

ORIGINAL RESEARCH ARTICLE

Effects of psychological nursing and Guizhifuling capsule on the mental state and postoperative pain relief in women undergoing induced abortion

DOI: 10.29063/ajrh2025/v29i2.10

Yunqin Wang¹, Wei Zhao², Lanlan Jiang^{1*}, Wei Fang^{3*}, Lingling Cui⁴ and Juan Cai³

Department of Gynecology, Affiliated Suzhou Hospital of Medical School of Nanjing University, Suzhou 215000, Jiangsu, China¹; Department of Nursing, Affiliated Suzhou Hospital of Medical School of Nanjing University, Suzhou 215000, Jiangsu, China²; Department of Pediatric, Affiliated Suzhou Hospital of Medical School of Nanjing University, Suzhou 215000, Jiangsu, China³; Department of Operating Room, Affiliated Suzhou Hospital of Medical School of Nanjing University, Suzhou 215000, Jiangsu, China⁴

***For Correspondence:** Email: 17715187787@163.com; www.s.fs@163.com

Abstract

This was a retrospective which explored the effects of psychological nursing in combination with Guizhifuling capsule on the mental state and postoperative pain of induced abortion patients. From January 1, 2021 to June 30, 2023, 90 patients with induced abortion in Affiliated Suzhou Hospital of Medical School of Nanjing University were included, and randomly divided into a control group (CG) and an experimental group (EG). The CG accepted routine nursing and Guizhifuling capsule. In contrast, the EG accepted routine nursing, psychological nursing, and Guizhifuling capsule. Patients' psychological condition, postoperative pain, quality of life, compliance along with nursing satisfaction in two groups was compared. After intervention, relative to the CG, the EG presented lower Self-Rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS) scores, lower pain scores when patients were awake under anesthesia, 0.5 h after surgery and 1 h after surgery, higher SF-36 scores, as well as higher total compliance and nursing satisfaction rates. We conclude that psychological nursing combined with Guizhifuling capsule can relieve the mental state, reduce the postoperative pain, and enhance the quality of life of women undergoing induced abortion. (*Afr J Reprod Health* 2025; 29 [2]: 86-93)

Keywords: induced abortion; psychological nursing Guizhifuling capsule; mental state; compliance

Résumé

Il s'agissait d'une rétrospective explorant les effets des soins infirmiers psychologiques en association avec la capsule Guizhifuling sur l'état mental et la douleur postopératoire des patientes ayant subi un avortement provoqué. Du 1er janvier 2021 au 30 juin 2023, 90 patientes ayant subi un avortement provoqué à l'hôpital affilié de Suzhou à la faculté de médecine de l'université de Nanjing ont été incluses et réparties au hasard en un groupe témoin (CG) et un groupe expérimental (EG). Le CG a accepté les soins infirmiers de routine et la capsule Guizhifuling. En revanche, l'EG a accepté les soins infirmiers de routine, les soins psychologiques et la capsule Guizhifuling. L'état psychologique des patients, la douleur postopératoire, la qualité de vie, l'observance ainsi que la satisfaction des soins infirmiers dans deux groupes ont été comparés. Après intervention, par rapport au CG, l'EG présentait des scores plus faibles sur l'échelle d'auto-évaluation de l'anxiété (SAS) et sur l'échelle d'auto-évaluation de la dépression (SDS), des scores de douleur plus faibles lorsque les patients étaient éveillés sous anesthésie, 0,5 h après la chirurgie et 1 h après la chirurgie, des scores SF-36 plus élevés, ainsi que des taux d'observance totale et de satisfaction des soins infirmiers plus élevés. Nous concluons que les soins psychologiques associés à la capsule Guizhifuling peuvent soulager l'état mental, réduire la douleur postopératoire et améliorer la qualité de vie des femmes subissant un avortement provoqué. (*Afr J Reprod Health* 2025; 29 [2]: 86-93).

Mots-clés: avortement provoqué, soins psychologiques, capsule Guizhifuling, état mental, observance

Introduction

Induced abortion refers to the intentional medical or surgical termination of a pregnancy for any reason^{1,2}. With the changes in people's sexual life and the

inadequate uptake of contraception and birth control measures, the number of accidental pregnancies is increasing³. Induced abortion has become the first choice for early termination of pregnancy because of its advantages of low pain and easy acceptance⁴.

