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Original Research Article

Psychological Distress and Health-Related Quality of Life in Women Who Have Attained Natural Menopause versus Women with Induced Menopause - A Comparative Study

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ABSTRACT

Background: This study aimed at comparing psychosocial distress and quality of life in women attaining natural menopause versus women with induced menopause.
Methods: This was a cross- sectional observational study done at tertiary care hospital in a rural area. Based upon the calculated sample size and selection criteria, 101 women were enrolled and studied. After obtaining informed consent, case report forms consisting of self designed proforma, DASS and MRS questionnaires were administered. Data was tabulated and analyzed using appropriate statistical tests.
Results: Age of menopause was significantly lower in induced menopause group compared to that in natural menopause group. Depression, anxiety and stress symptoms were reported higher by women with induced menopause as compared to those with natural menopause. However, this difference was not statistically significant. On MRS, most common menopausal symptoms were exhaustion, depression, joint and muscle discomfort, sleep problems, hot flushes/ night sweats, vaginal dryness, bladder problems etc. the prevalence was high in both group especially in women with surgical menopause. Sexual symptoms were reported higher by women with induced menopause (94%) as compared to those with natural menopause (6%).
Conclusion: Studies have shown that menopause related symptoms may have a negative effect on quality of life of women. Hence this study can help in creating more awareness in educating women who are advised to undergo induced menopause about its impact and in early identification of the common menopausal symptoms so that it can help them take informed decisions.
Key Words: Menopause, Psychological distress, Health related Quality of life.

INTRODUCTION

Menopause is defined as absence of menses for a year. *Natural menopause* is the permanent ending of menstruation that is not brought on by any type of medical treatment. However, not all women undergo natural menopause. Some women experience *induced menopause* as a result of surgery or medical treatments like chemotherapy/pelvic irradiation and hysterectomy with bilateral oophorectomy. Women who undergo both natural and induced menopause experience loss of cyclical ovarian production of oestrogen, but hormonal and demographic differences distinguish these two groups of women. [1]

More than 80% of women experience physical or psychosocial symptoms in both types of menopause. Physical symptoms include abnormal

vaginal bleeding, hot flushes, joint /muscle pains, vaginal and urinary symptoms. Psychological symptoms include mood swings, depression, anxiety, decreased self-confidence and disturbed sexual functioning. [2-4]

Of late the concept of quality of life (QOL) has gained much popularity in both routine practice and research. Studies have shown that menopause may have a negative effect on the quality of life of women. Women who have undergone menopause are characterised by onset of many psychological disorders like depression, anxiety, stress related to 'empty nest syndrome', and waning of physical and sexual attractiveness. [3,4] Loss of ovaries may lead to reduced libido as ovaries are source of androgen and estrogens. [5]

We found a paucity of data comparing the psychological distress and health-related quality of life between women who have attained natural menopause and those with induced menopause and hence decided undertake this study.

METHOD

The study was undertaken with aims of evaluating the depression, anxiety, stress and health related QOL in women who have attained natural and induced menopause.

It was a cross sectional observational study conducted at Obstetrics and Gynaecology Outpatient Department, at a tertiary care hospital in rural Mumbai after obtaining Institutional Ethics Committee approval. Fifty women who have attained menopause naturally and 51 patients who have induced menopause, between age of 40-55 years and having attained either natural or induced menopause were included in study after obtaining written informed consent. Women having psychological disorders with onset before menopause and women who had severe medical or psychiatric disorders requiring emergency treatment or hospitalisation were excluded from the study.

