Title: Effect of Surgical Menopause on Psychological Implications Among Women –A Descriptive Cross-Sectional Study

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Abstract

Introduction: The occurrence of surgical menopause has been increasing exponentially across the world due to inevitable reasons. Surgical menopause before attaining natural menopause can cause several systemic disturbances in their life. We have aimed to find out the psychological status of women who have undergone surgical menopause. Materials & Methods: A descriptive cross-sectional study was undertaken in 60 women who have undergone hysterectomy aged between 25-55 years. All demographic variables of each participant were collected and the anxiety, depression scores were evaluated using a structured questionnaire. Results: 42(70%) of women were suffering from moderate anxiety and 18(30%) were having potentially concerning the level of anxiety. While considering depression, 36(60%) of women were suffering from moderate depression, 18(30%) borderline clinical depression, and 6(10%) were having mild mood disturbances. The mean and Standard Deviation of the level of anxiety among women with surgical menopause was 11.5±2.15 and depression was 12.13±2.3. Conclusion: The current study concludes that both before and after a hysterectomy, women who undergo surgical menopause confront a swing of medical, psychological, and emotional issues. Lack of accurate knowledge, lack of assistance and counseling, and anxieties and apprehensions based on incorrect information are all key contributors to these issues.

Keywords: Menopause, Anxiety, Depression, Psychological profile, Mood

1. Introduction

Menopause is the complete stoppage of the menstrual cycle which either occurs naturally at age of 45-50 years [1]. Surgical menopause is the procedure induced by bilateral oophorectomy due to any cause before attaining natural menopause [2]. The literature reveals that postmenopausal consequences which affect all bodily functions [3,4,5]. Even though numerous clinical studies support the benefits of hysterectomy, women may not always benefit from surgery due to its detrimental effects on their physical, psychological, emotional, and social health [6,7]. There is a wide variety of post-menopausal symptoms that range from mild to severe depending on the decline in hormonal levels which would affect their lifestyle. This predisposes to the onset of physiological and psychological changes similar to those seen in natural menopause, but more intensely [8]. All turbulences in women with surgical menopause can be attributed to a lack of oestradiol and progesterone which are regulated during the reproductive period. The abnormalities of the hypothalamo hypophyseal gonadal axis are the main cause of clinical manifestation after menopause [9,10]. Surgical menopause increases the risk of coronary artery disease and aggravates the mortality rate associated with cardiorespiratory instabilities [11]. The musculoskeletal changes are also severe in intensity that decreases their bone strength and eventually causes physical instability [12]. Surgical menopause also causes a reduction in libido and disturbs their sexual interest [13]. The previous articles elucidate the impact of surgical menopause on cognitive impairment and neurodegenerative changes which declines their memory abilities [14,15,16]. The primary concern in surgical menopause is that they develop psychological disturbances which immensely affect their routine

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activities. There is exceptional evidence on different treatment modalities to reduce the postmenopausal consequences. Among these, Hormone replacement therapy (HRT) has a high impact to improve the quality of life after menopause [17,18]. However, despite beneficial effects, HRT also causes adverse effects which may disturb their homeostasis [19]. There is extensive literature available on post-menopausal effects. However, there is a paucity of knowledge about surgical menopause that affect cognitive declinement, especially in the Indian scenario. Therefore, the current study was targeted to evaluate the psychological concerns among women with surgical menopause in a tertiary care hospital.

2. Materials & Methods

It was a descriptive cross-sectional descriptive carried out in sixty women who have undergone surgical hysterectomy and bilateral oophorectomy. All the participants were selected using nonrandomized sampling technique who came to the outpatient department of the host institute. The study protocol was reviewed and accepted by the Institutional Ethics Committee before the initiation of the study. After receiving official approval from the necessary authorities, the study was conducted at Narayana Medical College and Hospital in Nellore. It was a pilot study due to which the study sample size was not calculated. The participants were included who have undergone a hysterectomy due to any cause aged between 25-55 years who are free from diagnosed psychiatric illness. Some of the participants were excluded who are already taking hormone replacement therapy and also with any psychiatric diseases. After preliminary evaluation of participants based on inclusion and exclusion criteria, the participants were subjected to data collection in 2 phases. The investigators of the current study had explained the objectives, benefits of the study, assured confidentiality of individual data, and also explained their right to withdraw from any point of the data collection. The informed consent form was obtained regarding the same from each participant as per Declaration of Helsinki guidelines1975 and its later amendments [1].

Phase I (Socio-Demographics)

The participants were interviewed and subjected to get basic sociodemographic variables like Age, level of education, occupation, residence, marital status, duration of the marriage, level of husband's education, parity, any comorbid illness, past menstrual problems, family history of Surgical menopause and reason for Surgical Menopause.

Phase II (Anxiety and Depression scores)

The psychological profile of the participants was evaluated using standard questionnaires which are validated for their reliability.

Beck's Anxiety and Depression Inventories

It is a standardized tool consisting of 21 items and executed with a four-point Likert scale (0,1, 2, and 3). The highest possible total score for the whole test would be sixty-three which indicates the participant opted number three on all twenty-one questions. Since the lowest possible score for each question is zero, the lowest possible score for the test would be zero.

