



IMPACT OF EDUCATIONAL INTERVENTION ON KNOWLEDGE AND PRACTICES ABOUT PELVIC ORGAN PROLAPSE AND URINARY INCONTINENCE IN MENOPAUSAL WOMEN- AN ANALYTICAL STUDY.

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ABSTRACT

Objective: To assess knowledge and practices among menopausal women regarding pelvic organ prolapse and urinary incontinence, and to evaluate the effectiveness of an educational intervention using the Prolapse and Incontinence Knowledge Questionnaire (PIKQ).

Methods: An analytical study was conducted with 308 women aged 40–60 in Belagavi. Participants were randomly assigned to control and experimental groups. The intervention included pamphlets, a video module, and a pelvic model. Content validity (0.94 scale-level, 1 item-level) and reliability (0.859) were established. Data were collected pre- and post-intervention using PIKQ.

Results & Conclusion: Significant improvements ($p < 0.001$) were observed post-intervention in both groups, with greater gains in the experimental group, indicating the intervention effectively enhanced knowledge and practices.

Key words - Menopause; Educational Intervention; Urinary Incontinence; Pelvic Organ Prolapse; Knowledge.

Introduction

Menopause is the end of a woman's reproductive years and one stage of a life continuum, according to the World Health Organization. Between the ages of 45 and 55, most women experience menopause, which is a typical part of biological aging. Menopause is primarily caused by a decrease in blood estrogen levels and a loss of ovarian follicular function. The menopausal transition, which may be slow, usually begins with changes in the menstrual cycle. "Perimenopause" refers to the period of time between the onset of these symptoms and the end of the last menstrual period, which occurs one year later. This multi-year perimenopause can affect mental, emotional, physical, and social wellbeing [1].

Urinary incontinence and pelvic organ prolapse are pelvic floor dysfunctions that have not received adequate attention, despite their high prevalences of 54.11% and 2.21%, respectively. Urinary incontinence, which is more prevalent in women and rises with age, is defined as any involuntary spilling of urine [2]. Specifically, the incidence rises during the fifth and eighth decades of life [3]. With 25% of cases, urge urinary incontinence is the most prevalent type of urine incontinence. Mixed urinary incontinence (31.2%) and stress urinary incontinence (43.7%) are the next most common types [4].

Pelvic organ prolapse is another issue that affects women just as often as urine incontinence. Even while it has been rising lately, its prevalence (4.8%) cannot be ignored, particularly in low-income nations [5]. When one or more of the pelvic organs move out of their normal position, it's called pelvic organ prolapse. It is caused by injury to the muscles or tissues supporting the pelvic organs. The organs that comprise the pelvis include the uterus, bladder, urethra, rectum, and vagina [6]. The literature indicates that women lack a thorough understanding of this issue, are unaware of the various therapies that are available, and are unable to recognize risk factors that could lead to the development of these problems [7].

Women's reproductive health must receive far more attention in order to prevent problems in the future [8]. Menopausal women should therefore receive appropriate education regarding UI and POP. Therefore, it is crucial to assess their level of knowledge and practice as well as to educate them about urine incontinence and pelvic organ prolapse. Therefore, the study's goal was to use the Prolapse and Incontinence Knowledge questionnaire to assess how educational interventions affected level of knowledge and practices regarding POP and UI among menopausal women in Belagavi City.

Methodology

A two-phase analytical experimental study was conducted between February 2024 and February 2025 among 308 menopausal women aged 40–60 years, including both nulliparous and parous women. Women who were able to read and write in English, Marathi, or Kannada and were willing to participate were included in the study. Women who were unable to comprehend the questionnaire or study procedures for any reason were excluded. The study participants were recruited from a tertiary care hospital and from community-dwelling women in Belagavi city. A non-probability convenience sampling technique was used for participant selection.

PHASE – I, where Ethical Clearance was obtained from Institutional Ethical Committee of (Reference Number- 675) dated, June 24, 2024 and Content Validity testing and internal consistency analysis of pamphlets and videos was done by six experts in field of Obstetrics and Gynecology physiotherapy. The copyright for pamphlets was approved by government of India (Registration No. L- 161314/2025).

PHASE – II, where participants were screened for Inclusion and exclusion criteria prior to the enrolment into the study. The participants were selected based on non-probability, convenience sampling and allocated to different groups based on envelope method.

Everyone who took part in the research had their questions answered and their written informed consent forms signed. A pre-test Prolapse and Incontinence questionnaire was administered among 308 menopausal women. The questionnaire comprised of 2 sections each consisting of 12 questions on incontinence and prolapse. Following the pre-test, 20 minutes educational intervention was delivered once which included pamphlets for control group and pamphlets, video modules in English, Marathi and Kannada languages and explanation using pelvic model for intervention group.

