

A pre-experimental study to evaluate the effectiveness of self-instructional module (SIM) on knowledge regarding pelvic floor exercises among antenatal mothers attending OPD's from selected hospitals of Pune city

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ABSTRACT

Introduction: Pelvic floor exercises play a vital role in promoting maternal health during pregnancy, helping to prevent urinary incontinence, support labor, and aid postpartum recovery. A SIM offers a potentially cost-effective and scalable approach to improve knowledge and self-care practices during pregnancy. **Aim of The Study:** To evaluate the effectiveness of SIM on knowledge regarding pelvic floor exercises among antenatal mothers attending OPD's from selected hospitals of Pune city. **Objectives of The Study** -To assess the pre-test knowledge regarding pelvic floor exercises among antenatal mothers in experimental group. -To assess the post-test knowledge regarding pelvic floor exercises among antenatal mothers after administration of SIM in experimental group. -To compare the pre & post-test knowledge score in experimental group. -To determine the effectiveness of SIM on knowledge regarding pelvic floor exercises. -To associate the pre-test knowledge score with selected demographic variables. **Material and Method** A quantitative research approach was adopted to conduct this study and design used was pre-experimental one group pretest and post-test adopted. Non- probability purposive sampling technique was used. Data were collected from 60 antenatal mothers. The data collection tools: Demographic data, Awareness about pelvic floor exercises during pregnancy, self-structured questionnaire with multiple questions was given to the participants. Analysis reveals that more than half (61.7%) antenatal mothers had average knowledge and 38.3% of them had good knowledge regarding pelvic floor exercises, in pre-test. Findings after administration of self-instructional module are majority 16.7% of the antenatal mothers had good knowledge and 83.3% of them had excellent knowledge regarding pelvic floor exercises. **Conclusion** Evaluation of self- instructional module on knowledge regarding pelvic floor exercises among antenatal mothers. **Conclusion** drawn from the study is the self-instructional module is more effective in improving knowledge regarding pelvic floor exercises among mothers.

KEYWORDS: Self-instructional module, knowledge, Pelvic floor exercises, and antenatal mothers..

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INTRODUCTION

Pregnancy represents a time of significant physiological changes, which can impact a women's pelvic floor health pelvic floor exercise can often have referred to Kegel exercise Add vital for strengthening the muscles that supports the pelvic organ potentially reducing the risk of complications such as urinary incontinence and pelvic organ prolapse despite their importance many antenatal mothers having lack of adequate knowledge about these exercises and their benefits.

Educational intervention can play a crucial role in enhancing awareness and knowledge a self- instructional module is structured educational tool designed for self- placed learning which can be particularly used in providing critical information of pregnant women who may not have access to personalised instruction due to various constraints.

BACKGROUND OF THE STUDY

Pelvic floor is a muscular dividing with a detached the pelvic cavity from the perineum The most important muscle supporting the pelvic organ is elevated ani (deep layer) Which forms the pelvic floor the elevated ani, consists pubococcygeus (PC) muscle move from pubis to the coccyx. The Iliococcygeus muscle go from fascia hiding the obturator internus muscle to the end of the spine. The third muscle that is Iliococcygeus muscle move from the iliac crest to tailbone there are five muscles in Superficial muscle layer of the pelvic flower. The 1st muscle layer external and sphincter that surrounding the anus. 2nd transfer perineal muscles that goes from ischial tuberosity to the midpoint of the perineum .3rd bulbocavernosus muscles that move from the perineum ahead the vagina and clitoris just below the pubic arch. The last second ischiocavernosus muscle that move from the ischial tuberosity across the pubic arch to the corpora cavernosa. The last muscle membrane sphincter of the urethra, collected of muscle fibres passing about and lower the urethra and connected to the pubic bones. It is to close the urethra joining the muscle layers also there are layers of pelvic fascia. The body tissues with wrapping the fascia are called the pelvic diaphragm.1

The pelvic floor holds the weight of abdominal and pelvic floor organs like birth canal, cervix uterus bladder and rectum the pubovaginalis hold the external genitals, bladder and uterus. Fragility of this pubovaginalis throughout the time of delivery behind for prolapse of the organ and also responsible for the voluntary control of voiding and defecation and play a role in sexual functions. The pelvic floor muscles making up the inner core, which balance the pelvis and lower back. Pelvic floor muscles are to provide physical support to the internal organs.

