ผลของโปรแกรมการให้ความรู้และการสนับสนุนด้านจิตใจต่อความวิตกกังวลในระยะผ่าตัดในสตรีที่เข้ารับการผ่าตัดมดลูก: การศึกษานำร่องในประเทศจีน

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บทคัดย่อ

ความวิตกกังวลในระยะผ่าตัดเป็นปัญหาที่พบได้บ่อยในสตรีที่เข้ารับการผ่าตัดมดลูก และมักส่งผลกระทบเชิงลบต่อการฟื้นตัวและสภาพจิตใจ งานวิจัยนำร่องนี้ มีวัตถุประสงค์เพื่อประเมินประสิทธิผลเบื้องต้นของโปรแกรมการให้ความรู้และสนับสนุนด้านจิตใจในการลดความวิตกกังวลในระยะผ่าตัด กลุ่มตัวอย่าง จำนวน 10 ราย คัดเลือกแบบเจาะจงจากหอผู้ป่วยนรีเวชในโรงพยาบาลศูนย์ประจำเมืองเซียงหยาง ประเทศจีน โปรแกรมจัดขึ้นเป็นเวลา 4 วัน ประกอบด้วย (1) การให้ความรู้เกี่ยวกับการผ่าตัด (2) การสนับสนุนทางจิตใจแบบรายบุคคล (3) การอภิปรายกลุ่มและการสะท้อนคิด และ (4) การสรุปและเสริมสร้างกลยุทธ์การเผชิญปัญหา ประเมินความวิตกกังวลก่อนและหลังโปรแกรม โดยใช้แบบประเมินความวิตกกังวล (Hamilton anxiety rating scale: HAM-A) โปรแกรมผ่านการตรวจสอบความตรงเชิงเนื้อหาโดยผู้เชี่ยวชาญ 5 ท่าน (CVI=0.83) และค่าความเชื่อมั่นของเครื่องมือ HAM-A (cronbach's α=0.86) วิเคราะห์ข้อมูลโดยใช้สถิติเชิงบรรยายและ paired t-tests

ผลการศึกษา พบว่า และระดับความวิตกกังวลหลังได้รับโปรแกรมลดลง อย่างมีนัยสำคัญทางสถิติ (t=10.543, 95% CI=6.68–10.32, p<.001) และระดับความวิตกกังวลลดลงจากระดับปานกลางเป็นระดับเล็กน้อย ผลการศึกษานี้ ชี้ให้เห็นถึง ควรบูรณาการโปรแกรมนี้เข้ากับปฏิบัติการพยาบาลนรีเวชที่มีมาตรฐานรวมถึงแนวทางการดูแลในหอผู้ป่วย และการพยาบาลปกติในหอผู้ป่วยนรีเวช มีการศึกษาวิจัยเพิ่มเติมในกลุ่มตัวอย่างขนาดใหญ่ขึ้น โดยออกแบบการวิจัยที่มีกลุ่มควบคุมเพื่อยืนยันประสิทธิผลของโปรแกรมเป็นแนวทางในการนำไปใช้ในวงกว้าง

คำสำคัญ: การผ่าตัดมดลูก ความวิตกกังวลในระยะผ่าตัด ทฤษฎีปฏิสัมพันธ์ของความเครียดและการรับมือ โปรแกรมการให้ความรู้และการสนับสนุนด้านจิตใจ

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Effects of a psychological support and education program on perioperative anxiety in women undergoing hysterectomy: a pilot study in China

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Abstract

Perioperative anxiety is a prevalent concern among women undergoing hysterectomy, often negatively impacting recovery and psychological well-being. This pilot study evaluated the preliminary efficacy of a psychological support and education program in reducing perioperative anxiety. A purposive sample of 10 women was recruited from two gynecology wards at central hospitals in Xiangyang, China. The intervention was delivered over four days and included (1) perioperative education, (2) individualized psychological support, (3) group discussions and reflective exercises, and (4) consolidation of coping strategies. Anxiety levels were assessed pre- and post-intervention using the Hamilton Anxiety Rating Scale (HAM-A). The program's content validity was confirmed by five experts (CVI=.83), and the HAM-A showed acceptable internal consistency (cronbach's α=.86). Data was analyzed using descriptive statistics and paired t-tests.

