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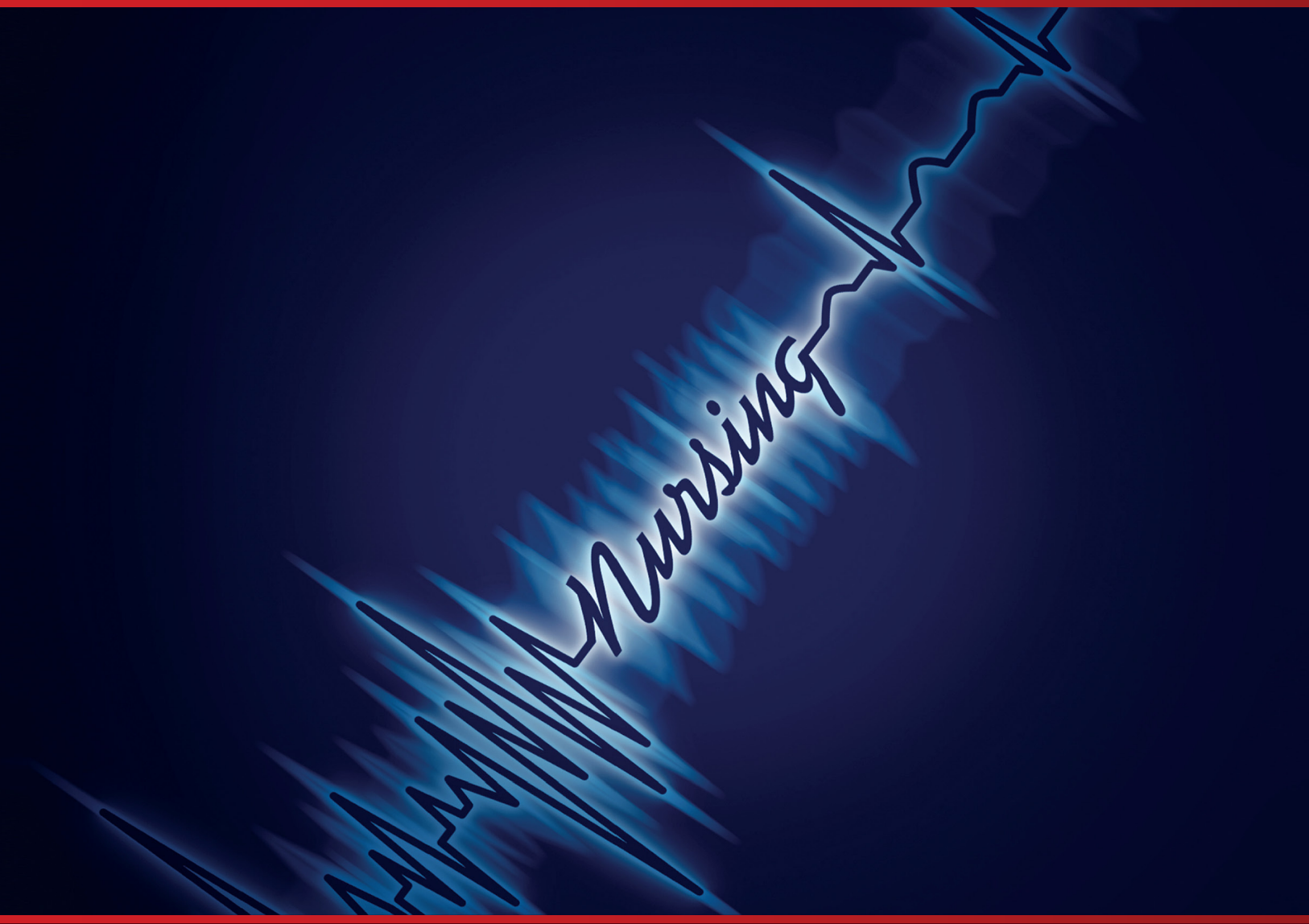

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J Acad Res Nurs 2025;11(3):111-7

Determination of Hand Hygiene Beliefs and Practice Levels of Intensive Care Nurses in Türkiye

Türkiye'deki Yoğun Bakım Hemşirelerinin El Hijyeni İnançları ve Uygulama Düzeylerinin Belirlenmesi

Arzum Çelik Bekleviç[1], Derya Cora Kadıoğlu[2]

[1]Zonguldak Bülent Ecevit University, Ahmet Erdoğan Vocational School of Health Services, Department of Medical Services and Techniques, Operating Room Services Program, Zonguldak, Türkiye, Sakarya University Health Sciences Institute, Department of Nursing, Division of Surgical Diseases Nursing, Sakarya, Türkiye
[2]Akdeniz University Faculty of Nursing, Department of Nursing Management, Antalya, Türkiye

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ABSTRACT

Objective: Nurses are in frequent hand contact with patients in intensive care units. With effective hand hygiene, health care-associated infections can be prevented and death rates from infections can be reduced. This research was conducted to determine the hand hygiene belief status and hand hygiene practice levels of intensive care nurses.

Methods: The research is of descriptive type. In this study, the snowball sampling method was adopted, and the research sample consisted of 228 intensive care nurses in Türkiye. Data were collected with the "Nurse Descriptive Information Form", "Hand Hygiene Belief Scale (HHBS)" and "Hand Hygiene Practice Inventory (HHPI)".

Results: As a result of the study, it was determined that the hand hygiene beliefs and hand hygiene practices of the intensive care nurses were high, and there was a moderate positive correlation between HHBS and HHPI.

Conclusion: It is recommended to make plans to improve hand hygiene culture in institutions in order to increase nurses' hand hygiene beliefs and to develop appropriate hand hygiene behavior.

Keywords: Hand hygiene, intensive care nursing, infection control

ÖZ

Amaç: Hemşireler, yoğun bakım ünitelerinde hasta ile en sık temas halinde olan sağlık çalışanlarıdır. Hemşireler tarafından uygun el hijyeni sağlanması, sağlık hizmetiyle ilişkili enfeksiyonların neden olduğu olumsuz sonuçları ortadan kaldırabilir ve bu bağlamda etkili el hijyeni uygulamaları sağlık bakımı ile ilişkili enfeksiyonlara bağlı ölüm oranlarını azaltabilir. Aynı zamanda hemşireler ünite içerisinde çalışan diğer sağlık profesyonelleri için de rol model olabilirler. Bu araştırma, yoğun bakım hemşirelerinin el hijyeni inanç durumlarını ve el hijyeni uygulama düzeylerini belirlemek amacıyla yapılmıştır.

Yöntem: Araştırma tanımlayıcı türdedir. Çalışmada kartopu örnekleme yöntemi kullanılmış, örneklem Türkiye'deki 228 yoğun bakım hemşiresinden oluşmuştur. Veriler "Hemşire Tanımlayıcı Bilgi Formu", "El Hijyeni İnanç Ölçeği (EHİÖ)" ve "El Hijyeni Uygulama Envanteri (EHUE)" ile toplanmıştır.

Bulgular: Çalışmanın sonucunda yoğun bakım hemşirelerinin el hijyeni inançlarının ve el hijyeni uygulamalarının yüksek olduğu, EHİÖ ile EHUE arasında orta düzeyde pozitif korelasyon olduğu belirlendi.

Sonuç: Hemşirelerin el hijyeni inançlarının arttırılması ve uygun el hijyeni davranışının geliştirilmesi için kurumlarda el hijyeni kültürünün geliştirilmesine yönelik planlamaların yapılması önerilmektedir.

Anahtar kelimeler: El hijyeni, yoğun bakım hemşireliği, enfeksiyon kontrolü

ORCID IDs: AÇB. 0000-0002-9989-8599; DCK. 0000-0002-3840-4831

Corresponding Author: Arzum Çelik Bekleviç,
E-mail: aezzum@gmail.com

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INTRODUCTION

Infections that are not in the incubation period when patients apply to the institution and develop during the provision of health care services in health institutions are called health care associated infections (HAI) [1]. HAI causes an increase in the mortality and morbidity of patients and a prolongation of their hospital stay. In order to protect against HAI, both standard precautions and isolation precautions for infection should be followed within the framework of standard precautions. Hand hygiene practices are the first among the standard precautions taken to protect against contagious and infectious diseases [2]. Health care workers can try two ways to ensure hand hygiene [3]. The first of these is to wash hands with soap and water, and the second is to rub hands using alcohol-based hand sanitizers [4]. The basic criterion for the application of both correct methods to ensure effective hand hygiene is to comply with the 5 indication rules determined by the World Health Organization (WHO) [5]. Accordingly, hand hygiene should be provided "1. Before contact with the patient, 2. Before aseptic procedures, 3. After contact with body fluids, 4. After contact with the patient, and 5. After contact with the patient's environment". According to the WHO, a systematic organization should be established in the provision of health services to improve hand hygiene behavior in health workers [6]. This system should be organized with the contributions of institution managers, infection control committees, relevant unit authorities, patients and their relatives. In our country, hand hygiene practices have been standardized in the Health Quality Standards Implementation Guide [7]. These standards aim to establish similar hand hygiene policies in all health institutions. In terms of scope, regular training for employees, planning to encourage hand hygiene, supplying the necessary materials to ensure hand hygiene, and evaluating employees' hand hygiene compliance with informed observations have been accepted as quality criteria. However, nurses' beliefs about hand hygiene directly affect compliance. Intensive care units are the heart of critical patient care. Intensive care patients are vulnerable to HAI due to impaired consciousness, immunosuppression and multiple diseases [8]. HAI cause patients' quality of life to decrease, prolonged hospitalization and increased mortality. The simplest method to prevent this is to provide hand hygiene. Inadequate hand hygiene compliance threatens patient and staff safety. Intensive care nurses are health care workers who come into contact with patients the most. Effective hand hygiene practices of nurses depend on the accessibility of hygiene areas, the absence of missing materials, their belief in the practice and their personal values. Therefore, their belief in hand hygiene practices is an important component in providing effective hand hygiene [9]. In this context, this study was conducted to evaluate the beliefs of nurses working in intensive care units about hand hygiene and their compliance with hand hygiene practices.

MATERIAL AND METHOD

Study Design and Sample

Type, Population and Sample of the Research

The population of this cross-sectional is composed of intensive care nurses in Türkiye. Snowball sampling method, which is one of the non-probabilistic sampling methods, was used as the sampling method. Since the net number of critical care nurses in Türkiye could not be reached, the research was carried out using the snowball sampling method. In this method, after determining the reference persons, it was tried to reach other relevant persons through these persons. The research was completed with 228 critical care nurses who agreed to participate in the research. It was thought that there would be less difficulty in reaching nurses.

Data Collection

Research data were collected through an online survey conducted with the voluntary participation of intensive care nurses working in Türkiye between October and November 2022. "Nurse Descriptive Information Form", "Hand Hygiene Belief Scale (HHBS)" and "Hand Hygiene Practice Inventory (HHPI)" were used as data collection tools. The research was completed with a total of 228 intensive care nurses who volunteered to participate in the research.

Statistical Analysis

The data were evaluated using SPSS 26.0. Skewness and kurtosis values, Kruskal-Wallis test, Mann-Whitney U test, and Pearson correlation test were used in the analysis.

Ethical Considerations

Approval was obtained from the Human Research Ethics Committee of T.C Zonguldak Bület Ecevit University (approval number: 205760, dated: 29.08.2022). Before starting the survey, an information screen emphasizing the purpose of the research and an informed consent form were presented to all participants. After obtaining consent from the intensive care nurses who volunteered to participate in the study, the nurses were directed to the questionnaire items.

Data Collection Tools and Study Instruments

The data were collected using the "Nurse Introductory Information Form", which includes information such as age, gender, marital status, education level, and length of work in the profession, and HHBS and HHPI. HHBS and HHPI were developed by Van de Mortel [10] in 2009 and their Turkish validity and reliability study was performed by Karadağ et al [11]. The HHBS total score ranges from 22 to 110, and a high score is interpreted as having a positive belief about hand hygiene. The total score of the HHPI varies between 14 and 70, with a high score indicating that hand

hygiene practices are always performed. In the Turkish validity and reliability study, the internal consistency reliability coefficient was determined as 0.76 for HHBS and 0.85 for HHPI [10]. The test-retest reliability of the scale and inventory was determined as 0.66 and 0.60. In this study, Cronbach's alpha value was found to be 0.70 for HHBS and 0.73 for HHPI.

RESULTS

The mean age of the nurses participating in the study was 31.39±8.08 years, and most of them were women (82%), married (56.6%) and undergraduate (50%). It was determined that 39% of the intensive care nurses participating in the study had five years or less professional experience and 41.2% of them worked in the mixed intensive care unit. 37.7% of the intensive care nurses had 3 years or less intensive care experience. Most of the participants (60.1%) worked in shifts, giving care to 1-3 patients (52.6%) per shift. In addition, 96.9% of them had received training on hand hygiene and practices in their institutions (Table 1).

The HHBS mean scores of the intensive care nurses participating in the study were 89.79±8.36, and the HHPI score averages were 66.71±4.45 (Table 2).

There was no significant difference between the HHBS mean scores of the intensive care nurses and socio-demographic data, gender, marital status, educational status, working type, unit of work, number of patients given daily care, and hand hygiene training. However, there was a significant difference between the nurses' HHBS and the duration of working in the profession (p=0.004) and working in the intensive care unit (p=0.003). There was no significant difference between the HHPI score averages

Table 1. Demographic Characteristics and Professional Characteristics of the Nurses

Variable	n	(%)
Age (mean ± SD)	31.39±8.08	
Gender		
Female	187	82
Male	41	18
Marital status		
Single	99	43.4
Married	129	56.6
Educational status		
Secondary	46	20.2
Associate degree	40	17.5
Bachelor	114	50
Degree or above	28	12.3
Working time in the profession		
5 years and less	89	39
6-10 years	62	27.2
11 years and more	77	33.8
Intensive care unit		
Surgical intensive care unit	32	14
Internal diseases intensive care unit	51	22.4
Newborn intensive care unit	31	13.6
Pediatric intensive care unit	13	5.7
Emergency intensive care unit	7	3.1
Mixed intensive care unit	94	41.2
Working time in intensive care		
3 years and less	86	37.7
4-6 years	63	27.6
7-9 years	39	17.1
10 years and more	40	17.5
Working style		
Daytime	88	38.6
Night	3	1.3

Table 1. Continued		
Variable	**n**	**(%)**
Night and day	137	60.1
Number of patients given daily care		
1-3 patients	120	52.6
3-5 patients	85	37.3
5 patients or more	23	10.1
Have you received training on hand hygiene indications and practices in your institution?		
Yes	221	96.9
No	7	3.1
Total	228	100

Table 2. Hand Hygiene Belief Scale and Hand Hygiene Practice Inventory Average Scores		
Scale scores	**Mean ± SD ($\bar{X}$ ± SD)**	**Min-max**
Hand Hygiene Belief Scale	89.79±8.36	22-110
Hand Hygiene Practice Inventory	66.71±4.45	14-70
SD: Standard deviation, Min: Minumum, Max: Maximum		

of the intensive care nurses and their socio-demographic and occupational characteristics (p>0.05) (Table 3).

When the relationship between HHBS mean scores and HHPI mean scores was evaluated, a moderately positive significant (r=0.398, p=0.000) relationship was found between the two scales (Table 4).

DISCUSSION

Patients who are provided with health services in intensive care units are followed up more frequently than outpatients or inpatients due to the presence of comorbid diseases in addition to their diagnosis and are exposed to more invasive interventions [12]. In this context, hand contact with intensive care patients increases 5-10 times more than other patients in health care institutions [13]. When the literature is examined, it is seen that there are many studies on the evaluation of hand hygiene knowledge levels and practices of nurses, student nurses and health workers [14-16]. Although there are studies evaluating hand hygiene compliance for health care workers in intensive care units [17], no study has been found that examines hand hygiene beliefs and hand hygiene practices of intensive care nurses together. For this reason, it is thought that this study will contribute to the literature.

Considering the studies evaluating hand hygiene compliance in intensive care units, it is reported that the hand hygiene compliance of health care workers is high [18,19]. As a result of this research, hand hygiene belief and practice levels of nurses working in intensive care units were found to be high. When the studies evaluating hand hygiene compliance according to the intensive care units worked in were examined, it was found that the hand hygiene compliance rates of the health care workers, especially in the pediatric and neonatal intensive care units, were higher than those of the other intensive care unit workers [20,21]. Although there was no statistically significant difference in the current study, the high mean scores of HHBS and HHPI in neonatal intensive care and pediatric intensive care units are in line with the results of previous studies.

It is very important to inform health care professionals about correct hand hygiene practices in increasing compliance with hand hygiene [22]. In a study conducted in seven intensive care units in Europe, it was reported that individual and team compliance increased in the prevention of health care relationships through education and observation [23]. In five intensive care units in China, the initial period of 3 (three) months and a follow-up period were planned, and it was determined that the compliance rate increased within 2 (two) periods with administrative support, material accessibility, education and training, reminders, process monitoring and feedback. Hand hygiene strategies were emphasized [24]. Again, in a systematic review examining hand hygiene compliance in intensive care units, it was reported that education, effectiveness, environmental regulation, and hand hygiene belief had an effect on increasing hand hygiene compliance [22]. In addition, it has been reported that practices such as planning reminder techniques for hand hygiene and continuing trainings increase the awareness of employees about hand hygiene practices [25]. In our country, hand hygiene trainings are compulsory in the centers where health services are provided within the scope of quality standards in health, and it is seen that most of the participants in the research receive training on hand hygiene practices and its importance [7].

It can be thought that creating a positive organizational culture in institutions and providing appropriate working conditions will contribute to increasing compliance and belief in hand hygiene. The presence of hand hygiene reminders in the working environment of the employees (sink, soap dispenser,

Table 3. Examination of the Socio-demographic and Professional Characteristics of the Intensive Care Nurses and the Mean Scores of HHBS and HHPI

Socio-demographic characteristics	HHBS total points $\bar{X}$ ± SD	HHPI total points $\bar{X}$ ± SD
Gender		
Female	90.021±8.68	66.668±4.441
Male	88.7561±6.766	66.902±4.559
U	3321.500	3416.500
p	0.180	0.258
Marital status		
Married	90.359±8.303	66.759±4.275
Single	89.010±8.369	66.646±4.697
U	5628	6339.500
p	0.125	0.923
Educational status		
Health vocational high school	90.687±7.801	67.478±4.282
Associate degree	89.900±9.794	65.750±4.866
Licence	89.429±7.932	66.500±4.468
Master	90.960±8.881	67.600±4.072
Doctorate	93.333±11.547	68.333±1.154
X^2	2.036	7.841
p	0.565	**0.049**
Working style		
Daytime	90.477±9.098	67.090±4.314
Night	83.333±4.932	67.666±2.081
Night and day	89.496±7.891	66.445±4.577
X^2	3.910	1.245
p	0.142	0.537
Working unit		
Surgical intensive care unit	89.875±8.415	66.875±3.589
Internal diseases intensive care unit	91.058±8.276	67.058±4.216
Newborn intensive care unit	92.096±8.316	67.806±2.903
Pediatric intensive care unit	88.923±5.678	68.615±2.567
Emergency intensive care unit	88.142±5.678	65.000±6.879
Mixed intensive care unit	88.563±8.593	65.968±5.116
X^2	7.352	5.964
p	0.196	0.310
Working time in the profession		
5 years and less	87.561±8.807	66.157±5.047
6-10 years	90.645±7.393	66.919±3.526
11 years and more	91.688±8.090	67.181±4.376
X^2	10.906	1.765
p	0.004	0.414
Working time in intensive care		
3 years and less	88.941±7.987	66.709±4.539
4-6 years	87.460±9.205	66.015±4.746
7-9 years	93.743±8.110	68.102±2.479
10 years and more	91.450±6.404	66.450±5.093
X^2	13.892	4.361
p	**0.003**	0.225
Number of patients given daily care		
1-3 patients	89.783±8.134	66.408±4.825
4-5 patients	89.541±8.715	66.823±4.146
5 patients and more	90.782±8.570	67.869±3.334
X^2	0.316	2.725
p	0.854	0.256
Hand hygiene training in the institution		
Yes	89.846±8.374	66.687±4.476
No	88.142±8.649	66.426±3.866
U	660.500	760.500
p	0.510	0.937

X^2: Kruskall-wallis, U: Man-Whitney U Test, HHBS: Hand Hygiene Belief Scale, HHPI: Hand Hygiene Practice Inventory

Table 4. Examination of the Relationship Between HHBS and HHPI		
	HHPI	
	*r	p
HHBS	0.398	0.000
HHBS: Hand Hygiene Belief Scale, HHPI: Hand Hygiene Practice Inventory *Pearson correlation test		

hand antiseptics, etc.), workload, working conditions such as the department / unit they work in, as well as their individual characteristics such as cognitive perceptions, beliefs, health professional competencies have an important place in increasing hand hygiene compliance [26,27]. When the results of the research were examined, it was found that the levels of belief and practice in hand hygiene were found to be significantly higher in nurses with more professional working years and in nurses with professional qualifications who worked in the intensive care unit for more than 7 (seven) years. It is a thought-provoking finding that the average score of nurses who have only 10 years or more intensive care experience is lower than those who work for 7-9 years.

In a study Karahan et al. [28] conducted, it was determined that there is a weak relationship between the hand hygiene beliefs of health care professionals and their hand hygiene practices. As a result of this research, it was determined that there was a moderate positive relationship between two similar scales. Although this finding is an important finding in terms of strengthening hand hygiene practices, which is the most effective method in the prevention of HAI it does not embody the behaviors of nurses. Price et al. [29] argues that the level of evidence for practices / statements other than observing hand hygiene practices is low. Similarly, in a study conducted in a mixed intensive care unit, HAI rates were found to be high, although the hand hygiene compliance of health care workers was high [30].

Studies on nurses' hand hygiene beliefs are very limited in the literature. However, the belief of intensive care nurses in hand hygiene practices and their complete implementation play a key role in the prevention of HAI. In this context, nurses' perceptions of health-related attitudes and behaviors, beliefs and attitudes about hand hygiene practices, problems preventing compliance should be determined, and plans should be made to develop positive attitudes and behaviors. Planning multidisciplinary practices, including patients and employees, together with managers in health care institutions, will contribute to increasing the awareness of nurses [31].

Study Limitations

In this study, the number of intensive care nurses in Türkiye could not be reached and the sample size could not be determined. For this reason, the study was carried out with nurses who accepted to answer the questions by clicking on the survey link sent from social media applications and WhatsApp applications. Since the HHBS and the HHPI are mostly based on the statements of people, the data on hand hygiene practices could not be based on evidence. For this reason, it is thought that observing hand hygiene practices in future studies will lead to a more qualified result. In addition, it is thought that intensive care nurses with a high workload are insufficient in allocating time due to the large number of scale items.

CONCLUSION

As a result, hand hygiene belief and hand hygiene practice levels of intensive care nurses were found to be high. It was determined that there was a significant relationship between the two scales, which had a moderately positive effect on each other. As the seniority of the nurses in the profession increased, there was a significant difference in hand hygiene beliefs and practices. However, it was determined that the belief and compliance with hand hygiene practices in nurses working in intensive care units for more than 10 years were lower than those of nurses working between 7 and 9 years. The decrease in the belief of nurses in hand hygiene practices may have been caused by working under the same workload and with intensive patient circulation for many years. In this context, a similar study by increasing the number of samples can make a meaningful contribution to the literature. Determining new targets and strategies for hand hygiene practices in order to improve the attitudes and behaviors of intensive care nurses may decrease HAI rates by increasing hand hygiene compliance. For this purpose, it is thought that practices and measures such as increasing in-house training, forming hand hygiene compliance teams, determining intensive care representatives, observing hand hygiene practices, including nurses working in the unit as observers, being a role model for managers in hand hygiene, organizing hand hygiene events and campaigns in institutions, establishing a reward system for units with high hand hygiene compliance and a good workload planning will increase compliance with hand hygiene beliefs and practices.