Contraction and relaxation are the function of the pelvic floor muscle. In pregnancy deep layer muscle hypertrophies and gets less rigid and more distensible. As water holding its swells up and sags down. Supporting intra-abdominal pressure by reflex responding to its changes. Stability of perineal body in the second stage of labour the muscle that supports the vagina and puborectalis relax and the deep layer is composed over the advancing presenting part. When presenting part touches to the pelvic floor pelvic floor muscles pivot the presenting part of the foetus and rotates 1/8 circle, impact the passive movements of the foetus assist to the vagina and relaxes to allow birth from birth canal. The perineal body helps to hold the deep layer which is placed upon its full stop it is defenseless to the injury during delivery. Carefully cutting of perineum during delivery is called it is your it is episiotomy. During pelvic examination the women needs to use relaxation techniques to help to manage with examination. Pelvic floor helps to strengthening the muscles during the pregnancy. Pelvic floor muscles that stretch like supportive to pubic bone through the end of the backbone. Muscles strengthening can help in urinary incontinence, bowel problems, eat supports the uterus preventing pelvic organ from prolapsed, and it also helps to carry the extra weight of the body and the foetus. A healthy pelvic floor muscles are making the labour and delivery less risky it prevents from damage of muscles.1

OBJECTIVES

- To assess the pretest knowledge regarding pelvic floor exercise among antenatal mothers.
- To assess the post-test knowledge regarding pelvic floor exercise among antenatal mothers after administration of SIM.
- To compare the pre and post is knowledge score.
- To determine the effectiveness of SIM on knowledge regarding pelvic floor exercises.
- To associate the pretest knowledge score with selected demographic variable.

MATERIAL AND METHODS

Pre-experimental one group Pretest - Post-test research design was adopted for the study. Research variable is, independent variable -Self-Instructional module (SIM) regarding pelvic floor exercises and Dependent variable - Knowledge of antenatal mothers regarding pelvic floor exercises. Accessible population is, antenatal mothers attending OPD's from selected hospitals of Pune city. Antenatal mothers from all trimester including primigravida and multigravida was inclusion criteria, in the exclusion criteria mothers who had high risk pregnancy and other complications. Sample size was 60 antenatal mothers. The sample selection method adopted was non-probability purposive sampling.

Demographic variables consisted of age, qualification, occupation, Obstetrical score, periods of gestation. The structure questionnaire was prepared based on knowledge regarding pelvic floor exercises among antenatal women which was validate through various expert and reliability was also conducted for stability and consistency. The questionnaire consists 25 questions. A Self-Instructional Module (SIM) was developed as an educational tool to improve knowledge regarding pelvic floor exercises. It included information on types, benefits, techniques, and precautions for exercises like Kegels, Body weight squat, belly breathing, and tailor pose. The content was validated by experts and provided in simple language with illustrations, available in English and Marathi. Participants were instructed to read and follow the SIM for 7 days. Post-test knowledge was assessed on Day 8 using the same structured questionnaire. From each sample consent was taken, Poor score was – 0-7, Average- 8-12, Good- 13-18, Excellent- 19-25.

RESULT-

Section I

Analysis of data related to demographic variables under study

Table: 1 Frequency and percentage distribution of demographic data profile of participants.

n-60

Demographic variable	Freq	%
Age		
18-20 years	16	26.7%
21-25 years	24	40.0%
26-30 years	13	21.7%
31-35 years	7	11.7%
Qualification		
Primary	22	36.7%
Secondary	27	45.0%

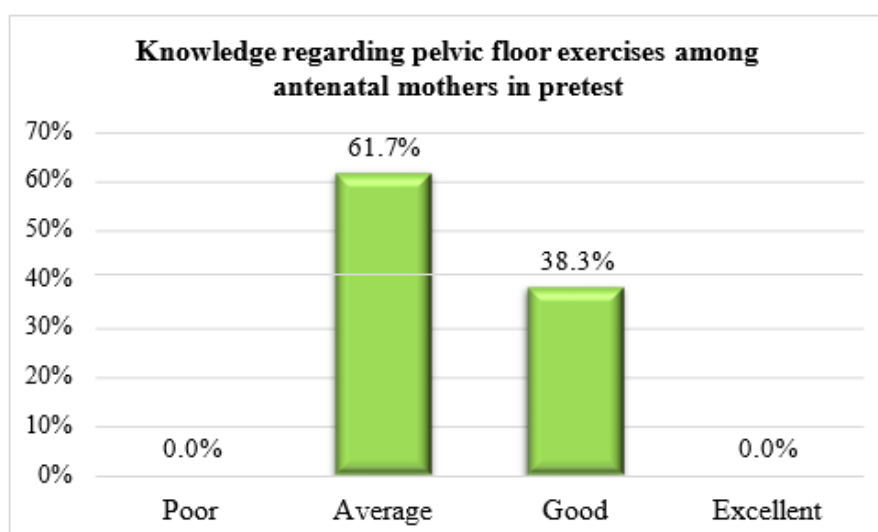
Graduated and above	11	18.3%
Occupation		
Home maker	22	36.7%
Working in private sector	33	55.0%
Working in government sector	3	5.0%
Business	2	3.3%
Obstetrical variables	Freq	%
Gravida		
Primigravida	17	28.3%
Multigravida	43	71.7%
Parity		
Zero	28	46.7%
One	26	43.3%
Two and amore	6	10.0%
Living		
Zero	33	55.0%
One & more	27	45.0%
Number of abortions		
Zero	36	60.0%
One & more	24	40.0%
Periods of gestation		
1st month to 3rd month	16	26.7%
4th months to 6th months	26	43.3%
7th months to 9th months	18	30.0%

