their own special needs. The nursing facilities have the potential to provide a space for elderly to make friends and build relationships that would support their mental health, but this needs to be coupled with individual health plans to support their various physical needs. This combination is needed before elderly care facilities could hope to live up to Confucian principles of elderly care.

One such well-rounded solution has been proposed in the relatively central Huayang Subdistrict of Shanghai, where a majority of senior residents have expressed strong interest in more day care options, door-to-door services, and activity space within their community, according to Chen Ying. Of the more than 62,000 residents in Huayang Subdistrict, some 42% are aged 60 or above. Mao Xuezheng, an 83-year-old retired doctor, was among the first to take advantage of the care center. After hip surgery, she moved into the community's nursing home to recover. "After my husband passed away three months ago, I was alone at home," Mao said. At Huayang Integrated Elder Care Center, Mao enjoys being surrounded by others from her generation and looked after by nurses and certified care workers. "It's much better than staying at home with a nanny," she said.

Apart from long-term care, the facility also offers day care for seniors and short-term services for those recovering from medical procedures. Huayang Integrated Elder Care Center also provides family support, training locals how to look after their elderly relatives and renting out health care equipment. Other senior residents of Huayang Subdistrict who don't require regular care can still benefit from the center, where they can play musical instruments, do tai chi, or simply enjoy a cup of coffee while catching up with their neighbors. The key is that such facilities are not far from city centers given that "seniors don't want to live far away from their families," a worker at the Huayang Center, Chen Ying, explained. "We established built-in elder care facilities and services, and senior residents are also getting the emotional support they need from the surrounding community, so that they're able to enjoy retirement in a familiar setting, in the company of their loved ones." Such arrangements could provide the ideal solution for elderly care in modern China and yet the number required to care for China's rapidly increasing elderly population remains a challenge.

In 2005, Shanghai was still advocating for a largely family centered care model that they termed: "90-7-3": 90% of seniors living independently or being cared for by their families, 7% needing home-based care services, and 3% requiring full-time institutional care. This could be a usable model for some of the cities that have gone through or are going through the process of urbanization, although the percentages still leave room for optimization. Systemizing the organization of elderly care and personalizing the actual care services are two of the most important aspects to be addressed. In big cities like Shanghai itself, having the elderly parents move in most likely means that the adult children are surviving with some extra money they could spend on the elderly care services. This system provides a great opportunity for the elderly people to enjoy their life with their peers, while not creating unrealistic pressure upon the adult children. It does not fit the description of elderly care that Confucius proposed thousands of years ago, but it could fulfill the essence of it by providing caring physical and emotional support. Clinging to ancient standards is likely only to lead to more frustration on the part of children and isolation on the part of the elderly. Adapting to the current situation and solving the elderly care crisis is the most important, and this system proposed in Shanghai is no doubt a meaningful try.

Thus, in understanding and addressing the current challenges surrounding elderly care in China, it is essential to study and consider its development throughout China's history. Confucius set the standards for elderly care that were recorded by his students in *The Analects*. These standards continued to govern expectations for elderly care throughout the Dynastic China and even down until today. And yet China's recent urbanization and modernization towards the end of the 20th century have put a strain on children's

ability to carry out such expectations that involve showing the utmost obedience, reverence along with physical and emotional care, and often require 3-generational living arrangements. Due to urbanization, many adult children leave their rural hometowns for the big cities to live on their own. Meanwhile, their elderly parents still hold the same expectations for elderly care even though their children may be thousands of miles away from them. This creates conflict as expectations clash with reality. Indeed, Confucius set the standards for elderly care on the basis of children living in the same household or at least near their parents. The traditional Confucian expectations have not changed even as it has become more common for adult children to live in different cities from their parents. There are many practical components that can be built into a solution to this elderly care challenge. Governments can encourage and fund more communal living arrangements for elderly as well as state-of-the-art nursing care facilities. Private companies can also fill the void of creating quality care facilities. However, for these practical solutions to take hold, it is important that all generations across China recognize the history of elderly care expectations and accept that such expectations much change to match the realities of a modern China. It is essential to identify and appreciate the Confucian roots while finding new ways to care for elderlies' physical and emotional needs. Such solutions must be deemed culturally acceptable in addition to being effective. A shift in the way that Confucian principles regarding filial piety are carried out is necessary for China as a nation and a culture to conscientiously and effectively care for its rapidly aging population.

