

Knowledge of Pelvic Floor Health and Dysfunction Among Final-Year Physiotherapy and Rehabilitation Students: The Impact of Undergraduate Education and Postgraduate Career Preferences

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Abstract

Physiotherapists play a key role in the prevention and management of pelvic floor dysfunction; therefore, adequate knowledge during undergraduate education is essential. This study aimed to examine the knowledge levels of final-year Physiotherapy and Rehabilitation students regarding pelvic floor health and dysfunction and to investigate the effects of undergraduate education and postgraduate career preferences. A total of 117 fourth-year students in Türkiye completed a demographic form, the Pelvic Floor Health Knowledge Test, and the Prolapse and Incontinence Knowledge Questionnaire (PIKQ). Non-parametric analyses were used. Students who received pelvic floor-related education demonstrated significantly higher knowledge levels in urinary incontinence and pelvic organ prolapse domains compared to those without such education, whereas general pelvic floor health knowledge did not differ. Career preferences after graduation were not associated with knowledge levels. These findings suggest that targeted undergraduate courses improve specific knowledge of pelvic floor dysfunction and highlight the importance of structured curricular content in physiotherapy education.

Keywords: Pelvic floor health; physiotherapy students; undergraduate education.

1. Introduction

The pelvic floor plays a vital role in maintaining urinary and fecal continence and in supporting the pelvic organs like a hammock (Raizada & Mittal, 2008). This structure ensures continence

and prevents pelvic organ prolapse, while also playing a role in important functions such as urination, defecation, coitus, and childbirth. As a result of impaired pelvic floor structural function, urinary incontinence (UI), fecal incontinence, pelvic organ prolapse (POP), lower urinary tract and defecation-related insufficiencies occur (Güngör, 2009). Factors such as gender, age, obesity, strenuous activities, chronic constipation, menopausal status, smoking, chronic cough, pelvic surgery, and pregnancy can trigger pelvic floor dysfunction (Aslan & Pekyavaş, 2022). Treatment for pelvic floor dysfunction includes physiotherapy methods such as pelvic floor muscle training, patient/parent education and instruction, manual therapy techniques, functional exercise training biofeedback, and electrotherapy (Ladi-Seyedian et al., 2019). Accordingly, physiotherapists need to have sufficient knowledge about pelvic floor health and dysfunction. Undergraduate education in this area may play a critical role in shaping this knowledge. Furthermore, students' interest in pursuing a career in pelvic floor health and dysfunction after graduation may enhance their knowledge through increased engagement with the literature. Assessing the knowledge of final-year physiotherapy and rehabilitation students is particularly relevant, as they have completed their theoretical training and are approaching professional practice. To date, no studies have specifically examined this topic. The aim of this study is to examine the knowledge of final-year Physiotherapy and Rehabilitation students regarding pelvic floor health and dysfunction. Furthermore and determine whether their knowledge levels differ according to undergraduate education in this area and post-graduate career preferences.

2. Methods

The study was approved by the local ethics committee and was conducted according to the Declaration of Helsinki. In this study, fourth-year undergraduate students in Physiotherapy and Rehabilitation at higher education institutions in Türkiye were administered a general information form, the Pelvic Floor Health Knowledge Test, and the Prolapse and Incontinence Knowledge Questionnaire (PIKQ).

The general information form includes demographic information such as age and gender. It also inquires about whether candidates received training related to pelvic floor health and dysfunction during their undergraduate studies (yes/no) and their career preferences in this field after graduation (yes/no/undecided).

The Pelvic Floor Health Knowledge Test investigates the level of knowledge about pelvic floor health in Turkish society. In this test consisting of 29 questions, the higher the score, the higher the level of knowledge (Al'deges & Çelenay, 2021).

PIKQ was developed to assess the level of knowledge about UI and POP. The questionnaire consists of two 12-item scales: a UI scale to assess women's knowledge about UI and a POP

scale to assess their knowledge about pelvic organ prolapse. The total score for each scale can range from a minimum of 0 to a maximum of 12 (Shah et al., 2008).

2.1. Data Analysis

Statistical analysis was performed using SPSS Statistics (version 26.0; SPSS Inc.). The normality of the data distribution was assessed. Since no normally distributed data was found, non-parametric tests were chosen. Median (interquartile range) was used for numerical variables (due to the absence of normal distribution) and frequencies (percentages) were used for categorical variables. Knowledge levels of groups were compared according to their educational status using the Mann Whitney U Test. The Kruskal-Wallis test was used to compare knowledge levels based on post-graduation career preferences. When significant differences were found, post-hoc analyses were performed with Bonferroni correction to determine specific differences between groups (significance level set at $p < 0.017$).

3. Results

The study was completed with 117 final-year students from 21 different universities. The median age of the students was 22(21-23). 79.5% of the students were female and 20.5% were male.