Induced abortion has little bleeding and high safety factor, but the pain and fear caused by surgical injury are still unavoidable, and patients are prone to complex psychology before surgery, which affects the progress and safety of surgery⁵. Clinical studies have shown that patients with induced abortion often have bad emotions such as fear, anxiety, and tension before the operation, and resist the operation, which reduces the treatment compliance of patients, affects the smooth operation, and is not conducive to postoperative rehabilitation⁶. Therefore, how to improve the psychological state of patients, stabilize emotions, make patients actively cooperate with treatment, in order to facilitate the smooth completion of surgery, improve the prognosis, is a major focus of clinical nursing.

Complications such as thrombus and vaginal bleeding may occur after abortion, especially in the process of discharge of gestational sac, which not only affect the postoperative recovery of pregnant women to a certain extent, but also may threaten their life safety⁷. In recent years, many clinicians have used Guizhifuling capsule combined with induced abortion, and have achieved certain clinical effects in postoperative hemostasis and rehabilitation. Guizhifuling capsule is a Chinese medicine pill extracted from Synopsis of Golden Chamber, and is composed of Cassia twig, Poria cocos, peony bark, peach kernel and radix paeoniae alba. The main function of Guizhifuling capsule is to promote blood circulation and remove blood stasis, and has certain curative effect on women's dysmenorrhea and postpartum lochia⁸.

In our study, we mainly explored the impacts of psychological nursing plus Guizhifuling capsule on the mental state and the experience of postoperative pain by women undergoing induced abortion. The novelty of our study is that psychological nursing combined with Guizhifuling capsule can relieve the mental state, reduce the postoperative pain, and enhance the quality of life of women undergoing induced abortion.

Methods

From January 1, 2021 to June 30, 2023, 90 patients with induced abortion in Affiliated Suzhou Hospital

of Medical School of Nanjing University, Suzhou, China were recruited and were randomly allocated into a control group (CG) and an experimental group (EG). Each group had 45 cases. No difference was exhibited in general information between 2 groups ($P>0.05$, Table 1). The inclusion criteria were: (1) pregnancy ≤ 10 weeks, that met the indications of induced abortion; (2) patients who were not fit to continue pregnancy due to certain diseases and voluntarily requests for anaesthesia and analgesia to terminate the pregnancy; and (3) patients whose preoperative assessment by the American College of Anesthesiologists was grade I to II.

The exclusion criteria were: (1) patients who had untreated genital inflammatory reaction, or who had acute infectious diseases; (2) patients with heart failure, hypertension, and other diseases that are do tolerate anaesthesia; and (3) patients with contraindications to anaesthesia and those with allergies and allergic asthma.

Nursing methods

The CG received routine nursing. Nurses asked patients' medical history, measured patients' vital signs, explained the surgical instructions to patients, informed patients about the precautions after the surgery, informed patients to return to the clinic regularly, and distributed health education manuals.

By contrast, the EG implemented psychological nursing plus routine nursing. (1) Psychological assessment: After admission to hospital, patients with surgical abortion were provided with one-to-one consultation service, and the responsible nurse took the initiative to communicate with them, and fully collected their medical information, including name, age, marriage, and fertility, reasons for unintended pregnancy, and other medical history. During the communication between the responsible nurses and the patients, nurses closely grasped the physiological and psychological conditions of the patients, understood their inner concerns, anxiety or depression in detail, made routine psychological assessment, and conducted a comprehensive analysis of the factors affecting their psychological pressure.

Table 1: General information of patients in the two groups

Groups	Cases	Age (years)	Time of early pregnancy (d)	Educational level		
				Junior high school or below	Senior high school	Bachelor's degree or above
Control group	45	32.0±3.3	54.4±5.4	4	28	13
Experimental group	45	32.1±3.3	53.8±5.3	7	30	8
t/ χ^2		0.14	0.53	2.08		
P		0.88	0.60	0.35		

(2) Psychological counseling: Combined with the results of psychological assessment⁹, the nurses conducted effective psychological counseling for the patients, encouraged them to express their feelings, listened to the patients, paid attention to the protection of patient privacy, and provided them with correct personalized health guidance in time according to the principle of individuation. Nurses provided health guidance and psychological comfort according to patients' concerns and feelings. If the patient was emotionally excited, it could be encouraged to vent their inner emotions in a crying manner to relieve their psychological pressure.

