Effectiveness of Self Instructional Module on Coping Strategies of Tri-Dimensional Problems of Premenopausal Women – A Community Based Study

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ABSTRACT

Introduction: Pre-menopause in women presents with diverse symptoms, encompassing the tri-dimensional spheres of physical, social and psychological domains, which requires development of appropriate coping strategies to overcome these problems.

Aim: To assess level of knowledge about tri-dimensional problems in pre-menopausal women and evaluate effectiveness of self instruction module on coping strategies of these problems by pre-test and post-test analysis.

Materials and Methods: In a cross-sectional, community based study, in pre-menopausal women aged 40-49years baseline knowledge of tridimensional problems was assessed in 300 pre-menopausal women, selected by convenient sampling after satisfying selection criteria, by a pre-formed questionnaire. This was followed by administration of a pre-tested, Self-Instructional Module (SIM). The SIM dealt with imparting knowledge about coping strategies regarding pre-menopausal problems and the participants were required to read and retain the SIM. Post-test was conducted using same questionnaire after seven days.

Statistical Analysis: Chi-square test/ Paired t-test was used for comparing ratios. A 'p-value' <0.05 was considered statistically significant.

Results: Baseline knowledge of tridimensional problems was adequate in 10%, moderate in 73% and inadequate in 17% women with a pre-test mean knowledge score of 8.66±2.45. The post-test mean knowledge score was higher (19.11±3.38) compared to the pre-test score. The post-test mean knowledge difference from pre-test was -10.45 with a highly significant paired t-value of -47.45 indicating that the self-instructional module was effective in increasing the knowledge score of pre-menopausal women under study.

Conclusion: Administration of self instructional module was shown to significantly increase the knowledge scores in all areas of pre-menopausal tri-dimensional problems. Such self-instructional module can be used as an effective educational tool in increasing the knowledge of tri-dimensional problems in premenopausal women.

INTRODUCTION

Menopause is the permanent cessation of menstruation due to loss of ovarian follicular activity (WHO, 1981) [1]. With an average age of menopause of 47.5 years in India, 13% of Indian women are in menopausal age group [2,3]. Menopausal age in India is lower in western countries [4,5]. Pre-menopause immediately precedes menopause, when the ovarian hormones fluctuate, with symptoms encompassing the tri-dimensional spheres of physical, social and psychological domains, like lack of interest, headache, weight gain, hot flushes and insomnia [6]. While physical problems involving physiological changes lead to overall detrimental health effects, problems in the psychological and social domain further culminate into a poor quality of life. Therefore, it becomes of prime importance to develop skills and strategies to adapt one-self to cope up with these changes in the transitional phase of menopause. Furthermore, developing such coping strategies to handle these tri-dimensional problems is important to plan effective health educational measure for premenopausal women. Therefore this study was undertaken to assess the level of knowledge about tri-dimensional problems in pre-menopausal women and to determine efficacy of a self-instructional module on coping strategies of these problems.

MATERIALS AND METHODS

The present study was a community based cross-sectional study conducted between June 2013 and November 2014 on pre-menopausal women in the district of Kamrup in Assam. Ethical clearance was taken from the Institutional Ethical Committee and written informed consent was taken from all the participants included in the study.

A total of 300 women selected on the basis of convenient sampling method in the pre-menopausal age group, who satisfied the laid down selection criteria and agreed to participate were enrolled in the study by using purposive sampling technique.

Inclusion criteria

Pre-menopause [1,6] included women in the age group of 40-49 years who have not attained menopause and literate enough to read and understand the questionnaire.

Exclusion criteria

1. Women with gynaecological disease like uterine prolapse, ovarian cyst, uterine fibroid, or systemic diseases like diabetes mellitus, coronary heart disease, hypertension or any debilitating disease.

