RESEARCH PAPER

Comparison of psychological outcome between vaginal and abdominal hysterectomy

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ABSTRACT
Background: Hysterectomy is commonly performed for benign gynecological conditions and may influence psychological wellbeing, body image, self-esteem, and quality of life. Objective: To compare psychological outcomes between women undergoing vaginal hysterectomy and abdominal hysterectomy. Methods: This comparative cross-sectional study was conducted at Mardan medical complex Mardan from February 2025 to February 2026 and included 185 women who underwent hysterectomy for benign gynecological conditions. Patients were divided into vaginal hysterectomy (n=88) and abdominal hysterectomy (n=97) groups. Results: The mean age was 47.8 ± 7.6 years. Vaginal hysterectomy was performed in 88 (47.6%) women and abdominal hysterectomy in 97 (52.4%). Anxiety and depression scores were significantly lower in the vaginal group compared with the abdominal group (6.9 ± 3.2 vs. 9.1 ± 4.1 and 5.8 ± 2.9 vs. 8.0 ± 3.8, respectively; $p<0.001$). Self-esteem, body image satisfaction, and quality of life scores were significantly higher after vaginal hysterectomy. Adverse psychological outcomes were more common among women undergoing abdominal hysterectomy (73.0%; $p<0.001$). Conclusion: Vaginal hysterectomy was associated with better psychological outcomes, lower anxiety and depression, improved body image, and better quality of life compared with abdominal hysterectomy..
Keywords: Hysterectomy; vaginal hysterectomy; abdominal hysterectomy; psychological outcome; anxiety; depression; quality of life
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INTRODUCTION

Hysterectomy is one of the most prevalent gynecological procedures in the world and performed in a variety of benign and malignant conditions involving the uterus such as fibroids, abnormal uterine bleeding, adenomyosis, uterovaginal prolapse, endometrial disease, and chronic pelvic pain [1]. While the main purpose of hysterectomy is to relieve physical symptoms and improve quality of life, the psychological impact of this is also significant as the uterus is often linked to femininity, fertility, sexuality and body image [2]. Thus it is important to consider the impact of hysterectomy on emotional health, self-image, marital status, sexual self-assurance, and mental health post surgery [3]. The psychological aspects and recovery after a hysterectomy may also be influenced by the type of surgery performed. Vaginal hysterectomy is also generally less invasive than abdominal hysterectomy, and the recovery is quicker, postoperative pain is less, there are fewer abdominal scars, and hospital stay is shorter [4]. These benefits can help to facilitate more emotional adjustment and return to normal activities [5]. Abdominal hysterectomy can have a negative impact, however, on body image and psychological health in some women because of its larger incision, discomfort after surgery, longer recovery period, and scarring, which may lead to psychological issues for

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some women [6]. Common psychological changes following hysterectomy are feelings of anxiety, depression, stress, fear of sexual dysfunction, decreased self-esteem, and concerns about being less feminine [7]. Hysterectomy may benefit women's psychological well-being because they no longer have to tolerate chronic pain and heavy menstrual bleeding, anemia, or discomfort associated with pelvic organ prolapse [8]. But for others, emotional distress can be a problem, especially if surgery is done earlier in life, if there is a concern about fertility, or when counseling prior to surgery is not sufficient [9].

Previous reports of psychological outcomes have yielded conflicting results after hysterectomy by different approaches. Women who had vaginal hysterectomy were more satisfied and had less anxiety after surgery, due to less time to recover and less wound-related problems [10]. However, others have reported that there was no significant long-term psychological difference between abdominal and vaginal hysterectomy when good counseling, pain treatment and follow-up were followed [11]. Such differences indicate that, apart from surgical route, there are differences in psychological outcome, which also include age, indication for surgery, socioeconomic status, marital relationship, mental status before surgery, and expectations held by the patient [12]. Psychological assessment following gynecological surgery is under-recognised in developing countries, with a focus on surgical success and recovery [13]. Cultural barriers and unstructured counseling may prevent many women from explicitly talking about anxiety, depression, sexual concerns or body image problems [14]. Hence, it is clinically important to evaluate psychological outcomes following hysterectomy to enhance patient-centred care [15].

