

Prospective Study of Psychiatric Morbidity and Evaluation of Quality of Life in Patients Undergoing Hysterectomy

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Abstract

Background: Hysterectomy is the most common gynecological operation in the world, secondary to caesarian section. However, women undergoing hysterectomy face a multitude of psychosocial problems both before and after hysterectomy. **Aims:** To study and compare psychiatric morbidity, quality of life in patients on admission and after about 6 weeks post hysterectomy. **Methods and Methodology:** A total number of 100 women undergoing hysterectomy were included after they satisfied the eligibility criteria. Written informed consent was taken from all the study participants. After being evaluated by the inpatient Department of Obstetrics and Gynecology, such cases along with records of hospitalization and treatment were evaluated for any psychiatric morbidity and quality of life was assessed. Instruments used for assessment include WHOQOL-BREF, M.I.N.I, and Semi structured proforma. **Results:** There was overall improvement in psychiatric morbidity (30% to 12%). There was improvement in all domains of quality of life ($p < 0.0001$). **Conclusion:** Most patients undergo hysterectomy to relieve symptoms and to improve their quality of life. Further research should be done to assess long term impact of hysterectomy.

Keywords: Hysterectomy, Psychiatry, Quality of Life

1. Introduction

Hysterectomy, the surgical removal of uterus is the most commonly performed gynecological operation in the world, second only to caesarean sections in all operations done on women. Approximately 96% of hysterectomies are performed to treat benign conditions such as uterine fibroids, endometriosis, and symptoms such as dysfunctional menstrual bleeding¹.

Studies show that women attending gynecological outpatient departments are more likely to be associated with psychiatric morbidity^{2,3} with an Indian study conducted in an oncology clinic showing that there is not much statistical significant difference in psychiatric morbidity between benign (46%) and malignant

conditions (50%). Despite the significant distress these patients face, they are seldom referred to a psychiatrist and their illness goes unrecognized until they are left with no options but to undergo hysterectomy.

However like any major surgical procedures, there are concerns regarding association of mental ill health following hysterectomy for benign conditions such as anxiety, depressive illness, mood changes and psychotic illness^{4,5} Egypt, in which 96 women scheduled for hysterectomy were assessed for psychiatric comorbidity before and after the operation using the General Health Questionnaire (GHQ-28). However, new reports like a meta-analysis published in 2014 refute this association indicating that there is actually improvement in scores

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of psychiatric illness post-surgery with only 2 out of 22 studies showing contrary results.^{6,7} Both studies were from developing countries.

Uterus and the womb have varying significance in different cultures due to the close link to femininity and fertility. In the Indian subcontinent, the picture is unclear where some women consider the uterus to be a vestigial organ to be discarded once childbearing is over while others feel an acute sense of loss of their feminine, sexual and reproductive identity.

Experts say that many of these surgeries can be avoided however due to the lack of knowledge, options, and fear of cancer many women end up getting coerced into having the surgery. With all this unsurety and dissatisfaction many women undergo a tumultuous journey.

However, there is dearth of literature available about psychiatric morbidity associated with hysterectomy in an Indian setup. This study attempts to bridge that gap by investigating mental ill health and quality of life before and after the surgical procedure.

2. Aims and Objectives

- To study and compare psychiatric morbidity as well as quality of life in patients on admission and after about 6 weeks post hysterectomy

3. Material and Methods

This research is a prospective study design in a sample of 100 patients with benign gynecological diseases undergoing hysterectomy attending Department of Obstetrics and Gynecology of a tertiary care private hospital. The study was approved by the Institutional ethics committee. All patients were informed about details of study, and a valid informed consent was obtained. The inclusion criteria for the study were patients undergoing hysterectomy for benign diseases while patients with malignant diseases and past psychiatric illness were excluded.

All patients were first assessed using the following instruments.

The following materials were used for assessment of study subjects.

All patients were assessed on admission and reassessed 6 weeks post hysterectomy.