Results demonstrated a significant reduction in anxiety following the intervention (t=10.543, 95% CI=6.68-10.32, p<.001), with scores decreasing from moderate to mild levels. These findings suggest the potential value of brief, theory-informed moderate level to mild level psychosocial interventions in perioperative care. It is recommended that this program be integrated into standard gynecological nursing practices and ward protocols. Further research with larger samples and controlled designs is needed to validate the intervention and guide broader implementation.

keywords: hysterectomy; perioperative anxiety; transactional model of stress and coping; psychological support and education program

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Introduction

Hysterectomy is the surgical removal of the uterus; it is one of the most performed gynecological procedures worldwide. It is primarily indicated for benign and malignant conditions such as uterine fibroids, abnormal uterine bleeding, endometriosis, and gynecologic cancers.[1] In the United States, approximately 14.6% of women aged 18 and older have undergone a hysterectomy, with prevalence increasing from 2.8% among women aged 18-44 to 41.8% among those aged 75 and older.[2] Globally, hysterectomy rates vary considerably; in India, the rate is estimated at 1,700 per 100,000 women, while in New Zealand it is approximately 365 per 100,000 women.[3] In China, a population-based study in rural Anyang reported an overall hysterectomy prevalence of 3.31%, with higher rates among women over 40 years of age.[4] Most of these were total abdominal hysterectomies for benign conditions like uterine fibroids.[4,5] In Thailand, national epidemiological data remain limited; however, evidence from a major university hospital in Bangkok indicates that an average of 800 to 1,200 hysterectomy procedures are performed annually, reflecting a high volume of surgical treatment for gynecological conditions in tertiary care cente.[3]

While surgery significantly alleviates physical symptoms and improves quality of life, the psychological burden it brings-particularly short-term perioperative anxiety-requires urgent attention.[4] Perioperative anxiety is a common psychological response among women undergoing hysterectomy, often triggered by concerns about anesthesia, surgical safety, postoperative pain, recovery, and future fertility.[5-7] Such anxiety not only affects psychological well-being but can also hinder physical recovery by increasing pain perception, delaying wound healing, causing sleep disturbances, and reducing patient satisfaction.[5,8-9] Psychological support and structured educational programs have been shown to mitigate these adverse effects by enhancing patients' understanding of the surgical process, setting realistic expectations, and building coping strategies. Preoperative education can reduce uncertainty, empower women to participate in their care, and promote emotional preparedness-leading to lower anxiety levels, faster recovery, and improved satisfaction with the surgical experience. These interventions are particularly important for hysterectomy patients, who often experience feelings of loss or altered identity related to reproductive capacity and femininity.[10]

Despite increasing recognition of the psychological impact of hysterectomy, substantial gaps remain in the design and implementation of structured, evidence-based interventions targeting perioperative anxiety. Most existing studies emphasize long-term outcomes such as depression and quality of life, while short-term psychological responses-especially perioperative anxiety-are comparatively underexplored.[11] Psychological support during hospitalization often centers on physical preparation, with limited integration of structured emotional education or active coping training. Although interventions such as cognitive-behavioral therapy and emotion regulation strategies have shown promise in reducing anxiety and enhancing coping.[12] Many studies are not systematically grounded in theory or adapted to specific cultural contexts. The Transactional Model of Stress and Coping, developed by Lazarus and Folkman[13], provides a useful framework to guide intervention design. It posits that individuals' emotional responses depend on

their cognitive appraisal of stressors and available coping resources. Structured interventions using this model can help patients reframe surgical experiences, regulate emotional responses, and increase perceived control-thus alleviating anxiety.

However, most interventions remain fragmented-either limited to pre-or postoperative phases-and rarely sustained across the perioperative continuum. There is also a lack of culturally tailored programs that address the unique psychosocial needs of Chinese women undergoing hysterectomy. This study aimed to address these gaps by developing a brief, theory-driven psychological support and education program based on the Transactional Model, to reduce perioperative anxiety and support holistic recovery.

Research objective

This pilot study aimed to evaluate the preliminary efficacy of a psychological support and education program in reducing perioperative anxiety among women undergoing hysterectomy.