Objective

To compare psychological outcomes between women undergoing vaginal hysterectomy and abdominal hysterectomy.

Methodology

This was a comparative cross-sectional study conducted at Mardan medical complex Mardan from February 2025 to February 2026, including 185 women who underwent either vaginal hysterectomy or abdominal hysterectomy to compare postoperative psychological outcomes between the two surgical approaches. Women aged 30–65 years who underwent elective vaginal or abdominal hysterectomy for benign gynecological conditions such as uterine fibroids, abnormal uterine bleeding, adenomyosis, uterovaginal prolapse, or other non-malignant uterine disorders were included. Patients who had completed at least three months of postoperative follow-up and were willing to participate in psychological assessment were considered eligible. Women with gynecological malignancies, previous psychiatric illness diagnosed before surgery, current use of antidepressant or antipsychotic medications, emergency hysterectomy, concurrent major pelvic surgery, severe postoperative complications requiring intensive care, cognitive impairment affecting questionnaire completion, or incomplete medical records were excluded.

Data Collection

After obtaining ethical approval, data were collected using a structured proforma and validated psychological assessment questionnaire during follow-up visits. Demographic variables included age, marital status, educational level, employment status, parity, and socioeconomic status. Clinical variables included indication for hysterectomy, type of hysterectomy (vaginal or abdominal), duration since surgery, postoperative complications, length of hospital stay, and comorbid conditions. Psychological outcomes were assessed using standardized measures of anxiety, depression, emotional wellbeing, body image satisfaction, self-esteem, and overall quality of life. Patients were categorized according to the route of hysterectomy, and psychological outcome scores were compared between groups.

Statistical Analysis

Data were analyzed using SPSS version 26.0. Continuous variables were presented as mean ± standard deviation, while categorical variables were expressed as frequencies and percentages. Independent t-tests were used to compare psychological outcome scores between vaginal and abdominal hysterectomy groups. Chi-square tests were applied to compare categorical variables, and multivariable logistic regression analysis was performed to identify factors independently associated with adverse psychological outcomes. A p-value ≤0.05 was considered statistically significant.

Results

The mean age of women was 47.8 ± 7.6 years, with most patients aged 45–54 years (89, 48.1%). Most women were married (167, 90.3%) and multiparous (149, 80.5%), while 54 (29.2%) were employed. Vaginal hysterectomy was performed in 88 (47.6%) women and abdominal hysterectomy in 97 (52.4%). The mean duration since surgery was 8.7 ± 3.4 months, and postoperative complications were reported in 28 (15.1%) patients.

Table 1: Demographic and Clinical Characteristics of Women Undergoing Hysterectomy (N = 185)

Variable	n (%) / Mean ± SD
Age (years)	47.8 ± 7.6
30–44 years	62 (33.5)
45–54 years	89 (48.1)
≥55 years	34 (18.4)
Married	167 (90.3)
Employed	54 (29.2)
Multiparous	149 (80.5)
Vaginal hysterectomy	88 (47.6)
Abdominal hysterectomy	97 (52.4)
Duration since surgery (months)	8.7 ± 3.4
Postoperative complication present	28 (15.1)

Uterovaginal prolapse was more common in the vaginal group (47, 53.4%), while fibroid uterus was more frequent in the abdominal group (48, 49.5%), both showing significant differences ($p<0.001$). Hospital stay was shorter after vaginal hysterectomy (2.8 ± 0.9 vs. 4.9 ± 1.4 days; $p<0.001$), and complications were lower (8, 9.1% vs. 20, 20.6%; $p=0.03$).

