



Evaluate the Awareness Regarding Pelvic Floor Muscles in Females and role of Physiotherapy in Pelvic Floor Dysfunction: A Descriptive Study

Authors

Krishna Desai¹, Sherin Lalwala¹, Mrugani Bhagvawala¹, Himani Dave^{2*}

SPB Physiotherapy College, UGAT Bhesan Road, Surat, India

*Corresponding Author

Himani Dave

Abstract

The pelvic floor is a set of muscles that extends from the base of the spine to the pubic bone in the shape of a hammock. Three layers make up the pelvic floor muscles. The superficial pelvic floor muscles primary job is to support and hold the deeper muscles to the pelvic girdle in place, although they also contract during sexual activity. Pelvic floor dysfunction is the inability of them to carry out their typical functions. Four basic types of pelvic floor dysfunction are 1. Hypotonus dysfunction 2. Hypertonus dysfunction 3. Incoordination dysfunction 4. Visceral dysfunction. The role of physiotherapist in pelvic floor dysfunction is to collaborate with other medical professionals. Examine all the components Though pelvic floor muscles are having high impact in life of females. Minimal awareness regarding this muscle in the females have been noticed. Thus the need of this study was conducted to check awareness regarding pelvic floor muscles in females and role of physiotherapy in pelvic floor dysfunction.

The study is descriptive study and for that, inclusion criteria was 21-60 years of age females and the exclusion criteria is patient who are not willing to participate. The consent form was provided and after that participants were asked questions. Participants answered questions according to the willingness and in the understandable language. Participants were explained about the study thoroughly and the questionnaire was filled accordingly.

Keywords: *pelvic floor, awareness, pelvic floor dysfunction, women's health, role of physiotherapy.*

Introduction

The pelvic floor is a set of muscles that extends from the base of the spine to the pubic bone in the shape of a hammock.^[1] Three layers make up the pelvic floor muscles. The urogenital triangle, which is made up of the muscles bulbocavernosus, ischiocavernosus, and external anal sphincter, is the first or most exterior layer. The urogenital diaphragm, also known as the perineal membrane, is the middle layer and is made up of the sphincter

urethrae, deep transverse perineal, and superficial transverse perineal. The pelvic diaphragm, which is composed of the levator ani and coccygeus, is the third layer, or deep layer. The three muscles that make up the levator ani muscle are the puborectalis, ileococcygeus, and pubococcygeus.^[2] Endopelvic fascia, structure of connective tissue known as the endopelvic fascia holds the bladder, urethra, vagina, and uterus to the pelvic walls.^[3] The pelvic floor muscles has five key functions

and those are Supportive, Stabilization, Sphincteric, Sexual and Lymphatic.^[1] Pelvic floor muscles have two main purposes: they support the abdominal viscera, such as the bladder, uterus, and rectum, or act as a "closed floor," and they offer a raising and closing mechanism, also known as a continence mechanism, for the urethral, vaginal, and anal orifices.^[4] The layer of muscles that supports the pelvic organs is known as the pelvic floor. It is crucial for several processes, including gynaecological and gastroenterological ones. Pelvic organ dysfunction, particularly urine and faecal incontinence, can have minor or potentially fatal "outcomes." Pregnancy, obesity, COPD (Chronic Obstructive Pulmonary Disease), and menopause are some of the conditions that contribute to pelvic floor disorder.^[5] The term "pelvic floor dysfunction" is used to describe a number of pelvic floor diseases, such as faecal or anal incontinence, overactive bladder, pelvic organ prolapse, stress urine incontinence, and urgency urinary incontinence. Pelvic floor dysfunction can thereby significantly lower the quality of life for about one-third of adult women of all ages.^[6] Probably the major risk factors for pelvic floor injury are pregnancy and childbirth. Other causes such as weight gain, poor posture, sedentary lifestyle, diabetes, use of tobacco, steroid use, disuse atrophy, too much passive stretching through sexual over activity, pelvic organ pathologies, pelvic trauma, perineal trauma or burns.^[1] Several factors related to pelvic floor dysfunction including the mode of delivery, mother age, number of deliveries, episiotomy, the mother's weight, the mother's weight gain during pregnancy, the infant's birth weight and head circumference, and education.^[7] Four basic types of pelvic floor dysfunction are 1. Hypotonus dysfunction 2. Hypertonus dysfunction 3. Incoordination dysfunction 4. Visceral dysfunction.^[1] The role of physiotherapist in pelvic floor dysfunction is to collaborate with other medical professionals. Examine all the components to determine the extent of pelvic floor