Ethics

Ethics Committee Approval: Ethics comittee approval was comfirmed by T.C Zonguldak Bület Ecevit University Human Research Ethics Board (approval number: 205760, dated: 29.08.2022).

Informed Consent: Before starting the survey, an information screen emphasizing the purpose of the research and an informed consent form were presented to all participants.

Footnotes

Author Contributions

Surgical and Medical Practices: AÇB, DCK; Concept: AÇB, DCK; Design: AÇB, DCK; Data Collection or Processing: AÇB, DCK; Analysis or Interpretation: AÇB; Literature Search: AÇB, DCK; Writing: AÇB, DCK.

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The Effect of Watching a Comedy Video Before Surgery on Anxiety Levels: A Randomized Controlled Study

Ameliyat Öncesinde Komedi Videosu İzletmenin Anksiyete Düzeyi Üzerine Etkisi: Randomize Kontrollü Bir Çalışma

Ece Alagöz[1], Aydan Akkurt Yalçıntürk[2], Gizem Kubat Bakır[1]

[1]Maltepe University, School of Nursing, Department of Nursing, İstanbul, Türkiye
[2]University of Health Sciences Türkiye, Hamidiye Faculty of Nursing, Department of Psychiatric Nursing, İstanbul, Türkiye

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ABSTRACT

Objective: The research aimed to assess how viewing comedy videos impacts the anxiety levels of patients undergoing hospitalization in surgical clinics.

Methods: The research employed a randomized controlled pretest-posttest design, conducted in the surgical ward of a private hospital in İstanbul, Türkiye, spanning from October 2022 to February 2023. Ninety-two patients participated, with 46 allocated to the intervention group and 46 to the control group. Patients in the intervention group watched a comedy video, while those in the control group received no intervention. Data were gathered utilizing the "Descriptive Information Form" and the "State-trait Anxiety Inventory". Results were presented following the CONSORT statement guidelines.

Results: No notable distinction was detected in the trait anxiety level between the intervention and control groups. However, a significant decrease in the state anxiety levels among patients in the intervention group was observed post-video viewing ($p<0.05$). Furthermore, the state anxiety level of patients in the intervention group (41.50±2.62) was significantly lower compared to those in the control group (50.28±3.29) ($p<0.05$).

Conclusion: It was found that watching comedy videos during the preoperative period was an effective method of reducing the anxiety level. In line with this finding, it is recommended to identify the anxiety levels of patients undergoing surgery in the preoperative period and to reduce anxiety levels by watching a comedy video.

Keywords: Anxiety, nursing care, surgical nursing, video recording

ÖZ

Amaç: Araştırma, komedi videosu izletilmesinin cerrahi kliniklerinde yatan hastaların anksiyete düzeyine etkisini belirlemek amacıyla yapıldı.

Yöntem: Deneysel olarak gerçekleşen bu araştırmada randomize kontrollü ön test-son test tasarımı kullanıldı. Araştırma verileri Ekim 2022 ile Şubat 2023 tarihleri arasında Türkiye İstanbul'da özel bir hastanenin cerrahi servisinde toplandı. Örneklem, 46'sı müdahale grubunda ve 46'sı kontrol grubunda olmak üzere toplam 92 hasta dahil edildi. Müdahale grubundaki hastalara komedi videosu izletilirken, kontrol grubundaki hastalara herhangi bir müdahale yapılmadı. Veriler, "Tanımlayıcı Bilgi Formu" ve "Durumluk-sürekli Kaygı Envanteri" kullanılarak toplandı. Çalışma bulguları CONSORT Bildirgesi'ne uygun olarak rapor edildi.

Bulgular: Müdahale ve kontrol grupları arasında sürekli kaygı düzeyleri açısından anlamlı bir fark bulunamadı. Müdahale grubundaki hastaların video izledikten sonra durumluk kaygılarında istatistiksel olarak anlamlı bir fark belirlendi ($p<0,05$). Ayrıca müdahale grubundaki hastaların durumluk kaygı düzeylerinin (41,50±2,62) kontrol grubundaki hastalara (50,28±3,29) göre istatistiksel olarak anlamlı bir fark olduğu görüldü ($p<0,05$).

Sonuç: Ameliyat öncesi dönemde hastalara komedi videoları izletilmesinin anksiyete düzeyini düşürmede etkili yöntemlerden biri olduğu belirlendi. Bu bulgu doğrultusunda ameliyat olacak hastaların ameliyat öncesi dönemde anksiyete düzeylerinin belirlenmesi ve komedi videosu izletilerek anksiyete düzeylerinin düşürülmesi önerilmektedir.

Anahtar kelimeler: Anksiyete, hemşirelik bakımı, perioperatif hemşirelik, video kayıt

ORCID IDs: EA. 0000-0002-4913-0944; AAY. 0000-0002-5386-0624; GKB. 0000-0003-4294-0669

Corresponding Author: Ece Alagöz,
E-mail: ecealagoz@maltepe.edu.tr

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INTRODUCTION

Surgery is a medical procedure that affects patients physiologically, behaviorally, and psychologically, creating anxiety regardless of its size and vital importance [1]. Patients are at risk for many complications during the surgical period [2]. Although they understand the necessity of the operation for them during this period, they are in an anxious, excited, and unpleasant emotional state [2]. In addition, patients experience anxiety due to pain, fear of death, uncertainty, loss of self-control, and potential lifestyle changes as soon as they enter the operating room [3]. Preoperative anxiety, which occurs in 60-80% of patients before surgery, is an important emotional state that causes an increase in blood pressure and pulse rate, excessive sympathetic activity during intubation, higher doses of anesthetic drugs during anesthetic induction, postoperative nausea, vomiting and pain, increased need for analgesics, delayed wound healing, and prolonged recovery and hospital stay [4-7]. It is possible to support the patient in coping with anxiety through effective nursing approaches. Professional nursing interventions, including informing the surgical patient, providing comfort, imparting coping skills for anxiety, and improving the quality of care, are part of preoperative psychological preparation for the surgical patient [8,9].

The most effective non-pharmacological nursing intervention to reduce preoperative anxiety is distraction [10]. There are two distraction methods as active and passive, depending on the method used in the research. Active distraction involves the active participation of the patient and uses methods such as virtual reality, breath control, imagination, and relaxation. Passive distraction, however, is the use of auditory methods like music and visual methods like television [11,12]. The comedy videos shown divert the patient's attention. Thus, it is believed that the patient's anxiety levels will decrease. The objective of this study was to assess how viewing comedic content influences the anxiety levels of patients admitted to surgical wards.

Research Hypotheses

H_1: There is a statistically significant difference in anxiety levels between surgical patients who watch comedy videos before surgery and those who do not.

MATERIAL AND METHOD

Aim of the Research

This randomized controlled experimental study was conducted to evaluate the effect of watching comedy videos on the anxiety levels of patients in surgical clinics.

Place and Time of the Research

The study was collected between October 2022 and February 2023 in the surgical ward of a private hospital in İstanbul.

Research Population and Sample

The study encompassed who were scheduled to undergo elective surgical procedures of a private hospital in İstanbul, Türkiye, from October 2022 to February 2023, who were undergoing surgical procedures. This investigation utilized a randomized controlled experimental methodology, and a power analysis was executed to ascertain the necessary sample size. With the aim of achieving 80% statistical power, the G*Power 3.0.10 program was employed, determining an effect size of 0.4 and a 5% type I error rate, resulting in a calculated sample size of 84 patients (with 42 individuals allocated to each group) [13]. The effect size (Cohen's d=0.4) was determined based on previous studies investigating the effect of non-pharmacological interventions, such as audiovisual distraction, on anxiety levels in surgical patients, where moderate effects were typically observed. An effect size of 0.4 was selected in line with Cohen's definition of a moderate effect and findings from related literature. However, the final sample consisted of 92 patients, evenly distributed between the intervention and control groups, with 46 participants in each.

Inclusion criteria

- Adults over 18 years,
- Patients who were going to have a surgical operation,
- Patients who were conscious,
- Patients oriented to person, place, and time.

Data Collection

The "Descriptive Information Form" and the "State-trait Anxiety Inventory (STAI-I)" were used to collect research data.

Descriptive Information Form: The form including the demographic characteristics of the patients was prepared by the researcher in line with the information obtained through a literature review. It consists of 8 questions regarding age, gender, marital status, etc [4,8,9].

The State-trait Anxiety Inventory (STAI-I): It was originally developed by Spielberger et al. [14] in 1970 and later adapted to Turkish culture by Öner and Le Compte [15] in 1976. It consists of a Likert-type scale comprising 20 questions designed to assess state and trait anxiety levels separately. Higher scores on the scale indicate higher levels of anxiety. The total score is calculated by subtracting the positive scores from the negative scores and adding 50 points to the remainder. In Öner and Le Compte's [15] study, the reliability of the scale ranged between 0.94-0.96. In this study, the scale exhibited a Cronbach's alpha coefficient of 0.88.

Randomization and Blinding

The randomization list was generated in advance using SPSS version 22's random number generation function. Patients who met the inclusion criteria and agreed to participate were assigned to either the intervention or control group based on this list, on the morning of their surgery. Specifically, odd-numbered patients were allocated to the intervention group and even-numbered patients to the control group. The study adhered to the CONSORT (2010) guidelines (Figure 1).

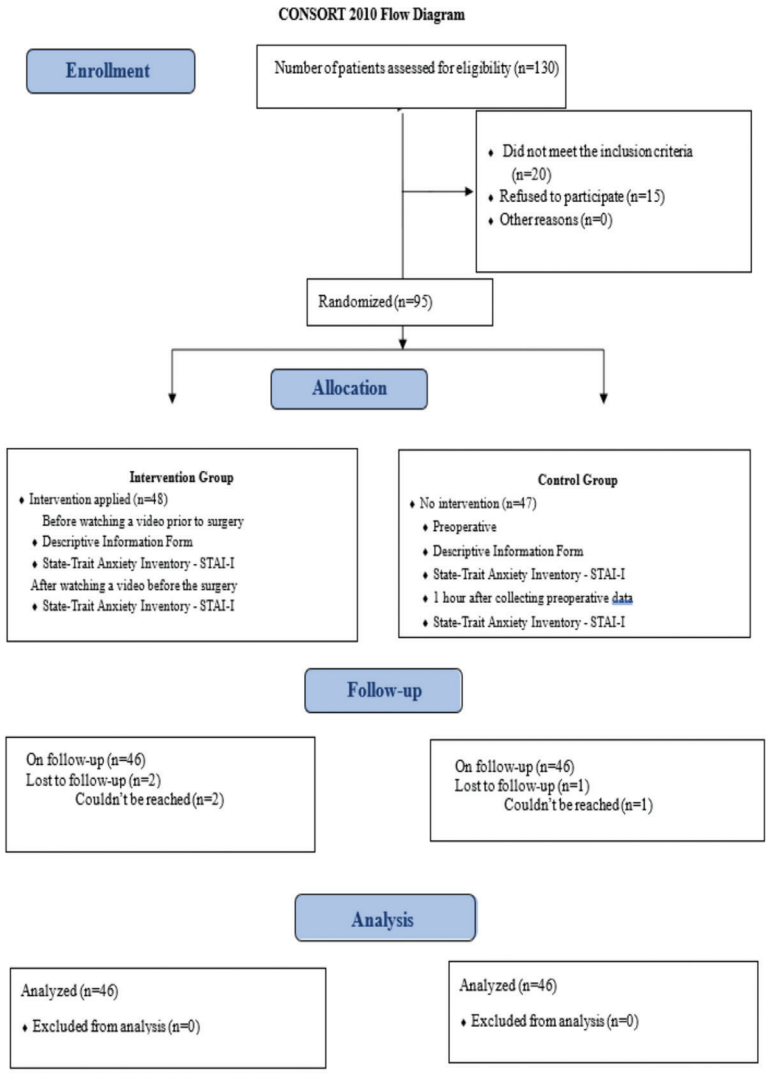

Figure 1. Consort 2020 Flow Diagram
STAI-I: State-trait Anxiety Inventory

Research Intervention

The study involved individuals who had undergone surgical procedures at a private hospital in İstanbul, met the inclusion criteria, and opted to participate voluntarily.

Intervention Group

Patients meeting the inclusion criteria in the intervention group were escorted to the clinic's patient room. Those agreeing to participate filled out the "Descriptive Information Form" and "STAI-I" through face-to-face interviews on the morning of the surgery. Subsequently, they were presented with a comedy video meticulously prepared by the researcher. One hour after viewing the video, participants were again asked to complete the "STAI-I". In the intervention group, patients watched the comedy video approximately two hours prior to surgery, after completing the pre-test forms. One hour following the video, the STAI-I was re-administered. This procedure and timing were applied uniformly to all patients in the intervention group to ensure standardization.

In the intervention group, patients watched the comedy video approximately two hours prior to surgery, after completing the pre-test forms. One hour following the video, the STAI-I was re-administered. This procedure and timing were applied uniformly to all patients in the intervention group to ensure standardization. The video was informally evaluated for appropriateness by psychiatric nursing and psychology professionals prior to implementation.

Comedy Video: Patients were exposed to a brief segment, lasting about ten minutes, extracted from a classic comedy film. Careful selection criteria were applied to ensure that the chosen videos were devoid of any elements such as violence, profanity, or aggressive scenes that could potentially have adverse effects on the patients. Specifically, scenes featuring renowned and esteemed actor Kemal Sunal were predominantly utilized. All video clips were sourced from YouTube, and a new composite video lasting ten minutes was meticulously crafted from these scenes. Subsequently, this newly edited compilation was presented to patients in the intervention group.

Control Group

Patients who were allocated to the control group were escorted to the patient room within the clinic. On the morning of their surgical procedure, individuals who agreed to take part were interviewed in person. During these interviews, patients were asked to complete the "Descriptive Information Form" and the "STAI-I" questionnaire. No specific intervention was administered by the researcher to the patients in the control group. They were simply instructed to complete the "STAI-I" questionnaire once more approximately one hour after they finished the initial set of questionnaires.

Ethical statement

Approval for this study was granted by the Maltepe University Ethics Committee (approval no.: 2022/23-04, date: 22.09.2022). Institutional clearance was also obtained from the hospital where data collection occurred. Patients who volunteered for the study provided both written and verbal consent after being briefed on the research's objectives, assured of the confidentiality of their personal information, informed of their right to withdraw at any point, and guaranteed that research data would remain confidential. The study adhered to the principles outlined in the Declaration of Helsinki.

Data Analysis

The data were subjected to analysis using the SPSS 22 software for Windows. he following analyses were conducted using SPSS version 22: Paired samples t-tests were used to evaluate the difference between pre-test and post-test scores within the intervention and control groups. Independent samples t-tests were used to compare the post-test scores between the intervention and control groups. Descriptive statistics (mean ± standard deviation) and p-values were reported for all comparisons. These revisions have been made in both the methods and results sections to enhance clarity and statistical transparency.

RESULTS

A paired samples t-test showed a significant decrease in State Anxiety Inventory (SAI) scores within the intervention group (pre-test: 50.22±5.84; post-test: 41.50±2.62; t=2.58; p=0.01). No significant change was found in the control group (p>0.05). Between-group comparison using an independent samples t-test also revealed a significant difference in post-test SAI scores (t=-4.79; p<0.01).

Similarly, in the control group, the mean age of patients was 63.57 years. Among them, 56.5% were female, 63% were married, and 41.3% were primary school graduates. Furthermore, 56.5% were employed, and 58.7% reported having income levels equal to their expenses. All patients in this group also had social security coverage, and 47.8% underwent general surgery.

After comparing the data, no statistically significant distinctions were noted between the intervention and control groups regarding age, gender, marital status, educational attainment, employment status, income level, social security coverage, and the type of surgical procedure. These findings indicate that both groups exhibited similar demographic and clinical characteristics (p>0.05) (Table 1).

The pre-test mean score for SAI was 50.22±5.84 in the intervention group and 49.01±2.72 in the control group, showing no statistically significant difference between the groups (p>0.05).

After the intervention, the average SAI score in the intervention group was 41.50±2.62, whereas it was 50.28±3.29 in the control group. Notably, participants in the intervention group displayed significantly lower post-test scores compared to those in the control group (p<0.05). Moreover, a significant discrepancy was observed between the pre-test and post-test mean scores of the intervention group (p<0.05). Examination of the mean values indicated that the post-test SAI scores (41.50±2.62) were lower than the pre-test scores (50.22±5.84). Conversely, there was no notable difference between the pre-test and post-test mean scores of the control group (p>0.05).

Concerning the Trait Anxiety Inventory (TAI), the initial mean score was 56.13±4.65 in the intervention group and 51.48±2.36 in the control group, with no significant variation between the groups (p>0.05). The subsequent mean score for TAI was 54.78±3.56 in the intervention group and 51.79±2.54 in the control group, with no noteworthy difference detected between the post-test mean scores of the groups (p>0.05). Furthermore, there was no statistically significant divergence between the pre-test and post-test mean scores for TAI in either the intervention or control groups (p>0.05) (Table 2).

Table 1. Descriptive Characteristics

		Intervention		Control		Statistical test
		n	%	n	%	
Gender	Female	29.0	63.04	26.0	56.52	X^2:0.41; p:0.52
	Male	17.0	36.96	20.0	43.48	
Marital status	Married	32.0	69.57	29.0	63.04	X^2:0.43; p:0.51
	Single	14.0	30.43	17.0	36.96	
Education	Literate	6.0	13.04	11.0	23.91	X^2:2.94; p:0.40
	Primary school	19.0	41.30	19.0	41.30	
	High school	16.0	34.78	10.0	21.74	
	Faculty/college	5.0	10.87	6.0	13.04	

Table 1. Continued						
		Intervention		Control		Statistical test
		n	%	n	%	
Income	My income is less than my expenses	6.0	13.04	5.0	10.87	X^2:0.26; p:0.88
	My income is equal to my expenses	28.0	60.87	27.0	58.70	
	My income is more than my expenses	12.0	26.09	14.0	30.43	
Social security	Yes	46.0	100.00	46.0	100.00	
Surgical intervention	Brain surgery	10.0	21.74	10.0	21.74	X^2:1,81; p:0,77
	Gastroenterology	4.0	8.70	6.0	13.04	
	General surgery	19.0	41.30	22.0	47.83	
	Cardiovascular	8.0	17.39	5.0	10.87	
	Orthopedics	5.0	10.87	3.0	6.52	
Age	$\bar{x}$ ± SD	59.43±17.59		63.57±13.39		t:1.26; p:0.21
SD: Standard devitation						

Table 2. Pre-test, Post-test, and Intergroup Comparison of SAI and TAI Scores				
		Pre-test $\bar{x}$ ± SD	Post-test $\bar{x}$ ± SD	Comparison of pre-test and post-test
SAI	**Intervention**	50.22±5.84	41.50±2.62	*t:2.58; p:0.01
	Control	49.01±2.72	50.28±3.29	*t:-7.98; p:3.54
	Comparison	**t:2.01; p:0.07	**t:-4.79; p:0.01	
TAI	**Intervention**	56.13±4.65	54.78±3.56	*t:1.99; p:0.07
	Control	51.48±2.36	51.79±2.54	*t:-8.02; p:0.12
	Comparison	**t:0.84; p:0.39	**t:5.29; p:0.27	
SD: Standard devitation, SAI: State Anxiety Inventory, TAI: Trait Anxiety Inventory				

DISCUSSION

Regardless of the diagnosis, individuals are negatively affected in physiological, emotional, and social aspects. Patients feel fear and angst due to the uncertainty about surgical interventions. Therefore, patients who will undergo surgery are at risk for anxiety. There are limited studies in Türkiye investigating the effect of watching comedy videos on patients' anxiety in surgical settings. According to the results of this study, the hypothesis "H_1: Showing comedy videos to patients in surgical clinics before the operation will reduce the level of anxiety". was confirmed.

As a result of our study, it was determined that the intervention and control groups were homogeneously allocated. In both the intervention and the control groups, the majority consisted of women, married individuals, primary school graduates, individuals whose income equaled their expenses, and individuals who underwent general surgical procedures. Additionally, it was noted that all participants had social security. The findings were in parallel with the literature [16-20]. When the descriptive characteristics were examined, it was important that there was no statistical difference between the intervention and control group patient and that both groups had similar characteristics, not affecting the result of the research.

The results of the study indicated a statistically significant reduction in anxiety levels among patients in the intervention group following video viewing ($p<0.05$). Furthermore, it was observed that the anxiety levels of patients in the intervention group were significantly lower compared to those in the control group ($p<0.05$). Humor has long been recognized as a coping mechanism that helps individuals manage stress and anxiety. It not only provides emotional relief but also offers physiological benefits by reducing stress hormones such as cortisol. Martin emphasized that laughter has positive effects on both psychological well-being and immune function [21]. Visual distraction techniques like comedy videos have been shown to effectively reduce preoperative anxiety. In a randomized controlled trial, Ko and Youn [22] found that a video-based intervention significantly decreased anxiety levels in patients awaiting surgery. Similarly, Mora-Ripoll [23] highlighted in his review that laughter triggers beneficial physiological responses, such as reduced heart rate, lower blood pressure, and muscle relaxation, which contribute to overall stress reduction. Furthermore, Rotton and Shats [24] reported that patients exposed

to humorous content prior to surgery experienced improved postoperative mood and required fewer analgesics compared to those who did not view such content. This suggests that humor may have a multidimensional therapeutic impact beyond anxiety relief. A study conducted in Türkiye by Genç and Sarıtaş [25] also supports the effectiveness of comedy videos in reducing anxiety and improving vital signs among surgical oncology patients. This finding reinforces the cultural applicability and accessibility of humor-based interventions in clinical settings. Humor helps individuals cope with stressful events and has a protective effect against stress-inducing situations. Humor in funny videos is a therapy method [26]. Genç and Sarıtaş [25] found that preoperative comedy videos shown to oncology patients undergoing surgery reduced blood pressure and preoperative anxiety levels. In the study conducted by Elmali and Balci Akpinar [13], it was established that watching comedy videos after orthopedic surgery reduced patients' pain and anxiety. Rotton and Shats [24] indicated that comedy videos shown to patients improved their well-being and reduced the need for analgesics). There are many studies in the literature on the use of humor in different ways, and in most of the studies, comedy videos are shown to patients before surgery to reduce anxiety. Study results showed that patients' well-being increased and anxiety decreased after the intervention. Vagnoli et al. [27] found that clown intervention applied to children before the surgery reduced the level of preoperative anxiety. In the literature, although the study group was children, results supporting our study were found [28-31]. An advantageous aspect of our study compared to these studies was that it was more cost-effective and feasible than clown intervention. Humor plays a direct and indirect role in the reduction of anxiety. It is believed that the comedy videos shown before surgery decrease stress hormones by reducing patients' anxiety and weaken the negative symptoms of stress by enhancing their ability to cope with anxiety-inducing situations.

Study Limitations

Our study had some limitations. Non-Turkish-speaking patients were excluded from the sample, findings based on the data obtained on the mentioned dates were limited to that time frame, the study was conducted at a single center, and the sample size was limited. Although the sample size was calculated based on power analysis, the inclusion of different surgical types may have introduced variability, which could affect the internal validity and generalizability of the results. Another limitation of this study is the inclusion of patients undergoing various types of surgical operations, which may have introduced variability. Future studies focusing on a single type of surgery are recommended to enhance the internal validity of the findings.

CONCLUSION

According to the results of the study, it was determined that the state anxiety level of the intervention group decreased after the intervention. In line with this finding, it is recommended to identify the anxiety levels of patients undergoing surgery in the preoperative period and to reduce anxiety levels by watching a comedy video. Conducting the research on larger and more diverse sample groups is also recommended.

Ethics

Ethics Committee Approval: Approval for this study was granted by the Maltepe University Ethics Committee (approval no.: 2022/23-04, date: 22.09.2022).

