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## INVESTGATION OF INCONTINENCE AND PROLAPSE KNOWLEDGE LEVELS OF HEALTHCARE STUDENTS

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### ■ Abstract

Incontinence and prolapse are an important health problems in our society. Both health professionals and the society do not have sufficient knowledge about this issues. Our aim in the study is to examine the level of incontinence and prolapse knowledge of intermediate health personnel. 198 university students were included in the study. Physical and demographic characteristics were recorded. Incontinence and prolapse knowledge level was evaluated with the Prolapse and Incontinence Knowledge Questionnaire (PIKQ). While the mean age of the participants was 20.25±1.31 years, 12.1% were male and 87.9% were female. While 55.1% had not heard of incontinence before, 47% had not heard of prolapse before. The mean PIKQ-incontinence knowledge test score was 7.55, the PIKQ prolapse knowledge test score was 5.28, and the total score was 12.83. The PIKQ scores of the students were calculated as 66.6% out of 100, which is the incontinence subscale score of 8. The equivalent of 6 points out of 100, which is the prolapse subscale score, was calculated as 50%. The PIKQ scores of the participants were found to be significantly higher in women, those who had heard of urinary incontinence before and those who had heard of pelvic organ prolapse ( $p<0.05$ ). In this study, measuring the incontinence and pelvic prolapse knowledge levels of health school students, it was determined that the students' knowledge levels on this subject were low.

**Keywords:** incontinence, knowledge, prolapse, university student

## Sağlık Alanında Eğitim Gören Üniversite Öğrencilerinin İnkontinans ve Prolaps Bilgi Düzeylerinin Araştırılması

### ■ Özet

İdrar kaçırma ve sarkma toplumumuzda önemli bir sağlık sorunudur. Hem sağlık çalışanları hem de toplum bu konuda yeterli bilgiye sahip değildir. Çalışmadaki amacımız ara sağlık personelinin inkontinans ve prolapsus bilgi düzeylerini incelemektir. Çalışmaya 198 üniversite öğrencisi dahil edildi. Fiziksel ve demografik özellikleri kaydedildi. İnkontinans ve prolapsus bilgi düzeyi Prolapsus ve İnkontinans Bilgi Anketi (PIKQ) ile değerlendirildi. Katılımcıların yaş ortalaması 20.25±1.31 yıl iken, %12.1'i erkek %87.9'u kadın idi. %55.1'i daha önce inkontinansı duymamış iken, %47'si ise daha önce prolapsı duymamış idi. PIKQ-inkontinans bilgi testi puanı ortalaması 7.55, PIKQ prolapsus bilgi testi puanı 5.28, toplam puan 12.83 olarak hesaplandı. Öğrencilerin PIKQ puanları idrar kaçırma alt ölçeği puanı olan 8 olan 100 üzerinden %66,6 olarak hesaplandı. Sarkma alt ölçeği puanı olan 100 üzerinden 6 puanın karşılığı %50 olarak hesaplandı. Katılımcıların PIKQ puanları kadınlarda, idrar kaçırmayı daha önce duyanlarda ve pelvik organ prolapsusu duyanlarda anlamlı olarak yüksek bulundu ( $p<0,05$ ). Sağlık yüksekokulu öğrencilerinin inkontinans ve pelvik prolapsus bilgi düzeylerinin ölçüldüğü bu çalışmada öğrencilerin bu konudaki bilgi düzeylerinin düşük olduğu belirlendi.

**Anahtar Kelimeler:** inkontinans, bilgi, prolapsus, üniversite öğrencisi

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## **INTRODUCTION**

Urinary incontinence, defined as 'the complaint of any involuntary leakage of urine' (by International Continence Society (ICS)), which increases with age, is more common in women. Especially in the 5th and 8th decades of their life, the incidence peaks. The most common type of urinary incontinence is stress incontinence with 50%. It has been recorded that millions of women around the world live with incontinence (Aoki et al., 2017: 17042). However, it is thought that there are many women who do not apply to health units and are not registered due to cultural, economic and personal reasons. The most commonly diagnosed cause is dysfunction of the bladder and pelvic muscles, which is usually related to pregnancy, childbirth and menopause. Incontinence has become an important issue worldwide in terms of prevalence, continuity of causes and economic impact on countries (Aoki et al., 2017: 17042, Norton and Brubaker, 2006: 57, Minassian et al., 2003: 327).