The total score reflects the level of anxiety among surgical menopause women who were categorized as 0-21 - low anxiety, 22-35 - moderate anxiety, and 36 and above -potentially concerning levels of anxiety. Similarly, the Beck's Depression inventory also has 21 items with four Likert scales. The score can evaluate as depression according to the categories 1-10 - considered normal, 11-16 - Mild mood disturbance, 17-20 -Borderline clinical depression, 21-30 -Moderate depression, 31-40 - Severe depression, and over 40- Extreme depression. All participants' scores were assessed for anxiety and depression with a single examiner to avoid interexaminer variability [20].

3. Statistical Analysis

The data sets were analyzed using a Graph pad prism (Trail version). The data variables were expressed as mean and standard deviation. The data was interpreted by using descriptive and inferential statistics.

4. Results

The result of the study shows the subsequent consequence of surgical menopause in terms of high impact, mainly on psychological aspects (anxiety and depression). 42(70%) of women were suffering from moderate anxiety and 18(30%) were having potentially concerning the level of anxiety as shown in Table-1. While considering depression, 36(60%) of women were suffering from moderate depression, 18(30%) borderline clinical depression, and 6(10%) were having mild mood disturbances as shown in Table-2. The mean and Standard Deviation of the level of anxiety among women with surgical menopause was 11.5±2.15 (Table-3) and depression was 12.13±2.3 (Table-4) respectively. Association between the level of depression among women with demographic variables like age, parity, and marital status were showing significant relation and remaining variables like level of education, occupation, residence, duration of the marriage, level of husband's education, any comorbid illness, past menstrual problems, family history of Surgical menopause and reason for Surgical Menopause were not significant (Table-3,4).

Table: 1 Level of anxiety among women with surgical menopause.

Level of anxiety	Frequency(f)	Percentage (%)
	-42 18	-70 30
Total	60	100

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Table: 2Level of depression among women with surgical menopause.		
Level of depression	Frequency(f)	Percentage (%)
	-	-
Normal	6	10
Mild mood disturbance	18	30
Borderline clinical depression	36	60
Moderate depression		
Severe depression	-	-
Extreme depression		
	-	-
Total	60	100

Table: 3 Association between the level of anxiety among women with demographic variables			
Demographic variables	Moderate anxiety	Severe anxiety	Chi-square
1. Age			CV=12.8838 TV=9.49 Df=4 P≥0.05*
25-30	5	5	
31-36	9	3	
37-42	10	1	
43-48	10	0	
49-55	8	9	
2.Level of education			CV=2.4345 TV=9.49 Df=4 P≥0.05(NS)
a) No formal education	4	2	
b) Primary education	8	6	
c) Secondary education	10	5	
d) Graduate	11	3	
e) Post graduate	9	2	
3. Occupation			CV=6.4025 TV=7.82 Df=3 P≥0.05 (NS)
a) Coolie	11	3	
b) Housewife	14	2	
c) Government employee	5	6	
d) Private employee	12	7	
4. Residence			CV=2.716 TV=5.99 Df=2 P>0.05 (NS)
a) Urban area	20	7	
b) Rural area	12	3	
c) Semi urban	10	8	
5. Marital status			CV=1.8877 TV=7.82 Df=3 P≥0.05(NS)
a) Married	20	8	
b) Single	6	4	
c) Divorced	9	5	
d) Widow	7	1	
6. Duration of marriage			CV= 9.8874 TV=9.49 Df=4 P≤0.05*
a) 1 -5 yrs	1	3	
b) 6 -10 yrs	9	5	
c) 11 – 15 yrs	13	1	
d) 16 – 20 yrs	12	3	
e) Not applicable	7	6	
7. Level of husband's education			CV= 10.701 TV=11.07 Df=5 P≥0.05(NS)
a) No formal education	5	3	
b) Primary education	3	2	
c) Secondary education	4	6	
d) Graduate	11	4	
e) Postgraduate	17	1	
f) Not applicable	2	2	
8. Parity			
a) Nulli para	1	1	
b) 1-3 children	24	12	
c) More than 3 children	17	5	
9. Any comorbid illness			
a) Yes	12	4	
b) No	30	14	
10. Past menstrual problems			
a) Yes	34	16	
b) No	8	2	
11. Family history of Surgical menopause			
a) Yes	10	3	
b) No	32	15	
12. Reason for Surgical Menopause.			
a) Heavy menstrual bleeding	18	5	
b) Fibroid	8	3	
c) Family history of ovarian cancer	2	0	
d) Pelvic inflammatory disease	1	1	
e) Endometriosis	4	2	

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Table: 4 Association between the level of depression among women with demographic variables