- A semi structured proforma was prepared to collect data regarding
 - Demographic Details

- History

- Significant Physical and Systemic Findings

- Mental Status Examination and Clinical Diagnosis

- Mini International Neuropsychiatry Interview English Version 6.0.0

All the subjects were screened for psychiatric morbidity by using (MINI) version 6.0.0 Mini International Neuropsychiatric Interview⁷.

The M.I.N.I is designed as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV and ICD-10. Validation and reliability studies have been done comparing the M.I.N.I to the SCID-P for DSM-III-R and the CDI (a structured interview developed by the World Health Organization for lay interviews for ICD-10). The results of these studies show that the M.I.N.I has acceptably high validation and reliability scores, and can be administered in a much shorter period of time (mean 18.7 ± 11.6 minutes, median 15 minutes). It can be used by clinicians, after a brief training session.

- WHO Quality of life evaluation- BREF.

The quality of life among the subjects was assessed by using WHO Quality of life evaluation- BREF⁸.

WHO QOL Instrument Bref is an international cross culturally comparable quality of life assessment instrument. It assesses individual's perception in the context of cultural and value systems, and their goals, standards, and concerns. It comprises 26 items which measures 4 domains, physical, psychological, social and environment.

Appropriate statistical software including but not restricted to MS Excel, SPSS ver. 20 was used for statistical analysis. Chi-Square test, Paired T Test, and Wilcoxon signed rank test were used where appropriate.

The limitations of our study design include a small sample size, lack of controls, and the short follow up.

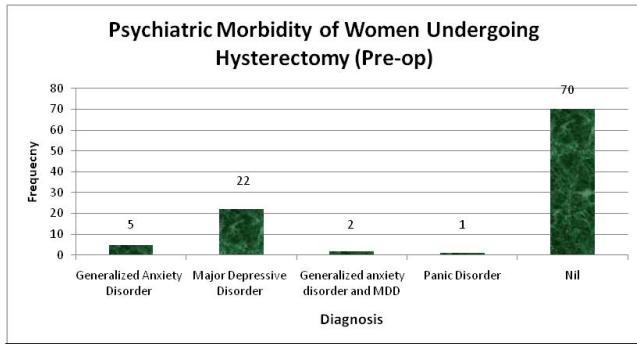
4. Observations and Results

The mean age of the 100 study subjects was 47 years with age ranging from 30 to 70 years.

4.1 Psychiatric Morbidity of Women Undergoing Hysterectomy (Pre-op)

On admission, prior to hysterectomy, women were administered the MINI scale. The results are as follow, 70% of the women had no psychiatric illness, while 30%

had psychiatric illness. The most common disorders were Major Depressive Disorder (22%), Generalized Anxiety Disorder (5%), comorbid Generalized Anxiety Disorder and Major Depressive Disorder 2%, and Panic Disorder 1%. (Graph 1).



Graph 1: Psychiatric Morbidity of Women Undergoing Hysterectomy (Pre-op)

Table 1. Comparison of psychiatric Morbidity before and after hysterectomy

Post-Operatively				
Psychiatric Diagnosis	Pre-Operatively	At both Points	New Onset	Post-Operatively
Active Psychiatric Illness	30	9	3	12
GAD	5	2	1	3
MDD	22	7	2	9
Panic Disorder	1	0	0	0
GAD + MDD	2	0	0	0
No Active Psychiatric Illness	70	67	21	88
Total	100			100

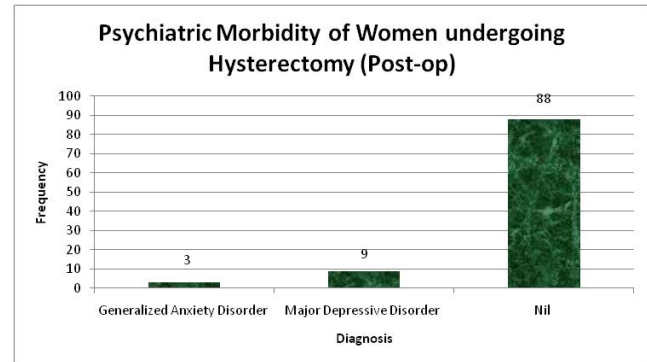
4.2 Psychiatric Morbidity of Women Undergoing Hysterectomy (Post-op)

