International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Khan FH et al. Int J Reprod Contracept Obstet Gynecol. 2024 Jun;13(6):1432-1436
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20241295

Original Research Article

A prospective knowledge, attitude and practice-based study of pelvic floor muscle training in fitness-oriented women

Fayaz Khan H., Shweta Gupta*, Mukul Chandra, Fariza Siddiqui, Bhuvneshwari Upadhyay

Department of Obstetrics and Gynaecology, FHMC, Etmadpur, Agra, Uttar Pradesh, India

Received: 02 April 2024
Revised: 05 May 2024
Accepted: 06 May 2024

***Correspondence:**
Dr. Shweta Gupta,
E-mail: drshwetaguptabah@gmail.com

ABSTRACT

Background: Although knowledge, attitude and need of pelvic floor muscle training are well established but there is lack of practice of PFMT even in fitness oriented educated women. Objective was to evaluate the knowledge, Attitude, Practice (KAP) of PFMT in fitness-oriented women.
Methods: A Cross-sectional study was performed on 100 women of 18-45 years who are not pregnant and fitness oriented by providing a self-administrated KAP questionnaire then all answers were analysed.
Results: A total of 100 women were included in the study and baseline characteristics were determined. Out of 100 participants 97% had the knowledge about the pelvic floor muscle while 95% knew about its exercise with 100% of them believed it to be a good practice. The results showed significant association with the knowledge of PFMT to the educational status. Despite In spite of high quality of knowledge, attitude and awareness regarding pelvic floor muscle and its training, unfortunately only 8% of educated females practiced pelvic floor muscle exercises in their daily routine.
Conclusions: So, we conclude that pelvic floor muscle training should be inculcated in our society at the very root levels or even in school education like other exercises or meditation. Essential motivation, education and awareness should be spread through various possible means.

Keyword: Pelvic floor muscle training, Knowledge, Attitude, Practice

INTRODUCTION

There is a large body of evidence that suggest health benefits are derived from daily physical activity.[1] The total amount of physical activity required depends on type, intensity, duration and frequency of the activity, and most importantly how effectively and conscientiously an individual performs a specific activity.[2] The pelvic floor is composed of several muscles and ligaments facilitating attachment to the bones of the pelvis. This combination creates a dome-shaped structure that provides support for several pelvic organs. The pelvic organs consist of bladder and urethra, the vagina and uterus.[3] As the age advances, Pelvic floor dysfunction and stress incontinence affect many women and the cost of dealing with these issues will also increase financially, mentally and emotionally burden to the society. Lifestyle modification, such as losing weight, and pelvic floor muscle exercise, meditation has been suggested to prevent and aid in the treatment of pelvic floor dysfunction. One of the physical activities that have been reported to increase the strength of pelvic floor muscles is pelvic floor muscle exercises.[4] Several reports indicated the positive impact of pelvic floor muscle exercises in the prevention of urinary and fecal incontinence.[5-7] The origins of PFM dysfunction are multifactorial, and are a consequence of human evolution, childbirth, lifestyle and aging. In this paper we will be discussing the KAP of pelvic floor muscle training and its consequences. The pelvic floor is made up of a group of muscles and connective tissue that extends as a sling across

the base of the pelvis; it comprises of two layers, the superficial perineal muscles and the deep pelvic diaphragm, and provides support for the pelvic organs, the bladder and elements of the spine.

The literature contains a range of training routines and recommendations that describes a variety of outcome measures and tools used to measure PFM function. Generally, a muscle-training program should combine 3 main principles; Overload-That means the muscle targeted needs to perform more work than usual. Specificity-The muscle must be trained with physical activity that replicates as closely as possible the functional movement required. Reversibility-Reversibility implies that the benefits of the exercise are reversible if the patient does not incorporate the exercise into her daily routine.[8]

A PFMT programme typically includes one or more sets of exercises per day, performed on at least several days of the week, for at least eight weeks. It is recommended that initial training be followed by maintenance PFM exercises to ensure duration of effect in the longer term.[9] The pelvic floor muscle training (PFMT) is the first-line treatment for women with UI and pelvic floor dysfunction due to its efficacy, low cost, lack of side effects and the absence of impact on subsequent treatments.[10] Moreover, a systematic review reported that the supervised PFMT is an effective means to incorporate the exercise programs into the women's routines. Although PFMT is known to be an effective measure to improve and prevent pelvic floor dysfunction, a considerable number of women are reported to irregularly perform this exercise hence this study was conducted to know the knowledge attitude and practice of PFMT in fitness-oriented women.