When the knowledge levels of the groups were examined according to whether they received education on pelvic floor health and dysfunction, a difference was found between the two groups in PIKQ-UI ($p:0.004$), PIKQ-POP ($p:0.009$), and PIKQ-Total ($p:0.005$) scores. No differences were found between the groups' scores on The Pelvic Floor Health Knowledge Test ($p > 0.05$) (Table 1).

Table 1. Comparison of knowledge levels regarding pelvic floor health and dysfunction based on whether or not they received undergraduate education in the field

Undergraduate education related to pelvic floor health and dysfunction				
Questionnaires	Yes (n:99)	No (n:18)	Z	p
The Pelvic Floor Health Knowledge Test	25 (22-27)	23(15-26)	-1.799	0.072
PIKQ-UI	11(10-12)	10(7-11)	-2.850	0.004*
PIKQ-POP	10(8-11)	7(5-9)	-2.627	0.009*
PIKQ-Total	21(18-22)	17(12-21)	-2.793	0.005*

Z: Mann Whitney U test, PIKQ: The Prolapse and Incontinence Knowledge Questionnaire, UI: Urinary Incontinence, POP: Pelvic Organ Prolapse, *: $p < 0.05$.

No differences were found in knowledge levels between the groups regarding their career choices in the field of pelvic floor health and dysfunction after graduation ($p>0.017$) (Table 2).

Table 2. Comparing knowledge levels about pelvic floor health and dysfunction with their desire to work in this field after graduation

Postgraduate career preference in the field of pelvic floor health and dysfunction					
Questionnaires	Yes (n:29)	No (n:28)	Undecided (n:60)	χ^2	P
The Pelvic Floor Health Knowledge Test	27(24-28)	26(22-27.5)	24 $\pm$ 4.36	6.068	0.048
PIKQ-UI	12(10-12)	11(10-12)	11 $\pm$ 2.13	1.932	0.381
PIKQ-POP	10(9-11)	10(8-11)	9 $\pm$ 2.15	3.313	0.191
PIKQ-Total	22(18-23)	22(18-23)	20 $\pm$ 3.92	3.683	0.159

χ^2 : Kruskal-Wallis test, PIKQ: The Prolapse and Incontinence Knowledge Questionnaire, UI: Urinary Incontinence, POP: Pelvic Organ Prolapse

4. Discussion

This study, which examined the knowledge level of final-year physiotherapy and rehabilitation students regarding pelvic floor health and dysfunction, is one of the first known studies in this field. The findings indicate that undergraduate education related to pelvic floor health and dysfunction is associated with higher knowledge level regarding pelvic floor dysfunction whereas general pelvic floor health knowledge did not differ between students who had received such education and those who had not. In addition, post-graduation career preferences in this field did not make any difference in their knowledge levels regarding pelvic floor health or dysfunction.

Healthcare professionals play a critical role in providing information about the prevention and treatment of pelvic floor dysfunction (Berzuk & Shay, 2015). Effective treatment for pelvic floor dysfunctions requires knowledge of pelvic floor health and dysfunction among the healthcare professionals involved in the treatment (Aslan & Pekyavaş, 2022). Mamuk et al. (2018), in their study examining healthcare professionals' knowledge of pelvic floor muscle exercises, reported that the majority were fully informed (56%) (Mamuk et al., 2018). One study concluded that physiotherapists are the most frequently consulted healthcare professionals, particularly for pelvic floor muscle training, in the treatment of pelvic floor dysfunction. The same study found that physiotherapists had more knowledge about pelvic floor health than other healthcare professionals (Çelenay et al., 2021).

Because of the important role physiotherapists play in pelvic floor health, undergraduate training in this area is crucial. However, studies focusing on this topic are limited. In this study, although the undergraduate training received by final-year students on this subject did not affect their knowledge level regarding pelvic floor health, it was associated with higher knowledge levels regarding UI and POP. This may be because all physiotherapy and rehabilitation programs include mandatory courses in anatomy and physiology that teach fundamental information about the pelvic floor. Therefore, all students may have similar levels of knowledge about pelvic floor health. However, to gain knowledge about pelvic floor dysfunctions, courses focusing specifically on this topic are needed. Therefore, students taking courses on this subject can gain more knowledge about UI and POP. It was found that students' post-graduation career choices did not alter their knowledge levels regarding pelvic floor health and dysfunctions. This may suggest that undergraduate physiotherapy and rehabilitation students engage primarily with curricular content rather than independent research, possibly due to the intensive nature of undergraduate education in Türkiye.

5. Conclusion

In conclusion, incorporating dedicated courses on pelvic floor health and dysfunctions into physiotherapy and rehabilitation curricula may enhance students' knowledge levels. Further studies may be useful to examine the knowledge levels of physiotherapy and rehabilitation students regarding pelvic floor dysfunction treatment methods based on the courses they take during their undergraduate education.

Strengths and Limitations

The study's strengths include its focus on a unique topic: examining physiotherapy students' knowledge of pelvic floor health. One limitation is that the study is limited to universities in Türkiye. Other limitations include the lack of questioning about the details of the educational content related to the pelvic floor and the absence of an assessment of pelvic floor neuroanatomy.

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