Section II

Analysis of data related to the pretest knowledge regarding pelvic floor exercises among antenatal mothers.

Figure: 1 Pretest knowledge regarding pelvic floor exercises among antenatal mothers.

n-60

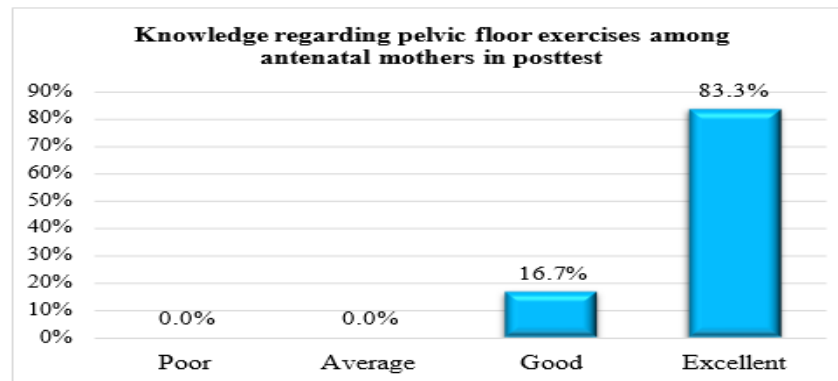


Section III

Analysis of data related to posttest knowledge regarding pelvic floor exercises among antenatal mothers after administration of SIM

Figure:2 Posttest knowledge regarding pelvic floor exercises among antenatal mothers after administration of SIM

n-60

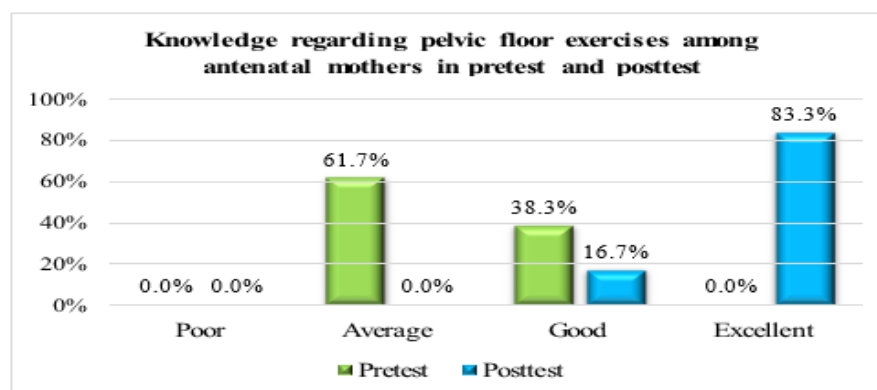


Section IV

Analysis of data related to the pre & post-test knowledge score among antenatal mothers

