

Bridging the knowledge Gap: Exploring premenopausal women's understanding of menopausal changes for educational booklet development

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ABSTRACT

Background Menopause is a physiological transition accompanied by physical and hormonal changes. Limited awareness among premenopausal women can affect adjustment and well-being.

Objectives of the study To assess the premenopausal women's knowledge of physiological changes during menopause and develop an educational booklet to enhance understanding.

Method A descriptive survey approach was conducted among 80 pre-menopausal women using purposive sampling. Data was collected through a validated and reliable (r =0.82). questionnaire on demographics and knowledge. Data were analyzed using descriptive and inferential statistics.

Results The mean knowledge score was 9.93 ± 2.65 (43.2%). Most participants had average knowledge (53.75%), while (43.75%) had poor knowledge. No significant association was found with demographic variables.

Conclusion Premenopausal women demonstrated limited knowledge about menopausal physiology. The developed information booklet can serve as a valuable educational resource to enhance awareness and promote healthy menopausal transition.

KEYWORDS: Development of an information booklet, Organization of the study findings

How to Cite: Jipi Varghese, Jobby George, Rufa Mitsu, Ms. Samia Khan., (2025) Bridging the knowledge Gap: Exploring premenopausal women's understanding of menopausal changes for educational booklet development, Vascular and Endovascular Review, Vol.8, No.9s, 101--105.

INTRODUCTION

Background

Menopause marks the permanent cessation of menstruation resulting from loss of ovarian follicular activity . It typically occurs between 45-55 years(WHO2023). Awareness during the premenopausal phase helps women adapt to physical and emotional changes and reduces anxiety (Bansal et. Al 2022) . However studies report insufficient knowledge of menopausal physiology among women of reproductive age . Pre-menopause usually occurs five years before menopause, a period in a woman's life when the ovaries no longer produce estrogen and therefore completely without further egg production. Pre-menopause symptoms vary from person to person: some women will experience hot flashes, mood swings, dry vaginal canal, loss of sex drive, irritability, gums bleeding, tinnitus or even heart attack or stroke, while others will experience just a few of those as pre-menopause symptom¹.

Objectives of the study:

The objectives of the study were to assess the level of knowledge of premenopausal women regarding physiological changes during menopause. Find out the association between the knowledge scores of premenopausal women regarding physiological changes during menopause with selected demographic variables. Develop and validate an information booklet on physiological changes during menopause.

Operational definition:

- 1) **Knowledge:** In this study, knowledge refers to correct responses of premenopausal women regarding physiological changes during menopause.
- 2) **Menopause:** it refers to the period during which the menstrual cycle wanes and gradually stops; also called change life and climacteric. In this study, it refers to women who are in the age group of 45 to 55 years.
- 3) **Premenopausal women:** In this study, it refers to the women who have not yet attained menopause, and who are still menstruating.
- 4) **Information booklet:** In this study, the information booklet refers to a booklet containing information regarding selected physiological changes during menopause which helps in gaining knowledge by reading it.

MATERIALS AND METHODS

A descriptive survey approach was employed for the study. 80 pre-menopausal women who met the inclusion criteria were chosen using a purposive sampling technique was used to select the samples for the study. The data collection tools consisted of demographic data (Out of 6 items, 1 item had 100% agreement, 5 items had 88% agreement and. Modifications were made on 5 items as per the suggestions of the experts) and a knowledge questionnaire on physiological changes during menopause. Pre-

testing of the tool was done, and the reliability of the tool was established by the split-half method followed by Spearman's Brown prophecy formula ($r_{(10)} = 0.82$).

**Demographic proforma:
Knowledge questionnaire**

Out of 23 items, 12 items got 100% agreement, 11 items got 88% agreement. Modifications were made to 8 items: on the questionnaire as per the suggestions of the experts. Thus, the final questionnaire had 30 items. The maximum possible score was '23' and the minimum score was '0.' Each multiple-choice had four options with '1' for the correct response and '0' for the wrong answer.