Informed Consent: Patients who volunteered for the study provided both written and verbal consent after being briefed on the research's objectives, assured of the confidentiality of their personal information, informed of their right to withdraw at any point, and guaranteed that research data would remain confidential.

Footnotes

Author Contributions

Concept: EA, AAY, GKB; Design: EA, AAY, GKB; Data Collection or Processing: EA, GKB; Analysis or Interpretation: EA, AAY, GKB; Literature Search: EA, AAY, GKB; Writing: EA, AAY, GKB.

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Hastanede Çocuğuna Refakat Eden ve Etmeyen Annelerin Uyku ve Yaşam Kalitesinin Karşılaştırılması

Evaluation of Sleep and Life Quality of Mothers Who Cared or Not Accompanying Their Child in the Hospital

Büşra Bayram[1], Besey Ören[2]

[1]İstanbul İl Sağlık Müdürlüğü, İstanbul, Türkiye
[2]Sağlık Bilimleri Üniversitesi, Hamidiye Hemşirelik Fakültesi, İç Hastalıkları Hemşireliği ABD, İstanbul, Türkiye

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ÖZ

Amaç: Çalışma, çocukları hastanede yatan annelerin uyku kalitesi ve yaşam kalitesini belirlemek amacıyla tanımlayıcı, analitik, kesitsel tipte yürütülmüştür.

Yöntem: Araştırma, Sultanbeyli Devlet Hastanesi Çocuk Servisi'nde yatan çocukların anneleriyle yürütülmüştür. Çalışmaya toplam 150 anne dahil edilmiştir. Veri toplama araçları olarak Tanıtıcı Bilgi Formu, Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği Kısa Formu'nun Türkçe Versiyonu *[World Health Organization Quality of Life-BREF-Turkish Version* (WHOQOL-BREF-TR)] ve Pittsburgh Uyku Kalitesi İndeksi (PUKİ) kullanılmıştır. P<0,05 anlamlı kabul edilmiştir.

Bulgular: Refakat eden annelerin WHOQOL-BREF-TR toplam puanı 85,93±14,71, refakat etmeyen annelerin toplam puanı ise 98,19±8,64'tür (p<0,001). Toplam PUKİ skoru refakatçi anneler için 8,93±3,50 ve refakatçi olmayan anneler için 6,19±2,53 idi (p<0,001).

Sonuç: Araştırmada refakat eden annelerin etmeyenlere göre uyku ve yaşam kalitelerinin daha kötü olduğu, depresyon ve stres bakımından her iki grup arasında istatistiksel fark olmadığı, refakat etmeyen annelerin anksiyetesinin daha yüksek olduğu görüldü.

Anahtar kelimeler: Anne, çocuk, uyku kalitesi, yaşam kalitesi, anne refakati

ABSTRACT

Objective: The study was conducted as a descriptive, analytical, cross-sectional study to determine the sleep quality and quality of life of mothers whose children were hospitalized.

Methods: The study was conducted with mothers of children hospitalized in the Sultanbeyli State Hospital Children's Service. A total of 150 mothers were included in the study. Introductory Information Form, *World Health Organization Quality of Life Scale Short Form Turkish Version (WHOQOL-BREF-TR)* and Pittsburgh Sleep Quality Inventory (PSQI) were used as data collection tools. P<0.05 was considered significant.

Results: The total WHOQOL-BREF-TR score of the accompanying mothers was 85.93±14.71, and the total score of the unaccompanied mothers was 98.19±8.64 (p<0.001). Total PSQI score was 8.93±3.50 for accompanying mothers and 6.19±2.53 for unaccompanied mothers (p<0.001).

Conclusion: In the study, it was observed that the quality of sleep and life of the mothers who accompany to their children were worse, there was no statistical difference between the two groups in terms of depression and stress, and the anxiety of the mothers who did not accompany to their children was higher.

Keywords: Mother, child, sleep quality, quality of life, patient companion

ORCID IDs: BB. 0000-0002-2372-2933; BÖ. 0000-0003-4182-7226

Sorumlu Yazar/Corresponding Author: Besey Ören,
E-posta: besey_oren@yahoo.com

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GİRİŞ

Sağlıklı bir çocuk dünyaya getirmek ve sağlıklı bir şekilde büyümesini sağlamak, aile ve toplum sağlığı için önemlidir. Ancak bu her zaman mümkün olmayabilir. Büyüme sürecinde çocuklar çeşitli nedenlerle hastalanabilir ve hastanede yatarak tedavi altına alınabilir [1,2]. Türk toplumunun geleneksel aile yapısı nedeni ile çocuğa bakım vermekle yükümlü olan kişi çoğunlukla annedir. Anne, genellikle hastane ortamında çocuğuna refakat eder, tedavi ve bakım sürecine doğrudan dahil olur [3,4]. Bu nedenle çocuk hastalandığında en fazla anneler etkilenir. Hastane ortamı çocuk için olduğu gibi anne için de yabancı bir ortamdır. Çocuğun hastanede yatması, sorunun ciddi olarak değerlendirilmesi, çocuğun bakım ihtiyacının artması, annenin günlük yaşantısının aksaması, tanımadığı bir çevrede olması, yapılan planlamaların ertelenmesi gibi sebepler, annede korku, endişe, çaresizlik, uyku problemleri ve strese neden olur [4-7].

İnsanın sağlıklı olabilmesi için temel ihtiyaçlarının giderilmesi gerekir. Bu temel ihtiyaçların başında yer alan uyku, bedenin dinlenmesini ve beyin fonksiyonlarının güçlenmesini sağlayarak bireyi yeni güne hazırlar [8]. Yetersiz uyku, annenin yaşadığı zihinsel stresin bir sonucu olarak ortaya çıkabilir, fiziksel ve psikolojik sorunlara neden olabilir ve çocuğa verilen bakımın kalitesini etkileyebilir [9]. Çocuk servisinde refakatçi olarak kalan annelerin evdeki annelere göre daha geç uyudukları, konsantrasyonlarının azaldığı, daha donuk ve pasif oldukları ve kötü uyku kalitesi nedeniyle olumsuz bir ruh haline sahip oldukları literatürde bildirilmiştir [10].

Annenin kendine zaman ayıramaması, yeterli uyku uyuyamaması, yorgun olması ve destek sistemlerinin azalması sağlığını bozmakta, uykusunu ve yaşam kalitesini olumsuz etkileyebilmektedir [1,7]. Nitekim literatürde çocuğu hasta olan annelerin yaşam kalitesinin çocuğun artan bakım ihtiyacına göre değişmekle birlikte olumsuz yönde etkilendiği ve çocuğa verilen bakımın da bundan etkilenebileceği belirtilmektedir [11]. Kaplanoğlu'nun [12] kanser hastası çocuğu olan anneler ile yaptığı çalışmasında, bakım verme yükünün artmasına bağlı olarak verilen bakımın niteliğinde de azalma görüldüğü belirtilmiştir. Başka bir çalışmada gelişimsel olarak yetersiz olan çocukların anne ve babalarının yaşam kalitesi azaldıkça çocukları ile olan ilişkilerinin de olumsuz etkilendiği bildirilmiştir [13]. Bir taraftan da hastanede çocuğun bakımını, sağlık çalışanları üstlendikleri için anneler kontrol kaybı yaşamakta ve kendini yetersiz hissetmektedir. Annenin yaşadığı sorunların sağlık personeli tarafından bilinmesi ve önlem alınması çocuğun tedavi sürecini olumlu yönde etkileyebilir.

Bu çalışma, çocuğu hastanede yatarak tedavi gören annelerin uyku kalitesi ve yaşam kalitesini, incelemek amacıyla yapılmıştır.

GEREÇ VE YÖNTEM

Çalışma, çocuğu hastanede yatarak tedavi gören annelerin uyku kalitesi ve yaşam kalitesini incelemek amacıyla tek merkezli, tanımlayıcı, analitik ve kesitsel tipte yapıldı.

Araştırma Sorusu

- Çocuğu hastanede yatmakta olup refakat eden annelerin uyku kalitesi refakat etmeyen annelerden farklı mıdır?
- Çocuğu hastanede yatmakta olup refakat eden annelerin yaşam kalitesi refakat etmeyen annelerden farklı mıdır?

Araştırmanın Evreni ve Örneklemi

Araştırmanın evrenini, İstanbul Anadolu Yakası'nda bulunan Sultanbeyli Devlet Hastanesi Çocuk Servisi'nde, Şubat-Haziran 2019 tarihleri arasında yatarak tedavi gören tüm çocukların anneleri oluşturmaktadır. Örneklemini ise çalışmaya dahil edilme kriterlerini karşılayan, basit rastgele sayılar tablosu kullanılarak belirlenen toplam 150 anne (75 refakat eden, 75 refakat etmeyen) oluşturmuştur.

Çalışmaya Dahil Edilme Kriterleri

Çocukları 0-17 yaş arasında olup en az 48 saat hastanede yatan, okuma yazma bilen, Türk vatandaşı olan, uyku problemi ve psikiyatrik bir hastalığı bulunmayan ve çalışmaya katılmayı kabul eden anneler.

Çalışmadan Dışlanma Kriterleri

Herhangi bir sebeple hastaneden sevk edilen hastaların anneleri çalışma dışı bırakılmıştır.

Bu hastane ulaşımı kolay, çocuk hasta sayısı fazla ve refakatçi anne kabul ettiği için tercih edilmiştir. Araştırmanın örneklem hesabı için power analizi kullanılmıştır. Buna göre hata payı 0,05, testin gücü 0,95 iken (α=0,05, 1-β=0,95) gruplarda en az 74 kişi olması gerektiği tespit edilmiştir. Çalışmada veri kaybı olabileceği düşünülerek vaka grubu (refakat eden) 75, kontrol grubu (refakat etmeyen) 75 kişi olarak belirlenmiştir. Çalışma toplam 150 anne ile tamamlanmıştır.

Veri Toplama Araçları

Araştırmacılar tarafından literatür doğrultusunda (1-7) hazırlanan 19 sorudan oluşan sosyo-demografik özellikleri içeren Anneleri Tanıtıcı Bilgi Formu, Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği Kısa Formu'nun Türkçe Versiyonu (WHOQOL-BREF-TR) ve Pittsburgh Uyku Kalitesi İndeksi kullanıldı.

Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği Kısa Formu'nun Türkçe Versiyonu (WHOQOL-BREF-TR): Ölçek kişilerin kendi yaşam kalitelerini nasıl bulduklarını değerlendirmek üzere Dünya Sağlık Örgütü (DSÖ) Yaşam Kalitesi Grubu tarafından 1996 yılında geliştirilmiştir. Türkçe geçerlilik ve güvenilirlik çalışması Eser ve ark. [14] tarafından yapılan Kısa Formu (WHOQOL-BREF) kullanılmıştır. Ölçek 5 alt boyut ve 26 sorudan oluşmaktadır (genel sağlık, fiziksel alan, ruhsal alan, sosyal alan ve çevresel alan). Her bir alan, birbirinden bağımsız olarak kendi alanındaki yaşam kalitesini ifade ettiğinden, alan puanları 4-20 arasında hesaplanmaktadır. Ölçekten alınan puan yükseldikçe yaşam kalitesi artmaktadır [14].

Ölçeğin Türkçe formunun alt boyutlarının Cronbach alfa değerleri fiziksel sağlık için 0,83, psikolojik sağlık için 0,66, sosyal ilişkiler için

0,53, çevre için 0,73 olarak bulunmuştur [14]. Bu çalışmada fiziksel sağlık için 0,44, psikolojik sağlık için 0,76, sosyal ilişkiler 0,50 ve çevre sağlığı 0,46 olarak hesaplanmıştır.

Pittsburgh Uyku Kalitesi İndeksi (PUKİ): Pittsburgh Uyku Kalitesi İndeksi (PUKİ), 1989 yılında ingilizce dilinde geliştirilmiş olup, ülkemizde Türkçe geçerlilik ve güvenilirlik çalışması Agargün ve ark. [15] tarafından 1996 yılında yapılmıştır.

Son bir ay içindeki uyku kalitesini değerlendiren PUKİ, toplam 24 sorudan oluşmaktadır. Bu soruların 19'u öz bildirim sorusudur ve hastanın kendisi tarafından cevaplandırılır; diğer beş soru ise eşi veya bir oda arkadaşı tarafından yanıtlanır. Bu beş soru yalnızca hastanın yattığı klinik hakkında bilgi edinmek için kullanılır ve puanlamaya katılmaz. Puanlamaya katılan 18 madde yedi bileşeni değerlendirir (öznel uyku kalitesi, uyku latensi, uyku süresi, alışılmış uyku etkinliği, uyku bozukluğu, uyku ilacı kullanımı ve gündüz işlev bozukluğu). Her madde 0-3 puan arasında değerlendirilir ve yedi bileşenin puanlarının toplamı PUKİ toplam puanını verir. Bu puan 0-21 arasında değişir. Toplam puanın 5'ten yüksek olması uyku kalitesinin kötü olduğunu gösterir [15]. PUKİ'nin Cronbach alfa değeri orjinal çalışmada 0,80 iken, bu çalışmadaki değeri 0,692 olarak hesaplanmıştır.

İstatistiksel Analiz

Çalışma verileri SPSS 26.0 programı kullanılarak değerlendirildi. Normal dağılım gösteren veriler parametrik testler ile analiz edildi. Verilerin analizinde, tanımlayıcı istatistiklerin yanı sıra (sayı, yüzde, ortalama, standart sapma) iki grup karşılaştırmaları için Mann-Whitney U testi, ikiden fazla grup karşılaştırmaların da Kruskal Wallis testi kullanıldı. İki sürekli değişken olduğu durumda Spearman korelasyon katsayısı kullanıldı. P<0,05 olması durumu istatistiksel olarak anlamlı kabul edildi.

Araştırmanın Etik Boyutu

Araştırma Helsinki İnsan Hakları Bildirgesine uygun olarak gerçekleştirildi. Çalışmada kullanılan ölçekler için mail yolu ile ölçeklerin Türkçe geçerlilik güvenilirlik çalışmasını yapan yazarlardan izin alındı. İstanbul'da bulunan Sağlık Bilimleri Üniversitesi, Hamidiye Girişimsel Olmayan Araştırmalar Etik Kurulu'ndan onay alındı (karar no.: 18/102, tarih: 28.12.2018). Çalışmanın yapıldığı hastaneden kurum izni alındı. Çalışmayı kabul eden annelere araştırmanın amacı anlatıldıktan sonra yazılı izinleri alındı. Veriler hastanede sessiz ve yalnız olabilecekleri bir odada her bir anne ile 20 dakikalık yüz yüze görüşme yapılarak toplandı.

BULGULAR

Çalışmanın bu bölümünde, katılımcıların tanıtıcı özellikleri ile WHOQOL-BREF-TR ölçeği ve PUKİ ölçeği puan ortalamalarının her iki grupta karşılaştırılmasına ve annelerin WHOQOL-BREF-TR ölçeği puan ortalamalarının PUKİ puan ortalaması arasındaki ilişkiye yönelik bulgulara yer verilmiştir.

Tablo 1 incelendiğinde, annelerin yaş ortalamasının birbirine yakın olduğu, refakat eden annelerin eğitim düzeyinin daha düşük olduğu ve her iki grubun gelir düzeyinin birbirine benzer olduğu saptandı. Refakat eden ve etmeyen annelerin çoğunluğunun ev hanımı olduğu ve çekirdek aileye sahip olduğu tespit edildi. Refakat eden annelerin %41,3'ünün refakat izninde problem yaşadığı, refakat etmeyen annelerin ise %26,7'sinin refakat izninde problem yaşadığı, refakat eden ve etmeyen annelerin çoğunluğunun kronik hastalığının olmadığı belirlendi.

Tablo 2 incelendiğinde refakat eden annelerin toplam WHOQOL-BREF-TR puanı 85,93±14,71, refakat etmeyen annelerin toplam WHOQOL-BREF-TR puanı 98,19±8,64 olarak bulundu. Toplam yaşam kalitesi ölçeği puanı açısından iki grup karşılaştırıldığında istatistiksel olarak refakat etmeyen annelerin yaşam kalitesinin refakat eden annelerden daha iyi olduğu görüldü (p<0,001). Refakat eden ve etmeyen annelerin yaşam kalitesi ölçeği alt boyutlarına bakıldığında ise fiziksel sağlık (p<0,001), psikolojik sağlık (p<0,001) ve çevresel sağlık (p<0,001) alanlarında refakat eden annelerin aldığı puanları refakat etmeyen annelerden istatistiksel olarak anlamlı derecede düşük bulundu (p>0,05). Tablo 3 incelendiğinde, toplam PUKİ puanı refakat eden anneler için 8,93±3,50, refakat etmeyen anneler için ise 6,19±2,53 olarak bulundu. Toplam PUKİ puanı refakat eden annelerde daha yüksekti ve iki grup arasındaki fark istatistiksel olarak anlamlıydı (p<0,001). PUKİ ölçeği alt boyut puan ortalamalarına bakıldığında öznel uyku kalitesi (p=0,002), uyku latensi (p<0,001), uyku bozukluğu (p<0,001), uyku ilacı kullanımı (p<0,04300), gündüz işlev bozukluğu (p<0,001) açısından istatistiksel olarak anlamlı fark olup, refakat eden annelerde ortalama puanın daha yüksek olduğu ve uyku kalitesinin daha kötü olduğu belirlendi. Uyku süresi (p=0,555) ve alışılmış uyku etkinliği (p=0,366) açısından ise, gruplar arasındaki fark istatistiksel olarak anlamlı değildi (p>0,05).

Tablo 4 incelendiğinde, refakat eden annelerin WHOQOL-BREF-TR ölçeği toplam puan ortalaması; genel sağlık (r=-0,312), fiziksel sağlık (r=-0,354), psikolojik sağlık (-0,270) ve genel toplam puan (r=-0,341) ile PUKİ toplam puan ortalaması arasında negatif yönlü ve istatistiksel olarak anlamlı ilişki olduğu görüldü (p<0,05).

Refakat eden annelerin WHOQOL-BREF-TR ölçeği, sosyal ilişkiler ve çevresel sağlık alt boyutu puan ortalamaları ile PUKİ toplam puan ortalamaları arasındaki ilişkinin negatif yönlü olmakla birlikte istatistiksel olarak anlamlı olmadığı tespit edildi (p>0,05). Refakat eden annelerde, yaşam kalitesi ile uyku kalitesinin negatif yönde ilişkili olduğu ve yaşam kalitesi iyileştikçe uyku kalitesinin iyi olduğu görüldü.

Refakat etmeyen annelerde ise yaşam kalitesinin fiziksel sağlık alt boyutu ve sosyal sağlık alt boyutu ile uyku kalitesi arasında negatif yönlü bir ilişki olsa da, bu fark istatistiksel olarak anlamlı değildi (p<0,05).

Tablo 1. Refakat Eden ve Etmeyen Annelerin Tanıtıcı Özelliklerinin Karşılaştırılması						
Tanıtıcı özellikler		**Refakat eden anneler (n=75)**		**Refakat etmeyen anneler (n=75)**		
Yaş		**Ort. + SS**	**Min.-maks.**	**Ort. + SS**	**Min.-maks.**	**p-değeri**
		30,4+6,67	20-46	29,69+4,51	19-40	0,919
		n	**%**	**n**	**%**	
Eğitim durumu	Okur-yazar	4	5,3	0	0	0,018
	İlkokul	15	20,0	4	5,3	
	Ortaokul	14	18,7	18	24,0	
	Lise	27	36,0	37	49,3	
	Ön lisans	8	10,7	11	14,7	
	Lisans	7	9,3	5	6,7	
Sosyo-ekonomik durum	Gelir>gider	16	21,3	16	21,3	0,010
	Gelir=gider	46	61,3	57	76,0	
	Gelir<gider	13	17,3	2	2,7	
Meslek	Ev hanımı	51	68,0	59	78,7	0,12
	İşçi	8	10,7	5	6,7	
	Memur	9	12,0	10	13,3	
	Diğer	7	9,3	1	1,3	
Aile tipi	Çekirdek aile	50	66,7	63	84,0	
	Geniş aile	24	32	12	16	
	Parçalanmış aile	1	1,3	-		
İzin almada problem yaşama	Evet	31	41,3	20	26,7	0,058
	Hayır	44	58,7	55	73,3	
Kronik hastalık	Var	20	26,7	14	18,7	0,242
	Yok	55	73,3	61	81,3	

Ort: Ortalama, SS: Standart sapma, Min.-maks.: Minimum-maksimum

Tablo 2. Yaşam Kalitesi Ölçeği Puan Ortalamalarının Gruplara göre Karşılaştırılması					
WHOQOL-BREF-TR ölçeği ve alt boyutları	**Refakat eden anneler (n=75)**		**Refakat etmeyen anneler (n=75)**		
	X	**SS**	**X**	**SS**	**p-değeri**
Genel sağlık	6,8	1,58	7,81	1,182	<0,001
Fiziksel sağlık	22,28	4,62	25,79	5,12	<0,001
Psikolojik sağlık	19,64	6,46	21,57	2,57	<0,001
Sosyal ilişkiler	10,05	2,16	10,79	1,48	0,016
Çevresel sağlık	27,16	4,48	32,23	3,13	<0,001
Toplam WHOQOL-BREF-TR puanı	85,93	14,71	98,19	8,64	<0,001

Mann-Whitney U testi, p<0,001
WHOQOL-BREF-TR: Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği Kısa Formu'nun Türkçe Versiyonu, SS: Standart sapma

Tablo 3. Uyku Kalitesi Ölçeği Puan Ortalamalarının Gruplara göre Karşılaştırılması					
PUKİ ölçeği ve alt boyutları	**Refakat eden anneler (n=75)**		**Refakat etmeyen anneler (n=75)**		
	X	**SS**	**X**	**SS**	**p-değeri**
PUKİ öznel uyku kalitesi	2,05	1,10	1,51	0,86	0,002
PUKİ uyku latensi	1,15	0,95	0,40	0,70	<0,001
PUKİ uyku süresi	0,69	0,80	0,57	0,72	0,55500
PUKİ uyku bozukluğu	1,69	0,54	1,21	0,41	<0,001
PUKİ uyku ilacı kullanımı	2,24	0,90	2,04	0,71	0,04300
PUKİ gündüz işlev bozukluğu	0,88	1,06	0,29	0,59	0,00100
PUKİ alışılmış uyku etkinliği	0,23	0,58	0,16	0,55	0,36600
Toplam PUKİ puanı	8,93	3,50	6,19	2,53	<0,001

Mann-Whitney U testi, p<0,001
PUKİ: Pittsburgh Uyku Kalitesi İndeksi

Tablo 4. Yaşam Kalitesi Ölçeği Puan Ortalamalarının Uyku Kalitesi Ölçeği Puan Ortalaması ile Arasındaki İlişkinin Gruplara göre Karşılaştırması			
WHOQOL-BREF-TR ölçeği ve alt boyutları		**Refakat eden (n=75)**	**Refakat etmeyen (n=75)**
		PUKİ	**PUKİ**
Genel sağlık	r	-0,312	0,058
	p	0,006*	0,623
Fiziksel sağlık	r	-0,354	-0,031
	p	0,002*	0,791
Psikolojik sağlık	r	-0,270	0,165
	p	0,019*	0,156
Sosyal ilişkiler	r	-0,119	-0,008
	p	0,311	0,947
Çevresel sağlık	r	-0,210	0,185
	p	0,070	0,112
WHOQOL-BREF-TR toplam	r	-0,341	0,170
	p	0,003*	0,144

r: Spearman rho korelasyon analizi, p<0,001, *p<0,05
WHOQOL-BREF-TR: Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği Kısa Formu'nun Türkçe Versiyonu, PUKİ: Pittsburgh Uyku Kalitesi İndeksi

TARTIŞMA

Çocuğu hastanede yatmakta olup refakat eden ve etmeyen annelerin yaşam kaliteleri ile uyku kalitelerini her iki grupta karşılaştırmak ve yaşam kalitesi ile uyku kalitesi ilişkisini incelemek amacı ile yapılan çalışma sonuçları bu doğrultuda tartışılmıştır.

