

## Study on Quality-of-Life assessment in Women after Hysterectomy

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Cite this paper as: Dr. G. Prema Priya, Dr. Remya R Pillai, Dr. Aishwarya, (2024) Study on Quality-of-Life assessment in Women after Hysterectomy. *Frontiers in Health Informatics, Vol.13, No.3*, 11416-11426

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### ABSTRACT

**Background:** Hysterectomy is associated with increased risk of cardiovascular disease, osteoporosis, bone fractures, postoperative adhesions, and potential complications like wound infections, vaginal prolapse, and urinary incontinence.

**Objectives:** To compare the pre- and postoperative results with patient satisfaction following hysterectomy; and to evaluate the change in quality-of-life following hysterectomy.

**Methods:** This was a hospital based prospective study conducted in the outpatient department and/or inpatient wards of the Department of Obstetrics and Gynaecology between August 2022 and August 2023.

**Results:** This study included 50 patients, with a mean age of 53.4 years. Most were from rural areas, and over half were illiterate. Nearly half were of middle socioeconomic status. Heavy menstrual bleeding was the main reason for hysterectomy (70%), followed by pelvic pain and fibroids. Of the patients, 56% had a vaginal hysterectomy and 44% had an abdominal hysterectomy. Most patients (82%) retained at least one ovary, while 18% had bilateral oophorectomy. Post-hysterectomy, pelvic pain significantly reduced from 80% to 30%. However, abdominal pain, hot flushes, vaginal dryness, and urinary symptoms showed no significant changes. Sexual activity remained consistent pre- and post-hysterectomy. Quality of life scores significantly improved in areas such as physical health, emotional wellbeing, and social functioning. Sexual quality of life scores also saw a significant increase. Histopathological examination revealed fibroids (58.3%), adenomyosis (22.2%), ovarian cysts (11.1%), endometrial polyps (5.6%), and endometrial hyperplasia (2.8%).

**Conclusion:** The positive outcomes challenges historical concerns about potential negative effects on sexual function, providing reassurance to both healthcare providers and women considering the procedure.

**Keywords:** Hysterectomy, Quality of life, Standard Form-36, Sexual Quality of Life-Female, India

### INTRODUCTION

Hysterectomy involves the surgical removal of the uterus, with or without the cervix, ovaries, fallopian tubes, and nearby structures.<sup>[1]</sup> The long-term mortality rate, especially for individuals under 45, is significantly higher due to hormonal side effects from hysterectomy and prophylactic oophorectomy. Even postmenopausal individuals

experience a decline in long-term survival post-oophorectomy.<sup>[2]</sup> Premenopausal bilateral salpingo-oophorectomy (BSO) leads to an abrupt reduction in estrogen levels, potentially impacting cardiovascular disease (CVD) risk, morbidity, and mortality.<sup>[3,4]</sup> The onset of natural or surgical menopause in one's 40s has been linked to heightened CVD risk, as well as increased overall and cardiovascular mortality.<sup>[5]</sup> While hysterectomy might expedite the menopausal process, prior research on the association between hysterectomy and CVD has yielded conflicting results.<sup>[6]</sup> A recent meta-analysis acknowledged a connection between hysterectomy and CVD but noted inconsistent adjustments for CVD risk factors in various studies.<sup>[7]</sup> Pre-existing elevated CVD risk before surgery could contribute to these findings. Most previous studies were conducted in North America,<sup>[8,9]</sup> Canada,<sup>[3]</sup> or Australia,<sup>[4]</sup> where hysterectomy and BSO rates are notably higher than in Scandinavian countries. Scandinavian data indicates an elevated prevalence of metabolic syndrome and CVD risk in women who underwent hysterectomy with or without BSO before the age of 50.<sup>[10]</sup> There is also an increased incidence of ischemic heart disease in women with oophorectomy or hysterectomy at young ages,<sup>[11]</sup> as well as greater intima media thickness in women who experienced early menopause and did not use hormone therapy (HT).<sup>[12]</sup> Furthermore, Olesen et al. recently suggested a potential association between BSO and cardiovascular mortality in women based on findings from the Danish Nurse Cohort, although the results did not reach statistical significance.<sup>[13]</sup> The Trøndelag Health Study (HUNT2) found that the hysterectomy group had increased all-cause mortality (hazard ratio (HR) 1.30, 95% CI 1.06 to 1.58) and cardiovascular mortality (HR 1.47, 95% CI 1.09 to 1.97).<sup>[14]</sup>