Demographic Variables	Mild mood disturbance	Borderline clinical depression	Moderate depression	Chi-square
1. Age				
25-30	3	4	3	CV= 16.8478 TV=15.51 Df=8 $P \leq 0.05$*
31-36	3	3	6	
37-42	0	4	7	
43-48	0	2	8	
49-55	0	5	12	
2.Level of education				
a) No formal education	1	2	3	
b) Primary education	1	4	9	
c) Secondary education	2	5	8	
d) Graduate	1	3	10	
e) Post graduate	1	4	6	
3. Occupation				
a) Coolie	1	6	7	
b) Housewife	3	8	5	
c) Government employee	1	4	6	
d) Private employee	1	7	11	
4. Residence				CV= 1.8518 TV=9.49 Df=4 $P \geq 0.05$(NS)
a) Urban area	3	7	17	
b) Rural area	2	6	7	
c) Semi urban	1	5	12	
5. Marital status				
a) Married	0	12	16	
b) Single	2	1	7	
c) Divorced	2	1	11	
d) Widow	2	4	2	
6. Duration of marriage				
a) 1 -5 yrs	1	1	2	
b) 6 -10 yrs	2	5	7	
c) 11 – 15 yrs	1	3	10	
d) 16 – 20 yrs	1	5	9	
e) Not applicable	1	4	8	
7. Level of husband's education				CV= 6.5972 TV=18.31 Df=10 $P \geq 0.05$ (NS)
a) No formal education	1	2	5	
b) Primary education	1	3	1	
c) Secondary education	2	3	5	
d) Graduate	1	5	9	
e) Post graduate	1	4	13	
f) Not applicable	0	1	3	
8. Parity				
a) Nulli para	2	0	0	
b) 1-3 children	4	4	28	
c) More than 3 children	0	14	8	
9. Any comorbid illness				
a) Yes	2	7	7	
b) No	4	11	29	
10. Past menstrual problems				
a) Yes	3	16	31	
b) No	3	2	5	
11. Family history of Surgical menopause				
a) Yes	2	6	4	
b) No	4	12	31	
12. Reason for Surgical Menopause.				
a) Heavy menstrual bleeding	2	8	13	CV= 5.6061 TV=18.31 Df=10 $P \geq 0.05$ (NS)
b) Fibroid	1	3	7	
c) Family history of ovarian cancer	0	1	1	
d) Pelvic inflammatory disease	0	1	1	
e) Endometriosis	2	1	3	
f) Uterine prolapse	1	4	11	

CV- Calculated value, TV- Table Value, Df - Degree of freedom, S-Significant, NS- Not Significant

5. Discussion

Surgical menopause is associated with long–term health risks, especially psychological dysfunction and it is relatively more among women. The present study results show a high impact of anxiety and depression among women with surgical menopause using a standard questionnaire. 70% of women had reported moderate anxiety and 60% with moderate depression among women with surgical menopause is noticeable. Women with early menopause often have difficulty adapting to an altered self-image, sexual dysfunction, and the loss of fertility associated with Estrogen deprivation, and may benefit from referral to a psychologist.

Bromberger JT et al (2003) have reported that the premenopausal phase is marked by mild anxiety and

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stress vulnerability, whereas perimenopause is marked by increased anxiety, depression, and irritability [21]. Wittchen H et al (2002) Anxiety problems are more chronic than mood disorders such as depression in a woman going through menopause. This drop-in hormone level has an impact on neuronal dysfunction, which is linked to an increased risk of anxiety disorders and mood swings, especially in women with a history of psychiatric disease [22]. Women who have suffered premenstrual syndrome or dysphoric premenstrual syndrome in their lives find that menopause brings them a sense of freedom and ease in terms of their libido. It's worth noting that mental and affective disorders are more severe in surgical menopause patients than in natural menopause patients, owing to the substantial reduction of hormonal production as well as the psychosocial backdrop of the surgery and associated sickness. According to Jafari et al (2014), postmenopausal women between the ages of 45 – 55 years have higher anxiety levels than premenopausal women who are aged between 35 – 45 years [23]. Our study results are in the same trend as Von Muhlen D et al (1995) which stated that anxiety is experienced by about 74 women and they are linked to the development of hot flushes. However, it is still contentious whether anxiety develops before or after the vascular symptoms of menopause [24]. Avis N et al (2001) reported that African and American women have more intensity of anxiety and depression compared with Asian women. This disparity in symptoms has been linked to lifestyles and nutrition, as well as differences in metabolic activity and disruption of specific brain neurotransmission systems [25]. Moreover, the poor lifestyle women may have chances high intensified anxiety which reveals that lifestyle has an impact on postmenopausal symptoms, especially anxiety and depression [26]. The current study has a promising result to find out the new insights of surgical menopause which helps direct the use of antidepressants or hormones as such for treatment. It is very essential to evaluate psychological concerns in women with surgical menopause to prevent their further manifestations. However, this study has some limitations in that it is a descriptive study that does not provide how much they are affected than normal individuals. Moreover, it is a pilot study where the sample is less and power is not enough to generalize the statement to the entire population. Further studies are warranted to improve the results of the current study's outcome.

6. Conclusion

Women who undergo surgical menopause face a multitude of physical, psychological, and emotional problems both before and after the hysterectomy. The major factors contributing to these problems are lack of proper information, lack of support and counseling, and fears and apprehensions born out of wrong information. The study findings concluded that women who undergo surgical menopause should receive individualized counseling and alternative therapies to rectify the problem.

Conflict of Interest: None Declared

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Data Availability: Blinded

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