Çalışma gruplarındaki annelerin bireysel özelliklerinin benzer olması karşılaştırmalı çalışmalar için olumlu olarak değerlendirilmektedir. Bu sonuç çalışma gruplarının homojen olarak dağıldığını göstermektedir. Çalışmamızda, eğitim hariç diğer bireysel özelliklerin her iki grupta benzer olması çalışmanın güçlü bir yönüdür.

Hasta çocuğa sahip olmak, ona bakım veren ailesini olumsuz etkilemektedir. Hastanede yatarak tedavi alan çocukların yanında çoğunlukla refakatçi olarak kalan kişi annedir. Bu durum annelerin bazı sosyal sorunlar ve rahatsızlıklar yaşamasına sebep olabilmektedir [7]. Power ve Franck'ın [16] 2008'de hastanede yatan çocukların bakımına ebeveyn katılımına ilişkin yaptığı sistematik derlemede, annelerin yaşadığı kaygı, depresyon, belirsizlik gibi duyguların çocuğun bakımına etkin olarak katılmalarının önündeki en büyük engellerden biri olduğu vurgulanmaktadır. Aynı çalışmada yaşanan bu tür olumsuz durumların hastanede yatan çocuğu da olumsuz etkilediği belirtilmiştir. Tedavi altına alınan çocukların bakımını planlarken annenin durumu da göz önünde bulundurulmalıdır. Bu bağlamda hastanede yatırılan çocuğun annelerinin çok yönlü değerlendirilmesi gerekir [7].

Hasta olan bireye bakım veren kişiler, fiziksel ve mental olarak enerjik olmalıdır. Enerjinin büyük bir kısmı kaliteli bir uyku ile sağlanabilir. Yetersiz uyku, anneler için fiziksel ve psikolojik sorunlara neden olabilir ve çocuğa verilen bakımın kalitesini etkileyebilir [16,17]. Çalışmanın bulguları incelendiğinde toplam PUKİ puanı refakat eden anneler için 8,93±3,50, refakat etmeyen annelerinki ise

6,19±2,53 olarak bulunmuştur (p<0,001). Toplam uyku kalitesi puanı 5'ten büyük olması kötü uyku kalitesi anlamına gelmektedir. Refakat eden annelerin uyku kalitesinin etmeyenlere göre daha kötü olduğu görülmektedir. Hastane ortamının ve yaşanılan kötü deneyimlere tanık olmanın annelerin yaşam kalitesini olumsuz etkilediği söylenebilir. Hastanede refakat etmeyen anneler yaşanılan birçok kötü deneyime tanıklık yapmadıklarından uyku kaliteleri daha az etkilenmiş olabilir.

Yapılan birçok çalışmada benzer sonuçlara ulaşılmıştır [9,18,19]. Uzelli Yılmaz ve Sarı'nın [18] 2017 yılında kronik hastalığa sahip hastalara bakım veren aile üyelerinin uyku kalitesi ve yorgunluk düzeyleri arasındaki ilişkiyi incelediği çalışmasında, bakım verenlerin uyku kalitesinin daha kötü olduğu belirtilmiştir. Ucar ve ark.'nın [9] 2022 yılında yaptığı "Kanserli Çocukların Annelerinde Uyku Kalitesi, Anksiyete ve Depresyon Düzeylerinin Değerlendirilmesi" adlı çalışmasında uyku kalitesinin normal sağlıklı çocuğa sahip annelere göre daha kötü olduğu bildirilmiştir.

Pediatri servisinde kalan anne ve babalarda uyku kalitesini ve ruh halini araştıran bazı çalışmaların incelendiği derlemede refakatçi olarak kalan ebeveynlerin hastane öncesi döneme göre uyku kalitelerinin daha kötü olduğu sonucuna varılmıştır [19]. Araştırma sonuçlarımız bu sonuçlarla benzerlik göstermektedir.

DSÖ yaşam kalitesini, bireylerin amaçları, beklentileri, yaşam standartları ve endişeleri bakımından hayattaki konumları olarak tanımlamıştır. İnsanın bedensel sağlığını, ruhsal sağlığını, bağımsızlık seviyesini, sosyal ilişkilerini, inançlarını ve çevresi ile olan ilişkisini de kapsayan geniş bir kavram olduğunu belirtmiştir [20]. Ayrıca DSÖ'nün ruhsal sorunların önlenmesi konulu 2004 yılında yayınladığı rapora göre "kaygı duyulacak yaşamsal olayları", fiziksel rahatsızlıkları, aile düzenini ve ruh sağlığını etkileyen risk faktörleri olarak belirlemiştir [21].

Mevcut çalışmada, refakat eden annelerin toplam WHOQOL-BREF-TR puanı 85,93±14,71, refakat etmeyen annelerin toplam WHOQOL-BREF-TR puanı 98,19±8,64 olarak bulunmuştur (p<0,001). Çalışmaya göre refakat eden annelerin yaşam kalitesinin toplam puanı refakat etmeyen annelere göre daha düşüktür.

Literatür incelendiğinde annelerin çocuklarının sağlığını etkileyen olumsuz durumlardaki yaşam kalitesini ölçen pek çok çalışma mevcuttur. Sevinç ve ark. [22]'nın çalışmasında çocuğu çölyak hastası olan annelerin yaşam kalitesi ve depresyon düzeylerine etkisini araştırdığı çalışmada, hasta olan çocukların annelerinde kontrol grubundaki çocukların annelerine göre yaşam kalitesi puanlarının daha düşük olduğu bildirmiştir (p<0,005). Bu çalışma sonuçları araştırma sonuçlarımızı destekler niteliktedir.

Çabuk'un [23] 2017 yılında çocuk yoğun bakım ve çocuk servisinde refakatçi olarak kalan anneler üzerinde yaptığı çalışmada, çocuk yoğun bakımdaki refakatçi annelerin yaşam kalitesi düzeyleri servisteki refakatçi annelerininki ile karşılaştırıldığında çocuk yoğun bakımda kalan annelerin yaşam kalitesinin daha düşük olduğunu bildirmiştir. Yamada ve ark.'nın [13] yürüttüğü çalışmada, yaygın gelişimsel bozukluğu olan toplam 158 çocuğun ebeveynin yaşam kalitesini değerlendirmesinde, annelerin fiziksel sağlık, sosyal işlevsellik, genel sağlık algıları, canlılık, duygusal ve ruh sağlığı alanlarında genel kadın nüfusuna göre anlamlı derecede daha düşük puanlara sahip olduğu belirtilmiştir.

Ailenin vazgeçilemez parçası olan çocuğun akut olarak hastalanması, kronik bir rahatsızlığının olması, gelişimsel bir engelinin olması, otizmli olması ya da nadir görülen bir rahatsızlığının olması primer olarak bakım verici olan annelerin yaşam kalitesini etkilemektedir [23,24]. Bununla birlikte azalmış uyku kalitesi, artan anksiyete, stres düzeyi, annelerin depresyon yaşamasına neden olup yaşam kalitesini negatif yönde etkilemektedir. Literatür incelendiğinde çalışmamızı destekler nitelikte çok fazla çalışma bulunmaktadır. Ancak bulunan çalışmalarda özellikli bir hastalığa sahip olan çocukların anneleri incelenmiş olup bizim çalışmamızda çocuğun tanısından bağımsız olarak annelerin refakatçi olup olmama durumu değerlendirilmiştir [23-31].

Çalışmamızda değerlendirilen parametreler literatürde farklı ölçeklerle kıyaslanmış olup sonuçlarımız ile benzerlik göstermektedir. Binay Safer'in [32] 2017 yılında yaptığı çalışmada serebral palsili çocukların annelerinde depresyon ve uyku kalitesi arasında anlamlı bir kolerasyon olduğu bulmuştur. Baysan Kul' un [33] yaptığı başka bir çalışmada PUKİ skoru ile Kısa Form-36'ya ait 8 alt parametre arasındaki ilişki değerlendirildiğinde ruhsal sağlık ile orta güçte, diğer parametrelerle zayıf güçte, negatif ve istatistiksel olarak anlamlı korelasyon saptanmıştır (p<0,05). Uyku bozukluğunun, yaşam kalitesinin tüm boyutlarını olumsuz yönde etkilediği bildirilmiştir. Tüm bu sonuçlar çalışmamız ile benzerlik göstermektedir.

Hastane ortamının gergin olması, fiziksel koşulların refakat eden anneler için kötü olması, olumsuz olaylara tanıklık yapmak, hasta çocuğuna uygulanan birçok girişimi görmek annelerin uyku kalitesini olumsuz etkileyebilir. Uyku kalitesi kötüleştikçe annelerin yaşam kalitesi de olumsuz etkilenmektedir. Dolayısıyla refakat eden annelerin kötü uyku kalitesi, buna paralel olarak yaşam kalitelerinin de olumsuz etkilenmesine neden olmuş olabilir.

Çalışmanın Kısıtlılıkları

İstanbul'daki tek hastanede çocuğu yatan (refakat eden ve etmeyen) annelerin dahil edilmesi nedeniyle sonuçlar tüm annelere genellenemez. Özel hastanedeki refakatçilerin koşullarının farklı olması nedeniyle çalışmaya özel hastane ve üniversite hastanelerinin de dahil edilmesi sonuçları etkileyebilir. Ayrıca, çocukların tanılarının annelerin yaşam kalitesi ve uyku kalitesi üzerinde etkili olmuş olması bu çalışmanın eksikliği olarak kabul edilmiştir.

SONUÇ VE ÖNERİLER

Refakat eden annelerin yaşam kalitesinin ve uyku kalitesinin refakat etmeyen annelere göre daha kötü olduğu, yaşam kalitesi ile uyku kalitesinin ilişkili olduğu ve yaşam kalitesi kötüleşince uyku kalitesinin de kötüleştiği sonucuna varıldı.

Bu sonuçlar doğrultusunda; sağlık bakım profesyonelleri, hastanede yatan çocuğun bakımını bütüncül bakış açısı ile

planlamalı ve annenin durumunu da göz önünde bulundurmalıdır. Sağlık bakım profesyonellerine hizmet için eğitim verilerek anneler için stres yaratan, anksiyetesinin artmasına neden olan, uykusunu ve yaşam kalitesini etkileyen faktörler belirlenmeli ve gerekli önlemler alınmalıdır. Bu doğrultuda annenin destek sistemleri gözden geçirilmeli, temel ihtiyaçlarını (dinlenme, uyku, temizlik vb.) karşılayacak düzenlemeler yapılmalıdır. Yapılacak yeni çalışmalar ile refakat eden annelerin uyku ve yaşam kalitelerini etkileyen faktörler belirlenmeli. Hastanede çocuğuna refakat eden anneler için daha konforlu alanlar planlanmalıdır.

Etik

Etik Kurul Onayı: İstanbul'da bulunan Sağlık Bilimleri Üniversitesi Hamidiye Girişimsel Olmayan Araştırmalar Etik Kurulu'ndan etik kurul onayı alındı (karar no.: 18/102, tarih: 28.12.2018). Çalışmanın yapıldığı hastaneden kurum izni alındı.

Hasta Onamı: Çalışmayı kabul eden annelere araştırmanın amacı anlatıldıktan sonra yazılı izinleri alındı.

Dipnot

Yazarlık Katkıları

Konsept: BB, BÖ; Dizayn: BB, BÖ; Veri Toplama veya İşleme: BB; Analiz veya Yorumlama: BB, BÖ; Literatür Arama: BB, BÖ; Yazan: BB, BÖ.

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Özgün Araştırma / Research Article

Genel Anestezi Uygulanan Hastalarda Ameliyata Özgü Kaygının Modifiye Aldrete Skoru Üzerine Etkisi

Effect of Anxiety Specific to Surgery on Modified Aldrete Score in Patients Undergoing General Anesthesia

Hilal Kartal Günen[1], Burçin Emeksiz[2]

[1]Sağlık Bakanlığı, Acil Sağlık Hizmetleri, İstanbul, Türkiye
[2]Maltepe Devlet Hastanesi, İstanbul, Türkiye

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ÖZ

Amaç: Bu araştırmada, genel anestezi uygulanan hastalarda ameliyata özgü kaygının Modifiye Aldrete Skoru (MAS) üzerine etkisinin incelenmesi amaçlandı.

Yöntem: Tanımlayıcı türdeki bu araştırmanın örneklemini Maltepe Devlet Hastanesi'nde Mart 2022 ve Ağustos 2022 tarihleri arasında elektif cerrahi planlanan ve genel anestezi uygulanan 111 hasta oluşturdu. Araştırmaya; Genel Cerrahi, Ortopedi ve Kulak Burun Boğaz klinikleri dahil edildi. Veriler araştırmacılar ve literatür doğrultusunda geliştirilen Hasta Tanılama Formu ile Ameliyata Özgü Kaygı Ölçeği (AÖKÖ) ve MAS sistemi kullanılarak elde edildi. Araştırmada elde edilen veriler için frekans ve yüzde analizinden, ölçeğin incelenmesinde ortalama ve standart sapma istatistiklerinden faydalanıldı.

Bulgular: Araştırmaya katılan hastaların yaş ortalaması 37,08±12,58 yıldı. AÖKÖ puan ortalaması 31,82±7,29; MAS puan ortalaması 0., 15. ve 30. dakikalarda sırasıyla 5,79±1,56; 7,13±1,21 ve 8,43±1,04 olarak tespit edildi. AÖKÖ ile MAS arasındaki regresyon analizi anlamlı bulundu. Eğitim düzeyi ile MAS arasındaki fark istatistiksel olarak anlamlı iken (p<0,05), AÖKÖ ile eğitim düzeyi arasında anlamlı bir ilişki saptanmadı (p>0,05).

Sonuç: Genel anestezi uygulanan hastalarda yüksek kaygı düzeyi, MAS puanını olumsuz etkilemektedir. Hastaların derlenme ünitesinden servise transferi için MAS puanının yüksek olması beklenmektedir. Bu nedenle, ameliyat öncesi dönemde hastaların kaygı düzeylerinin kontrol edilmesi, bilişsel ihtiyaçlarına ve bireysel özelliklerine uygun gerekli önlemlerin alınması önerilmektedir.

Anahtar kelimeler: Anestezi, derlenme ünitesi, kaygı, MAS

ABSTRACT

Objective: In this study, it was aimed to examine the effect of anxiety specific to surgery on the Modified Aldrete Score (MAS) in patients undergoing general anesthesia.

Methods: The sample of this descriptive study consisted of 111 patients who were scheduled for elective surgery and underwent general anesthesia between March 2022 and August 2022 in a Maltepe Public Hospital. For research; General Surgery, Orthopedics and Otorhinolaryngology clinics were included. The data were obtained using the Patient Diagnosis Form, the Anxiety Specific to Surgery Questionnaire (ASSQ) and the MAS system, which were developed in line with the researchers and the literature. Frequency and percentage analysis were used for the data obtained in the study, and mean and standard deviation statistics were used in the analysis of the scale.

Results: The mean age of the patients participating in the study was 37.08±12.58. The mean ASSQ score was 31.82±7.29. The mean MAS scores at 0, 15, and 30 minutes were 5.79±1.56, 7.13±1.21, and 8.43±1.04, respectively. The regression analysis between ASSQ and MAS was significant. While the difference between education level and MAS was statistically significant (p<0.05), there was no significant relationship between ASSQ and education level (p>0.05).

ORCID IDs: HKG. 0000-0002-2432-8620; BE.0009-0004-4083-703X

Sorumlu Yazar/Corresponding Author: Hilal Kartal Günen
E-posta: kartal_hilal@yahoo.com

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Conclusion: High level of anxiety affects the MAS score negatively in patients undergoing general anesthesia. A high MAS score is expected for the transfer of patients from the recovery unit to the service. For this reason, it is recommended to control the anxiety levels of the patients in the preoperative period and to take necessary precautions in line with their cognitive needs and individual characteristics.

Keywords: Anesthesia, recovery unit, anxiety, MAS

GİRİŞ

Ameliyata özgü kaygı nedenleri arasında anestezi türünün önemli bir yer tuttuğu bilinmektedir. Yapılan çalışmalarda anestezi korkusunun temelinde genel anestezi olduğu ve bunun "ameliyat sonrası uyanamamak, ameliyat sırasında uyanmak ya da ölmek" gibi nedenlere dayandığı bildirilmektedir [1,2].

Anestezi öncesi ameliyata özgü kaygı cerrahiyi, anesteziyi ve ameliyat sonrası iyileşmeyi olumsuz etkileyebilmektedir [3]. Jawaid ve ark. [4] yaptığı çalışmada, cerrahi öncesi anksiyete yaşayan bireylerde entübasyon sırasında aşırı sempatik aktivite izlendiği ve anestezi indüksiyonu sırasında daha yüksek doz anestezik ilaç kullanıldığı belirlenmiştir. Aynı çalışmada; ameliyat sonrası bulantı-kusma sıklığında artış, yara iyileşmesinde gecikme, analjezik ihtiyacında artma ve hastanede kalış süresinde uzama tespit edilmiştir [4]. Bir diğer çalışmada; ameliyat sonrası derlenme odasına alınan hastalarda anksiyeteye bağlı olarak birçok sistemi içeren bazı fizyolojik değişikliklerin meydana geldiği, sık karşılaşılan ve önemli sonuçları olan bu değişikliklerin hastaları hemodinamik açıdan etkilediği bunun sonucunda da derlenmede gecikmenin görüldüğü bildirilmiştir [5]. Yuzkat ve ark. [6]'nın yaptığı çalışmada ise anksiyetenin dolaşım sistemi üzerine olumsuz etkileri saptanmış ve komplikasyonlara neden olabilecek faktörler arasında da yetersiz preoperatif hazırlık, hastaların psikolojik ve emosyonel durumları olduğu tespit edilmiştir.

Anestezi sonrası erken dönemde hemodinamik stabilitenin sağlanması fizyolojik düzelmenin ilk adımı olarak kabul edilmektedir. Bu amaçla hastaların ameliyat sonrası fizyolojik açıdan takibini kolaylaştırmak amacıyla kullanılan birçok skorlama sistemi bulunmaktadır [7]. Bu sistemlerden biri olan Modifiye Aldrete Skoru (MAS) derlenme odasında bulunan hastaların kliniğe transferi açısından uygunluğunun belirlenmesinde kullanılmaktadır. MAS derlenme odasına alınan hastalarda aktivite, solunum, dolaşım, bilinç ve oksijen satürasyonu parametreleri hakkında bilgi vermektedir. Bu skora göre 9 puana ulaşan hastalar derlenme odasından servise transfer edilmektedir [8]. MAS'ın önemini belirten bir çalışmada MAS kullanılmadan servise transfer edilen bir hastada transferden 30 dakika sonra kardiyak arrest geliştiği rapor edilmiştir [9].

Sonuç olarak; anestezi sonrası komplikasyonların meydana gelmesinde pek çok faktör rol oynayabilir. Hastaların ameliyat öncesi yaşadıkları kaygı da bu faktörlerden biri olarak kabul edilmektedir. MAS, majör komplikasyonların önlenmesinde kullanılan önemli bir skorlama sistemidir. Bu çalışmada derleme odasına alınan hastalarda ameliyata özgü kaygının MAS üzerindeki etkisinin incelenmesi hedeflenmiştir.

GEREÇ VE YÖNTEM

Araştırma, Mart-Ağustos 2022 tarihinde Maltepe Devlet Hastanesi'nin Ortopedi, Genel Cerrahi ve Kulak Burun Boğaz kliniklerinde yatan elektif cerrahi planlanan ve genel anestezi uygulanan hastaların katılımıyla tanımlayıcı türde gerçekleştirildi. Araştırmanın örneklemine; araştırmaya katılmaya gönüllü, bilinci açık, 18 yaş ve üzerinde, iletişim kurabilen, geçmişte ya da günümüzde psikiyatrik hastalık tanısı ile psikotrop ilaç kullanım öyküsü olmayan 111 hasta dahil edildi.

Veri Toplama Aracı

Veriler, Hasta Tanılama Formu ve Ameliyata Özgü Kaygı Ölçeği (AÖKÖ) kullanılarak elde edildi. Derlenme odasına alınan hastalara ait verilerinin toplanmasında ise MAS sisteminden yararlanıldı.

Hasta Tanılama Formu: İlgili literatür doğrultusunda hazırlanan bu formda; sosyo-demografik özellikleri, hastaların cerrahi deneyim öyküsü ile ameliyat süreci hakkında bilgi sahibi olma durumunu değerlendiren toplam 8 adet soru yer almaktadır [10].

Ameliyata Özgü Kaygı Ölçeği (AÖKÖ): Karanci ve Dirik [11] tarafından 5'li Likert tipte ve Türkçe olarak geliştirilmiştir. Ölçekte hastaların cerrahi sürece bağlı yaşayabilecekleri endişeleri içeren 10 ifade yer almaktadır. Ölçekten alınabilecek en yüksek puan 50'dir. Alınan puan artıkça kaygı düzeyi de artmaktadır. Ölçeğin Cronbach alfa katsayısı 0,79'dur. Bu çalışmada ise Cronbach alfa katsayısı 0,85 olarak bulunmuştur.

Modifiye Aldrete Skoru (MAS): MAS sistemi, derlenme odasında bulunan hastaların kliniğe transferi açısından uygunluğunun belirlenmesinde kullanılmaktadır. Bu skorlama sistemi derlenme odasına alınan hastalarda aktivite, solunum, dolaşım, bilinç ve oksijen satürasyon parametreleri hakkında bilgi vermektedir. Bu skora göre hastalar 0-10 arası puan alabilmektedir. Derlenme odasında MAS sistemine göre 9 puana ulaşan hastalar servise transfer edilebilmektedir [12].

Verilerin Toplanması

Veriler, ilgili ölçek ve form kullanılarak genel anestezi uygulanacak hastaların ameliyathaneye kabulü ile toplandı. Verilerin toplanmasında yüz yüze görüşme tekniği kullanıldı. Ameliyattan sonra derleme odasına alınan hastaların aktivite, solunum, dolaşım, bilinç ve oksijen satürasyon parametreleri ise MAS kullanılarak değerlendirildi. Değerlendirme; 0., 15. ve 30. dakikalarda toplam 3 kez yapıldı.

Verilerin Analizi

Veriler, SPSS 22.0 paket programında, tanımlayıcı istatistiksel metotlar, Tek Yönlü Varyans Analizi, t-testi, post-hoc (Tukey, LSD) analizi, Pearson korelasyon ve Lineer regresyon analizi kullanılarak değerlendirildi.

Etik Kurul Onayı

Bu araştırma için Kartal Koşu Yolu Yüksek İhtisas Eğitim ve Araştırma Hastanesi'nin Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu'ndan onay alındı (karar no.: 2022/8/586, tarih: 19.04.2022). Araştırmada kullanılan ölçek için ilgili yazarlardan ölçek kullanım izni ve tüm katılımcılardan yazılı ve sözlü bilgilendirilmiş onam alındı.

BULGULAR

Araştırmaya dahil edilen hastaların tanımlayıcı özellikleri incelendiğinde; yaş ortalaması 37,08+12,58 yıldı. Hastaların %51,4'ünün kadın, %64'ünün evli ve %45,9'unun lise mezunu olduğu belirlendi. Cerrahi birimlere (genel cerrahi, ortopedi ve kulak burun boğaz kliniği) göre hastaların dağılımları eşit bulundu (n=37; %33,3). Hastaların %68,5'inde cerrahi deneyim ve kronik hastalık öyküsü olmadığı tespit edildi. Ameliyat süreci hakkında bilgi sahibi olanların oranı ise %52,3 olarak belirlendi (Tablo 1).