Removal of the ovaries leads to a significant drop in estrogen levels, eliminating its protective effects on the skeletal and cardiovascular systems, termed "surgical menopause".<sup>[15]</sup> Studies link hysterectomies to osteoporosis (HR 1.28, 95% CI 1.19 to 1.37),<sup>[16]</sup> bone fractures (overall, adjusted HR 2.26, 95% CI 2.09 to 2.44; vertebral fracture, aHR 4.92, 95% CI 3.78 to 6.40),<sup>[17]</sup> weakened bones, and a higher risk of heart disease.<sup>[7]</sup> Testosterone levels are lower in those who had a hysterectomy with both ovaries removed, predicting height loss, and contributing to weakened bones.<sup>[18]</sup> Vaginal prolapse and urinary incontinence may manifest years after surgery.<sup>[19]</sup>

The extent of dissection and hysterectomy wound site increases the risk of postoperative adhesions. Awonuga et al. documented that the adhesions that involved the site of closure of the pelvic peritoneum after hysterectomy or that was attached to the anterior abdominal wall were responsible for small bowel obstruction (SBO) in 85.0% and 15.0% cases, respectively.<sup>[20]</sup> Similar findings were observed in a relatively small case series by Stricker et al. who noted that hysterectomy was the most common previously performed operation linked to bowel obstruction, with caesarean delivery being less likely than myomectomy to cause subsequent intestinal obstruction.<sup>[21]</sup>

Approximately 3.0% of abdominal hysterectomies result in wound infection – with increased risk among those with obesity, diabetes, immune disorders, systemic corticosteroid use, smoking, and wound hematomas.<sup>[22]</sup> Against this background, the objectives of the present study were to compare the pre- and postoperative results with patient satisfaction following hysterectomy; and to evaluate the change in quality-of-life following hysterectomy.

## MATERIALS AND METHODS

This was a hospital based prospective study conducted in the outpatient department and/or inpatient wards of the Department of Obstetrics and Gynaecology, Vinayaka Mission's Kirupananda Variyar Medical College and Hospital, a tertiary healthcare facility in Salem, Tamil Nadu, India between August 2022 and August 2023. The study was approved by the Institutional Human Ethics Committee (IHEC). The participants were given the Participant Information Sheet (PIS) in their native language, and its contents were verbally explained to ensure their understanding and satisfaction. Enrolment into the study proceeded upon receipt of written informed consent. All the patients (complete enumeration of patients 40 to 60 years of age) planning to undergo hysterectomy for benign conditions were enrolled in the study. However, patients with comorbidities including diabetes, hypertension, bronchial asthma, tuberculosis, collagen disorders and thyroid disorders; patients with cardiac, hepatic, renal, cerebrovascular diseases, malignancy; immunocompromised patients; and patients discharged against medical advice and/or on request were excluded.

Kumari et al.<sup>[23]</sup> reported the mean (SD) postoperative SF-36 score for physical health to be 91.9 (2.8). Using this information, considering the alpha error to be 5%, beta error to be 20%, the minimum required sample size was computed to be 37, rounded off to 50, with 95% confidence. We used a purpose pre-designed, semi structured, pretested questionnaire to document sociodemographic characteristics (age in years, parity, socioeconomic status), menstrual history, findings of general physical examination, clinical examination, vitals (pulse rate (per minute), blood pressure (mmHg)), anthropometry (weight (in kilograms), height (in centimetres), body mass index (BMI, kg/m<sup>2</sup>)) and indication for surgery. The health-related quality of life was assessed with Standard Form-36 (SF-36) before surgery.<sup>[24]</sup> The scales include the health in general, physical impact of symptoms on activities of daily living, impact on sexual health, psychological impact, social and occupational impact. The quality of life was assessed again at 6 months follow up. We assessed the quality of life related to sexual dysfunction using the Sexual

Quality of Life-Female (SQOL-F) questionnaire.<sup>[25]</sup> The SQOL-F questionnaire is a specific and self-report instrument that focuses on sexual self-esteem, emotional and relationship issues. It consists of 18 items and each item is rated on a six-point response (completely agree to completely disagree). The response categories could be scored either 1 to 6 or 0 to 5 giving a total score of 18 to 108 or 0 to 90. Higher score indicates better female sexual quality of life.

