

ORIGINAL ARTICLE

Knowledge and Practices of Pelvic Floor Muscle Exercises in PregnancySANA GUL¹, HAFIZA SABA HUSSAIN¹, FATIMA¹, ABEERA AJMAL², MISBAH AMANAT ALI³, SADAF ANJUM¹¹Department of Physical Therapy, MARS Institute of Health Sciences for Women, Lahore-Pakistan²Department of Physical Therapy, Independent Medical College, Faisalabad-Pakistan³Department of Physical Therapy, Avicenna Medical College, Lahore-PakistanCorrespondence to Dr. Sana Gul, Email: sanathephysio28@gmail.com Tel:+92-334-9762459**ABSTRACT****Background:** Pelvic floor dysfunctions are common among pregnant women. Pelvic floor exercises play an important role in prevention of pelvic floor dysfunctions.**Aim:** To determine the knowledge and practice of pelvic floor exercises among pregnant women during antenatal period.**Methodology:** An observational cross-sectional study was conducted at gynecology department of private hospitals of Lahore in which 150 pregnant women were enrolled using convenient sampling, through standardized questionnaire. Data was evaluated by using SPSS version 23. Qualitative variables were presented as percentage.**Results:** The study showed the high percentage of pelvic floor dysfunctions (41%) were observed among pregnant women. Moreover, the large population of women (67%) were having no knowledge about PFMEs. Among those having knowledge, 91% of women were not performing these exercises.**Practical Implication:** Present study highlighted the significance of pelvic floor muscle exercises during pregnancy. This study also showed awareness and knowledge of females regarding pelvic exercises. These studies are the need of hour to bring more awareness among females to improve pregnancy results.**Conclusion:** It was concluded that unfortunately, there was knowledge about importance about PFME's during pregnancy, but practice is low.**Keywords:** Pelvic Floor Dysfunction, Pelvic Floor Exercises, knowledge and performance.**INTRODUCTION**

Pelvic floor dysfunctions are more common among pregnant women. Pelvic floor dysfunctions are urinary incontinence, anal incontinence, dyspareunia, pelvic pain and pelvic organ prolapse. The management of pelvic floor dysfunction requires thorough knowledge of pathophysiologic mechanism behind the disorder. Key to having knowledge and giving proper treatment, it is necessary to have knowledge about anatomy of pelvic floor muscles and its supporting structures¹. Urinary incontinence (UI) being more common among pregnant women². Mild UI is observed in females and is associated with activities producing stress on pelvic floor like coughing, sneezing and laughing³. Owing to the level of stress to pelvic floor muscles which is subjected during pregnancy, it is necessary to use some exercises to maintain the strength of pelvic muscles and for proper functioning of abdominal organs i.e., bladder and to prevent urinary incontinence which is common among pregnant women. Adherence to pelvic floor muscle exercises (PFME's) can help in combating complications secondary to pelvic floor muscle weakness⁴. Pelvic floor muscles exercises (PFMEs) are also called Kegel exercises are most beneficial in regaining strength of pelvic floor muscles and are the best way to cope with the pelvic floor dysfunctions⁵.

One researcher found that there was good knowledge but poor practices of PFME in selected Malaysian population⁶ while almost after a decade, another researcher reported a positive attitude and sufficient knowledge about the PFME's, although the practices were limited⁷. There are many studies showing the importance of PFMEs as a first line treatment in urinary incontinence. Many publications emphasize the good effects of this type of conservative treatment, thus indicating that it is an appropriate treatment in pelvic floor dysfunctions especially urinary incontinence resulting from the stress on pelvic floor muscles during the pregnancy and childbirth⁸.

One study found that performing these exercises leads to stabilization of the urethra through an increase in muscle mass⁹. In a recent study, it was reported findings of knowledge attitude and practices regarding postnatal exercises of participants from private hospitals from Lahore Pakistan. Majority of the females had knowledge of postnatal exercise, but they were not fully aware of the benefits of PNE's¹⁰.

This recent study from Lahore, Pakistan has addressed the post natal exercises; still there is need to study the PFME's during antenatal period.