Tablo 1. Hastaların Tanımlayıcı Özellikleri

Değişken	Frekans (n)	Yüzde (%)
Yaş (Ort. + SS) 37,080±12,581		
Cinsiyet		
Kadın	57	51,4
Erkek	54	48,6
Medeni durum		
Bekar	40	36,0
Evli	71	64,0
Eğitim düzeyi		
Okur yazar	14	12,6
İlköğretim	14	12,6
Lise	51	45,9
Üniversite	32	28,8
Cerrahi birim		
Genel cerrahi kliniği	37	33,3
Ortopedi kliniği	37	33,3
Kulak, burun, boğaz	37	33,3
Cerrahi deneyim öyküsü		
Evet	35	31,5
Hayır	76	68,5
Kronik hastalık öyküsü		
Evet	35	31,5
Hayır	76	68,5
Ameliyat süreci hakkında bilgi sahibi olma durumu		
Evet	58	52,3
Hayır	53	47,7

Hastaların ameliyata özgü kaygı düzeyi ortalaması 31,82±7,29; MAS ortalaması ise 0, 15 ve 30. dakikalarda sırasıyla 5,79±1,56, 7,13±1,21 ve 8,43±1,04 olarak saptandı (Tablo 2).

Ameliyata özgü kaygı düzeyi ile MAS arasında korelasyon analizleri incelendiğinde; MAS'ın 0., 15. ve 30. dakikaları ile ameliyata özgü kaygı puanları arasında (sırasıyla; r=-0,762; p=0,000<0,05, r=-0,743; p=0,000<0,05, r=-0,746; p=0,000<0,05) negatif yüksek düzeyde korelasyon bulundu (Tablo 3).

Ameliyata özgü kaygı düzeyi ile MAS arasındaki regresyon analizi incelendiğinde; MAS'ın 0., 15. ve 30. dakikaları arasındaki sebep-sonuç ilişkisinin belirlenmesi amacıyla yapılan regresyon analizi anlamlı bulundu (sırasıyla; F=150,630; p=0,000<0,05, F=134,180; p=0,000<0,05; F=136,979; p=0,000<0,05). Ameliyata özgü kaygının MAS'ı 0., 15. ve 30. dakikalarda azalttığı belirlendi (sırasıyla; ß=-0,163; ß=-0,123; ß=-0,106) (Tablo 4).

MAS ile tanımlayıcı özellikler karşılaştırıldığında hastaların derlenme ünitesine alındıktan 15 dakika sonra MAS'dan elde edilen puanın yaş faktörüne göre anlamlı farklılık gösterdiği belirlendi (F=2,740; p=0,047<0,05; η^2=0,071) (Tablo 5).

Hastaların ameliyata özgü kaygı puanları ile MAS'ın 0., 15. ve 30. dakikasında elde edilen puanlar, cinsiyet ve medeni durum ile karşılaştırıldığında farkın istatistiksel açıdan anlamlı olmadığı tespit edildi (p>0,05) (Tablo 5).

Hastaların MAS'ın 0., 15. ve 30. dakikasındaki puanları ile eğitim düzeyi arasındaki farkın anlamlı olduğu saptandı (sırasıyla; F=5,509; p=0,001<0,05; η^2=0,134; F=5,591; p=0,001<0,05; η^2=0,136; F=4,176; p=0,008<0,05; η^2=0,105) (Tablo 5). Ancak hastaların eğitim düzeyleri ile ameliyata özgü kaygı puanları arasında istatistiksel olarak anlamlı bir farklılık bulunmadı (p>0,05).

Ameliyata özgü kaygı puanları ile MAS'ın 0., 15. ve 30. dakikasında elde edilen puanların cerrahi birimlere göre anlamlı farklılık göstermediği tespit edildi (p>0,05). Hastaların cerrahi deneyim öyküleri de ameliyata özgü kaygı ve MAS puanları arasında anlamlı bir farklılık oluşturmadı (p>0,05) (Tablo 5).

Kronik hastalık öyküsü bulunan hastaların MAS'ın 15. dakikasında aldıkları puanın (x=6,714), kronik hastalığı olmayanlardan (x=7,329) daha düşük olduğu belirlendi (t=-2,549; p=0,012<0,05; d=0,521; η^2=0,056) (p<0,05) (Tablo 5).

Ameliyat süreci hakkında bilgi sahibi olanların ameliyata özgü kaygı puanları (x=30,466), bilgi sahibi olmayanların puanlarından (x=33,321) düşük bulundu (t=-2,090; p=0,039<0,05; d=0,397; η^2=0,039) (Tablo 5). Ameliyat süreci hakkında bilgi sahibi olanların MAS'ın 15. ve 30. dakikalarında aldıkları puanların ise (sırasıyla; x=7,379; x=8,655), bilgi sahibi olmayanların puanlarından (sırasıyla; x=6,868; x=8,189) yüksek olduğu belirlendi (sırasıyla; t=2,266; p=0,025<0,05; d=0,431; η^2=0,045; t=2,409; p=0,018<0,05; d=0,458; η^2=0,051).

Tablo 2. Ameliyata Özgü Kaygı Düzeyi ve Modifiye Aldrete Skoru Ortalaması								
	N	**Ort.**	**SS**	**Min.**	**Maks.**	**Kurtosis**	**Skewness**	**Alpha**
Ameliyata özgü kaygı	111	31,829	7,299	15,000	43,000	-1,316	-0,502	0,852
Modifiye Aldrete 0.dk	111	5,793	1,562	4,000	9,000	-1,134	0,410	0,734
Modifiye Aldrete 15.dk	111	7,135	1,210	5,000	10,000	-0,341	0,363	0,786
Modifiye Aldrete 30.dk	111	8,432	1,041	6,000	10,000	-0,590	-0,014	0,791
Ort.: Ortalama, SS: Standart sapma, Min.: Minimum, Maks.: Maksimum								

Tablo 3. Ameliyata Özgü Kaygı Düzeyi ve Modifiye Aldrete Skoru Arasındaki Korelasyon Analizi		
		Ameliyata özgü kaygı
Modifiye Aldrete skoru 0.dk	r	-0,762**
	p	0,000*
Modifiye Aldrete skoru 15.dk	r	-0,743**
	p	0,000*
Modifiye Aldrete skoru 30.dk	r	-0,746**
	p	0,000*
*p<0,05; **p<0,01 Pearson korelasyon analizi		

TARTIŞMA

Ameliyata özgü kaygı perioperatif süreci olumsuz yönde etkilemektedir. Kaygının derlenme ünitesine alınan hastalarda MAS üzerine olan etkisinin araştırıldığı bu çalışmada, ameliyata özgü kaygı puanındaki artışın MAS puanını düşürdüğü görülmüştür. Ancak ameliyata özgü kaygının MAS üzerine etkisini inceleyen başka bir çalışma bulunmamaktadır. Bu nedenle bu bölümde hastaların ameliyata özgü kaygı düzeyinin tanımlayıcı özellikler ve MAS üzerine etkileri ile bazı tanımlayıcı özelliklerin MAS'ı etkileme durumu tartışılacaktır.

Bu araştırmada AÖKÖ'den alınan puanların yaş faktörüne göre dağılımı incelendiğinde, en yüksek puanın (32,900+7,786) 50 yaş ve üzeri hastalarda olduğu belirlendi (Tablo 5). Yaş ile ameliyat öncesi kaygı düzeyi arasındaki ilişkiyle ilgili literatür incelendiğinde; bazı araştırmalarda yaşın cerrahi öncesi kaygı düzeyini etkilemediği görüldü. Konuyla ilgili olarak Calvin ve Lane [13] çalışmasında yaş grupları arasında anlamlı bir farklılık bulunmazken, Shevde ve Panagopoulos [14] çalışmasında ise cerrahi öncesi kaygının yaşlılarda daha düşük olduğu tespit edildi. Bu çalışmada da yaş ile AÖKÖ puanı karşılaştırıldığında anlamlı bir farklılığın bulunmadığı tespit edildi (p>0,05) (Tablo 5). Bu durum ameliyatın her yaş dönemi için tehdit edici bir durum olarak algılandığını ve kaygı kaynağı olduğunu düşündürmektedir.

Bu araştırmada yaş faktörü ile MAS arasındaki ilişki incelendiğinde; derlenmenin 15. dakikasındaki MAS puanının yaşa göre anlamlı düzeyde farklılık gösterdiği belirlendi (p<0,05). Elli yaş ve üzeri hastaların MAS puanının diğer yaş gruplarına oranla daha düşük olduğu tespit edildi (Tablo 5). Derlenme kalitesinin değerlendirildiği bir çalışmada ise 43 yaş ve altı hastaların derlenme kalitelerinin daha yüksek olduğu bulunmuştur [10]. Elde ettiğimiz bulgu Yılmaz ve Aydın [10] yaptığı çalışmanın bulgusu ile paralellik göstermektedir.

Literatür sosyo-demografik faktörlerin kaygı üzerinde etkili olabileceğini bildirmektedir. Ancak bu çalışmada cinsiyet faktörü ile AÖKÖ puanı arasındaki ilişki incelendiğinde farkın anlamlı olmadığı görüldü (p>0,05). Aykent ve ark. [15] ile Turhan [16] tarafından elektif cerrahi uygulanacak hastalar üzerinde yapılan araştırmalarda, kadınların kaygı düzeyinin erkeklere göre daha yüksek olduğu bildirilmiştir. Bu araştırmada elde edilen bulgunun diğer çalışmaların sonuçlarından farklı olması; günümüzde kadın ve erkeklerin benzer sorumlulukları üstlenmesinden, kadın ve erkekler arasındaki rol dağılımlarının farklılaşmasından kaynaklanmış olabileceğini düşündürmektedir.

Literatürde medeni durumun kaygı düzeyini etkileyebileceği ve bekarların yetersiz destek faktörleri nedeniyle evli olanlara oranla daha fazla kaygı yaşayabileceği bildirilmektedir. Bu araştırmada AÖKÖ puanı ile medeni faktör arasındaki ilişki incelendiğinde; evli ve bekarlar arasında anlamlı bir farklılık bulunmadı (p>0,05). Gökgündüz [17] ile Demir ve ark.'nın [18] araştırma sonuçlarının, çalışmamızda elde ettiğimiz bulgularla benzerlik gösterdiği belirlendi.

Literatürde eğitim düzeyinin bireylerin araştırma, sorgulama, bilinçli karar verebilme ve etkin baş etme mekanizmaları geliştirme üzerinde etkili olduğu bildirilmektedir [19,20]. Bu araştırmada eğitim düzeyi ile AÖKÖ puanı karşılaştırıldığında farkın anlamlı olmadığı belirlendi (p>0,05). Ancak puan dağılımı değerlendirildiğinde eğitim düzeyi arttıkça AÖKÖ puanının azaldığı görüldü (Tablo 5). Benzer çalışmalar incelendiğinde; bazı araştırmalardan elde edilen bulguların araştırma sonucumuz ile paralellik gösterdiği [10,16] belirlenirken, yüksek eğitim düzeyine sahip olan hastalarda kaygı düzeyinin diğer gruplara oranla daha yüksek olduğu sonucuna ulaşılan çalışmalara da rastlandı [15,18,21].

Bu araştırma eğitim düzeyi ile derlenmenin 0., 15. ve 30. dakikasındaki MAS puanı arasındaki farkın ise istatistiksel açıdan anlamlı olduğu görüldü (p<0,05). Eğitim düzeyi arttıkça MAS puanında artış olduğu tespit edildi (Tablo 5). Konuyla ilgili olarak Yılmaz ve Aydın [10] anksiyete ve derlenme kalitesi üzerine yapmış oldukları çalışmada eğitim düzeyi ile derlenme kalitesi arasında istatistiksel olarak anlamlı bir farklılığın bulunmadığını bildirmiştir. Bu araştırmadan elde edilen sonuçlar, literatürde bildirilen araştırma bulgularıyla benzer özellik göstermemektedir.

Tablo 4. Ameliyata Özgü Kaygı Düzeyi ve Modifiye Aldrete Skoru Üzerine Etkisi							
Bağımlı değişken	**Bağımsız değişken**	**ß**	**t**	**p**	**F**	**Model (p)**	**R^2**
Modifiye Aldrete skoru 0.dk	Sabit	10,980	25,328	0,000	150,630	0,000	0,576
	Ameliyata özgü kaygı	-0,163	-12,273	0,000			
Modifiye Aldrete skoru 15.dk	Sabit	11,054	31,856	0,000	134,180	0,000	0,548
	Ameliyata özgü kaygı	-0,123	-11,584	0,000			
Modifiye Aldrete skoru 30.dk	Sabit	11,821	39,807	0,000	136,979	0,000	0,553
	Ameliyata özgü kaygı	-0,106	-11,704	0,000			
Lineer regresyon analizi							

Tablo 5. Ameliyata Özgü Kaygı Düzeyi ile Modifiye Aldrete Skorunun Tanımlayıcı Özelliklere göre Farklılaşma Durumu					
Demografik özellikler	**n**	**Ameliyata özgü kaygı**	**Modifiye Aldrete 0. dk**	**Modifiye Aldrete 15. dk**	**Modifiye Aldrete 30. dk**
Yaş		**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**
≤30	39	32,692±7,263	5,846±1,663	7,308±1,173	8,564±1,071
31-40	37	31,297±6,802	6,027±1,500	7,270±1,170	8,541±0,931
41-50	15	29,467±7,981	6,000±1,558	7,267±0,961	8,467±1,060
≥50	20	32,900±7,786	5,100±1,373	6,450±1,356	7,950±1,099
F=		0,913	1,726	2,740	1,817
p=		0,438	0,166	0,047	0,148
Post-hoc=				1>4, 2>4, 3>4 (p<0,05)	
Cinsiyet		**Ort. ±.SS**	**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**
Kadın	57	31,772±7,734	5,965±1,581	7,281±1,161	8,491±1,020
Erkek	54	31,889±6,881	5,611±1,535	6,982±1,251	8,370±1,069
t=		-0,084	1,195	1,307	0,610
p=		0,933	0,235	0,194	0,543
Medeni durum		**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**
Bekar	40	31,325±7,325	6,050±1,679	7,275±1,261	8,550±1,154
Evli	71	32,113±7,320	5,648±1,484	7,056±1,182	8,366±0,975
t=		-0,544	1,307	0,914	0,892
p=		0,587	0,194	0,363	0,374
Eğitim düzeyi		**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**
Okur yazar	14	35,786±5,563	4,714±0,914	6,143±1,027	7,643±1,008
İlköğretim	14	33,786±6,897	4,929±1,072	6,714±0,914	8,214±0,802
Lise	51	31,059±7,698	6,078±1,611	7,294±1,270	8,529±1,102
Üniversite	32	30,469±6,988	6,188±1,575	7,500±1,047	8,719±0,888
F=		2,350	5,509	5,591	4,176
p=		0,077	0,001	0,001	0,008
Post-hoc=			3>1, 4>1, 3>2, 4>2 (p<0,05)	3>1, 4>1, 4>2 (p<0,05)	3>1, 4>1 (p<0,05)
Cerrahi birim		**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**	**Ort ± SS**
Genel cerrahi	37	30,973±7,022	5,865±1,735	7,243±1,234	8,405±1,066
Ortopedi	37	31,324±8,083	5,622±1,361	6,973±1,142	8,297±0,968
Kulak, burun, boğaz	37	33,189±6,724	5,892±1,595	7,189±1,266	8,595±1,092
F=		0,985	0,332	0,513	0,770
p=		0,377	0,718	0,600	0,466
Cerrahi deneyim öyküsü		**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**

Tablo 5. Devamı					
Demografik özellikler	**n**	**Ameliyata özgü kaygı**	**Modifiye Aldrete 0. dk**	**Modifiye Aldrete 15. dk**	**Modifiye Aldrete 30. dk**
Evet	35	31,171±7,438	5,743±1,597	6,886±1,207	8,400±1,063
Hayır	76	32,132±7,263	5,816±1,555	7,250±1,201	8,447±1,038
t=		-0,642	-0,228	-1,482	-0,222
p=		0,522	0,820	0,141	0,825
Kronik hastalık öyküsü		**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**
Evet	35	32,457±7,402	5,429±1,399	6,714±1,126	8,171±1,014
Hayır	76	31,540±7,282	5,961±1,612	7,329±1,204	8,553±1,038
t=		0,614	-1,681	-2,549	-1,811
p=		0,541	0,096	0,012	0,073
Ameliyat süreci hakkında bilgi sahibi olma durumu		**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**	**Ort. ± SS**
Evet	58	30,466±7,437	6,069±1,588	7,379±1,197	8,655±0,947
Hayır	53	33,321±6,908	5,491±1,489	6,868±1,177	8,189±1,093
t=		-2,090	1,975	2,266	2,409
p=		0,039	0,051	0,025	0,018
F: Anova testi, t: Bağımsız gruplar t-testi, Post-hoc: Tukey, LSD: X, dk: Dakika					

Ameliyata özgü kaygı düzeyi cerrahi birimler arasında farklılık gösterebilmektedir. Yapılan bir çalışmada AÖKÖ puanının genel cerrahi kliniğinde yatan hastalarda daha yüksek olduğu bildirilmiştir [22]. Bu araştırmada ise AÖKÖ puanı ile cerrahi birimler arasında anlamlı bir farkın olmadığı belirlendi (p>0,05). Ancak kulak burun boğaz kliniğinde yatan hastaların AÖKÖ puanının diğer cerrahi birimlere oranla daha yüksek olduğu saptandı (Tablo 5). Bu durum bizlere hastaların yüksek düzeyde doku/organ kaybı korkusu ya da sosyal görünüş kaygısı yaşadıklarını düşündürmektedir.

Bu araştırmada AÖKÖ puanı ile cerrahi deneyim öyküsü arasında istatistiksel olarak anlamlı bir fark bulunmadığı saptandı (p>0,05). Literatürde cerrahi deneyiminin ameliyat öncesi anksiyete düzeyini etkilemediği bildirilmektedir [23]. Kindler ve ark. [23] planlı cerrahi girişim geçirecek hastalarla yaptığı çalışmada da cerrahi deneyimi olan ve olmayan hastalar arasında anksiyete yönünden herhangi bir farkın bulunmadığı belirtilmiştir. Bu araştırmadan elde edilen bulgu (Tablo 5) cerrahi deneyiminin kaygı düzeyi üzerinde etkili olmadığını bildiren Bulut [22] ve Kindler ve ark.'nın [23] çalışmalarıyla paralellik göstermektedir.

Literatürde kronik hastalık öyküsü bulunan bireylerin cerrahi öncesi kaygı düzeylerinin yüksek olduğu bildirilmiştir [3]. Bu araştırmada kronik hastalık öyküsü ile AÖKÖ puanı arasında anlamlı bir farklılık saptanmasa da AÖKÖ puanının (32,457±7,402) ortalamanın üzerinde olduğu görülmektedir (p>0,05) (Tablo 5). Kronik hastalığı bulanan bireylerin ameliyat sonrası öz bakım gereksinimlerini karşılayamama düşüncesi ya da olası komplikasyon gelişme riskine ilişkin endişeleri nedeniyle yüksek düzeyde kaygı yaşadıkları düşünülmektedir.

Kronik hastalıklar derlenme kalitesinin ve derlenme ünitesinde kalma süresinin belirlenmesinde önemli rol oynamaktadır. Bu araştırmada kronik hastalık öyküsü ile MAS arasındaki ilişki incelendiğinde ise kronik hastalık öyküsü bulunanlarda derlenmenin 15. dakikasındaki MAS puanının kronik hastalık öyküsü bulunmayanlardan daha düşük olduğu görüldü (p<0,05). Bu durum bizlere kronik hastalıkların derlenme kalitesi üzerinde olumsuz etkilere yol açabileceğini bu nedenle hastaların derlenme ünitesinde yakından izlenmesi gerektiğini göstermektedir.

Türkiye'de ve dünyada yapılmış araştırmalar cerrahi öncesi yapılan bilgilendirmenin kaygı üzerinde olumlu etkilerinin olduğunu göstermektedir [24-26]. Bu araştırmada da ameliyat süreci hakkında bilgi sahibi olma durumu ile AÖKÖ puanı arasında anlamlı bir ilişki olduğu (p<0,05); ameliyat süreci hakkında yapılan bilgilendirmenin AÖKÖ puanını azalttığı belirlendi. Bu bulgu, literatürde yer alan araştırmalarla paralellik göstermekte ve ameliyat öncesi bilgilendirmenin bireylerin kaygı düzeyi üzerinde önemli ölçüde etkili olabileceği sonucunu desteklemektedir.

Bu araştırmada ameliyat süreci hakkında bilgi sahibi olanlar ile derlenmenin 15. ve 30. dakikasındaki MAS puanı arasında anlamlı bir fark olduğu görüldü (p<0,05). Ameliyat süreci hakkında bilgi sahibi olanların, MAS puanının daha yüksek olduğu belirlendi (Tablo 5). Bu bulgu; ameliyat süreci hakkında yapılan bilgilendirmenin postoperatif derlenmeyi olumlu yönde destekleyebileceğini düşündürmektedir. Ancak yapılan bir çalışmada ameliyat öncesi bilgilendirmenin derlenme kalitesi üzerinde etkili olmadığı bildirilmiştir [10]. Bu araştırmanın sonucu yapılan benzer araştırmanın bulgularını desteklememektedir.

Araştırmanın ana amacı olan AÖKÖ ile MAS arasındaki ilişki incelendiğinde; ameliyata özgü kaygının MAS'ı 0., 15. ve 30. dakikalarda azalttığı (Tablo 4) ve aralarında negatif yüksek düzeyde korelasyon bulunduğu (Tablo 3) görüldü. Yılmaz ve Aydın [10] tarafından derlenme kalitesinin incelendiği bir çalışmada ise

ameliyat öncesi durumluk anksiyete puanları ile derlenme kalitesi arasında zayıf pozitif yönde bir korelasyon bulunduğu bildirilmiştir. Yılmaz ve Aydın [10] çalışmasından elde edilen bulgu hastaların anksiyete düzeyleri arttıkça, derlenme kalitelerinin de arttığını bildirmektedir. Ancak bu araştırmanın bulguları kaygı düzeyi arttıkça MAS puanının azaldığını bu nedenle derlenme kalitesinin de olumsuz yönde etkilendiği göstermektedir. Bu araştırmadan elde edilen bulgular, Yılmaz ve Aydın [10] tarafından yürütülen araştırmanın sonuçlarıyla tutarlı bulunmamış ve yüksek düzeyde kaygının derlenme ünitesinde MAS puanlarını anlamlı düzeyde azalttığı gösterilmiştir.

Çalışmanın Kısıtlılıkları

Araştırma Maltepe Devlet Hastanesi'nde yürütülmüş olduğundan, örneklem tek bir bölgeyi kapsamıştır. Bununla birlikte bu araştırmaya sadece Genel Cerrahi, Ortopedi ve Kulak Burun Boğaz kliniklerinde tedavi gören hastalar dahil edilmiştir. Bu nedenle tüm bireylere genellenemez. Araştırmadan elde edilen veriler; veri toplamada kullanılan ölçekler ve katılımcıların verdiği yanıtlar ile sınırlıdır.

SONUÇ VE ÖNERİLER

Ameliyata özgü kaygının MAS puanlarının 0., 15. ve 30. dakikalarda azaldığı belirlendi. Genel anestezi uygulanan hastalarda holistik hemşirelik bakımının, ameliyata özgü kaygının azaltılmasında, buna bağlı olarak derlenme ünitesinde ortaya çıkabilecek komplikasyonların önlenmesi ve yönetilmesinde etkili olabileceği düşünülmektedir. Ancak derlenme kalitesini belirleyen MAS'ı veya benzer skorlama sistemleri kullanılarak yapılmış çalışmalar kısıtlıdır. Bu nedenle derlenme kalitesini belirleyen skorlama sistemleri ile ameliyata özgü kaygı yönetiminde holistik hemşirelik bakımının ilişkisini ortaya koyacak araştırmalara ihtiyaç duyulmaktadır.