**Statistical analysis:** The data collected was entered manually in Microsoft Excel format, coded, recoded, and analysed using Stata v16. Data normality was tested using Kolmogorov–Smirnov test and the Shapiro–Wilk test. Frequency and proportions were calculated for categorical variables. Mean (standard deviation) and median (interquartile range) were estimated for continuous variables. Appropriate tables and graphs were made. To assess the association between independent study variables and the quality of life, independent “t” test (two sided) test was used. Statistical significance was considered at  $p < 0.05$ .

## RESULTS

The present study included a total of 50 patients. Nearly half the patients (44.0%) were between 56 and 60 years of age. The mean (SD) age of the patients was 53.4 years (4.7); ranging between 40 and 60 years. The distribution of patients by socioeconomic status showed that nearly half (46.0%) were of middle socioeconomic status, followed by 30.0% from lower and 24.0% from upper socioeconomic status. Nearly two third patients were from rural (62.0%) areas. Based on literacy, more than half (58.0%) the patients were illiterate and 42.0% patients were literate. A little more than one in ten patients (12.0%) were nulliparous. More than half (52.0%) the patients were either overweight or obese, 44.0% had normal BMI and 4.0% patients were underweight (**Table 1**).

**Table 1: Distribution of study participants**

		Number (N = 50)	Precent (%)
Age (in years)	40 to 45	3	6.0
	46 to 50	8	16.0
	51 to 55	17	34.0
	56 to 60	22	44.0
Socioeconomic status*	Lower	15	30.0
	Middle	23	46.0
	Upper	12	24.0
Residence	Rural	31	62.0
	Urban	19	38.0
Education	Illiterate	29	58.0
	Literate	21	42.0
Nulliparous	Yes	6	12.0
	No	44	88.0
Body mass index (kg/m <sup>2</sup> )	Underweight	2	4.0
	Normal	22	44.0
	Overweight/obese	26	52.0
Indication for hysterectomy	Heavy menstrual bleeding	35	70.0
	Pelvic pain <sup>^</sup>	4	8.0
	Fibroids	3	6.0
	Dysmenorrhea	3	6.0
	Uterovaginal prolapse or stress incontinence	3	6.0
	Abnormal cervical smear or histology	2	4.0

Type of hysterectomy	Abdominal	22	44.0
	Vaginal	28	56.0
Type of oophorectomy	With conservation of at least 1 ovary	41	82.0
	Bilateral oophorectomy	9	18.0
Histopathology	Fibroids	21	58.3
	Adenomyosis	8	22.2
	Endometrial hyperplasia	1	2.8
	Endometrial polyps	2	5.6
	Ovarian cysts	4	11.1
*Lower SES includes lower and upper lower categories; Middle SES includes middle and upper middle categories ^Includes endometriosis, infections, adhesions SES, Socioeconomic status			

Heavy menstrual bleeding (70.0%) was the most common indication for hysterectomy. This was followed by pelvic pain (including endometriosis, infections and adhesions; 8.0%), fibroids (6.0%), dysmenorrhea (6.0%), uterovaginal prolapse or stress incontinence (6.0%), and abnormal cervical smear or histology (4.0%), in that order. Of the 50 patients, 56.0% had vaginal hysterectomy and 44.0% had abdominal hysterectomy. Majority of the patients (82.0%) had hysterectomy with conservation of at least one ovary; whereas 18.0% had hysterectomy with bilateral oophorectomy. Histopathological examination (n=36) showed that 58.3% patients had fibroids, 22.2% had adenomyosis, 11.1% had ovarian cysts, 5.6% had endometrial polyps 2.8% had endometrial hyperplasia, in that order.

The women who underwent hysterectomy with conservation of at least 1 ovary were considered Group 1 (n = 41; 82.0%) and women who underwent hysterectomy and bilateral oophorectomy were considered Group 2 (n = 9; 18.0%). The median (IQR) levels of follicle-stimulating hormone in the present study was 4.9 (3.3 to 7.6) – 4.8 (3.4 to 7.5) in Group 1 and 5.0 (3.2 to 7.6) in Group 2.