2. Women with known psychiatric illnesses.

3. Women who had undergone hysterectomy and/or salpingo-ophorectomy.

Data was collected from the enrolled participants by assigning them a pre-test with a structured questionnaire on the first day. Following the completion of the pre-test, a copy of a Self Instructional Module (SIM) was given to the respondents with instruction to retain and read the SIM thoroughly and come prepared for the post-test on the seventh day. The SIM included definitions of menopause and pre-menopause, general problems faced by women during the premenopausal phase, warning signs, detailed elaboration of physical, psychological and social problems during the period and also ways to manage and handle the concerned problems. Post-test was administered by using the same questionnaire on the seventh day to ensure avoidance of the immediate memory effect on the results of the post-test if it is introduced earlier. A more delayed post-test would lead to impairment of memory recall and decline in interest for this follow-up. The structured questionnaire consisted of two sections which included baseline variables and knowledge questionnaire with a total of 41 items (11 baseline variables and 30 knowledge questions). Each knowledge question was of multiple-choice type with one correct answer, each carrying a score of one, giving a total aggregate of 30. The structured questionnaire was tested for its content validity, feasibility, and reliability prior to administration to the participants. The reliability of the tool was established by using data collected from 30 premenopausal women and using the split half method, which measures the coefficient of internal consistency. The Karl Pearson's product moment correlation coefficient between halves was found to be 0.609. The split half reliability by using Spearman Brown prophesy formula was found as 0.757. The lower bound of reliability coefficient obtained by guttman split-half coefficient was found to be 0.751. The analysis showed that the tool was reliable and adequate.

STATISTICAL ANALYSIS

The SIM was made by the authors in consultation with experts from the Departments of Obstetrics and Gynaecology Nursing and Community Health Nursing faculties of the regional College of Nursing, Guwahati and was pre-tested to ensure that here was no difficulty in understanding the content of SIM.

Statistical Analyses were done using statistical package for social survey (SPSS) for Windows version 17.0. Both descriptive as well as inferential statistics were calculated. Paired t-test was used to test the difference in the knowledge score between pre-test and post-test performance. Association was measured by Chi-square test between pre-test and post-test with selected demographic variables and a p-value of <0.05 was considered significant.

RESULTS

A total of 300 women between the age group of 40-49 years were included in the study with a mean age of 43.8 years. Baseline demographic parameters of the study population are shown in [Table/Fig-1]. The overall mean of knowledge score of pre-menopausal women prior to administration of SIM was found to be 8.66±2.46 [Table/Fig-2]. The majority of premenopausal women (73.0%) had moderate knowledge about coping strategies for pre-menopausal problems while 17.0% had inadequate knowledge. Only 10.0% of the total population had adequate level of pre-test knowledge [Table/Fig-2]. The individual mean scores for each item on the pre-formed questionnaire is shown in [Table/Fig-3].

After the administration of the test and SIM the post-test results showed that majority of premenopausal women (96%) had adequate knowledge whereas 4% had moderate level of post-test knowledge. No respondent showed inadequate knowledge in the post-test. The mean post-test knowledge score of pre-

menopausal women was found to be 19.11± 3.380 [Table/Fig-4]. The individual mean scores for each item on the pre-formed questionnaire in the post-test is shown in [Table/Fig-5].

To ascertain the effectiveness of the SIM and find out significant differences in the level of knowledge before and after administration of the tests, individual parameters were tested using paired t-test, the results of which are shown in [Table/Fig-6]. The post-test mean knowledge difference was -10.45 with a highly significant paired t-value of -47.45.

Characteristic	Number of participants (%)
Marital status.	
Married	253(84.3)
Unmarried	14(4.7)
Divorced	7(2.3)
Widow	26(8.7)
Religion	
Hindu	214 (71.3)
Christian	57(19)
Muslim	29(9.7)
Type of Family	
Nuclear	176 (58.7)
Joint	115(38.3)
Extended	9(3)
Age at attainment of menarche	
<10yrs	17(5.7)
10-11yrs	83(27.7)
11-12yrs	147(49.0)
>13yrs	53(17.7)
Menstrual Regularity	
Regular	201(67)
Irregular	99(33)

[Table/Fig-1]: Baseline demographic parameters in the pre-menopausal subjects.

