The Journal of Obstetrics and Gynecology of India (January–February 2024) 74(1):38–44
https://doi.org/10.1007/s13224-023-01812-5

ORIGINAL ARTICLE

To Determine the Quality of Life in Indian Women After Peripartum Hysterectomy Using a Hindi Version of the SF-36 Questionnaire

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Received: 26 February 2023 / Accepted: 7 July 2023 / Published online: 29 November 2023

Abstract

Objective The objective of the study was to determine the quality of life in women after peripartum hysterectomy using a Hindi version of the SF-36 questionnaire.

Background There are long-term effects on quality of life in women after peripartum hysterectomy. The effects on physical, mental, and social functioning have a prolonged recovery. No studies have been done in Indian women after peripartum hysterectomy to evaluate quality of life.

Methods Patients who underwent peripartum hysterectomy from January 2017 to May 2021 were contacted to participate in the study. To determine the quality of life post-surgery, a Hindi version of the 36-item Short-Form Health Survey (SF-36) was used for a face-to-face personal interview-based assessment. The participants were divided into two groups based on the duration between surgery and the interview. The aggregate scores for the eight components of SF-36 were calculated, and responses were analyzed.

Results Out of the 138 post-hysterectomy women, 118 were enrolled in the study. Women who could not be contacted [14 (10.14%)] and those who died post-procedure [6 (4.35%)] were excluded. Out of the total, 43 assessed participants were within 2 years of surgery, and 75 were after 2 years of surgery. The group that was assessed after 2 years of surgery had a significantly lower quality of life in six, out of the eight aspects of SF-36 domains.

Conclusion Women after peripartum hysterectomy undergo a prolonged recovery phase with effects on physical, mental, and social functioning. A multi-disciplinary long-term follow-up including physiotherapy and psychotherapy is required and that should be guided by a dedicated clinical team.

Keywords Quality · Life · Peripartum hysterectomy · SF-36

Introduction

The surgical removal of uterus in postpartum or during pregnancy is known as peripartum hysterectomy (PH). PH is indicated for severe obstetric complications, i.e. major obstetric hemorrhage, abnormally adherent placenta, uterine rupture and uterine sepsis. Poor health-care infrastructure, poor standard of care, lack of referral linkage, socioeconomic factors, and religious and cultural beliefs are the underlying factors in the developing countries predisposing to obstetric complications [1].

PH is associated with severe blood loss, transfusion-related adverse reactions, intraoperative complications, and postoperative morbidity and mortality [2]. It is traumatic physically, emotionally, and socially due to the permanent loss of fertility, leading to a sense of worthlessness [3].

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According to the World Health Organization (WHO) recommendations, the cesarean rate should be 5–15% of all deliveries performed. In developing countries, cesarean rates have been rising, without any decline in maternal mortality or morbidity rates [4]. Cesarean deliveries are known to increase the risk of maternal morbidity due to complications such as excessive blood loss, risk of infection, thrombosis, and need for hysterectomy [5]. Symptoms such as fatigue, headache and lack of sleep, anemia, urinary infection, and other conditions which require management in the first few weeks post-delivery are higher among women who had cesarean section. It has negative effects on the quality of life [6]. The post-cesarean women may suffer from long-term depression, post-traumatic stress disorder (PTSD), and sexual dysfunction [7].

The women experiencing pregnancy-related morbidity in the postpartum period is estimated to be far greater in low-income countries. Yet, there is scarcity of data on postpartum quality of life (QOL) [8]. Also, only limited data are available regarding long-term health and quality of life outcomes after PH.

In India, many health programs have focused on antepartum and intrapartum care, a focused program emphasizing on postpartum care in hysterectomized women and its evaluation is lacking.

Materials and Methods

The study was carried out in the department of Obstetrics and Gynecology after getting clearance from the Ethical Committee of the institute. The study was conducted for 3 months from April to June 2022. Study participants were recruited after fulfillment of eligibility criteria. We included all women who underwent peripartum hysterectomy (both elective and emergency) at Safdarjung Hospital from January 2017 till May 2021. Women aged 18 years and above, who underwent a PH, i.e., hysterectomy within 24 h following childbirth (vaginal/cesarean) were included. We excluded women with psychiatric disorders, those could not be contacted and those who died.