Etik

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Hasta Onamı: Araştırma süresince tüm katılımcılardan yazılı ve sözlü bilgilendirilmiş onam alındı.

Dipnot

Yazarlık Katkıları

Konsept: HKG; Dizayn: HKG; Veri Toplama veya İşleme: BE., Analiz veya Yorumlama: HKG, BE; Literatür Arama: HKG, BE; Yazan: HKG, BE.

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Özgün Araştırma / Research Article

Kadınların Üriner İnkontinansa İlişkin Tutumları ile Sağlık Arama Davranışları Arasındaki İlişki

Relationship Between Women's Attitudes Towards Urinary Incontinence with Health-seeking Behaviors

Emine Nur Dağ[1], Gülseren Dağlar[2]

[1]Aksaray Merkez 62 Nolu Taşpınar Aile Hekimliği Birimi, Aksaray, Türkiye
[2]Sivas Cumhuriyet Üniversitesi Sağlık Bilimleri Fakültesi, Ebelik Bölümü, Sivas, Türkiye

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ÖZ

Amaç: Bu araştırmada kadınların üriner inkontinansa ilişkin tutumları ile sağlık arama davranışları arasındaki ilişkinin değerlendirilmesi amaçlandı.

Yöntem: Araştırma kesitsel tiptedir. Örneklemi 15 Şubat ve 15 Haziran 2021 tarihleri arasında, İç Anadolu Bölgesi'ndeki bir ilçede Milli Eğitim Müdürlüğü ve İlçe Müftülüğüne bağlı kurslara katılan 430 kadın oluşturdu. Veriler, Kişisel Bilgi Formu, Üriner Semptom Profili, Üriner İnkontinans Davranış Skalası ve Sağlık Arama Davranışları Ölçeği ile toplandı.

Bulgular: Üriner inkontinans yaşayan kadınlarda üriner semptom profili toplam puanı ile Üriner İnkontinans Davranış Skalası puanı arasında düşük düzeyde, negatif yönlü, anlamlı ilişki saptandı ($p<0,05$). Kadınlarda Üriner İnkontinans Davranış Skalası ile sağlık arama davranışları ölçek toplam ve alt boyutlardan online ve profesyonel sağlık arama davranışları arasında zayıf düzeyde, pozitif yönlü, anlamlı ilişki bulundu ($p<0,05$).

Sonuç: Üriner inkontinansı olan kadınların üriner semptomları arttıkça üriner inkontinansa ilişkin pozitif tutumları azalmaktadır. Kadınların üriner inkontinansa ilişkin pozitif tutumları arttıkça sağlık arama davranışları artmaktadır. Kadınların üriner inkontinansa ilişkin bilgi düzeyini ve pozitif tutumlarını geliştirmek için eğitim programlarının düzenlenmesi, danışmanlık yapılması önemlidir.

Anahtar kelimeler: Kadın, üriner inkontinans, tutum, sağlık arama davranışı, ebelik

ABSTRACT

Objective: In this study, it was aimed to evaluate the relationship between women's attitudes towards urinary incontinence with health-seeking behaviors.

Methods: The research is of cross-sectional type. The sample consisted of 430 women who attended courses affiliated to the District National Education Directorate and the District Mufti in a district in the Central Anatolia Region between 15 February and 15 June 2021. Data were collected with Personal Information Form, Urinary Symptom Profile, Urinary Incontinence Attitude Scale, and Health Seeking Behaviors Scale.

Results: A low, negative, and significant relationship was found between the total urinary symptom profile score and the urinary incontinence attitude scale score in women with urinary incontinence ($p<0.05$). A weak, positive, and significant relationship was found between urinary incontinence attitude scale and health-seeking behaviors total and sub-dimensions online and professional health-seeking behaviors in women ($p<0.05$).

Conclusion: As the urinary symptoms of women with urinary incontinence increase, their positive attitudes towards urinary incontinence decrease. As women's positive attitudes towards urinary incontinence increase, health-seeking behaviors increases. It is important to organize training programs and provide counseling in order to improve women's knowledge level and positive attitudes about incontinence.

Keywords: Women, urinary incontinence, attitude, health-seeking behavior, midwifery

ORCID IDs: END. 0000-0001-7436-8287; GD. 0000-0001-7159-5011

***Sivas Cumhuriyet Üniversitesi Sağlık Bilimleri Enstitüsü, 2023, Yüksek Lisans Tezi**

Bu araştırma 2-4 Kasım 2023 tarihinde Erzurum'da düzenlenen 9. Uluslararası 13. Ulusal Ebelik Öğrencileri Kongresi'nde Sözlü Bildiri olarak sunulmuştur.

Sorumlu Yazar/Corresponding Author: Gülseren Dağlar,
E-posta: gulserendaglar2@gmail.com

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GİRİŞ

Üriner İnkontinans (Üİ), mesane kontrolünün kaybı veya istem dışı idrar kaybı olarak tanımlanmaktadır. Tıbbi ve sosyal bir sorun olan Üİ, kişinin yaşamını tehdit eden bir durum olmamakla birlikte utanma duygusundan depresyona kadar birçok psikolojik soruna yol açmakta, sosyal izolasyona ve yaşam kalitesinde bozulmaya neden olmaktadır [1,2]. Üİ, gizli toplumsal bir epidemi olduğundan gerçek prevalansı belirlemek zor olmakta [3], kadınlarda daha sık görülmekte ve sıklığı %7,5-79 arasında değişiklik göstermektedir [4-12]. Üİ sıklığının bu kadar geniş bir yelpazede görülmesi, kadınların bu sorunla baş etmek için ne yaptığı ya da sorun yaşamamak için hangi davranışlarda bulunduğu Üİ'nin kadın sağlığı için çok önemli bir sorun olduğunu göstermektedir.

Sağlık arama davranışı (SAD), "bireylerin kendilerini iyi hissetmedikleri durumda neler yaptıkları" olarak tanımlanmakta olan SAD, bireylerin içinde bulundukları kültürden ve bireysel özelliklerinden kaynaklandığı için önemlidir [13]. Bedeni ile ilgili ciddi yakınmaları olan bireyler yakınmalarını gidermek için hekime başvurma, kendi kendine ilaç kullanma ya da güvendiği kişinin tavsiyesini uygulama gibi çeşitli arayışlar içerisine girmektedir [13]. Cesur [6] yaptığı çalışmada kadınların %60,2'sinin 1-5 yıldır Üİ yaşadığını ancak %45,9'unun bu şikayetinden dolayı doktora başvurmadığını, yaş, Üİ süresi, şiddeti ve Üİ semptom varlığı gibi faktörlerin SAD'ı etkilediğini saptamıştır. Schreiber Pedersen ve ark. [14] da kadınlarda Üİ prevalansının yüksek olmasına rağmen bu sorun sebebiyle profesyonel yardım alma durumlarının çok düşük olduğunu, Üİ şiddetinin, kadınların Üİ hakkında bilgi isteyip istemediklerinin ve Üİ süresinin yardım arama davranışının güçlü belirleyicileri olduğunu belirtmektedir. Yapılan bir çalışmada kadınlarda Üİ sıklığı %31,4 olarak saptanmasına rağmen Üİ sebebiyle tedavi arama çabalarının oldukça düşük olduğu, artan yaşla birlikte idrar kaçırmanın normal olduğunu düşünme ve bu durumdan rahatsızlık duymama nedeniyle sağlık kurumuna başvurmadıkları belirlenmiştir [15]. Demir ve Kızılkaya Beji'nin [12] çalışmasında kadınların yarısından fazlasının yaklaşık üç yıldır Üİ sorunu yaşamasına ve yaşam kalitelerinin olumsuz etkilenmesine rağmen hekime başvurma oranının düşük olduğu belirlenmiş ve Üİ'nin erken dönemde saptanması ve tedaviye yönlendirilmenin önemli olduğu sonucuna varılmıştır.

Üİ'nin önlenmesi ve giderilmesi multidisipliner ekip çalışmasını gerektirmektedir [2,16]. Üİ'li kadınlara hizmet veren ebe ve hemşirelerin kadının ihtiyacı olan tedavi ve bakımı iyi bilmesi, güncel bilgiye sahip olması ve holistik bakış açışıyla bireye özgü bakımı planlaması gerekmektedir [16]. Sağlık profesyonellerinden ebelerin ve hemşirelerin Üİ'nin önlenmesi ve tedavisinde aktif rol almaları, özellikle Üİ'nin oluşmasında risk faktörü olarak değerlendirilen gebelik, doğum, doğum sonu dönemde pelvik taban kaslarının güçlendirilmesi ve diğer risk faktörlerine ilişkin eğitim ve danışmanlık hizmetlerinde etkin olmaları çok önemlidir [12]. Literatür incelendiğinde Üİ prevalansını belirleyen [4-11], yaşam kalitesi [6,10,12,15,17] ve cinsel yaşam [18] üzerine etkilerini inceleyen, Üİ farkındalık ve farkındalığı etkileyen faktörlerin belirlendiği [5] ve Üİ'li kadınlarda SAD'a ilişkin [6,12,15,17,19] çalışmalar olmasına rağmen kadınlarda Üİ'ye ilişkin tutumun SAD ile ilişkisini araştıran bir çalışmaya tarafımızca rastlanmadı. Bu araştırmada kadınların Üİ'ye ilişkin tutumları ile SAD'ları arasındaki ilişkinin değerlendirilmesi amaçlandı ve "kadınların Üİ'ye ilişkin tutumları nasıldır?" ve kadınların Üİ'ye ilişkin tutumları ile SAD'ları arasında ilişki var mıdır?" sorularına yanıt arandı.

GEREÇ VE YÖNTEM

Araştırmanın Tipi

Bu araştırma, kesitsel ve ilişki arayıcı olarak yapıldı.

Araştırmanın Evreni ve Örneklemi

Araştırmanın evrenini İç Anadolu Bölgesi'ndeki bir ilçede 15 Şubat-15 Haziran 2021 tarihleri arasında Milli Eğitim Müdürlüğü Halk Eğitim Merkezine bağlı kurslara ve İlçe Müftülüğüne bağlı Kur'an kurslarına katılan kadınlar oluşturdu. Belirtilen tarihlerde İlçe Müftülüğüne bağlı Kur'an kurslarında eğitim gören kadın sayısı yaklaşık 100, İlçe Halk Eğitim Merkezine bağlı kurslarda eğitim gören kadın sayısı da 700'dür. Örneklem büyüklüğü evrendeki eleman sayısının bilindiği durumlarda kullanılan formülle hesaplanarak [20], basit tesadüfi örneklem yöntemi ile araştırmaya en az 250 kadının alınması gerektiği belirlendi ve 15 Şubat-15 Haziran 2021 tarihleri arasında 430 kadın çalışmaya dahil edildi. Araştırmaya; okuma yazma bilen, Türkçe konuşabilen, iletişim problemi olmayan, çalışmaya katılmayı kabul eden kadınlar alındı.

Verilerin Toplanması

Veriler, 15 Şubat-15 Haziran 2021 tarihleri arasında yüz yüze görüşme yöntemiyle toplandı. Verilerin toplanmasında "Kişisel Bilgi Formu", "Üriner Semptom Profili", "Üriner İnkontinans Davranış Skalası" ve "Sağlık Arama Davranışları Ölçeği" kullanıldı. Kadınlara çalışma hakkında bilgi verilip bilgilendirilmiş onamları alındıktan sonra veri toplama formları araştırmacı tarafından ders bittikten sonra uygun olan boş bir sınıfta uygulandı. Görüşme yaklaşık 15-20 dakikada tamamlandı.

Kişisel Bilgi Formu: Form, literatür doğrultusunda [10-12,15,21,22] araştırmacılar tarafından oluşturuldu. Bu form, kadınların tanıtıcı özelliklerinin sorgulandığı demografik özellikler (yaş, aile tipi, eğitim düzeyi ve çalışma durumu vb.), obstetrik özellikler (gebelik sayısı, doğum sayısı, doğum şekli vb.) ve Üİ (Üİ varlığı, etkilenme durumu, koitus sırasında idrar kaçırma durumu vb.) ile ilgili sorulardan oluştu.

Üriner Semptom Profili (ÜSP): ÜSP, üriner semptomları değerlendirmek amacı ile kullanılan 13 soruluk bir formdur. ÜSP, stres Üİ (SÜİ), aşırı aktif mesane (AAM) ve idrar akış hızının değerlendirildiği üç alt boyuttan oluşmaktadır. SÜİ'yi değerlendiren bölüm üç sorudan oluşmakta, 0-9 puan; AAM'yi değerlendiren bölüm yedi sorudan oluşmakta, 0-21 puan alınmaktadır. İdrar akış hızını değerlendirmek için oluşturulan bölüm ise üç sorudan oluşmakta, soruların cevaplarının puanları 0-9 arasında değişmektedir. Ölçekten elde edilen toplam puanlar arttıkça alt üriner semptom şikayetleri artmakta, puanlar azaldıkça şikayetler de azalmakta olarak yorumlanmaktadır [23,24]. Orijinal

ölçeğin Cronbach alfa değeri 0,95'tir [24]. Geçerlik ve güvenirlik çalışması Bilge ve Beji [23] tarafından yapılmış, Cronbach alfa değeri 0,96 belirlenmiştir. Bu araştırmada da Cronbach alfa değeri 0,84 bulundu.

Üriner İnkontinans Davranış Skalası (ÜİDS): ÜİDS, Üİ'ye ilişkin tutumu değerlendirmekte ve 15 maddeden (yedi pozitif, sekiz negatif sorudan) oluşmaktadır. Her soru dört seçenek (1-kesinlikle katılmıyorum, 2-katılmıyorum, 3-katılıyorum, 4-kesinlikle katılıyorum) üzerinden değerlendirilmektedir. Toplam puan 15-60 arasında değişmekte, alınan puan arttıkça İÜ'ye karşı pozitif tutum ve davranışlar artmakta, puan azaldıkça İÜ'ye karşı pozitif tutum ve davranışlar azalmaktadır. ÜİDS, Yuan ve ark. [25] tarafından geliştirilmiş ve Cronbach alfa değeri 0,65 bulunmuştur. Türkçe geçerlik güvenirlik çalışmasını Güngör Uğurlucan ve ark. [22] yapmış ve Cronbach alfa değerini 0,72 saptamıştır. Bu araştırmada Cronbach alfa değeri 0,70 bulundu.

Sağlık Arama Davranışı (SAD) Ölçeği: Ölçek, SAD'ı ölçmek için Kıraç [21] tarafından geliştirilmiş, geçerlik ve güvenirlik çalışması yapılmıştır. SAD ölçeği üç boyuttan (online, profesyonel, geleneksel) ve 12 maddeden oluşmaktadır. Ölçek maddeleri Likert yöntemi ile hazırlanmıştır (5-kesinlikle katılıyorum, 4-katılıyorum, 3-kararsızım, 2-katılmıyorum, 1-hiç katılmıyorum). Ölçekten en düşük 12, en yüksek 60 puan alınmaktadır. Toplam ve alt boyutlardan alınan puan arttıkça SAD artmakta olarak değerlendirilmektedir. Ölçeğin Cronbach alfa değeri 0,75 saptanmıştır [21]. Bu araştırmada da 0,72 bulundu.

Araştırmanın Etik Yönü

Araştırmanın her aşaması etik ilkelere uygun olarak yürütüldü ve araştırma Helsinki Deklarasyonu Prensipleri'ne göre yapıldı. Uygulamaya başlamadan önce Sivas Cumhuriyet Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu'ndan etik kurul izni (karar no.: 2020-01/29, tarih: 15.01.2020) ve kurumlardan uygulama izni alındı. Örneklem kriterlerine uyan kadınlara Bilgilendirilmiş Onam Forumu'ndaki bilgiler okunarak onamları alındı. Araştırmaya katılıp katılmama kararı kadınlara bırakıldı, gönüllülük esası göz önünde bulunduruldu. Veriler, Covid-19 pandemisi kapsamında maske, mesafe ve hijyen kurallarına uyularak toplandı. Araştırmada kullanılan ölçeklerin kullanım izinleri alındı.

İstatistiksel Analiz

Verilerin istatistiksel değerlendirmesi bilgisayar ortamında SPSS 25,0 paket programı ile yapıldı. Verilerin normal dağılım gösterip göstermediğini belirlemek için Kolmogorov-Smirnov testi yapılarak, çarpıklık (skewness), basıklık (kurtosis) katsayıları incelenerek verilerin normalliği değerlendirildi. Verilerin dağılımının normal sınırlar içerisinde olduğu görüldü. Verilerin değerlendirilmesinde tanımlayıcı istatistiksel ölçütler (ortalama, standart sapma, minimum ve maksimum değerler ve yüzdelik sayılar) ile parametrik test varsayımlar yerine getirildiğinden iki bağımsız grubun ortalamaları arasındaki farkın belirlenmesinde Independent Sample t-testi, değişkenler arasındaki ilişkinin yönünü ve düzeyini belirlemek için Pearson korelasyon analizi uygulandı ve yanılma düzeyi 0,05 alındı.

BULGULAR

Kadınların %35,1'i 26-35 yaş aralığında, %41,2'si üniversite ve üzeri eğitim düzeyinde, %72,3'ü evli, %81,9'u çekirdek ailede yaşamakta, %77,9'u çalışmamaktadır. Katılımcıların %63,5'inin gelirini giderine denk olarak ifade ettiği ve %61,4'ünün genel sağlık durumunu "iyi" olarak algıladığı saptandı. Kadınların %46,3'ünün gebelik sayısının ve %55,3'ünün de doğum sayısının 1-3 arasında olduğu, doğum yapanların %59,8'inin vajinal doğum yaptığı belirlendi (Tablo 1).

Kadınların %23,3'ü Üİ yaşamakta olup Üİ yaşayanların %42'sinin Üİ'ı hafif, %37'sinin orta, %16'sının da oldukça fazla düzeyde etkilendiği, %13'ünün koitus sırasında idrar kaçırdığı, %40'ının idrar kaçırma sebebi ile ped kullandığı, %28'inde pelvik organ prolapsusu olduğu, %19'unun ürojinekolojik ameliyat geçirdiği saptandı (Tablo 2).

Kadınların ÜSP toplam puan ortalaması 5,51±5,48'dir. ÜSP alt boyutları puan ortalamaları ise, SÜİ 1,15±2,00; AAM 4,09±3,67;

Tablo 1. Kadınların Sosyo-demografik ve Obstetrik Özelliklerine göre Dağılımı

Sosyo-demografik özellikler		**n**	**%**
Yaş	18-25 yaş	108	25,1
	26-35 yaş	151	35,1
	36-45 yaş	93	21,6
	46 yaş ve üzeri	78	18,2
Yaş ortalaması (min-maks): 34,10±10,69 (18-68)			
Eğitim durumu	İlköğretim	161	37,4
	Lise	92	21,4
	Üniversite ve üzeri	177	41,2
Medeni durum	Evli	311	72,3
	Bekar	119	27,7
Aile tipi	Çekirdek	352	81,9
	Geniş	78	18,1
Çalışma durumu	Çalışan	95	22,1
	Çalışmayan	335	77,9
Ekonomik durum algısı	Gelir giderden az	60	14,0
	Gelir gidere denk	273	63,5
	Gelir giderden fazla	97	22,5
Genel sağlık durum algısı	İyi	264	61,4
	Orta	149	34,6
	Kötü	17	4,0
Obstetrik özellikler			
Gebelik sayısı	Yok	141	32,8
	1-3 gebelik	199	46,3
	4 ve üzeri gebelik	90	20,9
Doğum sayısı	Yok	144	33,5
	1-3	238	55,3
	4 ve üzeri	48	11,2
Doğum şekli (n:286)	Vajinal doğum	171	59,8
	Sezaryen doğum	70	24,5
	Vajinal doğum ve sezaryen	45	15,7
Toplam		**430**	**100,0**

yavaş akıntı (YA) 0,27±0,80'dir. Üİ olan ve olmayan kadınların ÜSP toplam ve alt boyutları puan ortalamaları sırasıyla toplam puan 11,55±5,75; 3,56±3,58; SÜİ 3,18±2,52; 0,54±1,29; AAM 8,10±3,82; 2,87±2,60; YA 0,67±1,26; 0,15±0,55'tir. ÜSP toplam ve alt boyutları puan ortalamaları karşılaştırıldığında, Üİ olan kadınların toplam ve alt boyut puan ortalamalarının Üİ olmayan kadınlara göre daha yüksek olduğu ve istatistiksel olarak anlamlı farklılık gösterdiği belirlendi (p=0,000). Kadınların ÜİDS puan ortalaması 45,95±5,22 olup Üİ olanlarda 44,21±4,86 iken Üİ olmayanlarda 46,48±5,22'dir. Üİ olmayan kadınların puan ortalaması Üİ olanlara göre istatistiksel olarak anlamlı derecede daha yüksek saptandı (p=0,000), Üİ olmayanların Üİ'ye karşı pozitif yaklaşım sergilediği bulundu (Tablo 3). Kadınların SAD toplam puan ortalaması 43,53±6,57; alt boyutları puan ortalamaları ise online SAD 19,40±5,02; profesyonel SAD 13,56±1,80; geleneksel SAD 10,57±2,77'dir. SAD ölçek toplam puan ortalaması Üİ olanlarda 41,56±6,51 iken Üİ olmayanlarda 44,13±6,47 bulunmuştur. Üİ olan ve olmayanların SAD alt boyut puan ortalamaları sırasıyla; online SAD 17,00±5,42; 20,12±4,67; profesyonel SAD 13,58±1,60; 13,55±1,86; geleneksel SAD 10,98±2,65; 10,45±2,80'tir. Üİ olan ve olmayan kadınların SAD toplam ve alt boyut puan ortalaması karşılaştırıldığında, toplam puan ve online SAD arasında istatistiksel anlamlılık saptanmıştır (sırasıyla p=0,001; p=0,000) (Tablo 3). Üİ olmayan kadınların SAD ölçeği toplam ve online SAD puan ortalaması daha yüksektir.

Tablo 2. Kadınların Üriner İnkontinansla İlgili Özelliklerinin Dağılımı

Üriner inkontinansla ilgili özellikler		n	%
İnkontinans varlığı	Evet Hayır	100 330	23,3 76,7
İnkontinanstan etkilenme durumu (n=100)	Hiç Hafif Orta Oldukça fazla	5 42 37 16	5,0 42,0 37,0 16,0
Koitus sırasında idrar kaçırma durumu (n=100)	Evet Hayır	13 87	13,0 87,0
İnkontinans sebebi ile ped kullanma durumu (n=100)	Evet Hayır	40 60	40,0 60,0
POP* varlığı (n=100)	Evet Hayır	28 72	28,0 72,0
Ürojinekolojik ameliyat geçirme durumu (n=100)	Evet** Hayır	19 81	19,0 81,0

*POP: Pelvik organ prolapsusu, **Histerektomi, myomektomi, tüp ameliyatı

Ölçekler arasındaki ilişki değerlendirildiğinde; Üİ olan ve olmayan kadınlarda ÜSP toplam puanı ile ÜİDS puanı arasında düşük düzeyde, negatif yönlü, anlamlı ilişki (sırasıyla r=-0,220; p=0,028; r=-0,199; p=0,000) saptandı. Kadınlarda üriner semptomlar arttıkça Üİ'ye ilişkin pozitif tutumların ve davranışların azaldığı, pozitif tutum ve davranışlar arttıkça da üriner semptomların azaldığı belirlendi. Üİ olmayan kadınlarda SAD ölçeği profesyonel SAD alt boyutu ile ÜSP toplam ve AAM ve YA alt boyutları arasında düşük düzeyde, negatif yönlü, anlamlı ilişki saptanmıştır (r=-0,176; p=0,001; r=-0,169; p=0,002; r=-0,145; p=0,008). Üİ olmayanların profesyonel SAD arttıkça üriner semptomlarının azaldığı belirlendi (Tablo 4).