Table 2: Indications and Perioperative Characteristics According to Type of Hysterectomy

Variable	Vaginal Hysterectomy (n=88)	Abdominal Hysterectomy (n=97)	p-value
Age (years), mean ± SD	49.1 ± 7.1	46.6 ± 7.9	0.02
Uterovaginal prolapse, n (%)	47 (53.4)	12 (12.4)	<0.001
Fibroid uterus, n (%)	19 (21.6)	48 (49.5)	<0.001
Abnormal uterine bleeding, n (%)	15 (17.0)	25 (25.8)	0.14
Hospital stay (days), mean ± SD	2.8 ± 0.9	4.9 ± 1.4	<0.001
Postoperative complications, n (%)	8 (9.1)	20 (20.6)	0.03

Anxiety scores were lower in the vaginal group compared with the abdominal group (6.9 ± 3.2 vs. 9.1 ± 4.1; p<0.001), as were depression scores (5.8 ± 2.9 vs. 8.0 ± 3.8; p<0.001). Self-esteem (24.6 ± 4.5 vs. 21.2 ± 5.3), body image satisfaction (27.1 ± 4.8 vs. 23.5 ± 5.4), and overall quality of life scores (76.8 ± 10.2 vs. 68.3 ± 11.5) were significantly higher in the vaginal hysterectomy group, all with p<0.001.

Table 3: Comparison of Psychological Outcomes Between Vaginal and Abdominal Hysterectomy

Variable	Vaginal Hysterectomy (n=88)	Abdominal Hysterectomy (n=97)	p-value
Anxiety score, mean ± SD	6.9 ± 3.2	9.1 ± 4.1	<0.001
Depression score, mean ± SD	5.8 ± 2.9	8.0 ± 3.8	<0.001
Self-esteem score, mean ± SD	24.6 ± 4.5	21.2 ± 5.3	<0.001
Body image satisfaction score, mean ± SD	27.1 ± 4.8	23.5 ± 5.4	<0.001
Overall quality of life score, mean ± SD	76.8 ± 10.2	68.3 ± 11.5	<0.001

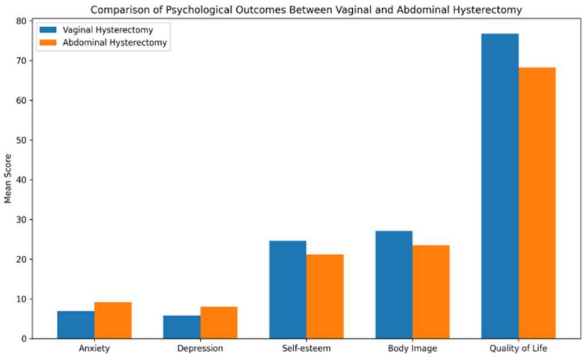

Figure 1. Comparison of Psychological Outcomes Between Vaginal and Abdominal Hysterectomy

Adverse psychological outcome was more common among women who underwent abdominal hysterectomy (46, 73.0%) compared with the favorable outcome group (51, 41.8%; p<0.001). Women with adverse outcomes were younger (45.7 ± 8.1 vs. 48.9 ± 7.2 years; p=0.01), had longer hospital stays (5.1 ± 1.8 vs. 3.2 ± 1.3 days; p<0.001), and more postoperative complications (18, 28.6% vs. 10, 8.2%; p<0.001). Low educational status and poor social support were also significantly higher in the adverse outcome group.

Table 4: Factors Associated with Adverse Psychological Outcome Following Hysterectomy

Variable	Favorable Outcome (n=122)	Adverse Outcome (n=63)	p-value
Age (years), mean ± SD	48.9 ± 7.2	45.7 ± 8.1	0.01
Abdominal hysterectomy, n (%)	51 (41.8)	46 (73.0)	<0.001
Postoperative complications, n (%)	10 (8.2)	18 (28.6)	<0.001
Hospital stay (days), mean ± SD	3.2 ± 1.3	5.1 ± 1.8	<0.001
Low educational status, n (%)	37 (30.3)	35 (55.6)	0.001
Poor social support, n (%)	22 (18.0)	31 (49.2)	<0.001