Conceptual framework

The psychological support and education program used in this study was developed based on the Transactional Model of Stress and Coping proposed by Lazarus and Folkman[13], which views stress as a dynamic interaction between the individual and their environment. This framework focuses on two key cognitive processes: primary appraisal, referring to how individuals interpret the importance or threat level of a stressor, and secondary appraisal which involves assessing one's available coping resources. The intervention aimed to positively influence these appraisal processes to alleviate perioperative anxiety, a common psychological response to the stress of surgery. In this study, primary appraisal was addressed on Day 1 through preoperative education. Patients were provided with detailed information about the hysterectomy procedure, anesthesia, potential complications, and expected recovery. This was intended to decrease the perceived threat of surgery by helping patients view it as a comprehensible and manageable experience. On Day 2, the focus shifted to secondary appraisal, with individualized psychological support sessions. These one-on-one meetings enabled patients to express emotions, receive affirmation, and reflect on their coping strengths, thereby enhancing their belief in their ability to manage surgical stress. On Day 3, the intervention targeted emotional coping support through peer interaction and reflective activities. Guided group discussions provided space for shared emotional experiences, fostering a sense of connection and promoting observational learning through peer modeling of coping behaviors. Finally, on Day 4, the program emphasized reinforcement of coping resources by reviewing key content and assisting participants in creating personalized coping strategies for recovery at home. This final session aimed to strengthen self-regulation, build coping confidence, and support continued psychological adjustment. The conceptual framework of the study is illustrated in Figure 1.

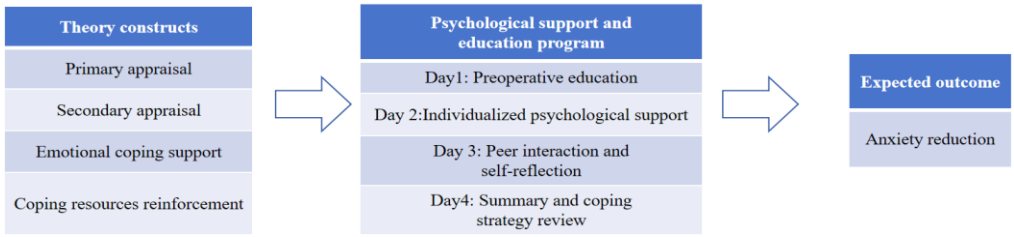

Figure 1 Conceptual framework of the study

Materials and methods

This is a pilot quasi-experimental study with a one-group pre-and post-design. This study employed a structured methodological approach to test feasibility, acceptability, and preliminary effectiveness of a psychological support and education program in reducing perioperative anxiety among women undergoing hysterectomy. The methods section outlines the study population, intervention components, data collection procedures, data analysis, and ethical considerations to ensure transparency and replicability.

Population and sample

Participants were individuals who were admitted to the Gynecology ward for hysterectomy of a tertiary hospital with benign indications. Inclusion criteria were as follows: (1) aged 18 years and above; (2) no history of cancer or major chronic diseases such as heart or kidney failure; (3) able to communicate in Mandarin (including speaking, reading, and writing). Exclusion criteria included: (1) concurrent oophorectomy; (2) medical records showing severe mental illness such as psychosis or schizophrenia. This study recruited 10 participants, which is consistent with pilot study methodology aimed at evaluating feasibility and refining intervention protocols.[14]

Research instruments

Study instruments include experimental tools and data collection tools. The experimental tool is a 4-day psychological support and education program designed to reduce perioperative anxiety in women undergoing hysterectomy through cognitive stress assessment and coping, guided by the Transactional Model of Stress and Coping.[13] On day 1 (admission day), participants received preoperative education to reduce uncertainty and help reshape the controllability of surgery.[6-7] On day 2, personalized bedside psychological support was provided to enable patients to express emotions and establish early coping strategies.[15] On day 3, participants joined a peer group discussion to promote shared emotional experiences, self-reflection, and enhance perceived social support.[16-17] On day 4, before discharge, summary and the development of personalized coping plans were emphasized to enhance self-efficacy and emotional preparation for home recovery.[8,18] Each session was carefully designed to support primary and secondary appraisal processes and cultivate emotional resilience throughout the hospital stay.