(3) Presence of nurse during the operation: During the operation, the responsible nurse accompanied the patient, took the initiative to ask the patient's needs, met them as much as possible, and used certain body language to appease the patient to alleviate their inappropriate emotions.

(4) Relaxation training: The nurses guided patients to maintain a relaxed state of mind and body. Nurses talked with patients to distract their attention. Nurses could play patients' favourite music, and combined with the rhythm of music to guide them to do deep breathing, or guide them to meditate, so as to reduce discomfort, and relieve their psychological pressure.

(5) Postoperative care: When the operation was completed, the nurses took time to inform them that the operation had been successful, and explained the postoperative precautions in plain language. The nurses also provided counselling on future use of contraception and birth control measures. Patients were followed up by phone or WeChat one month after discharge to understand their recovery status and contraceptive status, and provide targeted guidance.

Treatment methods

Patients in both groups accepted Guizhifuling capsule orally, 3 capsules/time, 3 times/day, continuous treatment for 10 days.

Observed indicators

(1) Assessment of patients' psychological state utilizing Self-Rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS)¹⁰. The critical value of anxiety score was 50 points, and the score was proportional to the anxiety degree. The critical depression score was 53 points, and the score was proportional to the degree of depression.

(2) The postoperative pain of the two groups was compared, and the numeric rating scales (NRS)¹¹ was adopted to evaluate patients' pain when they were awake after anaesthesia, 0.5 h after surgery, and 1 h after surgery. The evaluation method was: a scale marked with 10 scales was used, the two ends of the "0" and "10" points, 0 was no pain, and 10 was the highest pain.

(3) Utilizing the short form 36 health survey questionnaire (SF-36), patients' quality of life was assessed one month of follow-up. The higher score represented better quality of life¹².

(4) Patients' compliance was compared between the two groups using the questionnaire designed by our hospital¹³, which was divided into compliance, partial compliance, and noncompliance. Compliance = (compliance + partial compliance)/Total cases × 100%.

(5) Nursing satisfaction: The questionnaire designed by our hospital was used¹⁴, including the content of corresponding nursing measures, nursing techniques and nursing staff attitude.

The total score was 15 points, which were divided into very satisfied (>10 points), satisfied (5 ~ 10 points) and dissatisfied (<5 points). Total satisfaction = (very satisfied + satisfied)/ Total cases $\times 100\%$.

Statistical analysis

SPSS 22.0 statistical software was implemented for data analysis. Measurement data were exhibited as mean $\pm$ standard deviation, followed by comparison utilizing t-test. The statistical data were exhibited as [n (%), followed by comparison using χ^2 test. $P < 0.05$ meant the difference was significant.

Ethical considerations

Our study was approved by the Ethics Committee of Suzhou Science and Technology Town Hospital in November 16, 2021, and the Ethical number was IRB202111001RL.

Results

Psychological state in 2 groups

Prior to the intervention, no difference was discovered in patients' psychological state between the two groups ($P > 0.05$). After the intervention, SAS together with SDS scores in 2 groups declined, but relative to the CG, the EG presented lower SAS and SDS scores ($P < 0.05$, Figure 1).

Pain score in the two groups

Relative to the CG, the EG presented lower pain scores when patients were awake after anaesthesia, 0.5 h after surgery and 1 h after surgery ($P < 0.05$, Figure 2).

Quality of life in 2 groups

Figure 3 displayed that relative to the CG, the EG had higher SF-36 scores ($P < 0.05$).

Patients' compliance in 2 groups

Table 2 displayed that relative to the CG, the EG had higher total compliance rate ($P < 0.05$).

Nursing satisfaction in 2 groups

Table 3 displayed that relative to the CG, the EG had higher nursing satisfaction rate ($P < 0.05$).