Pre-Test Knowledge Category	n* (%)	Mean± SD†
Inadequate (< 7)	51(17)	5.35±.913
Moderate (7-11)	219(73)	8.76±1.238
Adequate (> 11)	30(10)	13.53±2.300
Total	300(100)	8.66±2.455

[Table/Fig-2]: Pre-test knowledge scores on tri-dimensional problems in the premenopausal subjects.
* Number of participants; †standard deviation

Category	Pre-Test Aggregate Knowledge			
	Inadequate (<7)	Moderate (7-11)	Adequate (>11)	Total
	Mean± SD*	Mean± SD*	Mean±SD*	Mean±SD*
Pre Knowledge of Menopause	2.20± 1.02	2.95±1.05	4.63±1.38	2.99±1.24
Physical problems	1.00±0.85	1.50±0.89	2.17±1.09	1.48±0.95
Psychological problems	0.14± 0.35	0.26±0.44	0.50±0.51	0.26±0.44
Social problems	0.22±0.42	0.55±0.53	1.13±0.68	0.55±0.58
Coping strategies of physical problems	1.10±0.92	2.08±0.95	2.90±1.47	2.00±1.11
Coping strategies of psychological problems	0.33± 0.48	0.58±0.63	0.93±0.52	0.57±0.61
Coping strategies of social problems	0.37±0.56	0.84±0.68	1.27±0.78	0.80±0.71
Pre-Test Score	5.35± 0.91	8.76±1.24	13.53±2.30	8.66±2.45

[Table/Fig-3]: Mean pre-test knowledge score of the self instructional module for individual items of tri-dimensional problems in the pre-menopausal subjects.
* Standard deviation

Post-test Knowledge Category	n* (%)	Mean± SD†
Inadequate (<7)	0 (0)	0±0
Moderate (7-11)	12 (4.0)	10.08±1.084
Adequate (>11)	288 (96.0)	19.48±2.883
Total	300 (100)	19.11±3.380

[Table/Fig-4]: Post-test knowledge scores on tri-dimensional problems in the premenopausal subjects.
*number of participants; †standard deviation

Category	Post-test Aggregate Knowledge			
	Inadequate (≤15)	Moderate (16-22)	Adequate (>22)	Total
	Mean± SD*	Mean± SD*	Mean±SD*	Mean±SD*
Post Knowledge of menopause	4.23±1.59	6.88±1.14	8.21±1.32	6.67±1.61
Physical Problems	2.10±0.87	3.28±0.95	3.97±0.81	3.20±1.04
Psychological Problems	0.58±0.50	0.65±0.48	0.73±0.45	0.65±0.48
Social Problems	0.83±0.55	1.32±0.57	1.58±0.56	1.28±0.60
Coping strategies of physical problems	3.05±1.26	4.30±1.07	5.82±1.21	4.30±1.30
Coping strategies of psychological problems	0.90±0.59	1.19±0.62	1.45±0.67	1.18±0.64
Coping strategies of social problems	1.13±0.61	1.84±0.80	2.55±0.56	1.82±0.83
Post-test Score	12.80±2.04	19.46±1.71	24.30±1.57	19.11±3.38

[Table/Fig-5]: Mean post-test knowledge score of the self instructional module for individual items of tri-dimensional problems in the premenopausal subjects.
* Standard deviation

India which aimed to find out the effect of menopause related symptoms on the Quality of Life (QOL) of pre-menopausal women showed higher prevalence of psycho-social factors affecting the QOL [11]. Thus, awareness of these aspects of difficulties in various domains of life in the pre-menopausal phase is necessary so as to develop appropriate coping strategies to counter them. In our study we found that prior to administration of the test only 10% of the pre-menopausal women had adequate knowledge, while 17% had inadequate knowledge with the rest having a moderate level of knowledge. However, following administration of the test and education imparted by the SIM we found that number of participants with inadequate knowledge in the post-test phase was reduced to nil. Furthermore, the fraction of participants showing adequate knowledge increased from 17% to 96%. On statistical analysis we found that the post-test mean knowledge score was higher (19.11±3.38) when compared with pre-test mean knowledge score value which was (8.66±2.45). The post-test mean knowledge difference from the pre-test was -10.45 with a highly significant paired t-test value of -47.45 which indicated that the self-instructional module was effective in increasing the knowledge score of pre-menopausal women in the study. In an earlier study from India, the effectiveness of structured teaching programme was tested and the difference between pre-test and post-test knowledge scores assessed after seven days on menopausal symptoms and its effectiveness was found to be highly significant with mean percentage knowledge score difference of 46.13% [12]. In another study from Nagpur, India for assessing the effectiveness of SIM on menopausal changes and its coping, the pre-test and post-test data analysis revealed the mean post-test score (17.56±1.37) was higher than the mean pre-test score