Patients who underwent PH from January 2017 to May 2021 were contacted to participate in the study. Their demographic profile, clinical characteristics, operative notes for indications, intraoperative findings, duration of stay, and postoperative events were recorded. The effect on newborn care was also recorded in a separate proforma. Informed consent was taken from all the participants.

The Short-Form Health Survey (SF-36) is a 36-item scale, which measures eight domains of physical and emotional health status: physical functioning (10 items); physical role limitations (four items); bodily pain (two items); general health perceptions (five items); energy/vitality (four items); social functioning (two items); emotional role limitations (three items); and mental health (five items). The first three domains measure physical health, the next three measure mental health, and the last two domains assess psychological distress and psychosocial well-being. A scoring algorithm was used to convert the raw scores into the eight dimensions listed above. The scores were transformed to range from 0 where the respondent has the worst possible health to 100 where the respondent has the best possible health.

A Hindi version of SF-36 was used for face-to-face personal interview-based assessment. For those participants who were unable to read and write, the questionnaire was read out to them. The Hindi version of the SF-36 form has already been validated for the Indian population [9]. The statistical analyses for establishing item-level validity, scale-level validity, reliability, and tests of known group comparison supported the use of SF-36 in India. We further divided our participants into two groups based on the duration between surgery and the interview and analyzed the scores for the eight components of SF-36 for the two groups.

Statistical Analysis

Categorical variables have been presented in number and percentage (%) and continuous variables as mean ± SD and median. The normality of data was tested by the Kolmogorov–Smirnov test, and non-parametric test was used. Quantitative variables were compared using the Chi-square test/Fisher's exact test between the two groups. Qualitative variables were compared using Mann–Whitney test. A p-value of < 0.05 will be considered statistically significant.

The data were entered into MS Excel, and analysis was done using Statistical Package for the Social Sciences (SPSS) version 21.0.

Results

A total of 138 PH were conducted during the study period. The demographic characteristics are depicted in Table 1. Most of the women belonged to the age group of 21–30 years (63.04%). The mean age was 27.98 ± 4.83 years. The educational status of women was no schooling (21.01%), primary education (23.19%), secondary school education (28.26%), intermediate level of schooling (18.2%), and college graduation (9.42%). The majority of the women (56.52%) belonged to lower-middle socioeconomic strata, and 81.16% were homemakers.

Most were multiparous, and the rest 4.35% were primiparous (Table 2). The mean parity was 2.31 ± 0.64. Among the multiparous women, 71.74% had undergone a prior cesarean section, and 24.64% had a previous normal vaginal

Table 1 Demographic characteristics of the participants

	$n=138$	(Percentage) %		$n=138$	(Percentage) %
Hospital status			*Employment*		
Booked	25	18.12	Homemaker	112	81.16
Unbooked	113	81.88	Employed	26	18.84
Years of marriage			*Type of family*		
< 5 years	17	12.32	Joint	36	26.09
6–10 years	88	63.77	Nuclear	102	73.91
> 10 years	33	23.91			
Woman's age			*Husband's age*		
< 20 years	1	0.72	< 20 years	0	0.00
21–30	87	63.04	21–30	86	62.32
31–40	49	35.51	31–40	46	33.33
> 40 years	1	0.72	> 40 years	6	4.35
Parity			*Obstetric history*		
Primigravida	6	4.35	Prior normal vaginal delivery	34	24.64
P2	91	65.94	Prior cesarean section	99	71.74
P3	33	23.91	Primigravida	5	3.62
P4 and above	8	5.80			
Socioeconomic strata			*Literacy*		
Lower	5	3.62	Illiterate	29	21.01
Upper-lower	6	4.35	Primary school (1st–4th standard)	32	23.19
Lower-middle	78	56.52	Secondary school (till 10th)	39	28.26
Upper-middle	49	35.51	Intermediate	25	18.12
Upper	0	0.00	College	13	9.42

Table 2 Indications of peripartum hysterectomy

Indications of peripartum hysterectomy	$n=138$	Percentage (%)
PPH	27	19.57
Uterine inversion and PPH	1	0.72
MAP	71	51.45
Previa with PPH	19	13.77
Uterine rupture	20	14.49
Total	138	100.00

delivery. The indications for surgery were morbidly adherent placenta (MAP) (51.45%), atonic hemorrhage (PPH) (19.57%), placenta previa with PPH (13.77%), and uterine rupture (14.49%).