Following materials were used:

1. **Proforma:** A pre-designed structured proforma was used to record data like age, duration and reason for menopause, medical and psychiatric history
2. **Depression Anxiety and Stress Scale (DASS):** [6] It is a 42-item questionnaire which includes three self report scales designed to measure the negative emotional states of depression, anxiety and stress. Each of the three contains 14 items, divided into subscales of 2-5 items. The Depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, and lack of interest/involvement, anhedonia, and inertia. The Anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The Stress scale (items) is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient. Respondents are asked to use 4-point severity/frequency scales to rate the extent to which they have experienced each state over the past week.
3. **Menopause Rating Scale (MRS):** [7,8] This scale was developed for measuring the severity of symptoms associated with menopause, and the impact of these symptoms on health-related quality of life (HRQoL). It is designed and standardized as a self-administered scale, for evaluating the severity of symptoms over time and assesses changes during treatment. The sensitivity of the scale is in the range of 60 to 76% and the specificity in the range of 68 to 82%. MRS is composed of 11 items and was divided into three subscales:(a) somatic-hot flushes, heart discomfort/palpitation, sleeping problems and muscle and joint problems; (b) psychological-depressive mood, irritability, anxiety and physical and mental exhaustion and (c) urogenital-sexual problems, bladder problems and dryness of the vagina.

Each of the eleven symptoms contained a scoring scale from "0" (no complaints) to "4" (very severe symptoms).

The data thus obtained was analysed using descriptive statistics, chi-square test, Mann-Whitney test in SPSS.

RESULTS

The mean age of women who experienced natural menopause was 54.6 years and that in females who underwent hysterectomy was 49.88 years. Mean age of menopause in natural menopause group was 45.3 years as compared to post hysterectomy menopause group was 43.25 years. The mean duration since natural menopause was 9.85 years while it was 6.73 years in those with induced menopause. (Table 1)

Table 1: Age distribution & menopause details of women in both the groups:

Parameter	Natural menopause group	Induced menopause group	P Value
Mean age	54.60± 6.68 years	49.88 ± 8.94	0.003*
Mean age at menopause	45.3 ± 4.34	43.25 ± 5.75	0.046*
Duration since menopause	9.85 ± 8.61	6.74 ± 3.90	0.219

***Statistical test: unpaired t test**

Scores of depression, anxiety and stress symptoms in sample patients measured on DASS are described in Table 2. Amongst natural menopause group, 12% women expressed depressive symptoms, 18% had anxiety symptoms and 14%had stress symptoms while, the scores were 35.29%, 37.25%, 23.53% on three subscales of DASS respectively in women with induced menopause. This difference in scores of depressive, anxiety and stress symptoms among both the group was not statistically significant.

Table 2: Scores of depression, anxiety and stress symptoms amongst both groups:

DASS Scale	Grade	Natural Menopause group (n=50)		Induced Menopause group (n=51)		Z test
		Frequency	Percent	Frequency	Percent	P value
Depression	Normal	44	88	33	64.71	< 0.05*
	Mild	3	6	11	21.57	<0.05*
	Moderate	2	4	3	5.88	>0.05
	Severe	1	2	3	5.88	>0.05
	Very Severe	0	0	1	1.96	>0.05
Anxiety	Normal	41	82	32	62.75	<0.05*
	Mild	4	8	10	19.61	>0.05
	Moderate	3	6	6	11.76	>0.05
	Severe	2	4	1	1.96	>0.05
	Very Severe	0	0	2	3.92	>0.05
Stress	Normal	43	86	39	76.47	>0.05
	Mild	3	6	7	13.73	>0.05
	Moderate	2	4	3	5.88	>0.05
	Severe	1	2	1	1.96	>0.05
	Very Severe	1	2	1	1.96	>0.05

Table 3 describes scores on three scales of MRS. On psychological symptoms subscale, most common symptoms expressed by women in both groups were exhaustion (80%, 74.51%) followed by depression (44%, 62.75%).

Table 3: Scores of menopause related symptoms on the MRS:

MRS score	Symptoms	Natural (n=50)		Hysterectomy (n=51)		Chi Square test
		Present	Absent	Present	Absent	P value
Psychological symptoms	Depression	22(44%)	28(56%)	32(62.75%)	19(37.25%)	> 0.05
	Irritable	14(28%)	36(72%)	20(39.22%)	31(60.78%)	> 0.05
	Anxious	11(22%)	39(78%)	24(47.06%)	27(52.94%)	< 0.05*
	Exhausted (physical & mental)	40(80%)	10(20%)	38(74.51%)	13(25.49%)	> 0.05
Somato- vegetative symptoms	Hot flushes/ night sweats	17(34%)	33(66%)	27(52.94%)	24(47.06%)	> 0.05
	Cardiac problems	11(22%)	39(78%)	23(45.09%)	28(54.91%)	< 0.05*
	Sleep problems	20(40%)	30(60%)	29(56.86%)	22(43.14%)	> 0.05
	Joint and muscle discomfort	32(64%)	18(36%)	42(82.35%)	9(17.65%)	> 0.05
Urogenital symptoms	Sexual problems	3(6%)	47(94%)	19(37.25%)	32(62.75%)	< 0.05*
	Bladder problems	24(48%)	26(52%)	35(68.63%)	16(31.37%)	> 0.05
	Vaginal dryness	26(52%)	24(48%)	30 (58.82%)	21(41.18%)	> 0.05

On somato-vegetative subscale, the common symptoms were joint and muscle discomfort (64%) followed by sleep problems (40%) and hot flushes/ night sweats (34%) in the natural menopause group whereas, those reported commonly by women with induced menopause were 82.35%, 56.86% and 52.94% respectively.

On urogenital subscale, the common symptoms in natural menopause group were vaginal dryness (52%) followed by bladder problems (48%) which were reported by 48% and 52% women respectively by women with induced menopause. Sexual symptoms were reported higher by women with induced menopause (94%) as compared to those with natural menopause (6%).

DISCUSSION

Menopause is characterized by cessation of ovarian functions and an estrogen deficient state. As many organs of the body are sensitive to estrogen, a reduction in estrogen level gives rise to a number of physical, psychological, and sexual changes. [9]

The mean age of menopause in natural menopause group was higher as compared to post hysterectomy menopause group. The age at menopause was found to be varied in different studies. [10] The mean age of menopause was 48.9±3.2 years ranging from 45-52 years, which is somewhat earlier in Indian women as compared to western countries which is slightly higher, 51.14±2.11 years worldwide. [11]

This finding is consistent with another Indian study by Ahsan M et al who observed the age of menopause to be 45.29 years. [12] Research shows that most of the hysterectomies are done in women aged between 41 and 50. Early interventions with surgical procedures can be because of more awareness and regular gynecological consultations.

Scores of depression, anxiety and stress symptoms in sample patients on DASS were higher in women with induced menopause compared to those with natural menopause. Research highlights that although most women transit to menopause without experiencing psychiatric problems, an estimated 20% have depression at some point during menopause. [13]

The etiology of depression this period is multi-factorial. Changes in estrogen levels, with mechanisms involving neurotransmitters (serotonin and norepinephrine), may be related to depressive symptoms in the menopausal period. Also, societal roles and expectations may contribute to the heightened rate of depression in women. Women with particular types of stressors like, lack of social support, unemployment, surgical menopause and poor overall health status seem to be at increased risk for perimenopausal depression. [13,14]

In case of induced menopause, women who undergo hysterectomy face a multitude of physical, psychological and emotional problems both before and after the hysterectomy. Some authors suggest that loss of the uterus may deal a blow to self-esteem. Also, there is little preparation for the event of menopause which can create anxiety related to menopause.

The uterus has great psychological significance for some women, more so in certain cultures. Although many women have no emotional difficulties after surgery, hysterectomy may be followed by problems such as depression, anxiety, and sexual dysfunction. Richards described a post hysterectomy syndrome in which symptoms include depressed mood, hot flushes, urinary problems, fatigue, headaches, dizziness, and insomnia. Depression and psychiatric problems was reported in many studies of post-hysterectomy women. [15,16] Symptoms have variable onset in relation to menopause.

Sexual symptoms were reported significantly higher by women with induced menopause (94%) as compared to those with natural menopause (6%).

The present study revealed that proportions of various menopausal

symptoms were high in both in the natural and surgically menopausal women. The findings of the present study showed that the women with the surgical menopause suffered significantly more from severe menopausal symptoms like hot flushes, musculoskeletal and sweating symptoms as well as depressive, mood, anxiety, and sleep & sexual problems as compared to women with natural menopause.