Disclosure statement

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Clinical Analysis of Targeted Navel Drops in the Treatment of Diabetes Mellitus

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Abstract: *Objective:* To analyze and evaluate the clinical efficacy of targeted navel drops in the treatment of diabetes mellitus. *Methods:* The time span of the study was from September 2020 to April 2021, and 288 diabetic patients were selected from our hospital. The patients were divided into research group (n = 96) group, control group 1 (n = 96) and control group 2 (n = 96) by random number table. Control group 1 was managed with diet and exercise alone, control group 2 was treated with metformin on the basis of control group 1, and based on the treatment plan of the two control groups, the research group was treated with targeted navel drops. The relevant indexes of the three groups were compared and analyzed. *Results:* There was no significant difference in the fasting blood glucose and 2-hour postprandial blood glucose among the three groups ($p > 0.05$) before the treatment. After treatment, the fasting blood glucose and 2-hour postprandial blood glucose of the research group were significantly lower than those of control group 1 and control group 2 ($p < 0.05$). The total effective rate of the research group was 95.8%, that of control group 1 was 85.4%, and that of control group 2 was 79.2%. The total effective rate of the research group was significantly higher than that of control group 1 and control group 2 ($p < 0.05$). *Conclusion:* There is a significant effect of targeted navel drops on diabetic patients in reducing their blood sugar levels, and its curative effect is better than using a single hypoglycemic therapy belonging to western medicine. It can be widely promoted at all levels in medical institutions.

Keywords: Targeted navel drops; Navel administration; Diabetes

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1. Introduction

The main pathological type of diabetes is type 2 diabetes, also known as non-insulin-dependent diabetes mellitus. In this type of diabetes, the body can normally form insulin but in vivo tissue cells are not able to establish an effective response to insulin; thus, the hormone is not able to play the clinical effect of regulating blood sugar. It can be concluded that the main pathological features of type 2 diabetes are insulin resistance and insulin secretion. At present, people's diet and daily life habits have changed significantly. The incidence rate of diabetes has increased year by year, and the disease is affecting the younger population. This disease has become a public health issue, requiring prompt and effective interventions. The conventional treatment for diabetes is hypoglycemic drugs belonging to western medicine, which can relieve clinical symptoms in short term. Its disadvantage is that there are multiple side effects from consuming these drugs. Hypoglycemia and other adverse events are easily inducible during treatment, resulting in a significant reduction in terms of treatment compliance. If only western medicines are used to control complications, the effect would be poor; thus, the treatment mode needs to be adjusted. According to the theory of traditional Chinese medicine, diabetes mellitus is under the category of diabetes. The treatment of diabetes with traditional Chinese medicine is a topic of interest in current clinical research^[1]. Traditional Chinese medicine hypoglycemic drop is a diabetic treatment technique developed by our

hospital. It can be used to repair damaged islet cells, reduce the incidence of various kinds of diabetic complications, effectively control blood sugar levels, and improve the quality of life of patients with diabetes mellitus by using traditional Chinese medicine, such as *Dendrobium officinale*, *Artemisia annua*, *Ligusticum chuanxiong*, *Costus*, *Artemisia argyi*, and *Acorus calamus* [2]. In order to further evaluate the clinical application value of this hypoglycemic navel drop, this study had selected diabetic patients in our hospital as the subjects and explored the clinical curative effect of the hypoglycemic navel drop.