Table 1: Grading levels of knowledge and its percentage distribution

Knowledge	Percentage	Grades
0 – 9	0 - 40%	Poor
10 – 13	41 - 60%	Moderate/Average
14 – 18	61 - 80%	Good
19 – 23	81 - 100%	excellent/v.good

Development of an information booklet

The information booklet was developed after reviewing the research and non-research-based literature and seeking opinions on the subject guide. The first draft of the booklet was on physiological changes during menopause based on the literature available on the topic. The areas covered were introduction to menopause, hormonal changes during menopause, physical changes during menopause and some treatment modalities to cope with menopause. To ensure content validity, the draft of the information booklet regarding physiological changes during menopause was given to experts in the field of obstetrics and gynecology. The appropriate pictures were finalized, and the final version of the booklet was completed. The pre-testing of the translated booklet was done by administering it to 10 subjects to determine the clarity of the content. The tool was submitted to a language expert for translation to Kannada. The tool was administered to 10 pre-menopausal women. The interventions and questionnaire were clear and understandable. The average time taken to complete the tool was 20 minutes.

RESULTS

The description of the sample, analysis, and interpretation of data collected from a selected group of 80 premenopausal women on their knowledge regarding physiological changes in menopause using a structured knowledge questionnaire. The data were analyzed based on study objectives using both descriptive and inferential statistics.

Organization of the study findings

The analysis of data is presented in the following sections:

Section I: Demographic proforma.

Section II: Level of knowledge regarding physiological changes during menopause

Section III: The mean, median, SD and mean percentage and interpretation of knowledge scores of premenopausal women

Section IV: Association of knowledge scores of pre-menopausal women regarding physiological changes during menopause with selected demographic variables

Section I: Demographic proforma

This section deals with demographic data of 80 premenopausal women in terms of frequency and percentage. The demographic data includes age, education, dietary pattern, type of family and source of information

**Table 2: Frequency and percentage distribution of premenopausal women based on their demographic data
N = 80**

Demographic Variables	Pre-menopausal women	
	F	%
Age (in years)		
25	20	25
25 – 29	25	31.25
30 – 34	15	18.75
35-39	20	25
Educational background		
Bachelor	2	2.5
Master	73	91.25
Any other specify	5	6.25
Source of information		
Mass media	28	35
Health professionals	22	27.5
Elders and relatives	11	13.75

Any other specify	39	48.75
Type of family		
Nuclear	70	87.5
Joint	10	12.5
Dietary Pattern		
Non vegetarian	79	98.75
Vegetarian	1	1.25

Section II: Level of Knowledge regarding physiological changes during menopause among premenopausal women

Table 3: Frequency and percentage distribution of pre-menopausal women based on their overall knowledge scores
N = 80

Level of knowledge	of Premenopausal women	
	Frequency	Percentage (%)
Poor	35	43.75
Average	43	53.75
Good	5	6.25

Section II: The mean, median, SD and mean percentage and interpretation of knowledge scores of premenopausal women
Tables 4: The mean, median, SD and mean percentage and interpretation of knowledge scores of premenopausal women

Sl no	Mean, median, sd mean percentage	Score
1.	Minimum	3
2.	Maximum	18
3.	Max possible score	23
4.	Mean	9.93
5.	Standard deviation	2.649
6.	Median	10.00
7.	Standard error	.265
8.	Percentage score	43.20
9.	Interpretation	Moderate

Section IV: Association of knowledge scores of pre-menopausal women regarding physiological changes with selected demographic variables

To find out the significant association between the knowledge scores of premenopausal women with selected demographic variables, a chi-square test was computed. To test the significant association, the null hypothesis was stated

H₂: There will be a significant association between the knowledge scores of premenopausal women regarding physiological changes during menopause with selected demographic variables.

The chi-square computed between the knowledge scores and selected demographic variables of premenopausal women. If any cell frequency is zero then the Fisher exact test, not the chi-square test. It can be concluded that there was no significant association between knowledge scores and selected demographic variables. Hence the null hypothesis was accepted, and the research hypothesis was rejected.

DISCUSSION

This study explored premenopausal women's knowledge regarding physiological; changes during menopause and to develop an educational booklet to enhance awareness and preparedness for this transition. The discussion interprets the findings in relation to the objectives supported by contemporary evidence.