There were 138 cases of peripartum hysterectomy during the study period, 118 (85.51%) women were finally included in the study, 6(4.35%) women had died following the procedure, and 14 (10.14%) women could not be contacted. The women within 2 years of surgery and beyond 2 years of surgery were 43 and 75, respectively. We found that the group that was assessed beyond 2 years of surgery had a significantly lower quality of life in six of the eight domains in the SF-36 score (Table-3). Physical functioning was 94.3 ± 8.04 within 2 years of surgery as compared to 78.93 ± 26.8 beyond 2 years of surgery ($p=0.02$). Role limitations due to physical health were found to be 91.28 ± 24.64 within 2 years of surgery as compared to 74.0 ± 40.09 more than 2 years of surgery ($p=0.01$). Role limitations due to emotional problems were 93.8 ± 20.66 within 2 years of surgery and 73.78 ± 41.91 more than 2 years after surgery ($p=0.01$). Energy/fatigue levels were 82.33 ± 7.1 within 2 years of surgery and 71.6 ± 18.46 beyond 2 years of surgery ($p=0.01$). Emotional well-being score was 89.21 ± 5.88 within 2 years of surgery and 82.67 ± 14.78 more than 2 years of surgery ($p=0.01$). General health score was 71.28 ± 11.96 within 2 years of surgery and 59.67 ± 21.47 more than 2 years after surgery ($p=0.0007$). The scores for pain and social functioning were also lower in the group post 2 years of surgery but the difference was not statistically significant (Fig. 1).

Discussion

Despite the economic advancement of India, maternal mortality in India still remains high i.e., 103 per 100,000 live births as compared to western countries [10]. Obstetric

hemorrhage is responsible for 27% of total maternal deaths followed by sepsis [11]. PH performed subsequent to vaginal delivery or cesarean section is an important intervention to prevent maternal mortality in obstetric hemorrhage. Although peripartum hysterectomy is a life-saving surgery for women, these women undergo severe short-term morbidities such as hemorrhage, pain, ICU admissions, and repeated blood transfusions, etc. Few studies done earlier on Sri Lankan and American women had indicated that health and quality of life issues persist for months to years post-surgery [1, 12]. The population and the health-care systems vary in each country; hence, our study looked into the long-term and chronic morbidity faced by Indian women after peripartum hysterectomy.

Globally, the incidence of PH is reported to vary from 0.2 to 8 per 1000 deliveries, and morbidly adherent placenta (MAP) is the commonest indication for it [13–15]. Our study had similar findings, PH was performed for morbidly adherent placenta (51.45%), atonic hemorrhage (19.57%), placenta previa with PPH (13.7%), and uterine rupture (14.49%).

In the current study, the majority of women were young and belonged to lower- and upper-middle-class socioeconomic strata, were educated as secondary school pass or lower, and 70% had history of previous cesarean section. We assessed the quality of life in patients who had undergone PH in two groups, those more than 2 years post-surgery ($n=75$) and less than 2 years post-surgery ($n=43$) using a validated Hindi version of SF-36, a WHO standardized questionnaire. There was no difference between the two groups with regard to age ($p=0.23$), education ($p=0.016$), and parity ($p=0.03$). All eight domains were evaluated and found that the scores for six of the eight domains except pain and social functioning were significantly lower in the group who had more than 2 years post-surgery as compared to those who were assessed within 2 years (Table 3). This reflects that PH is associated with more long-term consequences on the quality of life than perceived. Despite the significant lowering of scores in all domains, only two domains were lesser affected than others, post 2 years of surgery. This could be due to the fact that the patients may have developed a better understanding of the consequences of this procedure. It could be delayed manifestations of morbidities of the surgical procedure. A literature search has resulted in two studies Pathiraja et al. [1] in Sri Lankan women and Grover et al. [12] in the US women. We compared the scores in eight domains of our participants with these two studies (Table 4) and found that the scores for physical functioning were similar to that of Grover [12] at 6 months. Role limitations due to physical health and role limitations due to emotional problems were better in the study by Grover [12] compared to our study which could be due to the different nature of physical activities in different populations. Pain and energy/fatigue scores were better in our study compared to the other two studies. It was much lower in the study by Grover [12] which was done in the Caucasian population compared to ours and Pathiraja [1] which was done in the Asian population. General health scores were lower in our study in comparison with Grover's [12] study while Pathiraja [1] had the lowest scores. Emotional well-being was the highest in our study. This could be due to the joint family system in India which provides peripartum care and emotional support to women.