Pamphlets and video module covered components which include definition, risk factors, signs and symptoms, prevention and treatment of UI and POP. Post intervention, post-test questionnaire was administered to participants to evaluate impact of educational intervention on participants. The data was collected and analysed using Microsoft Excel 2019 and the SPSS software (SPSS Inc.; Chicago, IL) version 29.0.10.

Results

The content validity index of the questionnaire was analysed using Item-level CVI (ICVI), based on the suggestions of eight experts. Each expert rated the relevance of the items, with ratings of 3 or 4 considered relevant (scored as 1), and ratings of 1 or 2 considered not relevant (scored as 0). An item received a universal agreement (UA) score of 1 if all experts rated it as relevant; if any expert did not, it received a score of 0. The I-CVI for each item was determined by dividing the number of experts who rated it as relevant by the total number of experts. The Scale-level CVI average (S-CVI/Ave) was calculated as the average of all I-CVI scores, yielding a value of 0.94, indicating strong content validity. The Scale-level CVI based on universal agreement (S-CVI/UA) was determined by averaging all UA scores, and achieved a score of 1, reflecting complete expert consensus and strong content validity.

Internal consistency of the questionnaire was evaluated using Cronbach's alpha, which was found to be 0.859, revealing good internal consistency. The mean for age irrespective of groups was 48.55 ± 6.12 . For the subjects in Group A mean age was 49.06 ± 6.23 years whereas in Group B it was 48.04 ± 6.06 years. The mean BMI of the participants irrespective of groups was 26.37 ± 3.86 . The mean for BMI of the participants in the Group A was 26.12 ± 3.50 Kg/m² and Group B was 26.62 ± 4.19 Kg/m². The within – group analysis, (Table 1) revealed significant improvements in knowledge and practice levels (PIKQ scores) following the educational intervention in both the groups. In Group A, the pre- and post-intervention mean scores were 8.87 ± 3.81 and 19.32 ± 1.77 , respectively, while in Group B, they were 9.30 ± 3.54 and 22.44 ± 1.21 . Paired t- tests confirmed statistically significant differences ($p < 0.05$) within both groups, indicating the effectiveness of intervention. The analysis amongst group, further revealed a significant difference in PIKQ scores post-intervention, with no significant difference at baseline ($t = 1.02, p > 0.05$), but a marked difference after the intervention ($t = 18.10, p < 0.05$), favouring the experimental group (Table 2). An overall pre- to post-test comparison using a paired t - test across both groups also demonstrated a significant increase in knowledge, with mean scores improving from 9.08 ± 3.68 to 20.88 ± 2.18 ($p < 0.05$), underscoring the positive impact of the educational intervention. (Figure 1)

Discussion

The primary aim of the present study was to evaluate the impact of an educational intervention on knowledge and practices related to pelvic organ prolapse (POP) and urinary incontinence (UI). The educational content focused on essential aspects such as definitions, risk factors, preventive strategies, and management options for both conditions. Improving awareness in these areas is particularly important among menopausal women, as it promotes early identification of symptoms, encourages timely health-seeking behaviour, and facilitates early intervention, thereby reducing the risk of progression and associated complications.

Pelvic organ prolapse and urinary incontinence significantly affect women's physical, psychological, and social well-being. The physical discomfort caused by prolapse, including the sensation of organ descent, and the unpredictability of urinary leakage can lead to restricted mobility and loss of independence. In addition to these physical challenges, the psychological burden of coping with these conditions may result in anxiety, emotional distress, and social withdrawal. Persistent concerns regarding symptom management often interfere with interpersonal relationships and may contribute to increased feelings of loneliness and isolation.

A study conducted in 2024 reported that 84.4% of women perceived their symptoms as normal physiological changes rather than signs of an underlying health condition. This misconception often results in delayed diagnosis, underreporting, and poor help-seeking behaviour, ultimately increasing the burden of these conditions on quality of life (QOL) [9].

In the present study, a standardized questionnaire was used to assess participants' knowledge and practices regarding UI and POP. The instrument was selected based on its established validity and reliability. It consisted of two sections, each containing 12 items specifically related to UI and POP, respectively. Each section was scored on a scale of 0 to 12, where higher scores indicated greater knowledge and better practices.

The psychometric evaluation of the questionnaire demonstrated strong internal consistency, with Cronbach's alpha values of 0.825 for the UI section and 0.895 for the POP section. The tool also exhibited good validity, with values of 0.675 for the UI scale and 0.940 for the POP scale. These findings support the effectiveness of the instrument in accurately measuring knowledge and practices related to these conditions. Notably, the same questionnaire had previously been used in a study assessing knowledge levels regarding UI and POP among intermediate-level healthcare personnel [10].