Paired Samples Statistics		Mean	SD*	r†	P	Paired Differences		t‡ 299 df§	Sig‖. (2-tailed)
Areas	Test					Mean	SD*		
Menopause	Pre-Test	2.99	1.24	0.03	5.90E¶-01	-3.68	2.00	-31.83	4.83E-98
	Post-test	6.67	1.61						
Physical Problems	Pre-Test	1.48	0.95	0.21	3.49E-04	-1.71	1.26	-23.64	2.18E-70
	Post-test	3.20	1.04						
Psychological Problems	Pre-Test	0.26	0.44	0.09	1.21E-01	-0.39	0.62	-10.79	3.78E-23
	Post-test	0.65	0.48						
Social Problems	Pre-Test	0.55	0.58	0.14	1.48E-02	-0.73	0.77	-16.33	2.66E-43
	Post-test	1.28	0.60						
Coping strategies of physical problems	Pre-Test	2.00	1.11	0.24	3.39E-05	-2.31	1.50	-26.69	4.03E-81
	Post-test	4.30	1.30						
Coping strategies of psychological problems	Pre-Test	0.57	0.61	0.19	7.49E-04	-0.61	0.79	-13.35	3.40E-32
	Post-test	1.18	0.64						
Coping strategies of social problems	Pre-Test	0.80	0.71	0.22	1.50E-04	-1.02	0.97	-18.29	1.13E-50
	Post-test	1.82	0.83						
Test Score	Pre-Test	8.66	2.45	0.17	2.36E-03	-10.45	3.81	-47.45	3.22E-141
	Post-test	19.11	3.38						

[Table/Fig-6]: Effectiveness of the self instructional module on mean knowledge scores on tri-dimensional problems in the premenopausal subjects.
*standard deviation; †co-relation co-efficient; ‡t-statistic; §degrees of freedom; ‖Significance; ¶10

DISCUSSION

Physical, social and psychological problems are issues of concern in the pre-menopausal population. Earlier studies have shown that insomnia, hot flushes, dyspareunia, weight loss and headache to be frequent physical symptoms which are a cause of distress in the pre-menopausal women [7,8]. On the psychological aspect an earlier study suggested that phase of transition into menopause is associated with an increased occurrence of depression and overall decrease in cognition [9]. In another study comprising of 390 pre-menopausal women, it was found that menopausal transition phase was associated with decreased libido, increased sex related distress, easy fatigability, fatigue and stress in the women's lives [10]. On the social front a study from Karnataka,

(2.84±1.23) [13]. In another study conducted on menopausal women the assessment of pre-post-test scores conducted two months apart based upon a Menopausal Rating Scale (MRS) showed a significant difference (p<0.05) in the mean scores of paired t-tests [14].

LIMITATION

The sample size of our study was small due to constraints of time which is a limitation of our study.

CONCLUSION

The present study showed that while the baseline knowledge of pre-menopausal tridimensional problems was inadequate in the

majority of the women, after the administration of SIM, there was evident significant in the knowledge scores in all the areas of physical, psychological and social domains included in the study. Thus it can be inferred that the SIM was effective in improving the level of knowledge amongst pre-menopausal women which can enable the women to cope up better with such problems in this transitional phase of life. Therefore, such a tool can be utilized as an effective health educational measure in dealing with these tri-dimensional problems in pre-menopausal women.

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