2. Data and methods

2.1. General information

The time span of the study was from September 2020 to April 2021. A total of 288 diabetic patients were selected from our hospital. The patients were divided into the research group ($n = 96$) group, control group 1 ($n = 96$), and control group 2 ($n = 96$) by random number table. The basic clinical data of the three groups were summarized and analyzed. In the research group, there were 52 male patients and 44 female patients, age ranging from 51 years old to 77 years old, with an average age of 63.58 ± 2.79 , and the statistical median of the course of disease was 4.46 ± 1.07 years. In control group 1, there were 54 male patients and 42 female patients, age ranging from 53 years old to 75 years old, with an average age of 63.46 ± 2.88 , and the statistical median of the course of disease was 4.51 ± 1.13 years. In control group 2, there were 53 male patients and 43 female patients, age ranging from 52 years old to 76 years old, with an average age of 63.58 ± 2.94 , and the statistical median of the course of disease was 4.69 ± 1.12 years. There was no significant difference in the comparative analysis of the basic data among the three groups ($p > 0.05$).

Inclusion criteria: (1) met the diagnostic criteria for WHO type 2 diabetes mellitus; (2) no drug allergies; (3) no critical complications; (4) informed consent given for this study.

Exclusion criteria: (1) complicated with kidney, heart, brain, and other critical complications; (2) drug allergies; (3) cognitive impairment and unable to cooperate in this study.

2.2. Methods

Diet and exercise intervention was implemented for patients in control group 1. The doctors made a diet plan for the patients according to their condition, distributed healthy recipes, and calculated the daily intake of calories, cholesterol, fat, and other substances. At the same time, the patients were instructed to exercise to improve their immunity for 4 weeks.

Based on the intervention for control group 1, control group 2 was treated with metformin for hypoglycemic treatment. The drug was given thrice daily, 30 minutes before meals, with a single dose of 0.5 g for 4 weeks.

Based on the treatment plan of the two control groups, the research group was treated with targeted navel drops. The drug components include *Dendrobium candidum*, *Artemisia scoparia*, *Ligusticum chuanxiong*, wood incense, wormwood leaf oil, *Acorus tatarinowii*, and other traditional Chinese medicine. Three to five drops were placed in the umbilicus, once in the morning and evening every day for a total of 4 weeks.

2.3. Evaluation criteria

The fasting blood glucose and 2-hour postprandial blood glucose of the three groups were compared and analyzed before and after treatment.

The therapeutic effects of the three groups were compared and analyzed. Cured was defined as a decrease of blood glucose index by more than 30% after treatment compared to before treatment or fasting blood glucose and 2-hour postprandial blood glucose lower than 7.2 mmol/L and 8.3 mmol/L, respectively,

with resolved clinical symptoms. The criteria to denote improvement were defined as blood glucose index decreased by 10-30% after treatment compared to before treatment or fasting blood glucose lower and 2-hour postprandial blood glucose lower than 8.3 mmol/L and 10.0mmol/L, respectively, with resolved clinical symptoms. The standard of ineffective was defined as no improvement in blood glucose and clinical symptoms after treatment. The cured and improved patients were deemed as effective therapeutic effect, and their proportion was counted.

2.4. Statistical analysis

Statistical Package for the Social Sciences (SPSS) version 23.0 software was used for statistical analysis of the data in this study. The measurement data conforming to normal distribution were represented by ($\bar{x} \pm s$), t-test, and count data were represented by (%), χ^2 test. $P < 0.05$ indicated statistically significant differences between the groups.

3. Results

3.1. Comparison of fasting blood glucose and 2-hour postprandial blood glucose of the three groups before and after treatment

There was no significant difference in the fasting blood glucose and 2-hour postprandial blood glucose among the three groups before treatment ($p > 0.05$). The fasting blood glucose and 2-hour postprandial blood glucose of the research group after treatment were significantly lower than those of control group 1 and control group 2 ($p < 0.05$) (Table 1).

