

A Study on Insomnia among Postmenopausal Women Visiting Obstetrics and Gynaecology Services, CMC Vellore.

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Abstract:

Women are more likely to experience sleep disturbance during their menopausal period than at any other time in their life .Poor quality of sleep is a common complaint of menopausal women. One in four women exhibit some symptoms of insomnia such as trouble falling asleep and trouble staying asleep.(Twery and Nowakowski ,2018)The aim of this study was to assess the prevalence and severity of insomnia among postmenopausal women. A descriptive study was done among 400 postmenopausal women who were bystanders of patients admitted to the Obstetrics & Gynaecology (OG) inpatient wards and women attending the Menopause Clinic once a week in the OG OPD (OutPatient Department).The Insomnia Severity index was used to assess the severity of insomnia. Information regarding their demographic and clinical profile was obtained. Of the 400 women who were assessed in this study, 49.8% were between the ages of 51 to 60 years, 37.5% had completed high school education, 52.5% were homemakers by profession , 99.5% were married. 92.3% had conceived more than one child, 63.8% had attained menopause between 41 to 50 years of age, 40.8 % had menopause for up to five years and 62.75% had a BMI (Body Mass Index) of 25 or more. It was gratifying to note that 75.25% of women did not have clinically significant insomnia. 12% had moderately severe insomnia, 10.25% had sub-threshold insomnia and 2.5% had clinical insomnia. The study revealed that there is a significant association between sweating, knee pain and back pain with insomnia. There is also a positive correlation between obesity and hypertension and insomnia; they are directly proportional to each other- when the score of ISI increases the effect of hypertension and obesity also increases and vice versa. However the prevalence of insomnia among the postmenopausal women in the study was found to be 14.75%.

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I. Introduction

Poor quality of sleep in menopause may be real or perceived. Studies have shown that women who perceive their sleep quality to be poor do not necessarily show objective differences as demonstrated in a study which measured brain activity during sleep as in the length of time slept or depth of sleep achieved or both (Twery and Nowakowski,2017) A study by Abha in 2017 in Maharashtra showed 71.43% of homemakers had difficulty initiating sleep. Sleep patterns change with ageing and older women typically sleep for a shorter duration as they do not have deep sleep or report difficulty achieving sleep. Sleep disorders that may affect menopausal women include insomnia, sleep directed breathing and sleep difficulties in menopause due to a variety of pre-existing health conditions such as fibromyalgia, depression, arthritis, Type 2 diabetes, obesity and others.

Factors which adversely affect quality of sleep include stressful life changes such as rejoining work, employment changes, children leaving home, caring for children/parents, divorce from partner (or) death of partner, physical stimuli like pain, temperature, light, noise & hunger, and, hormonal interplay of progesterone and oestrogen levels.

Significance and Need for the study:

It is highly likely that if women have insomnia before the onset of menopause, the problem is likely to get worse during and post menopause. Comorbidity risks can make insomnia worse. Menopausal sleep disturbance is a disorder that does not meet the criteria for a specific clinical disorder and occurs in women

without a baseline factor or cause for sleep disorder. Despite having adequate opportunities for sleep, postmenopausal women face difficulty in initiating sleep or maintaining sleep with frequent nocturnal and early morning awakenings. The purpose of this descriptive study was to get an overview of insomnia among postmenopausal women and factors associated with the problem.

The objectives of the study were to

1. Determine the prevalence and severity of insomnia in postmenopausal women
2. Investigate the factors associated with insomnia among postmenopausal women
3. Identify the relationship between insomnia and demographic variables and other factors among postmenopausal women

Methodology and Data Collection: A descriptive study was conducted to determine the prevalence of insomnia among postmenopausal women in the Obstetrics and Gynecology department of Christian Medical College from Mondays to Saturdays. The sample size comprised of 400 women who were postmenopausal relatives of patients admitted in the OG wards and women attending the Menopause clinic. These women were menopausal for more than a year and could comprehend and communicate in either one or more of the following languages- English, Tamil and Hindi. Women already on treatments for sleep problems and with a history of psychiatric illness were not included as part of the study. Selection of samples was done using the consecutive sampling method where every postmenopausal woman meeting the criteria of inclusion was selected until the required sample size is achieved. The selected women were interviewed for insomnia using the demographic & clinical data sheet and the Insomnia Severity Index (seven item, questionnaire developed by Dr. Charles Morin, 2011). Data was collected from the 29th of September 2020 to the 27th of November 2020. The women were approached and data was collected after building a rapport with them, explaining the study and getting informed consent from them indicating their willingness to participate in the study.