dysfunction symptoms and complaints as well as general health. Completely assess pelvic muscles performance, taking into account strength, resting state, and ability to contract. Establish personal therapy objectives and develop treatment plans in conjunction with the patient. Individualize the treatment for the disease and/or hold pelvic floor muscles exercise classes, Teach individual or group sessions on preventive pelvic muscles exercise throughout pregnancy and after delivery.^[8] Physical therapy for the pelvic floor is a crucial component of the conservative care of constipation, pelvic organ prolapse, urine incontinence, and sexual dysfunction. In order to give patients full and ideal care, it is crucial to comprehend the role and effectiveness of physical therapy intervention in the treatment of various impairments.^[9] Though pelvic floor muscles are having high impact in life of females. Minimal awareness regarding this muscle in the females have been noticed. Thus the need of this study was conducted to check awareness regarding pelvic floor muscles in females and role of physiotherapy in pelvic floor dysfunction.

Materials and Methodology

The study was descriptive study and 149 participants were included in this study. The inclusion criteria for the study was 21-60 years age and exclusion criteria was patients who are not willing to participate. For this self administered questionnaire was asked followed by consent form was provided. Moreover, questions regarding pelvic floor muscles such as it's anatomy, functions and symptoms regarding it were asked. Thereafter, mode of delivery, occupation of participants were asked. All questions were explained thoroughly and participants answered all the questions accordingly.

Result

In this descriptive study, 149 participants were included. The mean age was 42.28 ± 10.028 years. In this study majority of females were

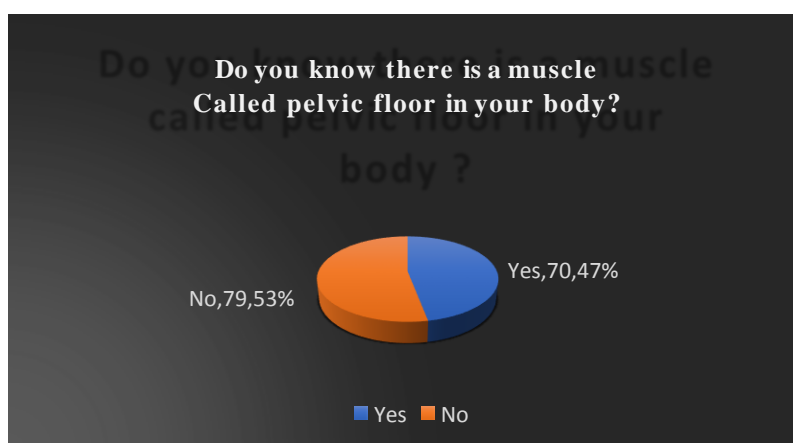
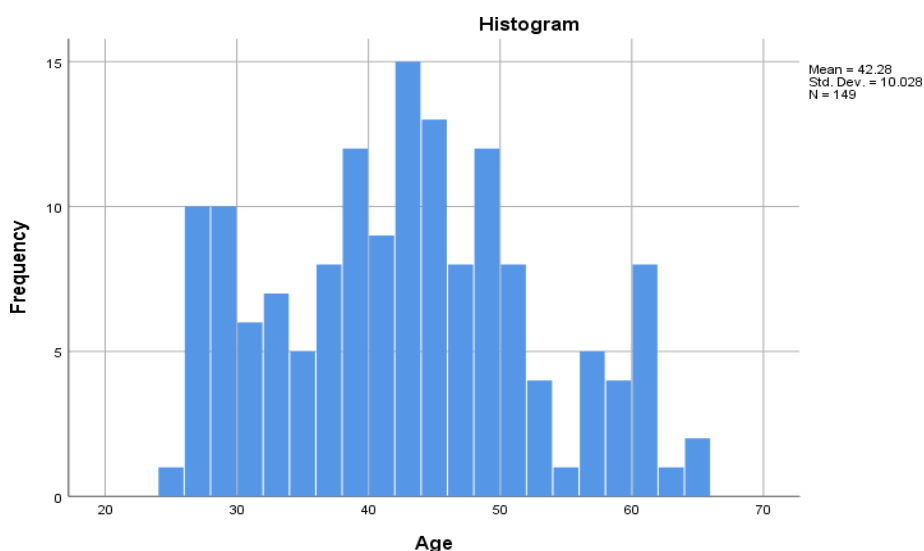
housewives, some were working women. For this study self-administered questionnaire was asked. In this study around 70.47% of females didn't know about pelvic floor muscles in their body. Also, majority of females didn't know that this muscle was located in the pelvis. In this study women around 76.51% were aware of pelvic floor muscles that helps in bowel movement. Through questionnaire it was evident that approximately 88.59% females experienced symptoms like something is coming down through vagina. Though many of the women's were unaware of this problem and were unaware that there is also role of physiotherapist in treating this problem. Majority of them didn't know this. The percentage