Demographic data

The findings of the study indicated that the majority of premenopausal women (31.25 %) were aged group of 25 -29 years signifying the importance of early health education before the onset of menopausal changes. Most of the premenopausal women (91.25%) had master's degrees despite of this (43.75%) reported poor awareness about physiological changes during menopause which suggests that higher educational attainment does not necessarily translate into reproductive health literacy. Furthermore (87.5%) lived in a nuclear family, which may limit intergenerational discussions about menopause that traditionally occurred within extended family structures.

Knowledge physiological changes in menopause

The result revealed that (41.75%) of premenopausal women had poor knowledge and (55.75%) of premenopausal women had average understanding. The overall mean knowledge score was (43.27%), indicates moderate awareness, consistent with similar studies showing inadequate understanding of menopausal physiology among women in various cultural contexts. These findings highlight a persistent knowledge gap that may affect women's ability to anticipate and manage menopausal symptoms effectively. This underscores the necessity of structured educational interventions to enhance awareness, reduce misconceptions and promote health seeking behaviors.

Association of knowledge scores and demographic variables

The analysis showed no significant association between knowledge levels and selected demographic variables such as age, education and type of family. This suggest that limited awareness is prevalent across demographic strata and not confined to any specific subgroup but is rather a broader issue.

Implications for practice and health education

Given these findings, there is a clear imperative for early , accessible and culturally sensitive educational materials for premenopausal women. Health practitioners, especially nurses and midwives, should integrate menopause education into routine care well before the menopausal transition. The educational booklet developed from this study represents a proactive tool to empower women with evidence-based information and to enhance their **preparedness , self-care capacity and overall quality of life during menopause.**

CONCLUSION: -

In summary, a substantial proportion of premenopausal women in the study demonstrated poor to average knowledge about physiological changes associated with menopause and these knowledge levels were not significantly influenced by demographic variables. This confirms the need for universal, pre-emptive educational interventions. The educational booklet developed as part of this research offers a practical pathway forward. Future research should evaluate its effectiveness in improving knowledge, attitudes and self-management behaviors among diverse cohorts of women.

Limitations

1. The study was confined to a specific geographical area, which imposes limits on generalization.
2. The limited sample size causes a limit on the generalization of the study findings.
3. The structured knowledge questionnaire was used to collect the data, which restricted the respondents from providing adequate information regarding physiological changes during menopause.

Suggestions

1. Nursing personnel may emphasize and organize health education programs to educate premenopausal women regarding changes during menopause.
2. An information booklet on physiological changes during menopause can be distributed to all premenopausal women and kept in OPDs, PHCs, and community health centers for their reference.

Recommendations

Based on the study findings, the following recommendations were made for further study.

1. A similar study may be replicated on a large sample.
2. A planned teaching program can be conducted among pre-menopausal using an experimental design.

A follow-up study can be conducted to determine the effectiveness of the information booklet in terms of gaining knowledge in those subjects to whom the information booklet was administered

SUMMARY

This study aimed to determine the knowledge regarding physiological changes during menopause, to prepare an information booklet. Hence, the investigator intended to take up this study with appropriate preparations in preparing a knowledge questionnaire and an information booklet. The participants were cooperative throughout the study. The result of the study showed that there is a significant difference between the knowledge scores of premenopausal women regarding physiological changes during menopause and there was no significant association between the knowledge score of premenopausal women with demographic variables. An information booklet has been provided to all the participants to improve their knowledge regarding physiological changes during menopause.

A descriptive survey approach was used for the study. The sample of the study consisted of 80 premenopausal women. A purposive sampling technique was used to select the samples for the study. The data collection tools consisted of demographic data and a knowledge questionnaire. The tool was validated by 9 experts. Pre-testing of the tool was done, and the reliability of the tool was established by the split-half method followed by Spearman's Brown prophecy formula ($r_{(10)}=0.82$). A pilot study was conducted, and the study was found practical and feasible. The final data collection was done among 80 premenopausal women from selected colleges. The obtained data were analyzed in terms of the objectives and hypothesis using descriptive and inferential statistics.

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