Araştırmaya katılan tüm kadınların ÜİDS puanı ile SAD ölçeği toplam puanı arasında zayıf düzeyde, pozitif yönlü, anlamlı ilişki (r=0,291; p=0,000) olduğu, Üİ'ye ilişkin pozitif tutum arttıkça SAD'ın arttığı belirlendi. SAD ölçeği alt boyutlarından online SAD ve profesyonel SAD ile ÜİDS arasında zayıf düzeyde, pozitif yönlü, anlamlı ilişki saptandı (r=0,165; p=0,001; r=0,114; p=0,018) (Tablo 4). Kadınların Üİ'a ilişkin pozitif tutumları arttıkça online ve profesyonel SAD'ı da artmaktadır.

TARTIŞMA

Bir kadının yaşamı boyunca, çeşitli sağlık koşulları mesane işlevini olumsuz etkileyebilmekte, Üİ semptomları görülebilmekte, bu semptomlar kötüleşebilmekte veya iyileşebilmekte ve kadının tedavi isteği artıp azalabilmektedir [2]. Bu araştırmada, kadınların Üİ'a ilişkin tutumları ile SAD'ları arasındaki ilişki ortaya konuldu. Örneklemi oluşturan kadınlarda Üİ prevalansı

Tablo 3. Kadınların Üriner Semptom Profili, Üriner İnkontinans Davranış Skalası ve Sağlık Arama Davranışları Ölçeği Puan Ortalamalarının Dağılımı

Ölçekler (n=430)	Toplam (n=430)	İnkontinansı olan kadınlar (n=100)	İnkontinansı olmayan kadınlar (n=330)	
	$\bar{X}$ ± SS	$\bar{X}$ ± SS	$\bar{X}$ ± SS	Test değeri/p*
Üriner semptom profili				
Stres üriner inkontinans	1,15±2,00	3,18±2,52	0,54±1,29	**10,082/0,000**
Aşırı aktif mesane	4,09±3,67	8,10±3,82	2,87±2,60	**12,796/0,000**
Yavaş akıntı	0,27±0,80	0,67±1,26	0,15±0,55	**3,965/0,000**
Toplam	5,51±5,48	11,55±5,75	3,56±3,58	**13,789/0,000**
Üriner İnkontinans Davranış Skalası	45,95±5,22	44,21±4,86	46,48±5,22	**-3,865/0,000**
Sağlık arama davranışı				
Toplam	43,53±6,57	41,56±6,51	44,13±6,47	**-3,467/0,001**
Online sağlık arama	19,40±5,02	17,00±5,42	20,12±4,67	**-5,201/0,000**
Profesyonel sağlık arama	13,56±1,80	13,58±1,60	13,55±1,86	0,123/0,902
Geleneksel sağlık arama	10,57±2,77	10,98±2,65	10,45±2,80	1,674/0,095

*Independent Sample-t testi kullanılmıştır

Tablo 4. Kadınların Üriner Semptomları ve Üriner İnkontinansa İlişkin Tutumları ile Sağlık Arama Davranışları Arasındaki İlişki

	Üriner semptom profili ve alt boyutları	Üriner İnkontinans Davranış Skalası	Sağlık arama davranışları			
			Online	Profesyonel	Geleneksel	Toplam puan
Üriner inkontinansı olan kadınlar	Stres üriner inkontinans	r=-0,195 p=0,052	r=-0,081 p=0,425	r=-0,081 p=0,424	r=0,105 p=0,299	r=-0,044 p=0,661
	Aşırı aktif mesane	r=-0,183 p=0,069	r=-0,069 p=0,494	r=-0,085 p=0,401	r=-0,042 p=0,681	r=-0,095 p=0,345
	Yavaş akıntı	r=-0,058 p=0,569	r=0,021 p=0,838	r=-0,104 p=0,305	r=0,046 p=0,648	r=0,010 p=0,918
	Toplam	***r=-0,220 p=0,028***	r=-0,077 p=0,448	r=-0,115 p=0,256	r=0,028 p=0,779	r=-0,081 p=0,425
Üriner inkontinansı olmayan kadınlar						
	Stres üriner inkontinans	***r=-0,190 p=0,001***	r=0,031 p=0,577	r=-0,085 p=0,123	r=0,021 p=0,709	r=0,007 p=0,904
	Aşırı aktif mesane	***r=-0,158 p=0,004***	r=0,050 p=0,370	***r=-0,169 p=0,002***	r=0,072 p=0,190	r=0,018 p=0,741
	Yavaş akıntı	r=-0,101 p=0,066	r=-0,031 p=0,578	***r=-0,145 p=0,008***	r=-0,014 p=0,803	r=-0,070 p=0,206
	Toplam	***r=-0,199 p=0,000***	r=0,042 p=0,443	***r=-0,176 p=0,001***	r=0,058 p=0,295	r=0,005 p=0,930
Üriner İnkontinans Davranış Skalası			***r=0,165 p=0,001***	***r=0,114 p=0,018***	r=0,076 p=0,115	***r=0,291 p=0,000***

%23,3 olarak saptandı. Her ne kadar bu araştırmada örneklemi oluşturan kadınların yaklaşık dörtte biri Üİ sorunu yaşadığını ifade etmiş olsa da kadınlar arasında bu sorunun görülme oranının daha yüksek olduğu tahmin edilmektedir. Araştırmada kadınların kendi ifadelerine göre Üİ durumu belirlenmiş olmakla birlikte yaşadıkları üriner semptomları doğru belirleyebilmek amacıyla kadınlara ÜSP de uygulandı, Üİ yaşadığını söyleyenlerin ÜSP toplam ve alt boyut puan ortalamaları Üİ yaşamadığını söyleyenlerden anlamlı düzeyde yüksek saptandı. Bu durum bize kadınların kendi üriner semptomlarını doğru olarak değerlendirdiğini göstermektedir. Ayrıca Üİ sıklığının katılımcıların subjektif cevaplarına göre belirlenmekle birlikte objektif olarak belirlemeyi sağlayan ÜSP de uygulanması çalışmanın güçlü yönlerinden biri olarak söylenebilir.

Kadınların ÜİDS puan ortalaması 45,95±5,22'dir. ÜİDS toplam puanı arttıkça kadınların pozitif tutum ve davranışları artmakta, puan azaldıkça da pozitif tutum ve davranışları azalmaktadır. ÜİDS den en düşük 15, en yüksek 60 puan alınabildiği düşünüldüğünde kadınların Üİ'ye ilişkin tutum ve davranışlarının orta düzeyde olumlu olduğu söylenebilir. Öztürk [26] ebe ve hemşirelerle yaptığı araştırmada ÜİDS puan ortalamasını çalışma bulgumuza benzer olarak 45,49±5,28 bulmuştur. Ayrıca bu araştırmada Üİ olmayanların ÜİDS puan ortalaması Üİ olanlardan daha yüksek olup Üİ olmayanlar Üİ ile ilgili daha olumlu tutuma sahiptir.

Kadınların Üİ ile ilgili konularda SAD göstermeleri kadın sağlığı için son derece önemlidir. Ancak bu sorunu yaşayan kadınların çok azı problemin çözümü yoluna gidebilmektedir. Bu araştırmada SAD ölçeği toplam ve alt boyutlardan alınan puan ortalamaları değerlendirildi. Kadınların Üİ ile ilgili SAD'larının yüksek olduğu, daha çok online olmak üzere profesyonel, daha az da geleneksel SAD bulundukları görüldü. Oysaki Üİ'li kadınların yaşamlarını kaliteli bir şekilde sürdürmeleri, tedavi ve bakım olanaklarından yararlanmaları temeldir [16]. Bilgic ve ark. [19] da çalışmasında Üİ'lı kadınların %50,6'sının tedavi için sağlık kuruluşuna başvurduğu, kadınların %44,9'unun Üİ oluştuktan 2-5 yıl sonra hekime başvurduğu, Üİ ile başa çıkma davranışlarının ayakları sıcak tutma, perineye sıcak uygulama yapma, günlük içme suyu miktarını azaltma, ped, bez kullanma, fiziksel aktiviteyi kısıtlama, sosyal hayattan kaçınma ve namaz kılma vb. olduğu saptanmıştır. Cesur [6] çalışmasında katılımcıların %45,9'unun idrar kaçırma şikayetleri için hekime başvurmadıklarını, hekime başvurmama nedenleri olarak "şikayetimi önemsemedim, vakit bulamadım, utandım, çekindim"; baş etmek için "sık çamaşır değiştiriyorum, ped, bez, emici külot kullanıyorum, gün içinde sık tuvalete gidiyorum, sık banyo yapıyorum ve gün içinde az miktarda çay, kahve, su içiyorum" şeklinde cevap verdiklerini belirtmektedir. Kadınlarda SAD'larının araştırıldığı bazı çalışmalarda da benzer sonuçlar görülmektedir. Gökalp'ın [27] çalışmasında üreme sağlığı sorunu yaşayan kadınların %15'i son üç ayda sağlık sorunu yaşadığı halde hastaneye gitmediğini, %52,5'i şikayetleri ancak günlük işlerini etkilerse hastaneye gittiğini, %26'sı kendiliğinden geçeceğini düşündüğü için hastaneye gitmediğini ifade etmiştir. Etiyopya'da (2018) yapılan bir çalışmada kadınların serviks kanseri için SAD'larının düşük olduğu saptanmış ve SAD göstermeme nedenleri olarak yetersiz bilgi, hiç bilgi almama ve aktif olarak bilgi aramama olduğu belirtilmiştir [28]. Nielsen ve ark. [29] da kadınların üreme sistemi enfeksiyonları hakkındaki bilgi düzeyi ve SAD'larını belirlemek amacıyla yaptıkları çalışmada kadınların üreme sistemi enfeksiyonları ile ilgili genel bilgi düzeyini çok zayıf bulmuş, semptomatik kadınların sadece üçte birinin sağlık hizmetine başvurduğunu ve bilgi düzeyi arttıkça SAD üzerinde olumlu etki

gösterdiğini saptamış, uzun dönemde ciddi komplikasyonları önlemek için farkındalığı arttırmanın, sağlık hizmeti aramayı teşvik etmenin acil bir gereksinim olduğunu belirtmiştir.

Araştırmada kadınların Üİ'ye ilişkin tutumlarının pozitif olması ve pozitif tutumları arttıkça SAD'larının, özellikle online ve profesyonel SAD'larının arttığının saptanması sevindirici bir sonuçtur. Üİ olmayan kadınların Üİ'a ilişkin tutumları olumlu oldukça yaşadıkları üriner semptomları azalmakta, Üİ olanlar ise SAD göstermemektedir. Bu sonuç bize kadınların Üİ'yi sağlık sorunu olarak algılamadıklarını ya da düşük düzeyde algıladıklarını düşündürmektedir. Üİ olan kadınların SAD göstermemelerine Üİ'nin sağlık sorunu olarak görülmesini engelleyen faktörlerin bulunmasının, Üİ ile ilgili bilgilerinin olmaması ya da yetersiz olmasının ve baş etmeye yönelik kendilerini yetersiz olarak algılamanın neden olabileceği söylenebilir. Bu farkındalık eksikliğinin bir kısmı, idrar kaçırmanın yaşlanmanın normal bir parçası olduğu veya doğumun doğal bir sonucu olduğu şeklindeki yaygın yanlış algıdan kaynaklanmakta, kadınlar genellikle sağlık kurumlarına başvurmayı ertelemekte; teşhis konulan kadınların sadece çok azı tedaviyi etkili görmektedir [2,9]. Kadınlar, Üİ konusunda ya yanlış bilgilere sahip olmakta ya da Üİ ile ilgili bilgi eksikliği bulunmakta ve birçok kadın Üİ'nin tedavi gerektiren bir hastalık olduğunu bilmemektedir [6]. İrer ve ark. [17] da Üİ olan kadınların sadece %28,2'sinin tanı-tedavi amaçlı hekime başvurduğunu saptamış, hekime başvurmayan kadınların %55,8'i Üİ'nin yaşa bağlı normal bir durum olduğunu düşündüğünden ve önemsemediğinden, %27,2'si utandığı ve %17'si ise muayene ya da ameliyat olasılığından korktuğu için başvurmadığını belirtmiştir. Bulgak ve Aydın Avcı [5] çalışmasında katılımcıların Üİ'yi sağlık sorunu olarak kabul etme düzeylerinin, Schreiber Pedersen ve ark. [14] da hafif ve orta düzeyde Üİ deneyimleyen kadınların SAD'larının dolayısı ile Üİ'yi sağlık sorunu olarak algılama düzeylerinin düşük olduğunu ifade etmektedir. Yapılan bir çalışmada da Üİ olan sağlık çalışanlarında da hekime gitme oranının %36,1 olduğu, tedavi alma durumu incelendiğinde de sadece %25'inin cerrahi veya ilaç tedavisi aldıkları saptanmış, bu durum sağlık çalışanlarının hekime başvurma ve tedavi olma eğilimlerinin de düşük olduğu şeklinde yorumlanmıştır [7]. Üİ olan kadınlarda SAD'ı geciktirme nedeni sıklıkla durumun öncelikli değilmiş gibi algılanması ve Üİ'nin genellikle yaşlanmanın normal bir sonucu olarak görülmesi; tedavi olma kararındaki en önemli motivasyon nedeni, bireyde Üİ semptomlarının süresi, semptomların sıklığı, sürekli rahatsızlık duyması ve dini yükümlülüklere olumsuz etkisinin olmasıdır [19]. Üİ'nin hiç rahatsız etmediği kadınlarda tedavi için hekime gidenlerin sayısı beklenenden düşük iken Üİ'nin orta ve çok yüksek düzeyde rahatsız ettiği kadınlarda ise hekime başvuranların oranı beklenenin üstünde olmaktadır [12]. Güngör Uğurlucan ve ark. [22] çalışmasında kadınların çoğunluğu idrar kaçırmanın bir sorun olduğunu, tedavi edilebileceğini, önlenebileceğini; fakat idrar kaçırma hakkında konuşmanın utanç verici olabileceğini ve sağlık problemleri sorgulanırken idrar kaçırma şikayetlerinin de sorgulanması gerektiğini düşündüklerini belirtmiştir. Üİ'ye yönelik farkındalığın düşük olması bu soruna yönelik profesyonel yardım arayışlarını olumsuz etkilemektedir [5]. Üİ'ye yönelik farkındalık oluşturabilmek için öncelikle kadınların Üİ'yi bir sağlık sorunu olarak kabul etmeleri gerekmekte olup bunun için eğitimlerin verilmesi önemli olmaktadır. Öz Yıldırım [30] yaptığı tez çalışmasında premenopoz dönemindeki deney grubunu oluşturan 77 kadına "İnkontinans Sağlık İnancı Geliştirme Programı" uygulamış ve kadınlara verilen eğitimin Üİ hakkında farkındalık artırmada oldukça etkili olduğu bulunmuştur. Araştırma bulguları literatür doğrultusunda tartışıldı.

Araştırmanın Kısıtlılıkları

Araştırmanın kesitsel bir çalışma olması ve sadece bir ilçede yapılmış olması araştırmanın Üİ olan tüm kadınlara genellenmesinde kısıtlılık oluşturmaktadır. Bununla birlikte kadınların Üİ'ye ilişkin tutumları ile SAD arasındaki ilişkinin incelendiği çalışmaların yeterli olmaması araştırma bulgularının tartışılmasında kısıtlılığa neden olmuştur. Ayrıca araştırmanın uygulama aşamasında Covid-19 pandemisinden dolayı uygulama yerinde eğitime ara verilmesi ve kapanma nedeniyle araştırmanın planlandığı zamanda yapılamaması verilerin toplanmasında bir yıl gecikmeye yol açmıştır.

SONUÇ VE ÖNERİLER

Bu araştırmada kadınların yaklaşık dörtte biri Üİ yaşamaktadır. Üİ olmayan kadınlar Üİ ile ilgili daha olumlu tutumlara sahiptir. Üİ olmayan kadınlar Üİ olan kadınlardan daha fazla SAD göstermekte, özellikle online SAD bulunmaktadır. Üİ olan kadınların yaşadıkları üriner semptomları arttıkça Üİ'ye ilişkin tutumları olumsuz olmaktadır. Üİ olmadığını ifade eden kadınların Üİ'ye ilişkin tutumları pozitif oldukça yaşadıkları üriner semptomları azalmaktadır. Üİ olan kadınlar SAD göstermemektedir. Üİ olmadığını ifade eden kadınlarda üriner semptomlar arttıkça profesyonel SAD artmaktadır. Kadınların Üİ'ye ilişkin tutumları arttıkça online ve profesyonel SAD da artmaktadır. Ebelerin ve hemşirelerin bakım verirken kadınlara Üİ'ye ilişkin tutumlarını ve SAD'larını etkileyen faktörlere yönelik girişimlerde bulunması, kadınlara bütüncül yaklaşımla bakım vermesi, kadınların Üİ'ye yönelik bilgi düzeyinin ve farkındalığının geliştirilmesinde danışmanlık yapması, eğitim programları oluşturması önerilmektedir. Bu bilgiler doğrultusunda kadınların Üİ'ye ilişkin tutumları ile SAD'ları arasındaki ilişkiyi belirlemenin kadınlarda Üİ farkındalığını artıracağı ve SAD'ın artacağı bunun sonucunda Üİ tanısının erken konularak, gerekli tedavilerin yapılarak ve Üİ oluşmaması için önlemler alınarak kadın sağlığının korunmasına ve yükseltilmesine katkı sağlayacağı düşünülmektedir.

Etik

Etik Kurul Onayı: Araştırmanın her aşaması etik ilkelere uygun olarak yürütüldü ve araştırma Helsinki Deklarasyonu Prensipleri'ne göre yapıldı. Uygulamaya başlamadan önce Sivas Cumhuriyet Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu'ndan etik kurul izni (karar no.: 2020-01/29, tarih: 15.01.2020) ve kurumlardan uygulama izni alındı.

Hasta Onamı: Örneklem kriterlerine uyan kadınlara Bilgilendirilmiş Onam Forumu'ndaki bilgiler okunarak onamları alındı.

Dipnot

Yazarlık Katkıları

Konsept: END, GD; Dizayn: END, GD; Veri Toplama veya İşleme: END; Analiz veya Yorumlama: END, GD; Literatür Arama: END, GD; Yazan: END, GD.

Çıkar çatışması: Yazarlar herhangi bir çıkar çatışması olmadığını beyan etmiştir.

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Health Discipline Students' Sensitivity to the Threat of Infection

Sağlık Disiplini Öğrencilerinin Enfeksiyon Tehdidine Karşı Duyarlılıkları

Ümmühan Kılıç[1], Dilek Kıymaz[2], Esra Saraçoğlu[3]

[1]Istanbul Sabahattin Zaim University, Faculty of Health Sciences, Department of Nursing, Istanbul, Türkiye
[2]Ondokuz Mayıs University, Vocational School of Health Services, First and Emergency Aid Program, Samsun, Türkiye
[3]Samsun Education and Research Hospital, Samsun, Türkiye

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ABSTRACT

Objective: The aim of this study was to determine the sensitivity of health discipline students practising in clinics to the threat of infection.

Methods: It is a descriptive study. A total of 316 participants were reached. The data were collected between 01.02.2024-01.04.2024 using the Personal Information Form and the Sensitivity to Infection Threat Scale. Mann-Whitney U test, Kruskal-Wallis test and descriptive statistics were used to analyse the data. Significance was accepted as $p<0.05$.

Results: In the study, it was found that 62.7% of the participants were between the ages of 18-21 years, 27.2% were nursing students, 57% had not been in clinical practice before, and 63% had not received any training on infection. The median score of the Susceptibility to Infection Threat Scale used in the study was found to be 24 (0-80). In the study, a statistically significant relationship was found between the median score of the scale and age, gender and the department of the students ($p<0.05$).

Conclusion: As a result, it was determined that students studying in the department of nursing had a higher sensitivity to the threat of infection. The fact that nursing students have more contact with patients and perform more invasive interventions increases their susceptibility to infection.

Keywords: Infection threat, clinical practice, health discipline students

ÖZ

Amaç: Bu çalışmanın amacı, kliniklerde uygulamaya çıkan sağlık disiplini öğrencilerinin enfeksiyon tehdidine karşı duyarlılıklarını belirlemektir.

Yöntem: Tanımlayıcı türde bir araştırmadır. Toplamda 316 katılımcıya ulaşılmıştır. Veriler, 01.02.2024-01.04.2024 tarihleri arasında Kişisel Bilgi Formu ve Enfeksiyon Tehdidine Karşı Duyarlılık Ölçeği kullanılarak toplanmıştır. Verilerin analizinde, Mann-Whitney U testi, Kruskal-Wallis testi ve tanımlayıcı istatistikler kullanılmıştır. Anlamlılık $p<0,05$ olarak kabul edilmiştir.

Bulgular: Çalışmada, katılımcıların %62,7'sinin 18-21 yaş aralığında olduğu, %27,2'sinin hemşirelik bölümü öğrencisi olduğu, %57'sinin daha önce klinik uygulamaya çıkmadığı, %63'ünün enfeksiyon ile ilgili herhangi bir eğitim almadığı saptanmıştır. Çalışmada kullanılan Enfeksiyon Tehdidine Karşı Duyarlılık Ölçeği puan ortancası 24 (0-80) olarak saptanmıştır. Araştırmada ölçek puan ortancası ile yaş, cinsiyet ve öğrencilerin okudukları bölüm arasında istatistiksel olarak anlamlı ilişki saptanmıştır ($p<0,05$).

Sonuç: Sonuç olarak, hemşirelik bölümünde okuyan öğrencilerin enfeksiyon tehdidine karşı daha yüksek duyarlılığının olduğu belirlenmiştir. Hemşirelik öğrencilerinin hastalarla daha fazla temasta olması ve daha çok invaziv girişimlerde bulunmaları enfeksiyona karşı duyarlılıklarını arttırmaktadır.

Anahtar kelimeler: Enfeksiyon tehdidi, klinik uygulama, sağlık disiplini öğrencileri

ORCID IDs: ÜK. 0000-0003-0961-5960; DK. 0000-0002-0460-5192; ES. 0000-0003-3808-1531

Corresponding Author: Ümmühan Kılıç,
E-mail: ummuhankilic10@gmail.com

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INTRODUCTION

Infections have been a threat to human health throughout history, and the number of deaths due to infections in recent years cannot be underestimated [1]. In our country and around the world, healthcare workers in particular are at risk from their working environment [2-4]. Studies have shown that healthcare workers are more exposed to infectious diseases than workers in other sectors [5]. Hospitals in particular are high-risk sites for the transmission of infections [6]. There are many routes of infection transmission for hospital workers and trainees. Some are through respiration, some through the skin and some through invasive procedures (needlesticks, sharps injuries or splashes) [7,8]. This situation leads to exposure to infections such as human immunodeficiency virus (HIV), hepatitis B/C, tuberculosis, coronavirus disease-2019 (COVID-19), which can have serious health consequences for healthcare workers and students [9-11]. Infections acquired during the provision of healthcare services are known as healthcare-associated infections and can be acquired anywhere along the healthcare continuum [1,12]. These infections pose a major risk not only to patients, but also to healthcare workers and students on hospital placements [13,14]. Adherence to standard precautions and isolation rules has been reported to be highly effective in preventing infection in healthcare settings [15]. These standard precautions include adherence to hand hygiene, protection from blood and body fluids, use of personal protective equipment, adherence to principles of environmental cleaning and disinfection, intelligent waste management and infection control in support units [16,17].