Discussion

Induced abortion is a commonly used abortion technology, mainly in patients under intravenous anaesthesia induced abortion, the operation time is short, the effect is better, has been widely used in induced abortion¹⁵. The main purpose of this technique is to greatly lessen the pain of patients during surgery, reduce the influence of adverse factors and to improve the cooperation of surgical treatment through the use of anaesthetic drugs¹⁶. Most of the patients with induced abortion are not ready for pregnancy or have premarital pregnancies. Many of the patients often have concerns about the operation, which often causes adverse psychological reactions. Such patients often have psychological pressures during the operation, are less likely to cooperate, and may have increased surgical insecurity, affecting the anaesthetic and surgical effects¹⁷.

In the clinical treatment of patients, nursing is an important component which has a positive impact on patients and promotes their physical rehabilitation¹⁸. In recent years, in the modern nursing model, people have paid much attention to the psychological nursing of patients, which has a vital role to play in the treatment of patients¹⁹. Psychological nursing is widely used in clinical practice and it consists of grasping the changes of patients' psychological activities and taking corresponding intervention measures, so that the psychological behaviour of the patient can be effectively improved and maintained²⁰. Patients undergoing induced induced abortion often have adverse psychological reactions and high mental tension, which has antagonistic effect on anaesthetics, and often need to increase the dosage of anesthetic drugs to ensure the anesthetic effect and prolong the postoperative recovery time²¹.

Guizhifuling capsules originated from the prescription of Guizhifuling pills in Zhang Zhongjing's "Synopsis of Golden Chamber" in Han Dynasty²².

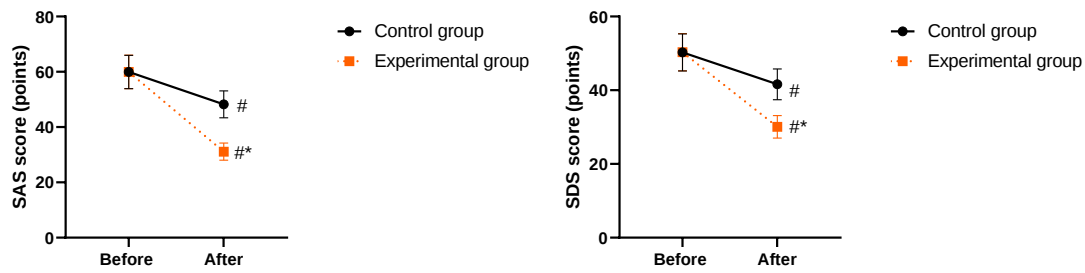


Figure 1: Psychological state in 2 groups. [#] $P < 0.05$, compared with before intervention, ^{*} $P < 0.05$, compared with control group

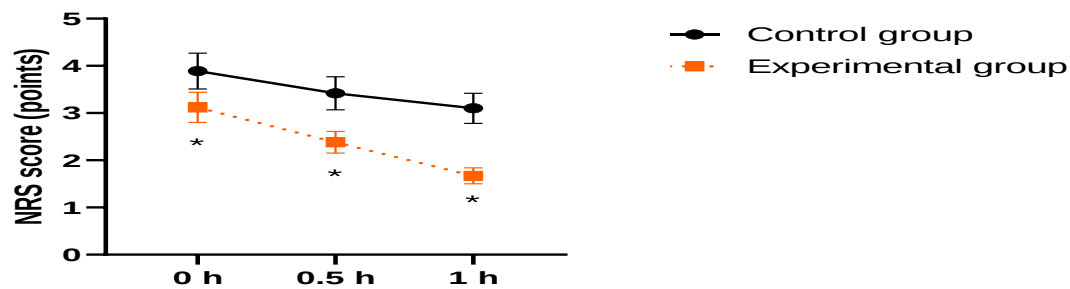


Figure 2: Pain score in 2 groups. ^{*} $P < 0.05$.