The data collection tool was measured using Chinese version of the Hamilton Anxiety Rating Scale (HAM-A). The Hamilton Anxiety Rating Scale was developed by Max Hamilton in 1959[19] and is a commonly used anxiety assessment tool used to assess the patient's anxiety level. The scale contains 14 items that are used to assess both physiological and psychological aspects of anxiety symptoms, including anxiety, tension, fear, insomnia, cognitive decline, depression, and symptoms of the somatic (muscular), somatic (sensory), cardiovascular, respiratory, gastrointestinal, urinary, reproductive, and autonomic nervous systems. The score is based on the severity of the symptoms, ranging from 0 (no symptoms) to 4 (very severe). The total score ranges from 0 to 30 points, with 0-17 points indicating no obvious anxiety or mild anxiety, 18-24 points indicating moderate anxiety, and 25-30 points indicating severe anxiety. This tool has previously been shown to have good reliability and validity. The validated Chinese version of HAM-A used in this study also showed good reliability and validity, with a Cronbach's alpha of 0.89 reported in the clinical validation study.[20]

Validity and reliability

In this study, the psychological support and education program was evaluated for content validity by a panel of five experts, including a gynecologist, two clinical nurse specialists in gynecology, the head nurse of the outpatient department, and a nurse educator in gynecology. A two-round review process was conducted. In the first round, each expert independently assessed the relevance and clarity of the program content using a four-point Likert scale. Feedback and suggestions were collected and used to revise the materials. In the second round, the revised version was re-evaluated by the same panel to confirm the appropriateness of the modifications. The final content validity index (CVI) was calculated based on the second-round ratings, yielding a CVI of .83, indicating acceptable content validity. Reliability of the HAM-A was tested among 10 women with characteristics like the study sample, yielding Cronbach’s alpha coefficient of .86.

Data collection procedures

Upon admission to the gynecology ward, a trained research assistant approached potential participants who met the inclusion criteria. The research assistant introduced the purpose of the study, explained the procedures in detail, and invited eligible patients to participate. Those who agreed were then referred to the principal researcher, who conducted the informed consent process. After obtaining written informed consent, baseline demographic data and anxiety scores were collected using the HAM-A. Participants subsequently received a structured 4-day psychological support and education program, which was delivered as follows: Day 1: preoperative education, Day 2: individual psychological support, Day 3: peer interaction and self-reflection, and Day 4: summary and personal coping strategies. Details of the intervention as shown in Table 1. Following the intervention, anxiety levels were reassessed using the HAM-A on the day of discharge.

Table 1 Psychological support and education program

Time	Activity
Day 1 (admission day)	Delivered preoperative education on hysterectomy, recovery expectations, and possible complications.
Day 2 (post-op day 1)	One-on-one bedside session for emotional expression, fear discussion, and psychological support.
Day 3 (post-op day 2)	Facilitated peer group discussion to encourage shared experiences and self-reflection.
Day 4 (pre-discharge)	Reviewed key messages; guided patients in developing personalized post-discharge coping strategies; HAM-A reassessed.

Data analysis

Demographic characteristics were summarized using descriptive statistics. To assess changes in anxiety levels before and after the intervention, a paired-sample t-test was employed. Given the small sample size (n=10), the assumption of normality was evaluated using the Shapiro-Wilk test, which is recommended for small samples due to its high statistical power in detecting non-normality.[21] The results indicated that both pre-intervention (W=0.94, p=.557) and post-intervention (W=0.91, p=.280) anxiety scores were approximately normally distributed, thus meeting the assumption required for applying the paired t-test.

Ethical considerations

This study was reviewed and approved by the Human Research Ethics Committee of Xiangyang Central Hospital (Approval No. 2024-157). Data collection commenced only after formal ethical clearance had been obtained. All participants were fully informed of the study's purpose, procedures, and their rights, including the right to withdraw from the study at any time without any impact on their ongoing medical care or treatment.

Results

As presented in Table 2, the participants had a mean age of 47.5 years (SD=6.26), with the majority aged between 45-59 years (60%). Most participants had completed high school education (40%) and employed (60%). Most of them were married (70%); among these, 57.14% had one child. Additionally, 30% of the participants reported a prior history of surgery. To evaluate the effectiveness of the psychological support and education program in reducing perioperative anxiety, pre- and post-intervention anxiety scores were compared using a paired-sample t-test. The analysis revealed a statistically significant reduction in anxiety levels following the intervention (t =10.543, 95% CI=6.68–10.32, p<.001). Specifically, the mean anxiety score decreased from 24.90 (SD=2.38) prior to surgery to 16.40 (SD=3.17) at the time of discharge, reflecting a

reduction from moderate anxiety to mild anxiety based on standard interpretive guidelines. These findings provide preliminary evidence supporting the effectiveness of the program in reducing perioperative anxiety among women undergoing hysterectomy. As a pilot study, the results suggest that the intervention is both feasible and potentially beneficial, warranting further investigation in larger, controlled trials.