Table 1. Comparison of fasting blood glucose and 2-hour postprandial blood glucose among the three groups before and after treatment ($\bar{x} \pm s$, mmol/L)

Group	Number of cases	Fasting blood glucose		2-hour postprandial blood glucose	
		Before treatment	After treatment	Before treatment	After treatment
Research group	96	7.96 \pm 2.55	6.01 \pm 1.68*	12.65 \pm 3.94	7.06 \pm 1.46*
Control group 1	96	7.75 \pm 2.44	7.56 \pm 2.15	11.93 \pm 3.71	10.21 \pm 3.13
Control group 2	96	7.92 \pm 2.46	7.18 \pm 1.96	11.87 \pm 3.89	9.58 \pm 2.91

Note: Compared with control group 1 and control group 2, the difference was significant, * $p < 0.05$

3.2. Comparison of the therapeutic effects among the three groups

The total effective rate of the research group was 95.8%, that of control group 1 was 85.4%, and that of control group 2 was 79.2%. The total effective rate of the research group was significantly higher than that of control group 1 and control group 2 ($p < 0.05$) (Table 2 and Table 3).

Table 2. Comparison of the therapeutic effects between the research group and control group 1 (n/%)

Group	Number of cases	Cured	Improved	Ineffective	Total effective rate of treatment
Research group	96	78 (81.3)	14 (14.6)	4 (4.2)	92 (95.8)
Control group 1	96	0 (0.0)	82 (85.4)	14 (14.6)	82 (85.4)
χ^2 value					6.350
p value					0.012

Table 3. Comparison of the therapeutic effects between the research group and control group 2 (n/%)

Group	Number of cases	Cured	Improved	Ineffective	Total effective rate of treatment
Research group	96	78 (81.3)	14 (14.6)	4 (4.2)	92 (95.8)
Control group 2	96	0 (0.0)	76 (79.2)	20 (20.8)	76 (79.2)
χ^2 value					12.597
<i>p</i> value					0.0.

4. Discussion

The main pathological feature of diabetes is chronic hyperglycemia. The pathogenic factors are insulin resistance, insulin secretion disorder, and so on. This disorder of the body is accompanied by protein, carbohydrate, and fat metabolism disorders. The extension of the course of the disease induces injuries to the kidneys, heart, blood vessels, nerves, and other systems. The main clinical treatment for diabetes includes hypoglycemic drugs belonging to western medicine and dietary control; such a program can correct hyperglycemia, but it does not remove the cause of diabetes or prevent its complications [3,4].

According to traditional Chinese medicine, diabetes mellitus is under the category of diabetes. Its pathogenesis includes kidney yin deficiency, lung and stomach heat, as well as gas and Yin depletion. The treatment with hypoglycemic targeted navel drops is an external treatment method for diabetes, which has been developed by our hospital. Drugs can act on relevant acupoints drugs and can be quickly absorbed as well as utilized by the body through the navel. This is helpful in improving the efficacy of hypoglycemic drugs. The main composition of the traditional Chinese medicine hypoglycemic drop is *Dendrobium candidum*, which is the first Chinese medicinal herb. It is a type of traditional Chinese medicine. It has the effect of clearing away heat, nourishing Yin, promoting body fluid, and nourishing the stomach. It can remove the cause of diabetes, such as lung and stomach heat, gas and Yin consumption, and so on [5]. Wormwood, *Ligusticum chuanxiong*, wood incense, wormwood leaf oil, *Acorus tatarinowii*, and other auxiliary drugs are also compositions of the hypoglycemic drop. Among them, *Ligusticum chuanxiong* is a drug for Qi in blood, which has the effect of promoting blood circulation and regulating qi. Drugs such as *Acorus tatarinowii* and costus root are used for activating blood and regulating qi. Different prescriptions can eliminate the cause, repair damaged islet cells, prevent all kinds of complications, effectively control blood sugar, gradually reduce the dietary restriction of diabetics, and eventually improve their quality of life [6].