METHODS

This Cross-sectional study was performed on 100 non pregnant fitness-oriented women with a self-administered questionnaire attending gynaecology OPD at FHMC, Etmadpur from January 2023 to December 2023. The women included are fitness oriented and of age between 18-45years. The women should not be chronically ill and pregnant. We performed a KAP study of PFMT by providing a self-administrated KAP questionnaire which was distributed 100 females fulling the inclusion criteria and then all answers were analysed.

Statistical analysis

Statistical analysis was performed using SPSS program version 20.0. Normality testing was conducted using Kolmogorov-Smirnov testing. Demographic data were expressed as percentage, mean (for parametric data) or median (for non-parametric data), and minimum and maximum range. Chi-square tests for correlation were used for categorical variables. For the purposes of this analysis, Chi-square tests were used for categorical variables.

RESULTS

A total of 100 women were included in the study, whose baseline characteristics are shown in the (Table 1).

Table 1: Socio-demographic variables.

Parameters	N
Age (years)	
18-25	34
26-35	59
36-45	7
Education	
Post graduation	141
Graduate	44
Post high school	12
High school	03
Marital status	
Married	33
Unmarried	67
Occupation	
Professional	22
Semi professional	13
Skilled worker	65
Parity	
Nulligravida	76
P1L1	10
P2L2	11
P3L3	03
General health	
Excellent	47
Strong	02
Good	51

Out of 100 women 44% are graduated and 41% are post graduated. Out of 100 participants 97% had the knowledge about the pelvic floor muscle while 95% knew about its exercise with 100% of them believed it to be a good practice.

The results showed significant association with the knowledge of PFMT to the educational status (p=0.00). With 100% females having the attitude that PFMT effects their daily routine, the majority were aware that it would improve all aspects of pelvic floor dysfunctions such as sexual dysfunctions (96%), pelvic pain (95%), urinary incontinence (96%), voiding dysfunction (96%), pelvic prolapse symptoms (96%) constipation faecal incontinence (96%) and overall quality of life (96%). In spite of high quality of knowledge, attitude and awareness regarding pelvic floor muscle and its training, unfortunately only 8% of educated females practiced pelvic floor muscle exercises in their daily routine. Amongst practicing females no significant association were seen with either of the socio-demographic variables. Even though significant association is seen with knowledge and attitude, but that didn't not have any effect on its practice of PFMT exercises.

Table 2: Association of knowledge with various socio demographic factors.

Variables	%	Age (P value)	Education (P value)	Marital status (P value)	Occupation (P value)	Parity (P value)
Knowledge about pelvic floor muscle	97	0.465	0.00	0.99	0.435	0.549
Knowledge about pelvic floor muscle exercise	95	0.80	0.00	0.188	0.463	0.010
Is it good practice	100	-	0.00	-	-	-
Should be done daily?						
Daily	61					
1 week	16	0.006	0.00	0.916	0.02	0.00
2 weeks	13					
3 weeks	4					
Should bladder be evacuated	97	0.465	0.00	0.990	0.00	0.541
What is right posture?	93	0.674	0.339	0.565	0.00	0.073
Breathing pattern						
Regular	58	0.001	0.241	0.176	0.243	0.266
Deep	42					
Benefits of pelvic floor muscle exercise	96	0.751	0.02	0.728	0.486	0.677
Disadvantages	91	0.673	0.00	0.444	0.215	0.002

Table 3: Association of Attitude with various Socio demographic factors.