The study subjects were re-administered the MINI scale 6 weeks post hysterectomy. Surprisingly, 88% of the women had no psychiatric illness, while 9% had Major Depressive Disorder, 3% had Generalized Anxiety Disorder. (Graph 2)

As mentioned earlier, psychiatric Morbidity was assessed by administering the MINI scale on admission and 6 weeks post hysterectomy. The results are as follows,

with 30 patients having active psychiatric illness on admission as compared to 12 patients post operatively.

70 patients had no psychiatric illness on admission of which 67 patients continued to have no psychiatric illness. 21 patients had no psychiatric illness post operatively. In total, 88 patients had no psychiatric illness after hysterectomy (Table 1).



Graph 2: Psychiatric Morbidity of Women undergoing Hysterectomy (Post-op)

4.3 Quality of Life in Women Undergoing Hysterectomy

The WHO quality of life-BREF scale was administered and the scores were as follows. In the Physical Domain, the score was 54.81 ± 10.41 , Psychological Domain the score was 56.18 ± 13.08 , Social Domain the score was 61.95 ± 13.97 , Environmental Domain the score was 67.3 ± 14.95 (Table 2).

Table 2. Quality of life scores (pre-operatively)

Domain	Pre Hysterectomy	
	Mean	Std. Deviation
Physical	54.81	10.41
Psychological	56.18	13.08
Social	61.95	13.97
Environmental	67.3	14.95

Table 3. Quality of life in women undergoing hysterectomy (post-operatively)

Domain	Post Hysterectomy	
	Mean	Std. Deviation
Physical	59.86	7.96
Psychological	64.82	11.25
Social	66.18	13.86
Environmental	72.84	13.99

Table 4. Comparison of quality of life scores before and after hysterectomy

Domain	Pre Hysterectomy		Post Hysterectomy		T test statistic	P value
	Mean	Std. Deviation	Mean	Std. Deviation		
Physical	54.81	10.41	59.86	7.96	-4.85	P < 0.0001
Psychological	56.18	13.08	64.82	11.25	-7.14	P < 0.0001
Social	61.95	13.97	66.18	13.86	-5.07	P < 0.0001
Environmental	67.3	14.95	72.84	13.99	-7.260	P < 0.0001

The WHO quality of life BREF scale was re-administered 6 weeks post hysterectomy. Scores were as follows.

Physical Domain, the score was 59.86 ± 7.96 , Psychological Domain, the score was 64.82 ± 11.25 , Social Domain, the score was 66.18 ± 13.86 , Environmental domain, score was 72.84 ± 13.99 (Table 3).

The quality of life mean scores in all 4 domains increased post Hysterectomy indicating that quality of life improves post hysterectomy. On applying the paired T test, this was found to be statistically highly significant (Table 4).

5. Discussion

5.1 Socio-demographic Details

The present study consisted of 100 patients, the age range being 30 to 70 years. Most of the patients in the study fall into the group of 40 to 49 years (57%). The mean age of the study sample was 47 years.

A study by Bhatia et al found that mean age of patients undergoing hysterectomy was 46.4 years with majority of cases (44%) belonging to the 35-44 years age group⁹. Our findings were in accord with an editorial in New England Journal of Medicine which reports that the average age of hysterectomy is 40-45 years¹⁰. A study by Desai et al did not agree and found a low mean age of 36 years at hysterectomy in a low income setting in Gujarat¹¹ but there are limited population-level data available to inform policy. This paper reports on the findings of a mixed-methods study to estimate incidence and identify predictors of hysterectomy in a low-income setting in Gujarat, India. The estimated incidence of hysterectomy, 20.7/1000 woman-years (95% CI: 14.0, 30.8).