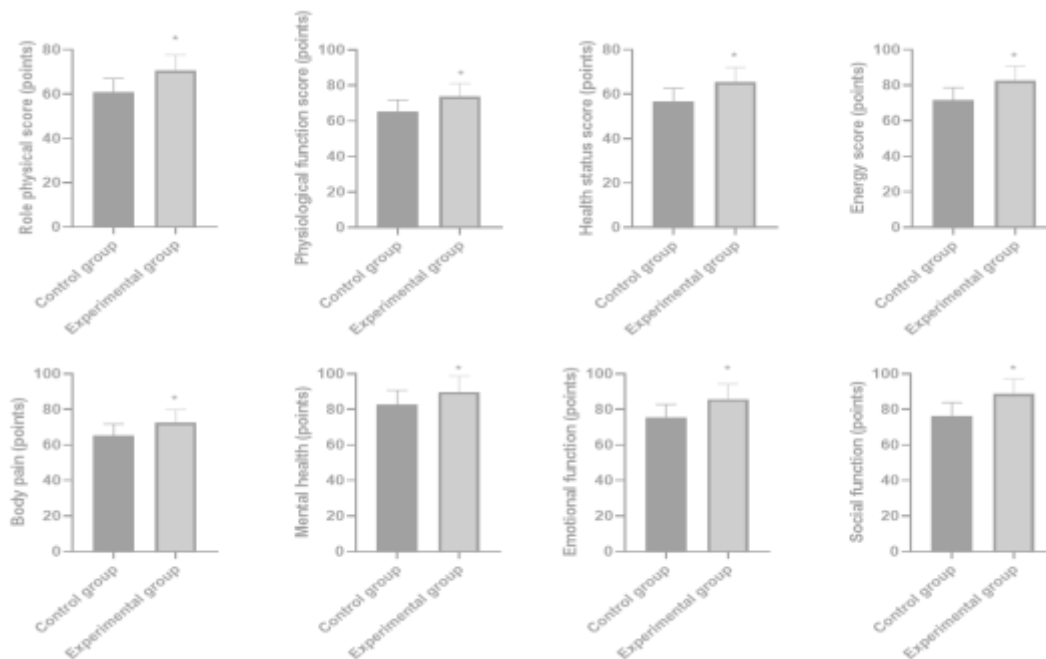


Figure 3: Quality of life in 2 groups. ^{*} $P < 0.05$.

Table 2: Patients' compliance in 2 groups

Groups	Cases	Compliance	Partial compliance	Noncompliance	Total compliance rate
Control group	45	20 (44.5)	14 (31.1)	11 (24.4)	34 (75.6)
Experimental group	45	23 (51.1)	20 (44.5)	2 (4.4)	43 (95.6)
χ^2					7.3
P					<0.01

Table 3: Nursing satisfaction in 2 groups

Groups	Cases	Very satisfied	Satisfied	Dissatisfied	Total satisfaction rate
Control group	45	19 (42.2)	14 (31.1)	12 (26.7)	33 (73.3)
Experimental group	45	24 (53.4)	19 (42.2)	2 (4.4)	43 (95.6)
χ^2					8.5
P					<0.01

It mainly consists of the components of Guizhi, poria, peach kernel, peony and cortex moutan²³. Traditional Chinese medicine considers that Guizhi is able to warm the channel and spread the Yang, as well as promote blood circulation to remove blood stasis²⁴; poria can replenish qi to invigorate the spleen, as well as calm the mind²⁵; peach kernel and cortex moutan can activate blood and disperse knots^{26,27}; peony can promote blood circulation to remove blood stasis along with warm channel for arresting bleeding²⁸. Studies have shown that Guizhifuling capsule can promote uterine contraction, elevate blood circulation and remove blood stasis, improve inflammation and pain, and effectively improve the over-adhesion of villi, decidua and uterine wall, which is conducive to the excretion of pregnancy capsules, residual villi and decidua, and more effectively remove postoperative intrauterine residue, so as to avoid uterine clearance and postoperative complications²⁹.

Our study indicated that after intervention, relative to the CG, the EG had lower SAS and SDS scores, lower pain scores when patients were awake under anesthesia, 0.5 h after surgery and 1 h after surgery, higher SF-36 scores, and better total compliance rate and total nursing satisfaction rate. All these outcomes implied that the clinical effect of psychological nursing combined with Guizhifuling capsule was good, and it played a positive role in improving patients' pain, psychological state,

quality of life, compliance, as well as nursing satisfaction, which was in accordance with previous studies³⁰⁻³².

Study strengths and limitations

The study's design stands out as a strength, in addition to the multiple observation indicators. The main limitation is the small sample size. This study can provide reference for the clinical treatment and nursing of induced abortion patients.

Conclusion

Psychological nursing combined with Guizhifuling capsule can relieve the mental state, reduce the postoperative pain as well as enhance the quality of life of induced abortion patients.