Protection of Human Rights: The proposal to conduct the study was submitted to the College of Nursing Research committee and approval was obtained. Permissions were obtained from the Heads of the departments of Maternity Nursing. Written consent was obtained from the subjects prior to data collection and confidentiality of collected information was ensured.

Table 1.-Distribution of postmenopausal women based on their demographic data (n=400)

	Categories	Frequency	Percentage
Age	Below 40	1	0.3
	40 to 50 Years	136	34.0
	51 to 60 Years	199	49.8
	61 to 70 Years	60	15.0
	71 to 80 Years	4	1.0
Educational Qualification	Illiterates	102	25.5
	Primary Education	111	27.8
	High School	150	37.5
	Higher Secondary	15	3.8
	Diploma	4	1.0
	Graduation	9	2.3
	Post-Graduation	9	2.3
	Occupation	Working	190
Home Maker		210	52.5
Marital Status	Married	398	99.5
	Unmarried	2	0.5
No. of Children	1	22	5.5
	More than 1	369	92.3
	No Child	9	2.3
Age of Menopause	0 (never attained menarche)	1	0.3
	20 to 30 Years	8	2.0
	31 to 40 Years	68	17.0
	41 to 50 Years	255	63.8
	51 to 60 Years	67	16.8
	61 to 70 Years	1	0.3
Duration of Menopause	0 (Never attained menarche)	1	0.3
	1 to 5 Years	163	40.8
	6 to 10 Years	129	32.3
	11 to 15 Years	50	12.5
	16 to 20 Years	40	10.0
	21 to 25 Years	8	2.0
	26 to 30 Years	7	1.8
	31 to 40 Years	2	0.5

BMI	Below 25	132	33.0
	Greater than or equal to 25	251	62.75
	Missing data	17	4.25

Table 2.-Percentage Analysis of the Clinical Items (n=400)

		Frequency	Percentage
	a.Medical Causes		
1.	Arthritis	3	0.8
2.	Asthma	1	0.3
3.	Cardiac problem	5	1.3
4	Depression	5	1.3
5	Diabetes	73	18.3
6	Epilepsy	3	0.8
7	GERD (Gastroesophageal reflux disease)	13	3.3
8	Hypertension	57	14.3
9	Kidney problems	1	0.3
10	Lung disease	3	0.8
11	Neoplasms	2	0.5
12	Obesity	251	62.75
13	Osteoporosis	5	1.3
14	Thyroid disease	17	4.3
15	Anxiety	4	1.0
16	Bladder problems	1	0.3
17	Cardiovascular disease	1	0.3
18	Hot flashes	1	0.3
19	Irritability	3	0.8
20	Mood swings	2	0.5
21	Restless leg syndrome	-	-
22	Sexual problems	-	-
23	Sleep apnoea	1	0.3
24	Stress	5	1.3
25	Sweating	3	0.8
26	Urinary Incontinence	17	4.3
27	Vaginal dryness	2	0.5
28	Vaginal irritation	1	0.3
	b.Medications		
29	Asthma medication	34	8.5
30	Blood pressure medication	57	14.3
31	Cough & cold medicines	2	0.5
32	Diet pills	-	-
33	Medication for Parkinson disease	-	--
34	Sedation	-	-
35	Seizure medication	2	0.5
36	Steroids	15	3.8
	c.Lifestyle Behaviours		
37	Coffee in the afternoon /evening	9	2.3
38	Exercising close to bedtime	8	2.0
39	Irregular bedtime schedule	6	1.5
40	Night shift work	3	0.8
41	Tobacco use	1	0.3
42	Working or doing other mentally intense activities right before or after getting into bed	1	0.3
	d. Pain		
43	Back pain	87	21.8
44	Chronic pelvic pain	9	2.3
45	Headache	27	6.8
46	Knee pain	149	37.3
	e. Environmental Causes		
47	Extreme light exposure	10	2.5
48	Extreme noise exposure	10	2.5
49	Extreme temperature	2	0.5
50	Exposure to toxins & chemicals	1	0.3

Table 3.-Insomnia Severity Index(ISI) Items – Percentage Analysis (n=400)

ISI Score	Frequency	Percentage
No Clinically Significant Insomnia	301	75.25
Sub-threshold Insomnia	41	10.25

Clinical Insomnia (Moderate Severity)	48	12.0
Clinical Insomnia (Severe)	10	2.5
Total	400	100.0