PFMEs are simple, cheap, effective and don't need any equipment for performance. These can be performed in any position lying, sitting and standing with knees apart. It takes diligence to identify the right muscles and contract and relax them. Unfortunately, in our country most of the females are unaware of pelvic floor exercises. Most of them think that exercises are contraindicated in pregnancy; it can be harmful to the baby. Firstly, they are unaware of the pelvic floor dysfunctions resulting from the weakness of PFMs. Some are ashamed of discussing these problems with their gynecologists. Few are educated about these PFMEs by their gynecologist or any other healthcare provider.

The objective of the study was to determine the knowledge and practice of pelvic floor exercises among pregnant women during antenatal period.

METHODOLOGY

It was a cross sectional study conducted after ethical approval. 150 pregnant women participated who were visiting to private hospitals in Lahore city. Non probability convenient sampling was used. Primigravida and multigravida pregnant women who were willing to participate in the study were included. Non pregnant women and those having some psychological issues were excluded. A closed ended questionnaire was given to the participant and data was collected. A consent form was signed by all the participants.

Statistical analysis: Data will be entered and analyzed in SPSS version 23.0. Qualitative variables were presented as percentage.

RESULTS

In this study, there were 78(52%) women in the age group of 29-30 and 72(48%) 25-28, in which 78(52%) had higher socioeconomic status while 72(48%) had poor socioeconomic status. Results showed that 101(67.33%) participants had no knowledge of pelvic floor exercises while 49(32.67%) participants had knowledge of pelvic exercise. Almost 126(84%) were not performing pelvic floor exercises only 24(16%) were doing exercise to treat their pelvic floor dysfunctions presented as frequency and percentage in table-1. Out of 150 women, 88(58.67%) had normal BMI, 42(28%) were overweight and 20(13.33%) were underweight (figure-1).

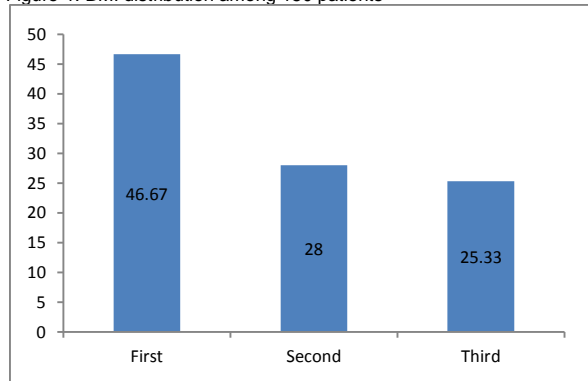
Received on 07-08-2022

Accepted on 19-12-2022

Table-1: Baseline Parameters of enrolled Patients (n=150)

Parameters	Categories	n	%age
Age (years)	25-28	72	48
	29-30	78	52
Socioeconomic Status	Higher	78	52
	Poor	72	48
Pelvic Exercise Knowledge	Yes	49	32.67
	No	101	67.33
Pelvic Exercise Performance	No	126	84
	Yes	24	16

Figure-1: BMI distribution among 150 patients



among 150 participants, 70(46.67%) participants were in 2nd trimester, 28% were in 3rd trimester (42) and 38(25.33%) were in 1st trimester as shown by figure-2.

Furthermore 59.33% of participants think that exercise was beneficial during pregnancy. 91.33% of participants were not performing exercise before pregnancy. Participants 84.67% were not performing exercise during pregnancy and 41% were had urinary incontinence being more common rather than other pelvic floor dysfunctions as shown by table-2.

Table-2: Cross Tab Between Knowledge About Exercise Vs Source Of Information

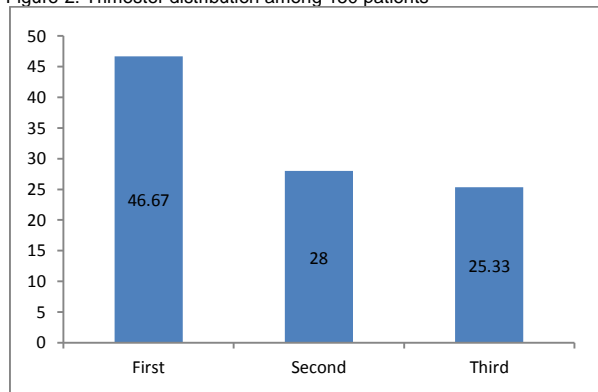
Knowledge about exercise	Source of information			Total
	Gynecologist	Physio-therapist	Nurse/ other	
Yes	24	13	12	49
No	38	28	35	101
Total	62	41	47	150

The results regarding knowledge of pelvic floor exercises showed that 66% were not aware of knowledge about PFMEs and 29.8% suffered from urge incontinence pelvic floor dysfunction, 41.1% were suffered from increased frequency 12.6% were suffered from leakage and 15.9% from abdominal pressure during pregnancy. Treatment for pelvic floor dysfunction, 15.2% were taken medication, 10.6% were performing exercise while 73.5% were not taking any treatment. 51% had pelvic pain during pregnancy. Among those, who were performing exercise 15.2% were performing 10-20 times/week as shown by table-3.