Acknowledgement

None

Contribution of authors

Yunqin Wang, Wei Zhao and Wei Fang: conception and design, as well as analysis and interpretation of data. Juan Cai, Lanlan Jiang and Lingling Cui: drafting the article or revising it critically for important intellectual content. All authors: final approval of the version to be published.

References

1. Stotland NL. Induced abortion and adolescent mental health. *Curr Opin Obstet Gynecol*. 2011; 23(5):340-3.
2. Linnakaari R, Helle N, Mentula M, Bloigu A, Gissler M, Heikinheimo O and Niinimäki M. Trends in the incidence, rate and treatment of miscarriage-nationwide register-study in Finland, 1998-2016. *Hum Reprod*. 2019; 34(11):2120-2128.
3. Grimes DA and Creinin MD. Induced abortion: an overview for internists. *Ann Intern Med*. 2004; 140(8):620-6.
4. Quan ZF, Tian M, Chi P, Li X and He HL. Effective analgesic dose of dexamethasone after painless abortion. *Int J Clin Exp Med*. 2014; 7(8):2144-9.
5. Bianchi-Demicheli F, Kulier R, Perrin E and Campana A. Induced abortion and psychosexuality. *J Psychosom Obstet Gynaecol*. 2000; 21(4):213-7.
6. Horvath S and Schreiber CA. Unintended Pregnancy, Induced Abortion, and Mental Health. *Curr Psychiatry Rep*. 2017; 19(11):77.
7. Cameron S. Recent advances in improving the effectiveness and reducing the complications of abortion. *F1000Res*. 2018; 7
8. Rong A, Ta N, E L and Meng W. Add-on effect of the Guizhi Fuling formula for management of reduced fertility potential in women with polycystic ovary syndrome: A systematic review and meta-analysis of randomized controlled trials. *Front Endocrinol (Lausanne)*. 2022; 13:995106.
9. Yue T, Li Q, Wang R, Liu Z, Guo M, Bai F, Zhang Z, Wang W, Cheng Y and Wang H. Comparison of Hospital Anxiety and Depression Scale (HADS) and Zung Self-Rating Anxiety/Depression Scale (SAS/SDS) in Evaluating Anxiety and Depression in Patients with Psoriatic Arthritis. *Dermatology*. 2020; 236(2):170-178.
10. Dunstan DA, Scott N and Todd AK. Screening for anxiety and depression: reassessing the utility of the Zung scales. *BMC Psychiatry*. 2017; 17(1):329.
11. Hjermstad MJ, Fayers PM, Haugen DF, Caraceni A, Hanks GW, Loge JH, Fainsinger R, Aass N and Kaasa S. Studies comparing Numerical Rating Scales, Verbal Rating Scales, and Visual Analogue Scales for assessment of pain intensity in adults: a systematic literature review. *J Pain Symptom Manage*. 2011; 41(6):1073-93.
12. Lin Y, Yu Y, Zeng J, Zhao X and Wan C. Comparing the reliability and validity of the SF-36 and SF-12 in measuring quality of life among adolescents in China: a large sample cross-sectional study. *Health Qual Life Outcomes*. 2020; 18(1):360.
13. Ding H, Jayasena R, Chen SH, Maiorana A, Dowling A, Layland J, Good N, Karunanithi M and Edwards I. The Effects of Telemonitoring on Patient Compliance With Self-Management Recommendations and Outcomes of the Innovative Telemonitoring Enhanced Care Program for Chronic Heart Failure: Randomized Controlled Trial. *J Med Internet Res*. 2020; 22(7):e17559.
14. Meng J, Du J, Diao X and Zou Y. Effects of an evidence-based nursing intervention on prevention of anxiety and depression in the postpartum period. *Stress Health*. 2022; 38(3):435-442.
15. Chen J, Zou X, Hu B, Yang Y, Wang F, Zhou Q and Shen M. Effect of different doses of esketamine compared with fentanyl combined with propofol on hypotension in patients undergoing painless abortion surgery: a prospective, randomized, double-blind controlled clinical trial. *BMC Anesthesiol*. 2022; 22(1):305.
16. Wu J, Han Y, Yang L and Liu Z. Analysis on the effect of intravenous anesthesia with dexmedetomidine and propofol combined with seaweed polysaccharides on hemodynamics and analgesia in pregnant females undergoing painless induced abortion. *Pak J Pharm Sci*. 2021; 34(3(Special)):1249-1254.
17. Stotland NL. Psychiatric aspects of induced abortion. *J Nerv Ment Dis*. 2011; 199(8):568-70.
18. Mainey L, O'Mullan C, Reid-Searl K, Taylor A and Baird K. The role of nurses and midwives in the provision of abortion care: A scoping review. *J Clin Nurs*. 2020; 29(9-10):1513-1526.
19. Kang SJ and Min HY. Psychological Safety in Nursing Simulation. *Nurse Educ*. 2019; 44(2):E6-e9.
20. Lu P and Wu C. Continuous Psychological Nursing Based on Grey Clustering Algorithm in Patients after Transurethral Resection of Prostate. *Comput Math Methods Med*. 2022; 2022:5400479.
21. Thorp JM, Jr and Hartmann KE, Shadigian E. Long-term physical and psychological health consequences of induced abortion: review of the evidence. *Obstet Gynecol Surv*. 2003; 58(1):67-79.
22. Liu S, Cao X, Zhang T, Zhang C, Qu J, Sun Y, Lv W and Qu F. Paeonol ameliorates endometrial hyperplasia in mice via inhibiting PI3K/AKT pathway-related ferroptosis. *Phytomedicine*. 2023; 109:154593.
23. Chen L, Wang D, Wu J, Yu B and Zhu D. Identification of multiple constituents in the traditional Chinese medicine formula GuiZhiFuLing-Wan by HPLC-DAD-MS/MS. *J Pharm Biomed Anal*. 2009; 49(2):267-75.
24. Wang X, Su P, Hao Q, Zhang X, Xia L and Zhang Y. A Chinese classical prescription Guizhi-Fuling Wan in treatment of ovarian cancer: An overview. *Biomed Pharmacother*. 2022; 153:113401.
25. Xu H, Wang S, Jiang Y, Wu J, Chen L, Ding Y, Zhou Y, Deng L and Chen X. Poria cocos Polysaccharide Ameliorated Antibiotic-Associated Diarrhea in Mice via Regulating the Homeostasis of the Gut Microbiota and Intestinal Mucosal Barrier. *Int J Mol Sci*. 2023; 24(2)
26. Huang L, Yu Q, Peng H and Zhen Z. The mechanism of peach kernel and safflower herb-pair for the treatment of liver fibrosis based on network pharmacology and molecular docking technology: A review. *Medicine (Baltimore)*. 2023; 102(16):e33593.