We compared the proportion of patients presenting with symptoms pre and post hysterectomy. Overall, it was found that 80.0% of the patients had pelvic pain before hysterectomy; however, after hysterectomy only 30.0% of the patients had pelvic pain – a statistically significant difference (p<0.05). This statistically significant difference was observed in the subgroup analysis – by Group1 (78.0% vs 26.8%) and Group 2 (88.9% vs 44.4%) as well (p<0.05). On the other hand, the results showed that the abdominal pain, hot flushes, and vaginal dryness did not vary significantly before and after hysterectomy, in overall and subgroup analysis (p>0.05). The present analysis showed that the urinary symptoms namely urinary frequency, nocturia, urge incontinence, stress incontinence, difficulty urinating, and sensation of residual urination did not differ significantly before and after hysterectomy (p>0.05). The other symptoms considered in the present study were constipation, diarrhoea, alternating bowel habits, and bloating. The results showed that these symptoms did not vary significantly before and after hysterectomy among the included patients (p>0.05) in the overall or subgroup analysis (Table 2).

**Table 2: Comparing pre and post hysterectomy – based on symptoms**

		Pre hysterectomy	Post hysterectomy At 6 months	P value
<b>Presenting symptoms</b>				
Pelvic pain	Overall	40 (80.0)	15 (30.0)	<0.001*
	Group 1	32 (78.0)	11 (26.8)	<0.001*
	Group 2	8 (88.9)	4 (44.4)	0.045*
Abdominal pain	Overall	26 (52.0)	17 (34.0)	0.069
	Group 1	20 (48.8)	13 (31.7)	0.115
	Group 2	6 (66.7)	4 (44.4)	0.343

Hot flushes	Overall	17 (34.0)	10 (20.0)	0.115
	Group 1	13 (31.7)	7 (17.1)	0.124
	Group 2	4 (44.4)	3 (33.3)	0.629
Vaginal dryness	Overall	13 (26.0)	12 (24.0)	0.817
	Group 1	11 (26.8)	9 (22.0)	0.607
	Group 2	2 (22.2)	3 (33.3)	0.599
<b>Urinary symptoms</b>				
Urinary frequency	Overall	23 (46.0)	15 (30.0)	0.098
	Group 1	18 (43.9)	11 (26.8)	0.106
	Group 2	5 (55.6)	4 (44.4)	0.637
Nocturia	Overall	19 (38.0)	14 (28.0)	0.289
	Group 1	15 (36.6)	10 (24.4)	0.230
	Group 2	4 (44.4)	4 (44.4)	1.000
Urge incontinence	Overall	17 (34.0)	13 (26.0)	0.383
	Group 1	13 (31.7)	10 (24.4)	0.461
	Group 2	4 (44.4)	3 (33.3)	0.629
Stress incontinence	Overall	24 (48.0)	21 (42.0)	0.546
	Group 1	20 (48.8)	18 (43.9)	0.658
	Group 2	4 (44.4)	3 (33.3)	0.629
Difficulty urinating	Overall	5 (10.0)	3 (6.0)	0.461
	Group 1	4 (9.8)	3 (7.3)	0.692
	Group 2	1 (11.1)	0 (0.0)	0.975
Sensation of residual urination	Overall	18 (36.0)	15 (30.0)	0.523
	Group 1	14 (34.1)	11 (26.8)	0.472
	Group 2	4 (44.4)	4 (44.4)	1.000
<b>Other symptoms</b>				
Constipation	Overall	17 (34.0)	11 (22.0)	0.181
	Group 1	15 (36.6)	9 (22.0)	0.145
	Group 2	2 (22.2)	2 (22.2)	1.000
Diarrhoea	Overall	16 (32.0)	9 (18.0)	0.106
	Group 1	12 (29.3)	7 (17.1)	0.191
	Group 2	4 (44.4)	2 (22.2)	0.317
Alternating bowel habits	Overall	8 (16.0)	7 (14.0)	0.779
	Group 1	7 (17.1)	6 (14.6)	0.628
	Group 2	1 (11.1)	1 (11.1)	1.000
Bloating	Overall	20 (40.0)	17 (34.0)	0.534
	Group 1	15 (36.6)	14 (34.1)	0.817
	Group 2	5 (55.6)	3 (33.3)	0.662

Overall, there were 50 participants in the present study. The group 1 (hysterectomy with conservation of at least 1 ovary) includes 41 participants, and the group 2 (hysterectomy with bilateral oophorectomy) includes 9 participants.