We also tried to look at whether the post-hysterectomy morbidity affected the care of the child in both groups. Overall, it was found that the exclusive breastfeeding rate remained high (91%), and 83% of women continued breastfeeding beyond 1 year. The adequate complementary feeding of the baby was started at 6 months in 96%, and 95% felt confident about the appropriate weight gain and care of the baby. Despite the low socioeconomic strata and education level of women, these rates were better than the general prevalent rates of breastfeeding reported in Indian studies [16, 17].

Our study provides insight into the issues of quality of life and chronic morbidity faced by Indian women after PH by analyzing more participants than previously studied. It is also clear that in Indian women, peripartum hysterectomy does lead to chronic health issues but does not interfere with breastfeeding and rearing of the child.

Conclusion

To conclude PH is a life-saving obstetric surgery performed in severe postpartum hemorrhage. Women undergo a prolonged recovery phase with effects on physical, mental, and social functioning. A multi-disciplinary long-term team follow-up approach including physiotherapy, psychotherapy, and psychiatry care is required and that should be guided by a dedicated clinical team.

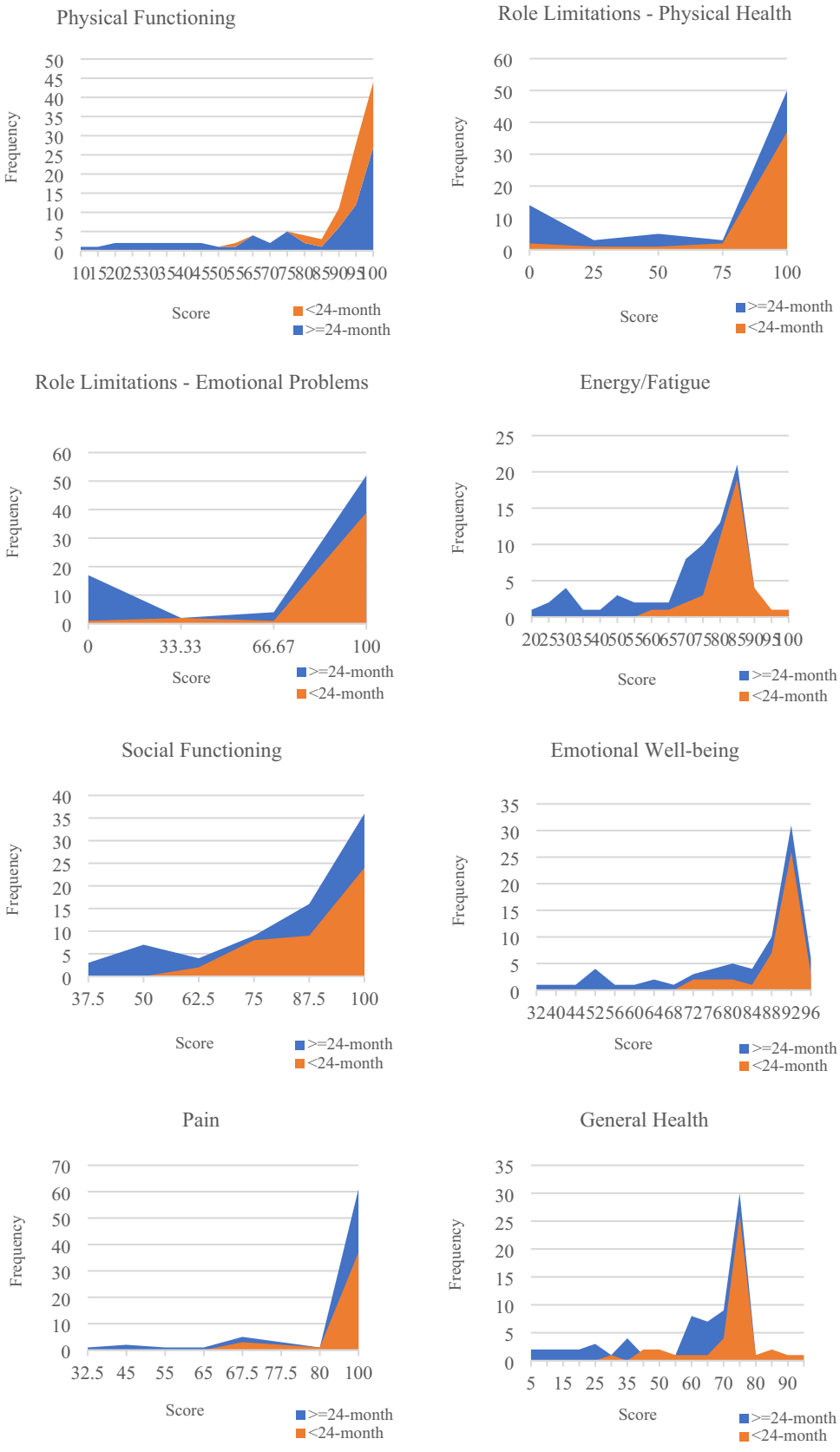

Fig. 1 Representation of eight domains of SF 36 in < 2 years and ≥ 2 years PH

Table 3 Comparison of scoring between two groups < 2 years and ≥ 2 years PH using SF-36

S. no.	Domain	Mean ± SD			*P* value
		All (*n* = 118)	Group < 2 years (*n* = 43)	Group ≥ 2 years (*n* = 75)	