Table 4.-Association between the ISI Score and Sweating,Back pain and Knee pain

	Value Sweating	Value Back Pain	Value Knee Pain	Df Sweating	Df Back Pain	Df Knee Pain	Asymp. Sig. (2-sided) Sweating	Asymp. Sig. (2-sided) Back pain	Asymp. Sig. (2-sided) Knee pain
Pearson Chi-Square	23.518	19.578	15.850	3	3	3	0.000	0.000	0.001
Likelihood Ratio	12.850	12.973	15.448	3	3	3	0.005	0.001	0.001
Linear-by-Linear Association	7.430	12.973	13.968	1	1	1	0.006	0.001	0.000
N of Valid Cases	400	400	400						

Table 5-Relationship between ISI Score and Obesity - Correlation

		MC12 Obesity	ISI Score
MC12 Obesity	Pearson Correlation	1	0.052
	Sig. (2-tailed)		0.304
	N	400	400
ISI Score	Pearson Correlation	0.052	1
	Sig. (2-tailed)	0.304	
	N	400	400

TABLE 6.-Relationship between ISI Score and Hypertension - Correlation

		ISI Score	MC8 Hypertension
ISI Score	Pearson Correlation	1	0.043
	Sig. (2-tailed)		0.390
	N	400	400
MC8 Hypertension	Pearson Correlation	0.043	1
	Sig. (2-tailed)	0.390	
	N	400	400

Results and discussion:Percentage analysis of the demographic variables showed that 49.8% of women were between age group of 51to 60 years, 37.5% had high school education,52.5% were homemakers,99.5% of women were married.92.3% of them had more than one child,63.8% attained menopause between 41 to 50 years, 40.8 % had menopause upto 5 years and 62.75 had a BMI of 25 or more. Subsequently the clinical data had a wide range of 50 items .There are therefore a few of the factors where women presented with a majority .Most of the women (62.75%) were obese.Knee pain was experienced by 37.3%of the women.21.8% of them experienced back pain. Apart from these details those with diabetes were 18.3% and hypertensives on antihypertensives were 14.3%. It was gratifying to note that 75.3% of women did not have clinically significant insomnia.12% had moderately severe insomnia ,10.3% had subthreshold insomnia and just about 2.5% had clinical insomnia.However The prevalence in the study was found to be 14.75%.-'p' value less than 0.05 was considered statistically significant.A study by Morin on insomnia among postmenopausal women showed thatmenopausal women also reported significantly more severe insomnia than non menopausal women (ISI means of 9.64 vs8.07,p<0.001) .In the study conducted by Arakane et al. (2011), 41% of menopausal women had insomnia problem and 30% of them had mild insomnia .In this study,p value of 0.005 clearly states that there exists a significant association between the ISI Score and the sweating of the respondents. p values less than 0.001 clearly depicts that there exists a significant association between the ISI Score and the back pain and knee pain of the respondents. There exists a positive correlation between obesity and hypertension and the Insomnia Severity Scores. They are directly proportional to each other. i.e. when the score of ISI increases, the effect of hypertension and obesity also increases and vice versa. Abha and Abha in 2017 in their study showed that Co morbidities were present in 48% women. Most common co morbidity associated was hypertension (38%).About 81%women were suffering from joint pains, 38.09% women complaint of developing forgetfulness and 9.52% women had depression. Assessment of quality of life revealed that only 30% women rate it satisfactory. Despite this less than 1% women were taking medical advice and were on medication. The prevalence of insomnia in this study was calculated using the Point Prevalence formula.There were a total of 59 women with subthreshold Insomnia, Clinical Insomnia of moderate and severe intensity .59 /400x100=14.75%. The National Institutes of Health estimates the prevalence of insomnia in menopausal women at 40–50%.

Nursing Implications:The study findings show that most menopausal women do not suffer from insomnia. However, based on the findings that obesity, knee pain and hypertension are positively linked to sleep issues, it may be prudent for nurses to bring about awareness on weight management and prevention of lifestyle diseases through health awareness programmes on a regular basis for the patients and relatives visiting the OG department and the hospital. The education imparted through these programmes can lead to improved health and better sleep, contributing to a better quality of life in the long term for post menopausal women.

II. Conclusion:

Well it was indeed gratifying to note that only a small percentage of women suffered with clinical insomnia. They definitely need to be catered to. However it is nice to know that these women coped well. They felt that being active was the key to a good night's rest. A well rested body enabled them to manage work effectively.

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