The duration of marriage of our study subjects ranged from 8-58 years. Similarly, a study by Bahri et al., found that the duration of marriage ranged from 8-40 years for the women included in their study¹².

The indications for hysterectomy in our study included uterine fibroid, genital prolapse, dysfunctional uterine bleeding. Our results mirrored other studies such as Bhatia et al.,⁹ and Okunlola et al.,¹³ who stated reasons for undergoing hysterectomy were uterine fibroids, genital prolapse and dysfunctional uterine bleeding.

5.2 Psychiatric Disorders in Patients Undergoing Hysterectomy (Pre-Operatively)

In our study we found that 30% of the patients had psychiatric disorders while 70% had no illness. Among the patients having psychiatric disorders, 22% of the patients were suffering from major depressive disorder. Generalized anxiety disorder (5%) was the second common diagnosis. This was followed by comorbid anxiety and depression and lastly panic disorder.

The prevalence of psychiatric disorders in patients undergoing hysterectomy has been found to be varied in literature. A review reported that the incidence of psychiatric morbidity before hysterectomy ranged from 16-58%^{14,15} and was higher as compared to matched female population (6-14%)¹⁶. Similar to our study, the psychiatric diagnosis prior to hysterectomy was either depression or anxiety despite the variation in the proportion between studies.

5.3 Psychiatric Disorders in Patients Post Hysterectomy (Post-Operatively)

Overall, we found that levels of psychiatric morbidity fell in our study from 30% to 12%.

Shah et al reported high rates of anxiety (69.6%) and depression (14.4%) but a decreasing trend in anxiety and depression scale scores at 24 weeks post-hysterectomy¹⁷.

In a study by Chaudary et al., 36 women undergoing hysterectomy for benign conditions were compared with equal number of patients undergoing other gynecological operations. They found that hysterectomy was not associated with psychiatric morbidity¹⁸. A study by Bhatia

et al found that there was improvement in neuroticism and depression scores after 4 weeks post hysterectomy⁹.

One paper by Gath *et al.*, reported findings of 3 studies, in all three studies levels of psychiatric morbidity were measured before the operation and 6 months after the operation. Levels of psychiatric morbidity as measured by the Present state examination fell significantly across the three studies. In Study 1, the proportions of psychiatric cases were 58% before hysterectomy and 26% after; in Study 2, 28% before and 7% after; and in Study 3, 9% before and 4% after¹⁹ but each study examined psychiatric morbidity among women undergoing hysterectomy for menorrhagia of benign origin. In all three studies levels of psychiatric morbidity were measured before the operation and 6 months after the operation. Psychiatric morbidity was measured with the Present State Examination (PSE).

- Depression and risk factors

In this prospective study, our results indicated that depression and depressive symptoms improved post hysterectomy in majority of the women. However, 9% of women had depression post operatively and 2% of these were new onset depression.

These findings are similar to many studies who have reported improvement post hysterectomy^{6,20}.

A study by Vandyk *et al.*, found that 36% reported depressive symptoms preoperatively and 22% postoperatively. 15% continued to have depressive symptoms after surgery, and 6% were new onset depression. Moreover, pain interference and depressive symptoms prior to the surgery were a strong indicator of postoperative depressive symptoms²¹ Ontario, over a 4-year period (2006-2010).

Yen et al studied 68 women who underwent hysterectomy 2 weeks before the procedure and at 1 and 4 months afterwards. They reported that there was improvement in depressive symptoms with previous emotional problems, poor sexual functioning, poor body image, and higher life stress after hysterectomy as risk factors of major depressive disorder²⁰.

A meta-analysis in 2014 reports that hysterectomy has no risk of developing depression and is associated with a decrease in standardized depression outcomes⁶.

- Anxiety

In our study, we found that 5 patients had anxiety disorder preoperatively, 3 patients post operatively of which 2 patients had anxiety at both points and 1 had new onset anxiety.