Variables	%	Age (P value)	Education (P value)	Marital status (P value)	Occupation (P value)	Parity (P value)
Does pelvic floor muscle exercise affect daily routine?	100	-	-	-	-	-
Does pelvic floor muscle exercise affect lower abdominal pain?	95	0.809	0.00	0.200	0.00	0.010
Does pelvic floor muscle exercise affect stress urinary incontinence	96	0.751	0.00	0.104	0.326	0.002
Does pelvic floor muscle exercise affect urinary retention	96	0.751	0.00	0.104	0.326	0.002
Does pelvic floor muscle exercise affect prolapse	96	0.751	0.00	0.104	0.326	0.002
Does pelvic floor muscle exercise affect constipation	96	0.751	0.00	0.104	0.326	0.002
Does pelvic floor muscle exercise affect fecal incontinence	96	0.751	0.00	0.104	0.326	0.002
Does pelvic floor muscle exercise affect sexual satisfaction	96	0.751	0.00	0.104	0.326	0.002
Does pelvic floor muscle exercise affect UTI	96	0.751	0.00	0.104	0.326	0.002
Does pelvic floor muscle exercise affect General health	96	0.751	0.00	0.104	0.326	0.002

DISCUSSION

Pelvic floor muscle training plays a critical role in preventing pelvic floor dysfunction. Fundamental data from the survey regarding PFMT can provide information for healthcare workers to realize the problem and address it accordingly.

The study revealed that in spite of high quality of knowledge, attitude and awareness regarding pelvic floor muscle and its training, unfortunately only 8% of educated females practiced pelvic floor muscle exercises in their daily routine. The authors assessed that lack of motivation amongst women regarding PFMT is the key reason for negligence regarding PMFT. Therefore, healthcare providers, especially physicians as well as nurses, should realize the benefits of PFMT and advice and motivate themselves as well as women to incorporate these exercises in their daily routine.

As our study, Alharbi et al reported that more than half of their sample had satisfactory knowledge about the

exercise, and more than 70% had an attitude favouring the exercise, only 38.5% of their sample were adequately performing the exercise which is similar to our findings, especially with regard to the low practice level detected in our sample.[11]

Table 4: Association of practice with various socio demographic factors.

Variables	%	Age (P value)	Education (P value)	Marital status (P value)	Occupation (P value)	Parity (P value)
Do you practice pelvic floor muscle exercise	-	0.720	0.571	0.472	0.782	0.432
Frequency of pelvic floor muscle exercise						
Daily	5	0.962	0.858	0.332	0.410	0.974
Weekly	2					
Biweekly	1					
Motivation of pelvic floor muscle exercise						
Youtube	3					
Internet	3	0.618	0.971	0.403	0.499	0.997
Awareness	1					
Book	1					
Factors heling in managing pelvic floor muscle exercise						
General health	3	0.991	0.803	0.624	0.635	0.974
Weight	5					

Temtanakitpaisan et al reported that despite having a high level of knowledge about the importance of the exercise, only 10.7% regularly performed the exercise.[12] This finding is similar to our study which can be justified by the presence of resistance affecting women's willingness to exercise. Habib et al conducted a study involving 169 Pakistani women indicated that educational status was positively correlated with the level of awareness about pelvic floor muscle exercises as like our study.[13] As the "optimal" protocol for PFM training is still elusive, and to the best of our knowledge this study is one of the first to through light on this subject as there is minimal literature regarding the same. Physical therapists should discuss all the different elements that underlie a pelvic floor weakness and dysfunction; this would allow the physical therapists to design an individual program for the patient. Clear instruction, motivation regarding PFMT are essential. An education programme about pelvic floor muscles improved women's knowledge and practice about the pelvic floor muscle training.[14] This study has certain limitations because only educated women in medical field were included so the knowledge, attitude was more which can't be generalised to all population. A large study group was required involving educated and uneducated population. And convenient sampling was done in our study so further studies required with wide involvement of population.