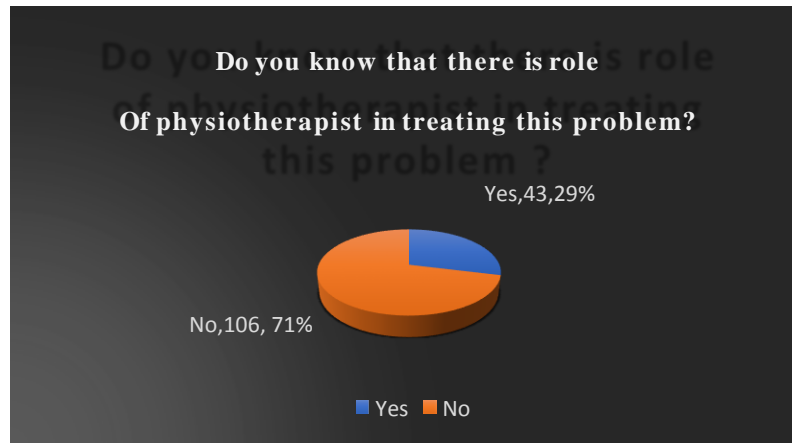
was around 82.55% who didn't know the role of physiotherapy in pelvic floor muscle strengthening.

Statistics

Age

N Participant	149
Mean	42.28
Std. Deviation	10.028





Discussion

The descriptive survey was taken to evaluate knowledge and awareness about pelvic floor muscles and role of physiotherapy in pelvic floor dysfunction in females. The inclusion age group criteria is 21-60 years. The age group was chosen as majority of women experience symptoms in this age group and after turning 60 years, pelvic floor muscles do not function properly.^[10] Women were asked questions in their own language through self-administered questionnaire. Questions such as pelvic floor muscles anatomy, it's functions, symptoms regarding it were asked to the participants. The pelvic floor muscles helps to maintain urine and anal continence and also help in sexual function. Pelvic floor muscles function and the development of pelvic floor disorders such as pelvic organ prolapse, urine incontinence, constipation, anal incontinence, and sexual dysfunction, are obviously related.^[11] Though pelvic floor muscles play a significant role in the body but in our study, it was found that 79.53% of the women didn't knew about pelvic floor muscles and their exact location of pelvic floor muscles in the diagrams provided in the questionnaire. However, the positive findings was that 93.62% of women knew correct function of the pelvic floor. In previous study, it was assessed the knowledge of women regarding the pelvic floor functions and It was found that women presented some knowledge regarding some functions of the pelvic floor, such as pelvic floor structure and function, since 93% of women knew about the existence of muscles in this region, and