Ryan et al found in their study on 60 women in 35-55 age groups who had undergone hysterectomy that the anxiety level, which was 55% in the preoperative period, fell to 31.7% in the postoperative period²². A meta-analysis reports that there was no significant association between hysterectomy and risk of clinically relevant anxiety⁶.

Contrary to our results, in a study by Farooqi *et al.*, they found that pre surgical anxiety is low as compared to post-surgical anxiety with results indicating an increase in those women who had inaccurate knowledge on hysterectomy²³.

5.4 Quality of Life Post Hysterectomy

In our study we found that quality of life scores improved in all 4 domains physical, psychological, social and environmental. A study by Rannestad *et al.*, agreed with our study and found that quality of life in women suffering from gynecological disorders is improved by means of hysterectomy. The Ferrans and Powers' Quality of Life Index consisting of four life domains was used. There was higher overall QOL, health/functioning, psychological/spiritual, socio/economy and family scores six months after the hysterectomy²⁴.

Thakar *et al.*, studied quality of life using the Short Form-36 health survey and found that hysterectomy improves quality of life in six out of eight domains including mental health, health perception, social perception, physical function, emotional role, social role, and pain. They have however mentioned that mean scores for quality of life were lower in this sample than norms from community samples of women aged 40-44 years²⁵.

The various studies which agreed or disagreed with our study will be discussed as under the following headings.

- Physical Domain

In a prospective follow up study, Quality of life BREF was used to assess 64 women undergoing hysterectomy before surgery, at discharge, and 2 and then 6-8 weeks after surgery. These were compared with non hysterectomized controls. This paper reports that there is improvement solely in the physical domain with no impact in the psychological, environmental domain. Only scores of the physical domain had significant improvement relative to that of the non hysterectomized control. This clearly suggests that the operation only had an effect on perceived physical health after surgery²⁶.

- Social Domain

In a prospective study assessing QOL 6-8 weeks after surgery, patients who underwent abdominal hysterectomy reported that social relationships were improved significantly postoperatively. This is explained by the fact that symptoms such as excessive menstruation have a social impact and once these are alleviated there is improvement in the social domain with improvement in relationships with others²⁶. A descriptive cross sectional study was carried out by Chandana *et al.*, with the objective to assess the improvement in quality of life after total abdominal hysterectomy. 82.6% reported an improvement in their general health while 17.4% did not experience any improvement. Improvement in women's participation in social gatherings was 21.5%. They found that work attendance increased with number of women taking leave being dropped to zero from 15.2%. The mean level of post-surgical satisfaction from a scale of 1 to 10, was 9.2 (± 1.2)²⁷ it is important to assess whether total abdominal hysterectomy improves the domains of patient's quality of life. Objective: The main objective was to assess the improvement in quality of life after total abdominal hysterectomy (TAH).

- Psychological Domain

Chandana *et al.*, in their study also found that 31 (67.4%) patients suffered from psychiatric disturbances due to their illnesses prior to surgery and all patients reported an improvement in psychological status after the surgery. On a scale of 1 to 10, mean improvement in psychological status was 9.15 (± 1.93)²⁷ it is important to assess whether total abdominal hysterectomy improves the domains of patient's quality of life. Objective: The main objective was to assess the improvement in quality of life after total abdominal hysterectomy (TAH).

Conversely, a study by Yang *et al.*, found that there was no improvement in mental component in quality of life scale²⁷.

- Environment Domain

In a study by Ching-Fang Lee *et al.*, there was no improvement in the environmental domain when assessed 6-8 weeks post hysterectomy²⁶.

6. Conclusion

In the present study, it was found that women undergoing hysterectomy face a number of psychosocial problems both before and after the hysterectomy. However after hysterectomy there was overall improvement in psychiatric morbidity as well as quality of life. Most

patients undergo hysterectomy to relieve symptoms and to improve their quality of life. Further research should be done to assess long term impact of hysterectomy.

7. References

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