CONCLUSION

The findings suggested that on average 95% had strong knowledge regarding PFMT, 96 % had the attitude however only 8% had the motivation to practice PFMT. Based on the data, almost all women felt it to have positive effect on health yet a minimal number practiced it in the educated class reflecting poor motivation and expected it to be even worst in the non-educated class. So, we conclude that pelvic floor muscle training should be inculcated in our society at the very root levels or even in school education like other exercises or meditation. Essential motivation, education and awareness should be spread through various possible means.

ACKNOWLEDGEMENTS

Authors would like to thank all the seniors and colleagues of Department of Obstetrics and Gynaecology of FHMC, Etmadpur for the contribution in this work and also them who supported in answering the questionnaire.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Marques A, Stothers L, Macnab A. The status of pelvic floor muscle training for women. Can Urol Assoc J. 2010;4(6):419-24.
2. Haskell W, Lee IM, Pate RR. Physical Activity and Public Health: Updated Recommendation for Adults from the American College of Sports Medicine and the American Heart Association. Med Sci Sports Exerc. 2007;39:1423-34.
3. Grimes WR, Stratton M. Pelvic floor muscle training for women. Treasure Island, FL: Stat Pearls Publishing; 2022.

4. Huang YC, Chang KV. Pelvic floor muscle training for women. Treasure Island, FL: Stat Pearls Publishing; 2021.
5. Park SH, Kang CB, Jang SY, Kim BY. Effect of Kegel exercise to prevent urinary and fecal incontinence in antenatal and postnatal women: systematic review. J Korean Acad Nurs. 2013;43:420-30.
6. Hay-Smith J, Mørkved S, Fairbrother KA, Herbison GP. Pelvic floor muscle training for prevention and treatment of urinary and faecal incontinence in antenatal and postnatal women. Cochrane Database Syst Rev. 2008.
7. Woodley SJ, Boyle R, Cody JD, Mørkved S, Hay-Smith EJ. Pelvic floor muscle training for prevention and treatment of urinary and faecal incontinence in antenatal and postnatal women. Cochrane Database Syst Rev. 2017;12:45-9.
8. Laycock J. Concepts of Neuromuscular Rehabilitation and Pelvic Floor Muscle Training. In: Baussler K, Shussler B, Burgio KL, Moore KH, Norton PA, Stanton S eds. Pelvic floor re-education. 2nd ed. London: Springer; 2008.
9. Woodley SJ, Boyle R, Cody JD, Mørkved S, Hay-Smith EJC. Pelvic floor muscle training for prevention and treatment of urinary and faecal incontinence in antenatal and postnatal women. Cochrane Database Syst Rev. 2018;12:23-9.
10. Camila TV, Rosana FS. Effectiveness of pelvic floor muscle training and bladder training for women with urinary incontinence in primary care: a pragmatic controlled trial. Braz J Physical Ther. 2021.
11. Alharbi JH, Awad Alrhiely A, Mufleh FA, Alharbi N, Ali K, Sabagh EE. Knowledge, attitude and practices of Kegel exercise among postnatal women in Al Madinah Al Munawarah, Saudi Arabia. Int J Nurs Didact. 2019;9:1-10.
12. Al-Rowais N, Mater D, Watani D. Antenatal exercise in Saudi Arabia: knowledge, attitude and practice. Int J Adv Community Med. 2020;3:4-8.
13. Habib M, Sohail I, Nasir M, Nasir NF. Awareness, knowledge and practices of Pakistani women towards Pelvic Floor Muscle Exercises (PFMES) during pregnancy. J Soc Obstet Gynaecol Pak. 2020;10:23-9.
14. De Andrade RL,Bo K, Antonio FI, Driusso P, Mateus-Vasconcelos ECL, Ramos S, et al. An education programme about pelvic floor muscles improved women's knowledge but not pelvic floor muscle function, urinary incontinence or sexual function: a randomisedtrial. J Physiother. 2018;64:91-6.

Cite this article as: Khan FH, Gupta S, Chandra M, Siddiqui F, Upadhyay B. A prospective knowledge, attitude and practice-based study of pelvic floor muscle training in fitness-oriented women. Int J Reprod Contracept Obstet Gynecol 2024;13:1432-6.