Another problem that affects women as much as urinary incontinence is pelvic organ prolapses. Although it has increased in recent years, especially in low-income countries, its prevalence cannot be ignored. Diagnostic causes include pelvic floor dysfunction seen after difficult and traumatic vaginal deliveries (Walker et al., 2011: 127). In recent scans, the prevalence of urinary incontinence in Turkey has been determined as 13.8%5, and this rate is not clear for pelvic organ prolapses (Hoedl et al., 2022: 104779). Catheters and absorbent tools/pads are among the methods frequently used in the treatment of urinary incontinence, but the endurance and strength of the pelvic muscles should be increased (Abrams et al., 2018: 2271). In prolapses, even though gynecologists use different interventional and surgical methods, it is still necessary to include the muscles in rehabilitation (Resende et al., 2019: 171, Maher et al., 2019: 229).

The fact that these health problems, which concern women, are not known or directed by the society, causes the problem to increase. The attitude of the health personnel, especially in the health institution, can enable or hinder the patient's access to treatment. In this study, we aimed and hypothesis to measure the knowledge level of intermediate health personnel who can direct patients to professionals and bring them to the literature. Accordingly, our hypothesis is whether students studying in the field of health have knowledge about incontinence and pelvic organ prolapse.

## **1. METHOD**

### **1.1. Sample**

The study was carried out at Selcuk University Health Care Services Vocational School. Before starting the study, ethics committee approval was obtained from the Selcuk University clinical research ethics committee (2022/408). Participation was on a voluntary basis. In the questions created online, the first question was whether they would participate in the study. Those who answered “no” to this question were excluded from the study. Associate degree students (all 1st and 2nd grades) in Selcuk University Health Care Services were included in the study. A total of 230 people were

reached. 32 people who did not want to participate in the study and filled in the questions incompletely were excluded and the study was terminated with 198 people.

### **1.2. Data Collection Tools**

In the form created, physical characteristics (age, height, weight, gender), educational status and class grade (1<sup>st</sup>, 2<sup>nd</sup>) were questioned. Participants' incontinence and prolapse knowledge levels were evaluated with the Prolapse and Incontinence Knowledge Questionnaire.

The Prolapse and Incontinence Knowledge Questionnaire (PIKQ) was created by Shah et al. (Shah et al., 2019: 229) to measure the level of incontinence and prolapse knowledge. Turkish validity was performed by Çelenay et al. (Toprak Celenay et al., 2019: 2183). The questionnaire consisted of 2 parts and 24 questions in total. The first part consisted of 12 questions measuring the level of incontinence knowledge, and the second part consisted of 12 questions measuring the level of prolapse knowledge. Each correct answer was scored as 1, while incorrect and I don't know answers were scored as 0. The section score was obtained by summing the answers given to the questions in both sections. The total maximum score of each section could be 12 (Toprak Celenay et al., 2019: 2183). The proportional calculation of the scores of the PIKQ subscales was made over 100 points. The threshold value of knowledge proficiency of the PIKQ was reported as 80% and higher for the UI subscale and 50% and higher for the POP subscale (Shah et al., 2019: 229, Toprak Celenay et al., 2019: 2183). In this study, reported threshold values were used as a reference to determine the adequacy of knowledge levels (Toprak Celenay et al., 2019: 2183).

### **1.3. Statistical Analysis**

Mean, standard deviation, median, minimum and maximum values were used in descriptive statistics, and number and percentage values were used in categorical variables. Data were analyzed with IBM SPSS v.20. In the comparison of the two groups, Independent Samples T- Test was used for those with normal distribution, and Mann Whitney U Test for those who did not show normal distribution.  $P < 0.05$  was considered significant.

## **2. RESULTS**

A total of 198 people were included in the study. The average age of the participants was 20.25 years, the average height was 165.12 cm, the average weight was 60.33 kg, and the average BMI was 22.03. While 12.1% of the participants were man, 87.9% were woman. 36.9% of them were studying in the 1st grade, and 63.1% of them were in the 2nd grade. While 44.9% had heard of urinary incontinence before, 55.1% had not. While 53% had heard of organ prolapse before, 47% had not heard of organ prolapse. The physical characteristics of the participants are shown in Table 1.