Table-3: Knowledge About Exercise Vs Reason For Cessation Of Exercise

Knowledge about exercise	Reason for caseation of exercise					Total
	Forgot	Too busy	Not important	Did not understand	Have no knowledge	
Yes	16	17	5	6	5	49
No	1	0	0	1	99	101
Total	17	17	5	7	104	150

Figure-2: Trimester distribution among 150 patients



performing the exercises were found to be forgot them, too busy, did not understand the information given to them.

One study reported Knowledge and Practice of Pelvic Floor Muscle Exercises among Pregnant Women in Enugu Metropolis, Nigeria. They conducted study on 252 pregnant women and found that although majority was taught PFME's but a low percentage of women practiced these exercises. The reason of noncompliance were being too busy, tired and forgot to practice the exercises¹, we also found similar reasons for not performing PFME's.

Like our population, majority of them were well educated and primigravid. More than half of the participants knew that leakage of urine during pregnancy (52.7%) is abnormal. Contrary to our study, huge number of participants had never heard about PFME's (91.1%). Internet was the main source of information in aware participants. Few of them believed that PFME's exercises can help in the prevention of stress urinary incontinence. Less than 5% of the participants had ever practiced PFMEs. Almost all the participants showed willingness to perform these exercises after providing education¹¹. Our results are in line with the findings of this study.

One previous study assessed knowledge, attitude and practices of pelvic floor muscle training (PFMT) among 110 Thai pregnant women. Those who could recognize PFMT were classified as "aware". Questionnaires regarding the participants' attitudes and practice toward PFMT were subsequently collected from "aware" group. Almost half of the population (61 women) recognized PFMT generally while 17 were found perceptive. There was no association between their educational level and PFMT knowledge ($p \geq 0.05$). Most of them understood that PFMT can be performed during pregnancy and believed that PFMT did not affect the pregnancy outcomes. However, only 11% of the aware women performed PFMT during pregnancy but not on a regular basis. The

DISCUSSION

This study surveyed 150 pregnant women visiting to private hospitals to find out the percentage having knowledge about pelvic floor muscles exercises and practicing them. Despite majority of the women have no knowledge (66%) about pelvic floor exercises, a small fraction of the women (32%) and (16%) were performing these exercises during their gestation. In this study some of the women were found having knowledge about PFMEs those having knowledge were informed about these exercises by their gynecologist during their visits to the hospital. They were performing these exercises 10-20 times /week repetitions. They were taking rest periods during session of exercise and breathe normally. Optimistic note of this survey was that women despite of having knowledge were not performing exercises. Reasons for not

majority of women felt that PFMT had positive effects on their sexual activities, health, quality of life and emotions. Motivation to regularly practice the exercises and Education concerning PFMT are mandatory¹². Our study differs with this study in methodology and beliefs of women in PFME's.

Few researchers conducted an interventional study on 121 antenatal women. All participants attended two exercise education classes before delivery. They compared the result before and after exercise education programme through paired sample t-test to evaluate outcomes and found statistically significant improvement in mean score ($P < 0.05$). For knowledge, attitudes and practice, mean differences were 4.67 (3.86–5.49, 95% CI), 3.77 (3.05–4.50, 95% CI) and 3.45 (2.90–4.00, 95% CI) respectively. Lack of baseline information on pelvic floor muscle exercise was significantly associated with practice change following an educational class. They recommended that education could be effective in improving knowledge of, attitude towards, and practice of pelvic floor muscle exercise in pregnant women¹³. Current study differs to this study in many aspects like study design, geographic location and patient education level, but our sample size was nearly comparable. Patient education can help increasing practice of PFME's.