It has also been depicted that the surgical menopause, as compared with natural menopause, was associated with more severe psychological and somatic symptoms which are in concordance with the studies done by Bhattacharya and Jha et al and Benshushan et al. [17,18] Three studies from Turkey have reported varying prevalence of various menopausal symptoms (35-90%). [19-21] An Asian study confirms our findings of sleep disorders, physical and mental exhaustion being most common symptoms.[8] Western studies confirm hot flushes, sweating, vaginal dryness and sleep disturbances as main climacteric complaint. [22-24] Symptoms reported during mid-life may also be influenced by various factors. These may be due to increased levels of physical and mental stress requiring support and coping mechanisms, socio-cultural milieu, economic factors, genetic factors and aging per se. Therefore, the symptoms reported can vary as per socio demographic and geographical variations.

Our findings were consistent with that of an Indian study by Pal A et al showing classical presentation of menopause symptoms to be physical and mental exhaustion, feeling tired, joint and muscular discomfort which also shows concordance with other Asian studies. [10,25,26]

The other classical presentation of menopause symptoms including irritability, cardiac discomfort and anxiety were noted to be comparatively lower and were shared by studies done in other Asian countries. [27-29]

Prevalence of vasomotor symptoms shows wide variation throughout the world. Studies in the Western population report a higher prevalence up to 75%, while some Asian studies reported a prevalence (41.6%) similar to our study. [10,30] Besides estrogen decline, ethnicity, climate, diet, lifestyle, smoking, and their attitude towards menopause also affect the prevalence of vasomotor symptoms. [31,32]

An Indian study observed 49.73% of women reporting sleep problems such as difficulty in falling asleep, waking up through the night, or waking up early during menopause. In addition to this, sleep disturbances may occur independently of menopause in postmenopausal women as nocturia, depression and stress increase with age and may disturb sleep. [33]

Common occurrence of joint pains and body ache as menopausal symptoms can be attributed to poor diet and low calcium intake by women.

In psychological symptoms, mental exhaustion and depression are the most commonly reported symptoms. Besides fluctuating estrogen levels, another reason for depression and anxiety could be apprehension towards menopause. The Melbourne Women's Midlife Health Project indicated that depression scores were higher for women who were in the menopause transition stage or who had experienced surgical menopause. [34]

Current study observed high prevalence of various menopause related symptoms in both the groups especially in women with induced menopause. High scores on MRS indicate poor overall health and hence can be assumed to have impact on the health of these women.

Another Asian studies on menopause and quality of life showed that almost all the menopausal symptoms were significantly higher in the rural population. [3,35,36] The probable reasons can be such as, rural women being mostly illiterate, less likely to be aware of managing and/or preventing the menopausal problems. A study by Mahajan N et al highlights high individual and

subscale scores of MRS were observed in both natural and the surgical menopause group which is in accordance to our findings. The severity of symptoms was found more distressing for surgical menopause group. The QOL was found to be significantly worse in surgical menopause group. [37]

Bhattacharya SM et al studied health related quality of life using MRS II. In this study it was observed that HRQOL was worse after surgical than in natural menopause. Author recommends that routine surgical castration at hysterectomy should be avoided because of adverse short-term effects and, potentially, long-term consequences. [6] Another Asian study by Nisar N et al reports menopause related symptoms to have negative effect on the quality of life of postmenopausal women. [38]

CONCLUSION

The scores measuring anxiety, depression and stress were higher in women with induced menopause. Also, the prevalence of various somatic, psychological and urogenital symptoms on MRS was higher in the surgical menopause group suggesting poor quality of life in these women.

IMPLICATIONS

Such regional studies can help in creating awareness and also in helping in educating women regarding an early identification of the common menopausal symptoms. Also similar research can help create more focus on women undergoing induced menopause and highlight the need for pre and post surgery counselling of women undergoing surgical menopause for long term consequences, need to become aware of the various menopausal symptoms and to have multi-disciplinary approach to manage these distressing symptoms promptly.

DECLARATIONS

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