**Table 1. Physical characteristics of the participants.**

		<b>X± SD</b>	<b>Median (min-max)</b>
<b>Age (Year)</b>		20.25±1.31	20 (18-23)
<b>Height (cm)</b>		165.12±7.23	164 (150-187)
<b>Weight (kg)</b>		60.33±12.12	58 (40-110)
<b>BMI (kg/cm<sup>2</sup>)</b>		22.03±3.59	21.37 (14.87-35.27)
	<b>n</b>		<b>%</b>
<b>Gender</b>	<b>Man</b>	24	12.1
	<b>Woman</b>	174	87.9
<b>Class</b>	<b>1. Class</b>	73	36.9
	<b>2. Class</b>	125	63.1
<b>Have You Heard of Incontinence Before?</b>	<b>Yes</b>	89	44.9
	<b>No</b>	109	55.1
<b>Have You Heard of Prolapse Before?</b>	<b>Yes</b>	105	53
	<b>No</b>	93	47

X: mean. SD: Standard Deviation. min: minimum. max: maximum. n: number of participants. %: percent. cm: centimeters. kg: kilograms

The mean PIKQ-incontinence knowledge test score of the participants was calculated as 7.55, and the PIKQ prolapse knowledge test score was calculated as 5.28. Total PIKQ mean score was 12.83. The incontinence and prolapse knowledge levels of the participants are shown in Table 2.

**Table 2. Examination of the PIKQ scores of the participants.**

	<b>X± SD</b>	<b>Median (min-max)</b>
<b>PIKQ (Incontinence Knowledge test score)</b>	7.55±3.31	8 (0-12)
<b>PIKQ (Prolapse Knowledge test score)</b>	5.28±3.33	6 (0-12)
<b>Total Points</b>	12.83±5.81	14 (0-24)

X: mean. SD: Standard Deviation. min: minimum. max: maximum

The PIKQ scores of the students were calculated as 66.6% out of 100, which is the incontinence subscale score of 8. The equivalent of 6 points out of 100, which is the prolapse subscale score, was calculated as 50%.

While there was a significant difference in the total incontinence and total PIKQ scores in terms of the gender of the participants ( $p<0.05$ ), no significant difference was found in the comparison of the scores according to the classes ( $p>0.05$ ). There was no significant difference in PIKQ scores of individuals under the age of 20 and those over the age of 20 ( $p>0.05$ ). There was no difference between the PIKQ scores of the BMI groups ( $p>0.05$ ). When those who had heard of urinary

incontinence before and those who had not heard of urinary incontinence were compared, there was a significant difference in all PIKQ scores ( $p<0.05$ ). A significant difference was found in total incontinence score and total PIKQ score in the comparison of those who heard of organ prolapse and those who did not ( $p<0.05$ ).

The comparison of the descriptive characteristics of the participants and their PIKQ scores is shown in Table 3.

**Table 3. Comparison of participants' introductory characteristics and PIKQ scores**

		Total Incontinence Point		Total Prolapse Point		Total Point	
		X±SD	p	X±SD	p	X±SD	p
<b>Gender</b>	<b>Man</b>	4.45±4.18	-3.975	4.29±3.53	1.496	8.75±6.76	-3.238
	<b>Woman</b>	7.97±2.94	<b>0.001*</b>	5.42±3.28	0.135	13.40±5.45	<b>0.001*</b>
<b>Age</b>	<b>18-20</b>	7.64±3.11	-0.418	5.46±3.38	-1.090	13.11±5.96	1.069
	<b>21-23</b>	7.34±3.51	0.676	4.90±3.19	0.276	12.25±5.47	0.285
<b>BMI</b>	<b>&lt;25</b>	7.74±3.18	-1.337	5.38±3.30	-0.822	13.12±5.82	-1.469
	<b>&gt;25</b>	6.76±3.72	0.181	4.89±3.43	0.411	11.66±5.68	0.142
<b>Class</b>	<b>1. Grade</b>	7.49±3.25	-0.230	5.01±3.49	-0.842	12.50±6.00	-0.682
	<b>2. Grade</b>	7.58±3.35	0.818	5.44±3.23	0.400	13.03±5.70	0.495
<b>Hearing Urinary Incontinence Before</b>	<b>Yes</b>	8.73±2.49	-4.336	6.37±3.06	-4.074	15.10±4.88	-4.933
	<b>No</b>	6.58±3.58	<b>0.001*</b>	4.40±3.28	<b>0.001*</b>	10.99±5.87	<b>0.001*</b>
<b>Hearing of Prolapse Before</b>	<b>Yes</b>	8.31±2.67	-2.688	5.66±3.00	-1.373	13.98±4.95	-2.318
	<b>No</b>	6.68±3.73	<b>0.007*</b>	4.86±3.63	0.170	11.54±6.43	<b>0.020*</b>

SD: Standard Deviation, n: number of participants. %: percent. z: Mann Whitney U Test. t: t test.  $p<0.05$ .