1	Physical functioning	84.53 ± 23.22	94.3 ± 8.13	78.93 ± 26.98	0.02
2	Role limitations due to physical health	80.3 ± 36.38	91.28 ± 24.93	74 ± 40.36	0.01
3	Role limitations due to emotional problems	81.07 ± 37.1	93.8 ± 20.9	73.78 ± 42.2	0.00
4	Energy/fatigue	75.51 ± 16.24	82.33 ± 7.18	71.6 ± 18.58	0.00
5	Emotional well-being	85.05 ± 12.76	89.21 ± 5.95	82.67 ± 14.88	0.01
6	Social functioning	87.29 ± 16.82	90.99 ± 11.68	85.17 ± 18.91	0.07
7	Pain	94.32 ± 13.66	96.22 ± 9.72	93.23 ± 15.43	0.25
8	General health	63.9 ± 19.48	71.28 ± 12.11	59.67 ± 21.61	0.00

Table 4 Comparison of eight domains with Grover B et al. study

S. no.	Domain	Group ≥ 2 years in our study	Scores in Grover B et al. study at 36 months after PH
1	Physical functioning	78.93 ± 26.98	97.5
2	Role limitations due to physical health	74.00 ± 40.36	100
3	Rolelimitations due to emotional problems	73.78 ± 42.2	100
4	Energy/fatigue	71.60 ± 18.58	57.5
5	Emotional well-being	82.67 ± 14.88	80
6	Social functioning	85.17 ± 18.91	90
7	Pain	93.23 ± 15.43	90
8	General health	59.67 ± 21.61	77.5

Acknowledgements None.

Author Contributions SS conceptualized the study. MR and MKS collected the data. SK drafted the manuscript. All authors reviewed the manuscript.

Funding The research study is not funded.

Declarations

Conflict of Interest There is no conflict of interest.

Ethical Statement The study is compliant with ethical standards and Helsinki declaration.

Ethical permission The permission from the Institutional ethics committee was duly taken.

Informed consent Informed consent of the participants were taken.

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