The study focused on women aged 40 to 60 years, as this period represents a critical phase of menopausal transition characterized by significant hormonal changes, particularly a decline in estrogen and other reproductive hormones. These hormonal changes can contribute to weakening of the pelvic floor muscles and connective tissues, thereby increasing susceptibility to pelvic floor dysfunctions such as UI and POP. By targeting this age group, the study aimed to address a crucial period of vulnerability where education and early intervention can play a vital role in prevention, early detection, and management of pelvic floor disorders (PFDs) [11].

Similar findings have been reported in previous literature. A pre-post interventional study conducted in 2020 among 60 postmenopausal women evaluated their knowledge regarding urinary incontinence using a structured questionnaire. The intervention included a training module addressing causes, risk factors, and management strategies. Following the intervention, a significant improvement in knowledge levels was observed, which aligns with the findings of the present study [5]. These results further highlight the effectiveness of educational interventions in enhancing awareness and understanding of urinary incontinence among postmenopausal women.

In the current study, the intervention group demonstrated greater improvement in knowledge and practice scores. This improvement may be attributed to the individualized one-on-one discussions and the use of video-based audio-visual aids as part of the educational intervention. Such teaching methods were especially beneficial for participants with limited literacy, who may have found written educational materials such as pamphlets less accessible. This personalized and interactive approach not only enhanced participants' understanding but also promoted early recognition, diagnosis, and timely management of UI and POP.

Conclusion-

After an educational intervention, there was positive impact on menopausal women in both the control and intervention groups about levels of knowledge and practices related to POP and UI. Markedly, the intervention group, which received comprehensive educational intervention including pamphlets, video modules, and a pelvic model, exhibited a more substantial improvement.

Figures & Tables

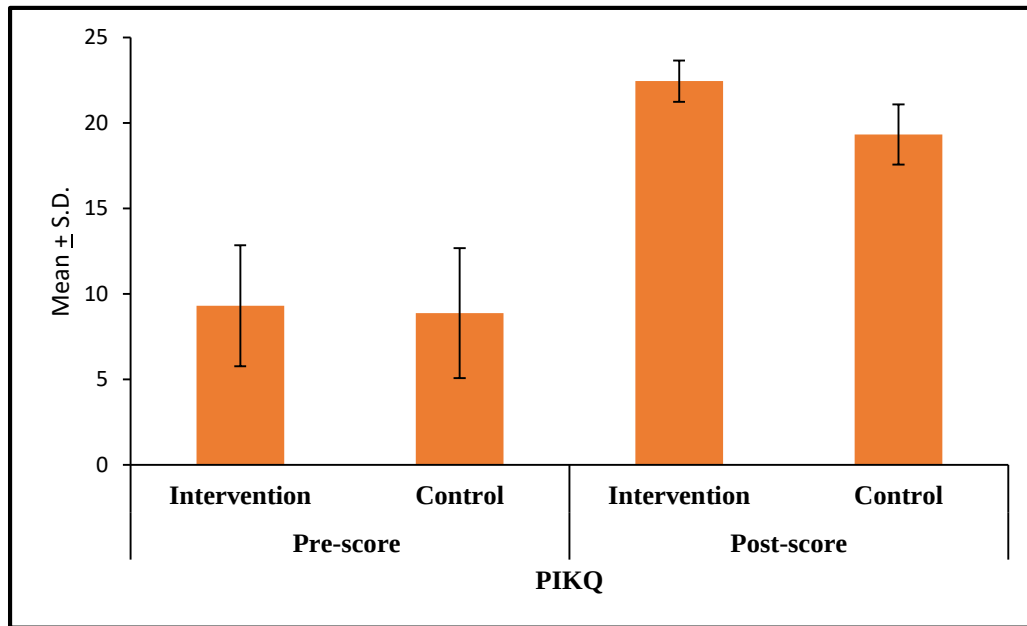


Figure 1 - PIKQ according to groups

Table 1: Comparison of PIKQ within the groups

		Mean	S.D.	"t"	p value
Intervention	Pre-score	9.30	3.54	-44.38	< 0.001*
	Post-score	22.44	1.21		
Control	Pre-score	8.87	3.81	-37.37	< 0.001*
	Post-score	19.32	1.77		

* S.D. – Standard Deviation, (t = paired t- test), (p < 0.05)

Table 2: Comparison of PIKQ between groups

	PIKQ	Mean	S.D.	"t"	p value
Pre-score	Intervention	9.30	3.54	1.02	0.307
	Control	8.87	3.81		
Post-score	Intervention	22.44	1.21	18.10	<0.001*
	Control	19.32	1.77		

* S.D. – Standard Deviation (t = independent sample "t" test) (p < 0.05)

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