### 3. DISCUSSION

There are many misconceptions in society about pelvic floor dysfunction. Both patients and healthcare professionals do not have sufficient knowledge and awareness about pelvic floor health. This situation causes increasing socioeconomic burdens in the society and health problems such as incontinence and prolapse. In this study, which measures the incontinence and prolapse knowledge levels of health school students, who will be the health professionals of the future, it was determined that the knowledge level of the students on this subject was low.

In the study, the level of continence knowledge of the students was found to be 66.6%, below the 80% threshold of PIKQ-UI and insufficient. Prolapse knowledge levels were determined at the border of 50% and PIKQ-POP 50% threshold. In the study done by Bailón Queiruga et al. (2022: 659) on female university students, it was determined that the information about pelvic floor disorders was low. The PIKQ-UI score was 60% and the PIKQ-POP score was 43.25%. Yildirim et al. (2020: 170) stated in their study that university students have a moderate awareness of urinary incontinence. In a

study conducted with nursing students in China, students' incontinence knowledge levels were found to be low (Luo et al., 2016:134). Studies show that students' urinary incontinence knowledge level is insufficient and there is a need for informational education.

Researchers found that health science students (69.1%) had better knowledge of Pelvic Floor Disorders than students of other departments (30.9%), but generally university students were less aware of prolapse and incontinence diseases (Bailón et al., 2022: 659). In a study conducted with health workers in Denizli, it was determined that the level of incontinence knowledge of doctors was higher than that of nurses and other auxiliary health personnel (Şimşek and Yağcı, 2022: 77). The lack of knowledge of the students on this subject may be due to the fact that undergraduate clinical courses spend less time on Pelvic Floor Disorders education. Being aware of the Pelvic Floor Disorders of health school students, who will be the health professionals of the future, will prompt them to take preventive measures, detect symptoms, and seek treatment options for incontinence and prolapse.

Yıldırım et al. (2020: 170) reported that male students had better urinary incontinence awareness and health motivation than female students. In our study, a significant difference was observed in total incontinence and total PIKQ scores in terms of genders, and the knowledge level of women was found to be higher than that of men. The idea that incontinence and prolapse problems are more common in women in society affects men's indifference and ignorance about this issue. However, when we look at the literature, we see that the prevalence of urinary incontinence in men is not at a negligible level (Coyne et al., 2012: 88, Sumarsono et al., 2020: 223).

In this study, the incontinence scores of those who had heard of urinary incontinence before and the total PIKQ scores of those who had heard of organ prolapse were found to be higher than those who had never heard of urinary incontinence. In a study conducted in Spain, the level of interest in obtaining specific information about disease and prevention strategies was found to be high, although the rate of those who had previous knowledge about incontinence and prolapse was very low (Bailón et al., 2022: 659). It has been observed that an interactive computer application designed to teach pelvic floor dysfunction in health programs improves the knowledge and attitudes of medical students (Hampton et al., 2010: 601). It is obvious that the clinical training and courses to be given on this subject will increase the awareness of the students.

The study has some limitations. First of all, the numbers of man and woman participants are not equal. There is a need for studies in which the numbers of man and woman are similar. In the study, a survey was applied to a single health department. It can be applied to different health departments to investigate whether there are differences between departments. However, it was only applied to students who received 2 years of health education. It can also be applied to students who have received health education for different years, such as 4 or 6 years.

#### 4. CONCLUSION

More than half of the students had never heard of urinary incontinence, and about half had never heard of prolapse. It was determined that while the students' incontinence knowledge level was low, their prolapse knowledge level was moderate. Being a woman, hearing incontinence and organ prolapse before were the factors affecting the level of prolapse and incontinence knowledge. Since Pelvic Floor Disorders are preventable, they should be considered as a public health problem. Therefore, it is necessary to develop knowledge and awareness in the society and health professionals.

Practical recommendations for future research: The knowledge and attitudes of the students on the subject can be increased, especially in the departments that provide health education, with theoretical courses and clinical applications. Awareness in this field can be increased with promotional stands or project assignments to investigate the incontinence and prolapse levels of individuals in the society. The knowledge level of male students educated in universities should be increased, especially regarding the pathologies that affect the female population. This seems to be mandatory in order to provide correct guidance in the clinic.

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