\*Statistically significant at  $p < 0.05$

We compared the sexual activity or sexual functioning of the patients before and after hysterectomy. The results showed that, overall, 80.0% of the patients were sexually active before hysterectomy and 82.0% patients were sexually active after hysterectomy. However, this difference was not statistically significant ( $p > 0.05$ ). This statistical indifference was true in the subgroup analysis (Group 1 – 82.9% vs 85.4%; Group 2 – 66.7% vs 66.7%) as well ( $p > 0.05$ ) (Figure 1).

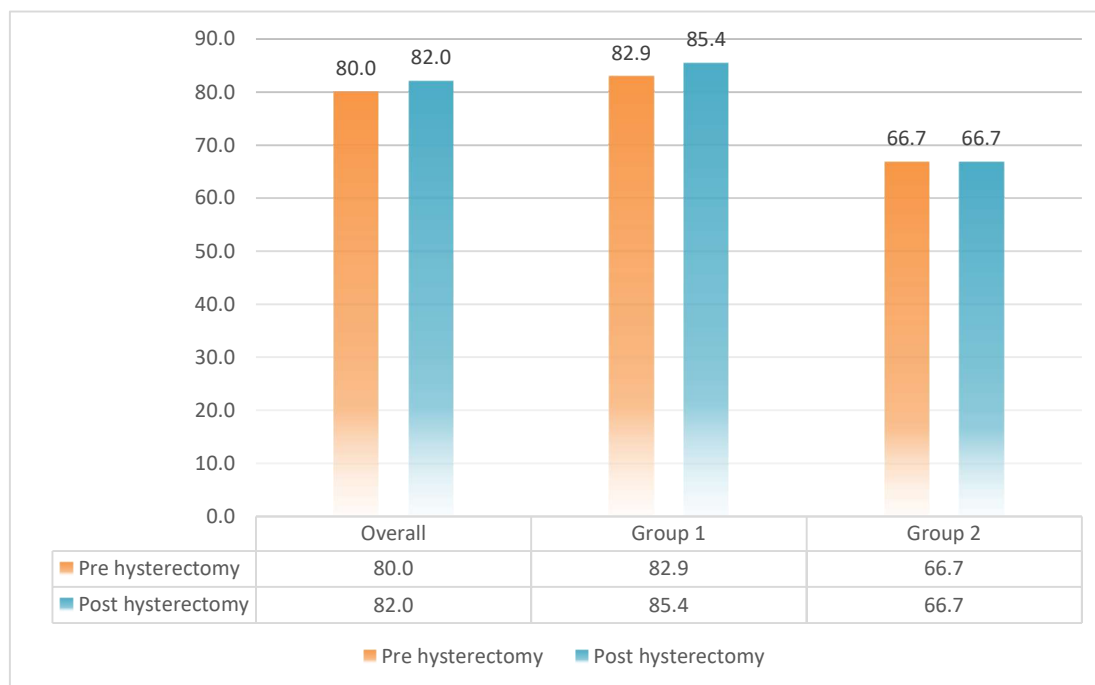


Figure 1: Comparing pre and post hysterectomy – based on sexual activity

The results showed that the quality of life scores significantly improved after hysterectomy (at six months) in comparison with scores before hysterectomy for physical health (61.9 (6.2) vs 92.4 (5.7)), role limitations due to physical health (0.0 (0.0) vs 59.6 (6.7)), role limitations due to emotional health (0.0 (0.0) vs 74.2 (5.3)), energy (33.6 (4.6) vs 61.4 (3.6)), social functioning (44.7 (7.3) vs 79.2 (7.2)), emotional wellbeing (69.2 (4.1) vs 86.3 (5.2)), bodily pain (60.5 (5.1) vs 98.3 (2.6)), and general health (38.3 (6.2) vs 61.3 (3.2)) ( $p < 0.05$ ). Similarly, the sexual quality of life-female questionnaire scores before hysterectomy was 42.3 (4.7) and that after hysterectomy was 82.3 (4.7) – a statistically significant difference ( $p < 0.05$ ) (Table 3; Figure 2).