92% managed to locate this region. However, few of them had knowledge about the role of pelvic floor anatomy on sexual function (6.2–64.3%). Furthermore, most of them did not know how many openings exist in the female pelvic floor. It was concluded that most of the patients (81%) had never received information regarding the pelvic floor.^[12] In another study, Coolen JC et al. found that anxiety is the main reason for poor knowledge along with anxiety hesitancy to talk to clinicians can be the reason for less knowledge. Most of the women acknowledged that they didn't actively search for information.^[13] In this study, large number(106.71%)of population didn't know about the role of physiotherapist in treating problems regarding pelvic floor dysfunction. Pelvic floor dysfunction is a condition characterized by abnormal pelvic organ positioning and function caused on by weak or damaged pelvic floor tissues. Pelvic floor dysfunction has a significant negative influence on women's physical and mental health, and sexual urinary incontinence and pelvic organ prolapse are frequently present as related illnesses.^[14] In this descriptive study, the factors are included such as factors affecting pelvic floor in aging and age related hormonal changes is risk of pelvic floor dysfunction especially among women. Main reason behind this was aging is associated with changes in the proportion of muscle fibers, type II (fast) fibers transform into type I (slow). These changes interfere with the supporting and contracting functions of pelvic floor muscles. In diseases of connective tissues it

affects as abnormalities in the structure of connective tissue change its properties. Therefore, hereditary disorders of connective tissue are associated with impaired functioning of the fascia and pelvic floor ligaments. It also affects in obesity and metabolic syndrome. Excess abdominal fat (abdominal obesity) increases intra-abdominal pressure affecting pelvic floor. Patients with metabolic syndrome also present with other clinical conditions such as abdominal obesity, hypertension, lipid disorders, insulin resistance, and diabetes are more prone to develop pelvic floor dysfunction. Therefore, it is necessary for the females to stay fit and healthy. This study is evident that majority of females experienced symptoms like something coming down through vagina. Another factor such as lower back pain (LBP) is often correlated with pelvic floor dysfunction and may be associated with lumbar–pelvic instability and abnormal activation of core muscles. Therefore, disturbances in the functioning of the transverse abdominal muscle will affect not only pelvic floor but the stability and posture of the entire body. Women with low back pain were found to have a reduced force of pelvic floor muscles contraction, while the activation of the transverse muscle was appropriate. This led to the conclusion that pelvic floor muscles has a greater influence in low back pain formation compared to the abdominal muscles.^[15] In another one study, it showed that the levels of awareness about pelvic organ prolapse among women were markedly poor, only 4.5% of the assessed women had fair knowledge. Moreover, Raj, et al., (2016), found that the majority of the women in their study had never heard about pelvic organ prolapse, and only 37.5% of women have a little knowledge about it. In another study done by El Sayed, Ahmed, and Gaheen, (2016), and Shrestha et al.,(2014) who reported that more than half of the studied women (56.5%) didn't hear about uterine prolapse. Majority of the studied women (95%) exhibit poor knowledge regarding pelvic organ prolapse. Also a study done by Suman (2013), who stated that

pelvic organ prolapsed still neglected for so long and there is only a little literature on this topic^[16]. According to another study, the women were poorly informed on pelvic floor exercises and urine incontinence. An educational program for enhancing women's awareness and practice of urine incontinence and pelvic floor exercises is advised.^[17] After giving delivery, many women experience some level of urine incontinence. Most women have no idea they had pelvic floor muscles. Instead of postnatally, pelvic floor promotion could start in adolescence.^[18] Women who have pelvic floor dysfunction suffer greatly and studies have shown that this condition is becoming more common. Women with increased awareness and frequent pelvic floor strengthening exercises can easily prevent pelvic floor problems. The lack of knowledge about the preventative measures and contributing factors of pelvic floor dysfunction was the main issue in India and other developing nations. To avoid pelvic floor dysfunction, which would negatively impact women's quality of life, simple yet effective community-based interventions are urgently needed.^[19] Early awareness of the symptoms of pelvic floor disorders may help prevent them or empower adolescents to seek physical therapy.^[20] This study suggested, when comparing between pelvic floor and pelvic floor training, women had less knowledge in pelvic floor training than pelvic floor muscles due to less awareness amongst females. This concludes that most women acknowledged that they are not sufficiently informed about this topic.