Figure:3 Pretest and posttest knowledge score among antenatal mothers

n-60

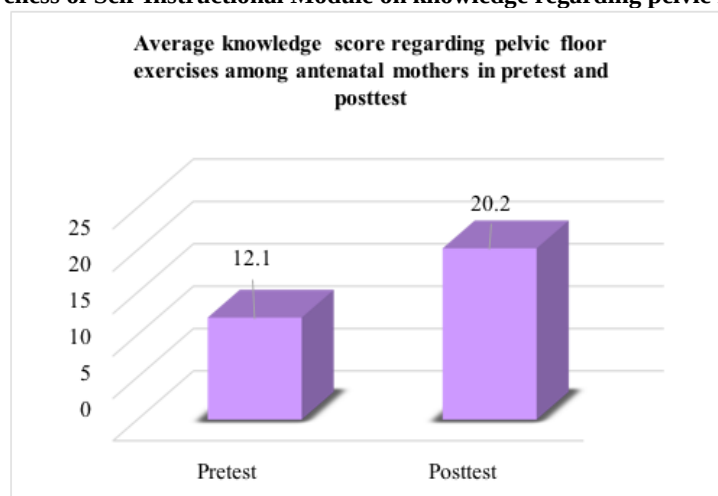


In pretest, 61.7% of the antenatal mothers had average knowledge and in posttest, 83.3% of them had excellent knowledge regarding pelvic floor exercises. This indicates that there is remarkable improvement in the knowledge among antenatal mothers regarding pelvic floor exercises after Self-Instructional Module.

Section V

Analysis of data related to the effectiveness of Self-Instructional Module on knowledge regarding pelvic floor exercises

Figure:4 Effectiveness of Self-Instructional Module on knowledge regarding pelvic floor exercises n-60



INTERPRETATION

A paired t-test was conducted to evaluate the effectiveness of the Self-Instructional Module (SIM) on knowledge regarding pelvic floor exercises. The mean pre-test knowledge score was 12.1, which increased to 20.2 in the post-test. The calculated t-value was 26 with 59 degrees of freedom, and the corresponding p-value was less than 0.05, indicating statistical significance. Therefore, the null hypothesis was rejected, confirming that the Self-Instructional Module led to a significant improvement in knowledge among antenatal mothers regarding pelvic floor exercises.

Section VI

Analysis of data related to association of the pretest knowledge score with selected demographic variables

Fisher's exact test for the association of the pretest knowledge score with selected demographic variables. Since, p-value corresponding to qualification is small (less than 0.05), the demographic variable qualification was found to have significant association with the knowledge among antenatal mothers regarding pelvic floor exercises. And in the obstetrical variable the p-value corresponding to parity was small (less than 0.05), hence, obstetrical variable parity was found to have significant association with the knowledge among antenatal mothers regarding pelvic floor exercises. Other variables like age, occupation, gravid, living, number of abortions and period of gestation, p value are more than 0.05, they are found to be not associated with knowledge level.

DISCUSSION

This study was conducted to evaluate the effectiveness of a Self-Instructional Module (SIM) on knowledge regarding pelvic floor exercises among 60 antenatal mothers. A pre-experimental design with non-probability purposive sampling was used. The results showed a significant improvement in knowledge after the intervention. The average pre-test score was 12.1, which increased to 20.2 in the post-test, indicating the effectiveness of the SIM.

The module was designed to match the participants' level of understanding, contributing to the improvement in scores. A significant association was found between knowledge and certain demographic and obstetrical variables. Specifically, educational qualification and parity were significantly associated with knowledge levels ($p < 0.05$).

Findings are supported by a similar study conducted on 252 pregnant women using a cross-sectional descriptive design. In that study, while 74.3% of participants had heard of pelvic floor exercises, only 71% reported being properly taught. Additionally, only 41.6% knew pelvic floor exercises help prevent urinary leakage, and 62% believed it improves sexual function. Barriers such as tiredness and being too busy were noted as reasons for poor practice⁷.

These findings highlight the importance of structured educational interventions like SIM and the need for personalized support during antenatal visits to encourage regular practice of pelvic floor exercises.

CONCLUSION

The main conclusion of the current research is to evaluate the effectiveness of self-instructional module (SIM) on knowledge regarding pelvic floor exercises among 60 antenatal mothers. In the pre-test majority 37 (61.7%) of the antenatal mothers had average knowledge and 23 (38.3%) of them had good knowledge regarding pelvic floor exercises. In the posttest 10 (16.7%) antenatal mothers had good knowledge and, 50 (83.3%) antenatal mothers had excellent knowledge regarding pelvic floor exercises. Paired t-test for the effectiveness of self-instructional module on knowledge regarding pelvic floor exercises. Mean was in pretest 12.1 and in post-test it increased to 20.2. Self-instructional module is markedly improved comprehension of pelvic floor exercises.

Authors Contribution: - The complete study was carried by Ms. Pritee S. Dhotre under the guidance of Mrs. Dr., K Memchoubi. The corresponding author for this study is Ms. Pritee S. Dhotre.

Conflict of Interest: - None to declare

Statement on human right: - This study is approved by Institutional Ethics committee, Bharati Vidyapeeth (Deemed To Be University), College Of Nursing. Informed consent was taken from each participant's voluntary participation was the key to sample selection.

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