Table 3: Comparing pre and post hysterectomy – based on quality of life

	Pre hysterectomy N = 50	Post hysterectomy At 6 months N = 50	P value
<b>Quality of life</b>			
Physical health	61.9 (6.2)	92.4 (5.7)	<0.001*
Role limitations due to physical health	0.0 (0.0)	59.6 (6.7)	<0.001*

Role limitations due to emotional health	0.0 (0.0)	74.2 (5.3)	<0.001*
Energy	33.6 (4.6)	61.4 (3.6)	<0.001*
Social functioning	44.7 (7.3)	79.2 (7.2)	<0.001*
Emotional wellbeing	69.2 (4.1)	86.3 (5.2)	<0.001*
Bodily pain	60.5 (5.1)	98.3 (2.6)	<0.001*
General health	38.3 (6.2)	61.3 (3.2)	<0.001*
<b>Sexual quality of life</b>			
Sexual quality	42.3 (4.7)	82.3 (4.7)	<0.001*
*Statistically significant at p<0.05			

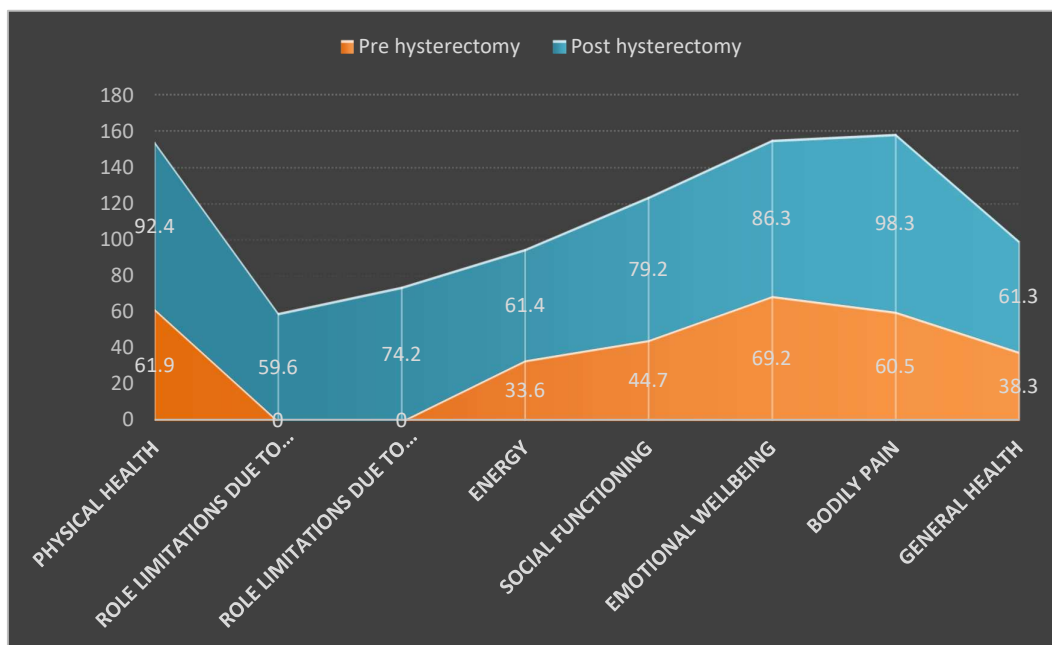


Figure 2: Comparing pre and post hysterectomy – based on quality of life

## DISCUSSION

The present study was conducted with an aim to measure the quality of life of patients undergoing hysterectomy for benign conditions; and to compare the quality of life before and after hysterectomy. The study included patients in the age range of 40 to 60 years, with a mean age of 53.4 years (SD 4.7). A significant proportion (44.0%) of the patients were in the age group of 56 to 60 years, indicating that the study predominantly involved older women. The results shows that hysterectomy is a common surgical intervention in postmenopausal women.<sup>[26]</sup> This aligns with the general trend, as benign gynaecological conditions often prompt hysterectomy in older age groups.<sup>[27]</sup> The socioeconomic status of the participants varied, with 46.0% classified as middle class, 30.0% as lower class, and 24.0% as upper class. It is important to note that the socioeconomic factors can influence healthcare-seeking behaviour and access to medical services, impacting post-hysterectomy outcomes.<sup>[28]</sup> The majority of patients (62.0%) were from rural areas, emphasizing the inclusion of patients from diverse geographical backgrounds. Urban representation constituted 38.0% of the study population. This distribution reflects a diverse socioeconomic and geographic representation within the study population which is crucial for generalizability or external validity of study findings.<sup>[29]</sup>