Conclusion

From this study it was justified that majority of females are unaware regarding pelvic floor muscles and it's functions and have minimal awareness regarding role of physiotherapy in it. Thus, it is necessary to organize workshops about the pelvic floor muscles, run awareness campaigns, and include physiotherapy in these sessions.

References

1. Desai, H. HET's Manual of Pelvic Floor Rehabilitation. WOW IIPRE; (2020).
2. Yates A. Female Pelvic Floor 1: Anatomy and Pathophysiology. Nursing Times. 2019a. 2019;115(5):18-21.
3. Raizada V, Mittal RK. Pelvic floor anatomy and applied physiology. Gastroenterology Clinics of North America. 2008 Sep 1;37(3):493-509.
4. Dumoulin C, Pazzoto Cacciari L, Mercier J. Keeping the pelvic floor healthy. Climacteric. 2019 May 4;22(3):257-62.
5. Agrawal A, Kumari S, Ashfaque M, Malik AK, Junaid M, Sinha M. Women's Awareness linked by Pelvic Floor Muscle Activity.
6. McDowell D, Gobert D. Patient access to pelvic floor dysfunction physical therapy: challenging trends to adequate patient care. Archives of Physical Medicine and Rehabilitation. 2020 Dec 1;101(12):e146.
7. Sodagar N, Ghaderi F, Ghanavati T, Ansari F, Asghari M. Related Risk Factors for Pelvic Floor Disorders in Postpartum Women: A Cross-sectional Study.
8. Bo K, Berghmans B, Morkved S, Van Kampen M. Evidence-based physical therapy for the pelvic floor: Bridging science and clinical practice. Elsevier Health Sciences; 2014 Nov 4
9. Zoorob D, Anderson S. Pelvic floor physical therapy and women's health. In Physical Therapy Effectiveness 2019 Aug 19. Intech Open.
10. Cleveland Clinic. Pelvic Exam. <https://my.clevelandclinic.org/health/diagnostics/17343-pelvic-exam>
11. Fernandes AC, Palacios-Ceña D, Hay-Smith J, Pena CC, Sidou MF, de Alencar AL, Ferreira CH. Women report sustained benefits from attending group-based education about pelvic floor muscles: A longitudinal qualitative study. Journal of physiotherapy. 2021 Jul 1;67(3):210-6.
12. Fante JF, Silva TD, Mateus-Vasconcelos EC, Ferreira CH, Brito LG. Do women have adequate knowledge about pelvic floor dysfunctions? A systematic review. Revista Brasileira de Ginecologia e Obstetrícia. 2019 Sep 16;41:508-19.
13. Sawant, Shrutika. Survey on knowledge about pelvic floor muscles and pelvic floor muscle exercises in primiparous pregnant women. *Journal of Medical Science And clinical Research*. 2019;7. 10.18535/jmscr/v7i4.101.
14. Shen L, Yang J, Bai X, Sun Z. Analysis of the current status of pelvic floor dysfunction in urban women in Xi'an City. Ann Palliat Med. 2020 May 1;9(03):979-84.
15. Tim S, Mazur-Bialy AI. The most common functional disorders and factors affecting female pelvic floor. Life. 2021 Dec;11(12):1397.
16. Goda, A.A., & Elmonem, A.S. (2019). The impact of awareness program on the knowledge and practice of women about pelvic organ prolapse. *Journal of Health, Medicine and Nursing*.
17. Moustafa WE. Assessing Women's Knowledge and Practice Regarding Urinary Incontinence and Pelvic Floor Muscles Exercises. Helwan International Journal for Nursing Research and Practice. 2022 Jun 1;1(1):195-211.
18. Vijayalakshmi R, Kanchana S. Prevalence of Pelvic Floor Dysfunction among Women in South India. International Journal of Nursing Education. 2019 Oct 1;11(4).
19. Candy M. Raising awareness of a hidden problem: pelvic floor promotion. Professional Nurse (London,). 1994 Jan 1;9(4): 278-80.
20. Arbuckle JL, Parden AM, Hoover K, Griffin RL, Richter HE. Prevalence and awareness of pelvic floor disorders in female adolescents seeking gynecologic care. Journal of pediatric and adolescent gynecology. 2019 Jun 1;32(3):288-92.