Limitations of study: The limitation of our study included a smaller sample size and observational study design and localization of the study to private hospitals only. Studies may be conducted on larger samples with inclusion of patient education programmes to improve knowledge and practices of PFME's in pregnant women in Pakistan.

CONCLUSIONS

It was concluded that most of them were not having knowledge about pelvic floor exercises. Small population of women was having knowledge but only few of them were practicing them.

Author's contribution: SG & HSH: Conception and Design, F & AA: Data Collection and Assembly, MAA & SA: Drafting and revision of Manuscript.

Conflict of interest: None

Funding: None

REFERENCES

- Okeke H, Ifediora L, Ogungbe C. Knowledge and practice of pelvic floor muscle exercises among pregnant women in Enugu Metropolis, Nigeria. *Women's Health Reports*. 2020 Oct 1;1(1):444-50.
- Marcin Z, Daria K, Maria M, Daria P, Marcin O, Irena MB. The impact of pelvic floor exercises on the quality of life of women with urinary incontinence—analysis of pregnancy and the postpartum period. *Journal of Novel Physiotherapy and Physical Rehabilitation*. 2017 Mar 14;4(2):035-41.
- Ali MA, Naeem L, Asif R, Imran K, Noor M, Hafeez M. Prevalence of Urinary Incontinence among married females in Sialkot Pakistan: Prevalence of Urinary Incontinence among married females in Sialkot Pakistan. *THE THERAPIST (Journal of Therapies & Rehabilitation Sciences)*. 2022 Jun 30:24-7.
- Sacomori C, Cardoso FL, Sperandio FF. Teaching Pelvic Floor Muscle Exercises to Women in a Primary Care Setting: Participants' Adherence and Acceptance. *J Yoga Phys Ther*. 2012;2(121):2.
- Torgbenu EL, Aimakhu CO, Morhe EK. Effect of Kegel Exercises on Pelvic Floor Muscle Disorders in Prenatal and Postnatal Women-A Literature Review. *Current Women's Health Reviews*. 2021 Aug 1;17(3):202-7.
- Rosediani M, NH NR, Juliawati M, Norwati D. Knowledge, Attitude and Practice towards Pelvic Floor Muscle Exercise among Pregnant Women Attending Antenatal Clinic in Universiti Sains Malaysia Hospital, Malaysia. *International Medical Journal*. 2012 Mar 1;19(1).
- Jarni MF, Mohamad MY, Kamarudzaman N. Knowledge, Attitude, and Practice (KAP) towards Pelvic Floor Muscle Exercise among the female population attending the Obstetrics and Gynaecology Clinic At Sultan Ahmad Shah Medical Centre (SASMEC@ IIUM). *International Journal of Allied Health Sciences*. 2021 Dec 1;5(6):2521-9.
- Whitford HM, Alder B, Jones M. A cross-sectional study of knowledge and practice of pelvic floor exercises during pregnancy and associated symptoms of stress urinary incontinence in North-East Scotland. *Midwifery*. 2007 Jun 1;23(2):204-17.
- Salvesen KÅ, Mørkved S. Randomised controlled trial of pelvic floor muscle training during pregnancy. *Bmj*. 2004 Aug 12;329(7462):378-80.
- Majeed R, Zehra S, Furqan Z, Shoukat M, Samad M, Gulzar T, Waris S. Knowledge, Attitude and Practice among Women Regarding Postnatal Exercises; A Cross-Sectional Study Across Lahore in Private Sector. *Pakistan Journal of Medical & Health Sciences*. 2022 Apr 28;16(03):883-885.
- Habib M, Sohail I, Nasir M, Nasir F. Awareness, Knowledge and Practices of Pakistani Women Towards Pelvic Floor Muscle Exercises (PFMES) During Pregnancy. *Journal of The Society of Obstetricians and Gynaecologists of Pakistan*. 2020 Aug 13;10(2):121-4.
- Temtanakitpaisan T, Bunyavejchevin S, Buppasiri P, Chongsomchai C. Knowledge, attitude, and practices (KAP) survey towards pelvic floor muscle training (PFMT) among pregnant women. *International Journal of Women's Health*. 2020;12:295.
- Muhammad J, Muhamad R, Husain NR, Daud N. Pelvic floor muscle exercise education and factors associated with implementation among antenatal women in hospital Universiti Sains Malaysia. *Korean journal of family medicine*. 2019 Jan;40(1):45.