A notable finding is that more than half (58.0%) of the patients were illiterate, while 42.0% were literate. The literacy criterion used in the study provides a clear definition and context for understanding the educational

background of the participants. The higher illiteracy rate may pose challenges in health literacy and patient communication.<sup>[30]</sup> Tailoring postoperative care and information delivery to accommodate diverse literacy levels is essential for improved patient outcomes.<sup>[31]</sup> Parity, defined as the number of pregnancies reaching 20 weeks and beyond, revealed that 12.0% of patients were nulliparous, and 88.0% were multiparous. This information sheds light on the reproductive history of the study population, indicating a predominantly multiparous group. The high proportion of multiparous women undergoing hysterectomy suggests that the procedure is often considered after completion of childbearing.<sup>[32]</sup> The sociodemographic and obstetric history highlights the need for a nuanced approach to post-hysterectomy care, considering the diverse demographic factors. Tailoring healthcare interventions based on age, socioeconomic status, literacy levels, and reproductive history can enhance the overall quality of life and postoperative outcomes.<sup>[33]</sup>

In the present study, more than half (52.0%) of the patients fell into the overweight or obese categories, indicating a significant prevalence of higher BMI in the study population. Higher BMI can impact surgical outcomes, recovery, and overall postoperative health.<sup>[34]</sup> McMahon et al. found that in comparison with non-obese women, obese women were at increased odds of having any complication following hysterectomy (OR 1.62, 95% CI 1.12 to 2.34).<sup>[35]</sup> Surgeons may need to adapt techniques to address the unique challenges associated with higher BMI.<sup>[35]</sup> Strategies for weight management and lifestyle interventions may be beneficial not only for gynaecological health but also for overall well-being and disease prevention – needs a multidisciplinary approach.<sup>[36]</sup> The primary indication for hysterectomy in the study population was heavy menstrual bleeding, accounting for 70.0% of cases. This finding aligns with general trends, as heavy menstrual bleeding is a common gynaecological issue that can lead to surgical intervention.<sup>[37]</sup> Pelvic pain, including endometriosis, infections, and adhesions, was the second most common indication (8.0%). Fibroids, dysmenorrhea, uterovaginal prolapse or stress incontinence, and abnormal cervical smear or histology were less-common indications but still represented in the study. The diversity of indications reflects the multifaceted nature of gynaecological issues leading to hysterectomy.<sup>[38]</sup> Each indication requires tailored preoperative evaluation and postoperative care.

The study observed that 56.0% of patients underwent vaginal hysterectomy, while 44.0% had abdominal hysterectomy. This distribution reflects the diversity in surgical approaches, with both vaginal and abdominal methods being utilized. The majority of patients (82.0%) had hysterectomy with the conservation of at least one ovary. However, a significant portion (18.0%) underwent hysterectomy with bilateral oophorectomy. The high rate of ovarian conservation aligns with the contemporary trend emphasizing the importance of preserving ovarian function when possible.<sup>[39]</sup> The results of histopathological examination indicated that the most common histopathological finding was fibroids (58.3%), followed by adenomyosis (22.2%), ovarian cysts (11.1%), endometrial polyps (5.6%), and endometrial hyperplasia (2.8%). Fibroids are a common indication for hysterectomy, especially in women of reproductive age. Also, the variety of histopathological findings highlights the complexity of conditions leading to hysterectomy.

Grouping based on ovarian conservation allows for a comparison of hormonal status between those with ovarian conservation (Group 1) and those with bilateral oophorectomy (Group 2). In Group 1, the median (IQR) FSH was 4.8 (3.4 to 7.5), and in Group 2, it was 5.0 (3.2 to 7.6). The reported FSH levels suggest a relatively comparable hormonal profile between the two groups, indicating potential factors influencing hormonal balance beyond ovarian conservation.<sup>[40]</sup>

Before hysterectomy, 80.0% of patients experienced pelvic pain, while after the procedure, only 30.0% had pelvic pain. The substantial reduction in pelvic pain post-hysterectomy aligns with existing literature, highlighting the effectiveness of hysterectomy in relieving this symptom, particularly when associated with conditions such as fibroids or adenomyosis. Overall, there was no statistically significant difference in sexual activity before and after hysterectomy (80.0% vs. 82.0%). Subgroup analysis for Group 1 (hysterectomy with ovarian conservation) and Group 2 (hysterectomy with bilateral oophorectomy) also revealed no significant changes in sexual activity. This suggests that hysterectomy, regardless of ovarian conservation, does not necessarily impact overall sexual activity. The study found that urinary symptoms, including urinary frequency, nocturia, urge incontinence, stress incontinence, difficulty urinating, and sensation of residual urination, did not differ significantly before and after hysterectomy. This suggests that hysterectomy may not be a major factor contributing to alterations in urinary function.