Discussion

This study compared the psychological outcomes of women who had vaginal hysterectomies with those who had abdominal hysterectomies and showed that there were significant differences in women who had the vaginal procedure. The women who had undergone a vaginal hysterectomy had lower levels of anxiety and depression, higher self-esteem, higher body image satisfaction and higher quality of life than those who had an abdominal hysterectomy. The results indicate a possible role of the

surgical route for the recovery of the psychological state in the postoperative period and for overall wellbeing. The mean age for the study population was 47.8 ± 7.6 years and the majority of the females were in the age group of 45–54 years. This age distribution, for hysterectomy performed for a nongynecological reason, is consistent with that of the typical age distribution of individuals undergoing hysterectomy for a benign gynecologic reason. Earlier studies also stated that hysterectomy is most common among perimenopausal (ages 40–44) and early postmenopausal (ages 45–49) women when conditions like fibroid, abnormal uterine bleeding, and prolapse are most common [16]. The present study revealed that the hospital stay was shorter in vaginal hysterectomy than abdominal hysterectomy (2.8 ± 0.9 days vs. 4.9 ± 1.4 days) and postoperative complications were less (9.1% vs. 20.6%). Overall, the psychological well-being of women who had the vaginal procedure improved, probably because it was recovered from faster and the postoperative morbidity was reduced. Minimally invasive surgery, such as vaginal hysterectomy, has also been shown in previous studies to have shorter recovery time, less pain after surgery, and higher patient satisfaction compared to abdominal surgery (hysterectomy) [17]. Women who had a vaginal hysterectomy had significantly lower anxiety scores (6.9 ± 3.2) than women who had an abdominal hysterectomy (9.1 ± 4.1). Likewise, the scores of depression were also significantly lower in the vaginal hysterectomy group (5.8 ± 2.9 vs. 8.0 ± 3.8). The results may be due to decreased surgical trauma, faster return to normal daily activity and decreased worry about unsightly scars. Similar findings were reported in previous studies, which found decreased anxiety and depressive symptoms in women who underwent less invasive procedures for hysterectomy, especially in the early postoperative period [18].

The women who had vaginal hysterectomy had significantly better self-esteem and body image satisfaction. The mean scores of self-esteem were 24.6 ± 4.5 and 21.2 ± 5.3, and the body image satisfaction scores were 27.1 ± 4.8 and 23.5 ± 5.4, respectively, in the abdominal hysterectomy group. The result of these findings may have a positive impact on women's perception of their bodies and their personal wellbeing, as they would be spared the abdominal incision and the speedy physical recovery. Vaginal hysterectomy has also been shown to have fewer body image concerns and the body image concerns that do exist are related to increased postoperative confidence and satisfaction [19]. Women who had a vaginal hysterectomy had significantly better quality of life, with a mean score of 76.8 ± 10.2 whereas women who had an abdominal hysterectomy had a mean score of 68.3 ± 11.5. Better quality of life could be associated with less pain, earlier mobilization, fewer complications and better psychological adjustment. Research has also demonstrated that women who have vaginal hysterectomy tend to have higher health related quality of life scores and higher satisfaction with the procedure after surgery. Factors associated with adverse psychological outcomes were analyzed, and it was found that abdominal hysterectomy was a significantly greater proportion of affected women (73.0% vs. 41.8%). The younger age was also a risk factor for poor psychological outcomes, as the mean age of the women who had adverse outcomes was 45.7 ± 8.1 years, while that of the women who had favorable outcomes was 48.9 ± 7.2 years. Younger women might be more likely to have issues about their femininity, sexuality and reproductive self-identity following hysterectomy. Similar findings have been reported in previous studies, which indicated that age is an important factor to predict emotional distress and poor psychological adjustment after surgery [20].

Limitations

This study has several limitations. Being a cross-sectional study, it could identify associations but could not establish causal relationships between the type of hysterectomy and psychological outcomes. The study was conducted at a single center, which may limit the generalizability of the findings to other populations and healthcare settings. Psychological outcomes were assessed at a single postoperative time point and may not fully reflect long-term emotional changes following hysterectomy. Self-reported psychological questionnaires are subject to recall bias and individual perception differences.

Conclusion

Vaginal hysterectomy was associated with significantly better psychological outcomes compared with abdominal hysterectomy. Women undergoing vaginal hysterectomy experienced lower levels of anxiety and depression, higher self-esteem, better body image satisfaction, and improved overall quality of life. Shorter hospital stay and lower postoperative complication rates may have contributed to these favorable outcomes. Adverse psychological outcomes were significantly associated with abdominal hysterectomy, younger age, postoperative complications, prolonged hospitalization, lower educational status, and poor social support

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