Table 2 Demographic data of the samples (n=10)

Data	Frequency	Percentage (%)
Age (yr) min-max=26-59, mean=47.5, SD=6.26		
26-44	4	40.00
45-59	6	60.00
Marital status		
Single	3	30.00
Married	7	70.00
Number of children (n=7)		
One	4	57.14
Two	2	28.57
Three or more	1	14.29
Employment status		
Employed	6	60.00
Un-employed	4	40.00
Education level		
Primary school	2	20.00
Secondary school	2	20.00
High school	4	40.00
University level	2	20.00
Surgery history		
Yes	3	30.00
No	7	70.00

Discussion

This pilot study explored the preliminary efficacy of a structured psychoeducation and support program in reducing perioperative anxiety among women undergoing hysterectomy. The intervention was grounded in the Transactional Model of Stress and Coping and aimed to enhance patients' cognitive and emotional preparedness throughout the surgical process. Results indicated a reduction in anxiety levels from moderate to mild following the four-day intervention, suggesting that the program may offer practical value as an adjunct to perioperative care. While these findings are promising, they should be interpreted with caution given the limited sample size and

exploratory nature of the study. Nonetheless, the observed trends provide important insight for the design of larger, controlled trials and for informing the development of early psychological interventions in gynecologic surgical settings.

The intervention was structured around two central cognitive processes within the transactional model: primary appraisal and secondary appraisal. On Day 1, participants received preoperative education to foster realistic expectations about surgery and recovery, helping to reframe the experience from threatening to manage. This was followed by activities targeting secondary appraisal, including individualized bedside consultations (Day 2), group-based emotional expression and peer discussion (Day 3), and coping strategy development.[8,18] These components were intentionally sequenced to build both informational and emotional coping capacity. Peer group interaction played a critical role in fostering perceived social support-an external coping resource known to buffer stress in clinical environments. Furthermore, marital status may play a moderate role in the psychological response to hysterectomy. Evidence suggests that single women often express heightened concerns regarding fertility preservation and the potential impact of surgery on future intimate relationships. In contrast, married women are more likely to report anxiety related to sexual function and changes in partner intimacy following the procedure. These psychosocial dimensions can significantly influence postoperative emotional adjustment and recovery trajectories. Therefore, individualized interventions should take marital status and relational context into account to ensure relevance and effectiveness in addressing diverse patient needs.[22-23]

Consistent with prior research, these findings support the role of structured psychological support in surgical care. For instance, one study demonstrated that preoperative psychoeducation enhances patient preparedness[6], while another emphasized the effectiveness of cognitive-emotional strategies in alleviating surgical anxiety and depression.[7] Uniquely, this study delivers a brief, theory-informed intervention that spans both the preoperative and immediate postoperative phases, offering a more continuous and holistic approach than typically found in standard care. Although preliminary, the results underscore the need for proactive, integrative psychological care models-particularly for women undergoing emotionally charged procedures such as hysterectomy.

Research limitations

This study has several limitations. The small sample size limits the generalizability of the findings, and the single-site design may reduce the applicability of results to other clinical settings. The absence of a control group makes it difficult to attribute observed changes in anxiety solely to the intervention, as natural recovery or external factors may have influenced outcomes. Additionally, the short intervention duration and follow-up period may not adequately capture the long-term effects of the program on perioperative anxiety. Furthermore, this study did not account for the influence of marital status on psychological outcomes, despite evidence suggesting that single and married women may experience different concerns following hysterectomy.

Recommendations

The researcher would like to offer the following recommendations for practical application and future research:

1. It is recommended that gynecology nurses incorporate structured psychological support and education programs into routine preoperative and postoperative care to support patients in managing emotional stress throughout the perioperative phase. Personalized one-on-one support and peer-based group sessions may offer additional emotional reinforcement.

2. Gynecology wards are encouraged to adopt brief, practical interventions, such as a 3-to 4-day structured program, as part of standard care for hysterectomy patients. Incorporating emotional health assessments or anxiety screening tools (e.g., HAM-A) into initial and ongoing patient evaluations can further enhance individualized care.

3. Future studies should adopt a randomized controlled design with an adequately powered sample size. Expanding the participant pool to include a broader demographic and clinical spectrum of hysterectomy patients will also enhance the external validity of the findings.

4. Future research should explore how marital status, along with other sociodemographic variables, moderates the effectiveness of perioperative psychological support programs. Longitudinal designs and larger sample sizes are recommended to better capture these nuanced interactions and inform tailored intervention strategies.

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