27. Kim HJ, Kim DH and Park W. Moutan Cortex Extract Modulates Macrophage Activation via Lipopolysaccharide-Induced Calcium Signaling and ER Stress-CHOP Pathway. *Int J Mol Sci.* 2023; 24(3)
28. Deng R, Gao J, Yi J and Liu P. Could peony seeds oil become a high-quality edible vegetable oil? The nutritional and phytochemistry profiles, extraction, health benefits, safety and value-added-products. *Food Res Int.* 2022; 156:111200.
29. Liu X, Chen L, Sun P, Zhan Z and Wang J. Guizhi Fuling Formulation: A review on chemical constituents, quality control, pharmacokinetic studies, pharmacological properties, adverse reactions and clinical applications. *J Ethnopharmacol.* 2024; 319(Pt 2):117277.
30. Yuan Y, Hu Y, Cheng JX and Ding P. Psychological nursing approach on anxiety and depression of patients with severe urinary incontinence after radical prostatectomy - a pilot study. *J Int Med Res.* 2019; 47(11):5689-5701.
31. Wang S, Huang H, Wang L and Wang X. A Psychological Nursing Intervention for Patients With Thyroid Cancer on Psychological Distress and Quality of Life: A Randomized Clinical Trial. *J Nerv Ment Dis.* 2020; 208(7):533-539.
32. Zhang Y, Su N, Liu W, Wang Q, Sun J and Peng Y. Metabolomics Study of Guizhi Fuling Capsules in Rats With Cold Coagulation Dysmenorrhea. *Front Pharmacol.* 2021; 12:764904.