

## ORIGINAL RESEARCH ARTICLE

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

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## 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)

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

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## 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).

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

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## Introduction

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

inadequate uptake of contraception and birth control measures, the number of accidental pregnancies is increasing<sup>3</sup>. Induced abortion has become the first choice for early termination of pregnancy because of its advantages of low pain and easy acceptance<sup>4</sup>.

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 surgery<sup>5</sup>. 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 rehabilitation<sup>6</sup>. 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 safety<sup>7</sup>. 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 lochia<sup>8</sup>.

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  $\leq 10$  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/ $\chi^2$		0.14	0.53	2.08		
P		0.88	0.60	0.35		

(2) Psychological counseling: Combined with the results of psychological assessment<sup>9</sup>, 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)<sup>10</sup>. 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)<sup>11</sup> 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 life<sup>12</sup>.

(4) Patients' compliance was compared between the two groups using the questionnaire designed by our hospital<sup>13</sup>, 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 used<sup>14</sup>, 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  $\chi^2$  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***

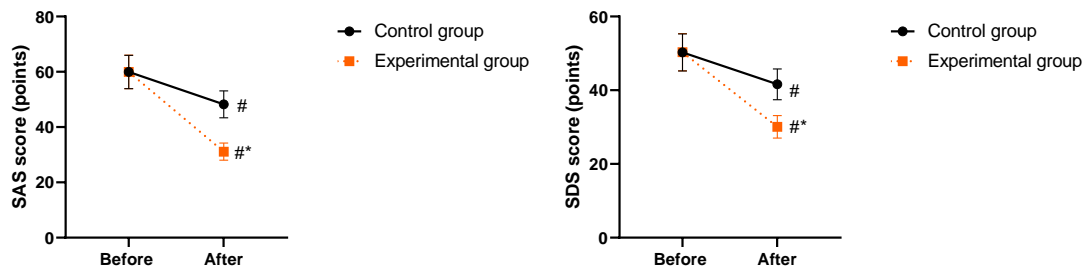
Table 3 displayed that relative to the CG, the EG had higher nursing satisfaction rate ( $P < 0.05$ ).

## **Discussion**

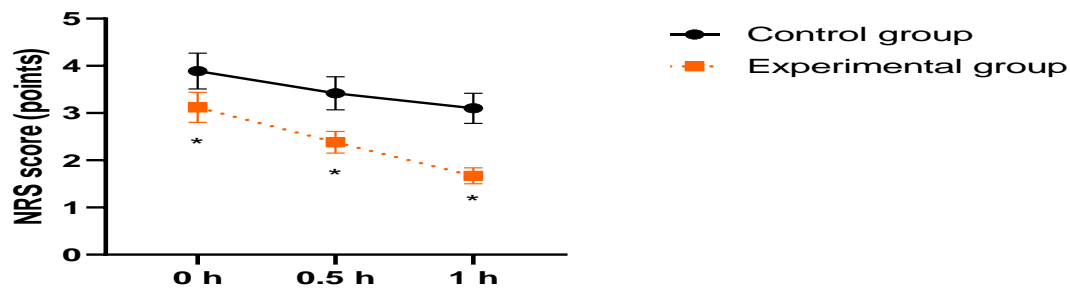
Induced abortion is a commonly used abortion technology, mainly in patients under intravenous anaesthesia induced abortion, the operation time is short, the effect is better, has been widely used in induced abortion<sup>15</sup>. The main purpose of this technique is to greatly lessen the pain of patients during surgery, reduce the influence of adverse factors and to improve the cooperation of surgical treatment through the use of anaesthetic drugs<sup>16</sup>. 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 effects<sup>17</sup>.

In the clinical treatment of patients, nursing is an important component which has a positive impact on patients and promotes their physical rehabilitation<sup>18</sup>. 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 patients<sup>19</sup>. 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 maintained<sup>20</sup>. 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 time<sup>21</sup>.

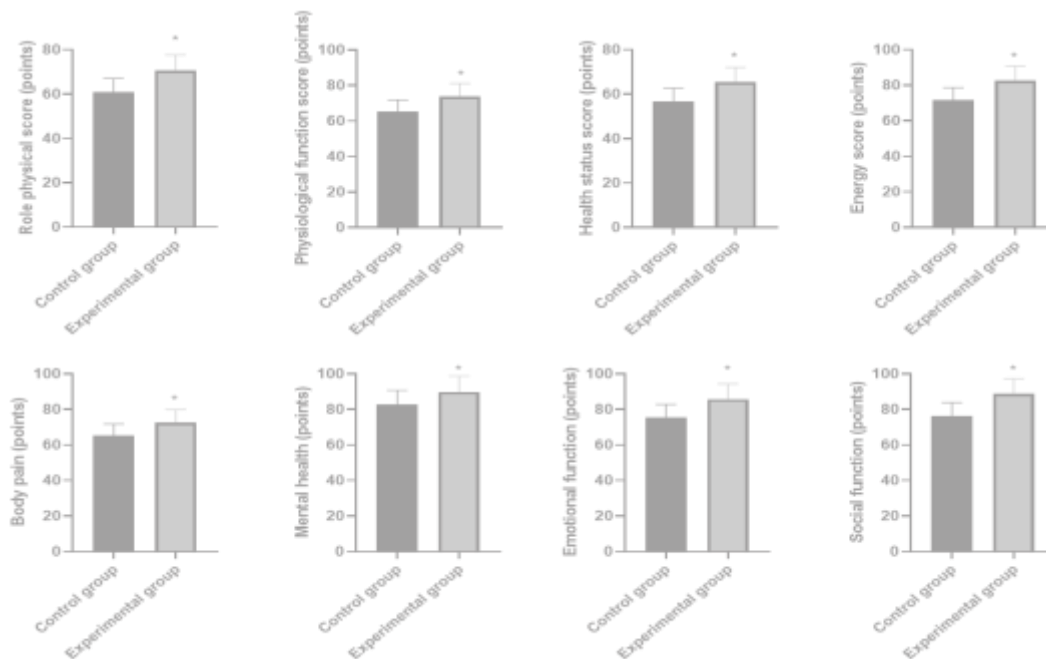
Guizhifuling capsules originated from the prescription of Guizhifuling pills in Zhang Zhongjing's "Synopsis of Golden Chamber" in Han Dynasty<sup>22</sup>.



**Figure 1:** Psychological state in 2 groups. <sup>#</sup> $P < 0.05$ , compared with before intervention, <sup>\*</sup> $P < 0.05$ , compared with control group



**Figure 2:** Pain score in 2 groups. <sup>\*</sup> $P < 0.05$ .



**Figure 3:** Quality of life in 2 groups. <sup>\*</sup> $P < 0.05$ .

**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)
$\chi^2$					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)
$\chi^2$					8.5
P					<0.01

It mainly consists of the components of Guizhi, poria, peach kernel, peony and cortex moutan<sup>23</sup>. 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 stasis<sup>24</sup>; poria can replenish qi to invigorate the spleen, as well as calm the mind<sup>25</sup>; peach kernel and cortex moutan can activate blood and disperse knots<sup>26,27</sup>; peony can promote blood circulation to remove blood stasis along with warm channel for arresting bleeding<sup>28</sup>. 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 complications<sup>29</sup>.

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 studies<sup>30-32</sup>.

## 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.

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