5. Conclusion

In this study, the fasting blood glucose, 2-hour postprandial blood glucose, and the therapeutic effect of the patients in the research group were better than those of control group 1 and control group 2. Targeted navel drops have not been widely used in the treatment of diabetes. Doctors need to rationally select the prescription according to the patients' clinical manifestations, standardize all operations in the treatment, and observe whether there are adverse effects during the treatment in order to improve the therapeutic effect and the safety of the treatment. The comprehensive treatment of diabetes should be based on a variety of interventions. In addition to drug therapy, it is necessary to strengthen health education for patients, inform them of the importance of medication according to prescriptions from the doctors, explain matters related to the daily life of diabetics, guide them to avoid all pathogenic risk factors, and actively prevent all kinds of complications. At the same time, physicians need to provide diet guidance and healthy recipes to diabetic patients as well as inform them of the suitability of diabetic food so that they would be fully aware of the importance of a reasonable diet in managing diabetes and blood sugar control. In addition, doctors need to

come up with exercise plans for these patients and guide them to gradually improve their immunity through exercise and walking so as to enhance the therapeutic effect. Some diabetic patients are not compliant to treatment. Therefore, doctors need to provide psychological comfort, encourage patients to actively cooperate with treatment interventions, and explain the therapeutic effects in order to achieve effective control of the disease.

To sum up, the use of targeted navel drops in diabetic patients has a significant effect on hypoglycemia and its curative effect is better than a single hypoglycemic therapy belonging to western medicine. It should be widely promoted at all levels in medical institutions. However, the total number of patients selected in this study was relatively small and the duration of this study was short. In addition to the lack of cross comparison research and analysis in the same type of research data in the region, the process design needs to be adjusted and the related mechanism of the use of navel drops in diabetic patients still requires continuous evaluation.

Disclosure statement

The author declares that there is no conflict of interest.

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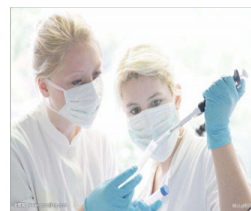
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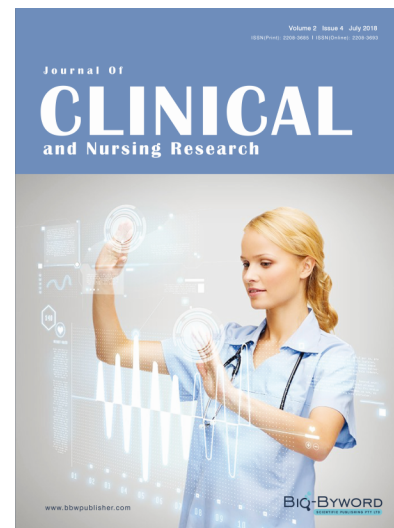
Topics covered but not limited to:

- Architectural design
- Architectural technology, including new technologies and energy saving technologies
- Architectural practice
- Urban planning
- Impacts of architecture on environment

Journal of Clinical and Nursing Research (JCNR) is an international, peer reviewed and open access journal that seeks to promote the development and exchange of knowledge which is directly relevant to all clinical and nursing research and practice. Articles which explore the meaning, prevention, treatment, outcome and impact of a high standard clinical and nursing practice and discipline are encouraged to be submitted as original article, review, case report, short communication and letters.

Topics covered by not limited to:

- Development of clinical and nursing research, evaluation, evidence-based practice and scientific enquiry
- Patients and family experiences of health care
- Clinical and nursing research to enhance patient safety and reduce harm to patients
- Ethics
- Clinical and Nursing history
- Medicine



Journal of Electronic Research and Application is an international, peer-reviewed and open access journal which publishes original articles, reviews, short communications, case studies and letters in the field of electronic research and application.

Topics covered but not limited to:

- Automation
- Circuit Analysis and Application
- Electric and Electronic Measurement Systems
- Electrical Engineering
- Electronic Materials
- Electronics and Communications Engineering
- Power Systems and Power Electronics
- Signal Processing
- Telecommunications Engineering
- Wireless and Mobile Communication