Hysterectomy, with or without oophorectomy, is a surgical procedure that involves the removal of the uterus, and in the case of oophorectomy, the removal of one or both ovaries. This surgical intervention is often performed for various benign gynaecological conditions such as fibroids, endometriosis, adenomyosis, and abnormal bleeding. The decision to perform oophorectomy depends on factors such as the patient's medical history, age, and the presence of ovarian pathology.<sup>[41]</sup> The potential reasons for improvement in quality of life of women after hysterectomy could be relief from symptoms such as pelvic pain, abnormal bleeding, and discomfort; resolution of chronic conditions including endometriosis and adenomyosis; enhanced emotional well-being attributed to elimination of chronic pain and the resolution of distressing symptoms; improved sexual function; increased

energy levels; elimination of menstrual symptoms; freedom from menopausal symptoms (in case of bilateral oophorectomy) with hormone replacement therapy; and positive impact on daily activities.<sup>[23,42]</sup> In summary, hysterectomy, with or without oophorectomy, can significantly improve the quality of life for women. The procedure provides relief, improves emotional well-being, and enhances overall health, contributing to a better and more fulfilling life for many women who undergo this surgery.

The SF-36 questionnaire was utilized in the present study to assess the quality of life in women undergoing hysterectomy. The results indicated a significant improvement in various domains of quality of life six months after hysterectomy compared to preoperative scores.<sup>[24]</sup> Notable improvements were observed in physical health, role limitations (both physical and emotional), energy levels, social functioning, emotional well-being, bodily pain, and general health ( $p < 0.05$ ). Similarly, the study found a significant improvement in sexual quality of life post-hysterectomy, with scores increasing from 42.3 (before hysterectomy) to 82.3 (after hysterectomy) ( $p < 0.05$ ). The observed improvements in various domains of quality of life align with the existing literature, indicating that hysterectomy can positively impact physical, emotional, and social well-being. The significant improvements in bodily pain, emotional well-being, and general health are particularly noteworthy, emphasizing the holistic benefits of the procedure. The substantial improvement in role limitations (both physical and emotional) suggests that hysterectomy contributes to enhanced functional capacity and reduced restrictions in daily activities. The improvement in energy levels post-hysterectomy is indicative of a positive impact on overall vitality and well-being. The remarkable improvement in sexual quality of life post-hysterectomy is a notable finding. This contradicts historical concerns about the potential negative impact of the procedure on sexual function.<sup>[43]</sup> This improvement may be attributed to the resolution of underlying gynaecological conditions causing distress and discomfort. These findings have important clinical implications, emphasizing the overall positive impact of hysterectomy on women's quality of life, including physical, emotional, and sexual aspects. The results support the consideration of quality-of-life outcomes in the decision-making process for women contemplating hysterectomy.

The present study is not without limitations. It includes single centre study limiting the external validity of the results, selection bias, six-month follow-up period may not capture long-term outcomes, use of self-reported data resulting in response bias, and the study may not have accounted for all potential confounding variables that could influence the observed outcomes, such as concurrent medical conditions, medications, or lifestyle factors.

## CONCLUSION

The study revealed compelling findings regarding the positive impact of hysterectomy on the quality of life of the participants. Utilizing the SF-36 questionnaire, improvements were observed in multiple domains, including physical health, emotional well-being, and social functioning. Notably, the significant reduction in pelvic pain post-hysterectomy underscores the efficacy of the procedure in alleviating specific symptoms associated with benign gynaecological conditions. Furthermore, the study explored sexual quality of life using the SQOL-F questionnaire, revealing a substantial improvement in scores post-hysterectomy. This positive outcome challenges historical concerns about potential negative effects on sexual function, providing reassurance to both healthcare providers and women considering the procedure.

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