In particular, health students entering clinical practice should have a high level of knowledge about infections, transmission routes and prevention methods. It is important that these students, as future health workers, have sufficient knowledge and skills not only for themselves but also for the protection of other members of society [14]. A study conducted in our country found that 80.9% of students were exposed to penetrating sharps injuries [18], and another study found that most penetrating sharps injuries occurred among interns and nurses, and infections such as hepatitis B in 9.9%, hepatitis C in 9.5%, HIV in 3.2%, and Crimean-Congo haemorrhagic fever in 0.9% of patients [19]. A study of nursing students found that nursing students had a high level of fear of infection transmission [20]. In a study conducted in Spain, health students were found to be more fearful of COVID-19 infection than students in other undergraduate programmes [21]. Similarly, Döner and Efe [22] found that nursing students experienced anxiety in clinical practice during the pandemic period. All these studies show that students in health disciplines experience anxiety and fear when faced with the threat of infection. This is the first study to reveal the susceptibility of health discipline students to the threat of infection in clinical practice.

MATERIAL AND METHOD

Type of Research

This study was designed as a descriptive study.

Place and Time of the Study

This study was conducted between 01.02.2024-01.04.2024 with all health students who came to clinical practice in University of Health Sciences Türkiye, Samsun Training and Research Hospital.

Population/Sample of the Study

The population of the study consisted of all health students who came to the hospital for clinical placements in the spring semester of 2024. There was no sampling in the study and students who volunteered to take part in the study were included. The study was completed with a total of 316 health students.

Data Collection

After obtaining ethics committee approval was obtained from Samsun University Non-Interventional Clinical Research Ethics Committee (approval no.: 2024/2/13, date: 17.01.2024), data were collected using the face-to-face questionnaire method from the students who came to the hospital for clinical placements before the start of clinical placements. The Personal Information Form and Sensitivity to Infection Threat Scale were used to collect the data. Verbal and written consent was obtained from the students who volunteered to participate in the study.

Data Collection Tools

Personal Information Form: The form was prepared by the researchers in line with the literature [2,5] and consisted of a total of 12 questions including age, gender, the department the students were studying in and the grade they were in, preference and satisfaction with the department, feeling suitable for the department and being ready for internship, confidence in theoretical knowledge, previous infection education, and whether the students had any chronic disease and which chronic disease they had.

Susceptibility to Infection Threat Scale: The scale was developed by Turan and Tekin [1] in 2023. It consists of a total of 20 questions. It is a five-point Likert scale. Each item is scored from never (0) to always (4). The total scale score varies between 0 and 80 points. A score of 80 indicates the highest susceptibility to infection, while a score of 0 indicates no susceptibility to infection [1]. While the Cronbach's alpha value of the scale was 0.94, it was found to be 0.964 in this study.

Statistical Analysis

Statistical analyses were performed using SPSS version 21.0. The socio-demographic characteristics of the students were presented in numbers and percentages. Comparison of scale median scores of paired groups was analysed using the Mann-Whitney U test. The Kruskal-Wallis test was used to compare the medians of the total scale scores of more than two groups. The level of statistical significance was accepted as $p<0.05$.

RESULTS

A total of 316 health students took part in the study. It was found that 62.7% of all participants were aged 18-21 years and were

female (81.6%). It was found that 27.2% of the participants were nursing students and 31% of the students were first year students. It was found that 90.2% of the students preferred the department, 96.2% were satisfied with the department they studied, 97.2% felt suitable for the department they studied, 95.9% felt ready for clinical practice and 76.6% felt their knowledge was sufficient for clinical practice. It was found that 63.3% of the students had not received any training in infectious diseases and 93% of them did not have any disease (Table 1).

The median scale score for the study was 24 (0-80). When the median scale scores and age groups were compared, it was found that participants in the 18-21 age group had a significantly higher susceptibility to infection than participants in the 22-25 age group. When looking at gender groups, women had a higher susceptibility to infection than men and there was a significant difference between them ($p<0.05$). When comparing the median score on the Infection Susceptibility Scale with the department of the students, it was found that the infection susceptibility of nursing students was higher and significant than the infection susceptibility of students in other departments ($p<0.05$). No significant correlation was found between the mean score of the Infection Susceptibility Scale and the year in which the health students were enrolled, their choice of department, their satisfaction with studying in the department, their feeling suitable for the department, their feeling ready for clinical practice, their feeling that their level of knowledge was sufficient for clinical practice, whether they had received infection education, whether they had any illnesses and whether they had existing illnesses ($p>0.05$) (Table 2).

DISCUSSION

This study revealed that students studying in the field of health have a low level of sensitivity to the threat of infection. However, it was found that the sensitivity of nursing and elderly care students was higher than other groups. In a study, it was found that female students studying in the department of nursing had a higher fear of getting COVID-19, disease, an infectious disease [23].

In the study, when comparing the age groups and the median score of the sensitivity to the threat of infection scale, it was found that the sensitivity to the threat of infection of students in the 18-21 age group was significantly higher. When the median scale score was compared with the gender groups, it was found that the sensitivity to the threat of infection of female students was higher than that of male students. In a study conducted by Kecojevic et al. [24] it was reported that the level of anxiety against the risk of COVID-19 infection was higher in female students.

In similar studies in the literature, it was reported that the rate of reporting perceived stress levels of female students was higher than that of male students [25,26]. It is considered that men and women are more likely to express stress in life-threatening situations such as infection due to the differences in their attitudes, feelings and experiences towards life.

It was found that there was a high level of significance when the students' department of study was compared with their sensitivity to the threat of infection, and this was found to be due to nursing department students. In a review of the literature, a study conducted by Bulut and Taşkıran [27] with nursing students in clinical

Table 1. Socio-demographic Data of Health Discipline Students

Features		n	%
Age group	18-21	198	62.7
	22-25	118	37.3
Gender	Woman	258	81.6
	Male	58	18.4
Section	Nursing	86	27.2
	Biomedical	56	17.7
	Health management	25	7.9
	First and emergency aid	24	7.6
	Medical laboratory	42	13.3
	Audiology	7	2.2
	Nutrition and dietetics	19	6.0
	Aged care	14	4.4
	Pharmacy	21	6.6
	Operating theatre	22	7.0
Classroom	1	98	31.0
	2	80	25.3
	3	74	23.4
	4	64	20.3
To prefer the department willingly	Yes	285	90.2
	No	31	9.8
Satisfaction with studying the department	Yes	304	96.2
	No	12	3.8
Feeling suitable for the department	Yes	307	97.2
	No	9	2.8
Feeling ready for an internship	Yes	303	95.9
	No	13	4.1
Thinking that theoretical knowledge is sufficient for internship	Yes	242	76.6
	No	74	23.4
Infection training status	Yes	116	36.7
	No	200	63.3
The presence of any disease	Yes	22	7
	No	294	93
Existing disease	Migraine	4	1.3
	Tachycardia	8	2.5
	FMF	2	0.6
	Asthma	8	2.5

FMF: Familial Mediterranean Fever

Table 2. Comparison of Socio-demographic Data and Scale Scores of Students			
Features		**Med (min-max)**	**p/test value**
Scale total score		24 (0-80)	
Age group	18-21	26 (0-80)	**p=0.008** U=9613.0
	22-25	23 (2-80)	
Gender	Woman	26 (0-80)	**p=0.040**
	Male	23 (2-80)	U=6193.0
Section	Nursing	29 (5-80)	**p=0.001** χ^2=35.049
	Biomedical	23 (0-53)	
	Health management	20 (0-55)	
	First and mergency aid	23 (6-52)	
	Medical laboratory	19 (0-50)	
	Audiology	18 (12-44)	
	Nutrition and dietetics	18 (2-45)	
	Aged care	28 (5-48)	
	Pharmacy	23 (8-45)	
	Operating theatre	25 (4-46)	
Classroom	1	25 (0-80)	p=0.931 χ^2=0.443
	2	23 (2-80)	
	3	24 (2-80)	
	4	23.5 (6-80)	
To prefer the department willingly	Yes	24 (0-80)	p=0.409
	No	27 (4-80)	U=4816.0
Satisfaction with studying the department	Yes	24 (0-80)	p=0.180
	No	34 (12-80)	U=2239.50
Feeling suitable for the department	Yes	24 (0-80)	p=0.422
	No	32 (10-55)	U=1598.50
Feeling ready for an internship	Yes	24 (0-80)	p=0.855
	No	27 (10-39)	U=2028.50
Thinking that theoretical knowledge is sufficient for internship	Yes	23 (0-80)	p=0.496
	No	27 (0-80)	U=9421.50
Infection training status	Yes	27 (4-80)	p=0.086
	No	23 (0-80)	U=10256.0
The presence of any disease	Yes	26.5 (4-80)	p=0.807
	No	24 (0-80)	U=3133.0
Existing disease	Migraine	25 (14-38)	p=0.772
	Tachycardia	21 (4-38)	χ^2=1.122
	FMF	24 (13-35)	p=0.772
	Asthma	30.5 (8-80)	χ^2=1.122
FMF: Familial Mediterranean Fever			

practice found that students were afraid of the risk of contracting an infectious disease (COVID-19). In a study conducted by Birimoğlu Okuyan et al. [28] with nursing students, it was reported that students had high levels of health anxiety due to fear of contracting a virus and fear of death. Many studies have found that nursing students are sensitive to the risk of infection transmission in clinical practice and experience anxiety and fear [29-31]. One study analysed 6 years of data from 143 healthcare workers exposed to sharps injuries [32]. Another study reported that healthcare workers in particular experienced high levels of fear of infection and transmission [33].

A study of midwifery and nursing students reported that almost half of the students (43.6%) had been exposed to sharps injuries and that these students had only received theoretical training on the use of sharps (83.3%) [34]. Another study reported that 18.2% of nursing students who went into clinical practice were injected with contaminated needles during treatment [35]. A study conducted in China reported that 60.3% of 442 nursing students were exposed to a sharps injury [36], and a meta-analysis study investigating another sharps injury reported that 35% of nursing students experienced a contaminated needle stick [37]. The nursing curriculum exposes students to direct patient contact through invasive procedures such as venipuncture, injection and dressing [38]. This shows that students may be exposed to various risks of infection if they do not take the necessary precautions during clinical practice [39]. Although there are requirements for the implementation of protective measures according to hospital quality standards, factors such as the intensity of the clinic, student carelessness, inadequate staffing or poor implementation of protective measures can cause injury and lead to serious health problems related to infection [32]. This finding suggests that nursing students may be more sensitive to the threat of infection because they are at risk of being exposed to any infection in the hospital environment.

Study Limitations

The fact that the results of the research can be generalised only to the group of students who have clinical practice in the hospital where the research was conducted is considered as the limitation of this research.

CONCLUSION

The hospital is a complex, intense and confusing environment for clinical students. In order to reduce the risk of exposure to infection, it is recommended that clinical students receive orientation in the hospital in addition to their theoretical education. Clinical students should also be observed taking and implementing the necessary precautions against the risk of infection. Protective measures will prevent skin and respiratory contact with blood and body fluids and minimise the risk of infection.

It is also important to strengthen the curricula of nursing students and students who are engaged in clinical practice in other health fields to meet the knowledge and skills required in professional practice and to develop new educational strategies that can sensitise students to this problem.

Ethics

Ethics Committee Approval: Ethics committee approval was obtained from Samsun University Non-Interventional Clinical Research Ethics Committee (approval no.: 2024/2/13, date: 17.01.2024).

Informed Consent: Verbal and written consent was obtained from the students who volunteered to participate in the study.

Footnotes

Author Contributions

Surgical and Medical Practices: ÜK, DK, ES; Concept: ÜK, DK; Design: ÜK, DK, ES; Data Collection or Processing: DK, ES; Analysis or Interpretation: ÜK, DK, ES; Literature Search: ÜK, DK, ES; Writing: ÜK, DK, ES.

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The Impact of Nursing Education on Pregnancy Risk Perception and Diabetes Self-management in Pregnant Women Diagnosed with Gestational Diabetes Mellitus

Gestasyonel Diyabetüs Mellitüslü Gebelere Verilen Hemşirelik Eğitiminin: Gebelik Risk Algısı ve Diyabet Öz-Yönetimine Etkisi

Asibe Özkan[1], Füsun Afşar[2], Belgin Aygördü Hamitoğlu[3]

[1]University of Health Sciences Türkiye, Hamidiye Faculty of Nursing, Department of Obstetrics and Gynecology, İstanbul, Türkiye
[2]Maltepe University School of Nursing, Department of Internal Medicine Nursing, İstanbul, Türkiye
[3]University of Health Sciences Türkiye, Başakşehir Çam and Sakura City Hospital, Maternity Education Nurse, İstanbul, Türkiye

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ABSTRACT

Objective: The purpose of this study was to assess how self-management education for gestational diabetes mellitus (GDM), given to pregnant women with a GDM diagnosis, influences their perceived risk, diabetes self-management abilities, and perinatal outcomes.

Methods: This study was carried out between February and September 2024 at maternity education and research hospital. A total of 40 pregnant women participated, with 20 assigned to the control group and 20 to the individual education group. All participants were diagnosed with GDM by physician based on screening tests conducted at 24-28 weeks of gestation, and were referred to the diabetes nursing clinic. The women in the individual education group received weekly 40-minute training sessions over four weeks, conducted by a certified diabetes nurse and a certified prenatal education midwife. All data were analyzed using SPSS version 25.0.

Results: After the four-week diabetes self-management education, a comparison of the total scores of the Perception of Pregnancy Risk Questionnaire (PPRQ) and the Diabetes Self-Management Questionnaire (DSMQ) between the control and individual education groups revealed no significant difference in pregnancy risk perception between the two groups. However, the total DSMQ score showed a significant increase in the individual education group ($p<0.05$). No significant differences were observed between the groups in the sub-dimensions of the PPRQ; however, the sub-dimensions of the DSMQ, specifically glucose management, dietary control, and health care utilization, along with overall diabetes self-management, showed statistically significant improvements in the individual education group. Although within normal limits, the height and weight of the babies born to the mothers in the control group were statistically significantly higher compared to those in the individual education group.

Conclusion: The study revealed that diabetes self-management education delivered by midwives and nurses -the health care professionals most closely engaged with pregnant women- enhanced dietary management and risk perception during pregnancy.

Keywords: Gestational diabetes mellitus, self-management, pregnancy risk, education

ÖZ

Amaç: Bu çalışmanın amacı, gebelik diyabeti (GDM) tanısı alan gebe kadınlara verilen gebelikte GDM özyönetimi eğitiminin; gebelikte algılanan risk algısına, diyabet öz yönetimi düzeylerine ve perinatal çıktılara etkisini saptamak amacı ile yürütülmüştür.

Yöntem: Çalışma, Şubat-Eylül 2024 tarihleri arasında bir kadın doğum eğitim ve araştırma hastanesinde 24-28 gebelik haftalarında yapılan tarama testleri baz alınarak hekim tarafından GDM tanısı konulan ve diyabet hemşireliği polikliniğine yönlendirilen 40 (20 kontrol grubu, 20 bireysel eğitim

ORCID IDs: AÖ. 0000-0002-4278-5278; FA. 0000-0002-4421-3089; BAH. 0009-0006-3779-0087

Corresponding Author: Füsun Afşar,
E-mail: fusunafsar@maltepe.edu.tr

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grubu) gebe ile gerçekleştirildi. Bireysel eğitim grubuna dahil edilen gebelere sertifikalı diyabet hemşiresi ve sertifikalı gebe eğitim ebesi tarafından dört hafta boyunca haftada bir gün, her biri 40 dakikadan oluşan gestasyonel diyabet ve gebelik ile ilgili öz yönetim becerilerini desteklemeyi amaçlayan eğitimler verildi. Araştırma verilerinin toplanmasında, "Gebelerin Tanıtıcı Özellikleri Formu", "Diyabet Öz Yönetim Skalası (DSMQ)", "Gebelikte Risk Algısı Ölçeği (GRAÖ)" kullanıldı. Araştırmadan elde edilen veriler, SPSS 25.0 (IBM, Armonk, NY, USA) programı kullanılarak değerlendirildi.

Bulgular: Dört haftalık diyabet öz bakım eğitimi sonrası, kontrol ve bireysel eğitim gruplarındaki gebelerin PPRQ ve DSMQ toplam puanları karşılaştırıldığında; iki grup arasında gebelik risk algısı açısından farka rastlanmaz iken, DSMQ toplam puanının bireysel eğitim grubunda anlamlılık yaratacak düzeyde artığı saptandı ($p<0,05$). GRAÖ alt boyutları açısından iki grup arasında farka rastlanmaz iken, DSMQ alt boyutları olan; glikoz yönetimi, diyet yönetimi, sağlık hizmetlerini kullanma ve diyabet öz yönetim puanları açısından istatistiksel açıdan anlamlı farklılık olduğu bulundu. Normal sınır aralıklarında olmakla birlikte kontrol grubundaki gebelerin bebeklerinin boy ve kilolarının bireysel eğitim grubundaki bebeklere oranla daha yüksek olduğu ve bu farkın istatistiki açıdan anlamlı olduğu görüldü.

Sonuç: Gebelikte kadına en yakın olan ve en çok vakit geçiren sağlık profesyonelleri olan ebe ve hemşireler tarafından verilen diyabet öz yönetimi diyet, yaşam davranışları değişikleri ve sağlık kuruluşlarından yararlanmayı olumlu etkilediği ve perinatal göstergeler üzerine de olumlu etkilerinin olduğu saptandı.

Anahtar kelimeler: Gestasyonel diyabet, öz yönetim, gebelikte risk algısı, eğitim

INTRODUCTION

Gestational diabetes mellitus (GDM) is the most common metabolic complication of pregnancy, characterized by hyperglycemia that is first identified during pregnancy in women without a prior history of diabetes, and presents potential risks to both the mother and fetus, necessitating careful management to mitigate adverse outcomes [1-3]. According to the International Diabetes Federation, in 2021, there were 21.1 million pregnancies with excessive hyperglycemia, and 80% of these were GDM pregnancies [4]. The rising prevalence of GDM is a leading cause of maternal and infant mortality and morbidity worldwide. Women with GDM face increased risks of pregnancy-related hypertension, preeclampsia, infections, preterm birth, and cesarean delivery [2,3,5]. Additionally, their children are at a higher risk for adverse pregnancy outcomes such as macrosomia, congenital anomalies, neonatal hypoglycemia, shoulder dystocia, and respiratory distress syndrome, as well as long-term health issues such as hypertension, obesity, and diabetes [2,5-7]. To improve maternal and newborn health, women with GDM are required to adopt multiple, often challenging lifestyle changes (diet and exercise), monitor blood glucose levels, and use various hypoglycemic agents [2,5,7]. Successful self-management is a crucial aspect of GDM care, requiring a reduction in caloric intake by substituting high-calorie foods with healthier alternatives, encouraging increased physical activity to enhance metabolism, and consistently monitoring blood glucose levels, which empowers pregnant women to effectively manage their GDM and minimize potential complications [5,8,9]. The primary goal of GDM treatment is to maintain blood glucose within the recommended range, which can be achieved through these healthy lifestyle interventions (diet and physical activity) [3,5]. However, if self-management is not adequately addressed in women with GDM, the morbidity rates for both the mother and baby can be two to three times higher. However, these risks can be significantly reduced with proper management of GDM, emphasizing the importance of timely interventions and effective care strategies [10]. Perception of risk during pregnancy and childbirth is a complex process influenced by multiple factors. For pregnant women, the primary concern related to risk perception shaped by pregnancy-specific risk factors is the well-being of their baby [11-13]. Another significant source of anxiety is the worry that dietary programs may be too restrictive and fail to provide all the necessary nutrients for the baby [13]. Risk perception can be influenced by various elements, including perceptions, expectations, previous life experiences, high-risk pregnancies, fear induced by stress, and information received from different sources [11,13]. The intensity of risk perception impacts attitudes towards treatment, maternal decision-making during pregnancy, and adherence to medical procedures and recommendations [11]. A study involving women with GDM reported that a low-risk perception for developing type 2 diabetes mellitus hindered their ability to make lifestyle changes [14]. Similarly, other studies indicated that low-risk perceptions led some women with gestational diabetes to believe that their condition was temporary [15,16], which may cause them to disregard further interventions and treatments, ultimately leading to neglect in self-management [17]. Therefore, it is essential that health care professionals, especially nurses, effectively manage risk perception to enhance self-management and self-efficacy among women with GDM [3]. Given the risks posed by GDM to both mothers and babies, it is crucial to identify strategies that support women in managing their condition [5]. Health education interventions are one of the key components in managing GDM, as they help improve self-management skills, blood glucose monitoring, healthy lifestyle changes, and decision-making [16,18-20]. In this context, education is one of the most effective strategies for supporting self-management in women with GDM. The closest and most effective sources of support for providing counseling and education to these women are diabetes nurses and midwife-nurses who monitor pregnancies. The purpose of this study was to assess how GDM self-management education influences pregnant women diagnosed with GDM, specifically examining its effects on their perceived risk, diabetes self-management skills, and perinatal outcomes.

Hypotheses

- H_0: Individual education provided to pregnant women diagnosed with gestational diabetes immediately following their diagnosis does not affect diabetes self-management.

- H_1: Individual education provided to pregnant women diagnosed with gestational diabetes immediately following their diagnosis does not affect perceived risk levels during pregnancy.
- H_2: Individual education provided to pregnant women diagnosed with gestational diabetes immediately following their diagnosis does not affect perinatal outcomes.
- H_3: Individual education provided to pregnant women diagnosed with gestational diabetes immediately following their diagnosis affects diabetes self-management.
- H_4: Individual education provided to pregnant women diagnosed with gestational diabetes immediately following their diagnosis affects perceived risk during pregnancy.
- H_5: Individual education provided to pregnant women diagnosed with gestational diabetes immediately following their diagnosis affects perinatal outcomes.

MATERIAL AND METHOD

This study aimed to assess the effects of GDM self-management education on pregnant women diagnosed with GDM, focusing on their perceived risk during pregnancy, diabetes self-management levels, and perinatal outcomes. Conducted between February and September 2024 at a maternity education and research hospital, the study included pregnant women who were diagnosed with GDM by a physician following screening tests performed at 24-28 weeks of pregnancy, and subsequently referred to the diabetes nursing clinic. Ethical approval was obtained from the University of Health Sciences Türkiye, Başakşehir Çam and Sakura City Hospital Ethics Committee (approval no.: 78, date: 31.01.2024), and the study was carried out in compliance with the Helsinki Declaration. The researchers provided a verbal explanation of the study's purpose and procedures to all participants, and written informed consent was obtained from each volunteer before data collection was completed.

Population and Sample

The population of this study consisted of pregnant women diagnosed with GDM who visited the relevant institution during the study period. To determine the minimum required sample size, a power analysis was conducted based on similar studies [5,9]. According to the power analysis, with an effect size of 0.754, a significance level of 0.05, a confidence level of 95%, and a test power (1-β) of 80% for a two-tailed hypothesis, the optimal number of female participants was calculated as 20. Therefore, the total sample size for the study was determined to be 40 pregnant women (20 in the control group, 20 in the individual education group). Inclusion criteria for the study were as follows: (i) being diagnosed with GDM, (ii) having a singleton pregnancy, (iii) being 18 years or older, (iv) volunteering to participate, (v) being able to read and understand Turkish, and (vi) having no communication problems (such as hearing or speech impairments), and (vii) not having any diagnosed psychiatric disorders. Exclusion criteria included: (i) twin pregnancies, (ii) the presence of an additional risk factor along with GDM during pregnancy, and (iii) giving birth before 36 weeks of gestation.

Randomization

For the pregnant women who met the sample selection criteria, randomization was conducted using the random integer generator available on the website random.org. Columns were created within the 1-40 range (Random.Org). The numbers 1 and 2 were assigned to each participant randomly, representing the allocation to either the intervention or control group. At the beginning of the study, these numbers were designated to represent the experimental and control groups through a lottery method. The pregnant women assigned the number 1 were placed in the individual education group, while those assigned the number 2 were placed in the control group. The study's CONSORT diagram is presented in Figure 1.

The 20 pregnant women who met the inclusion criteria and were assigned the number 1 were placed in the control group. This group received standard care in accordance with hospital

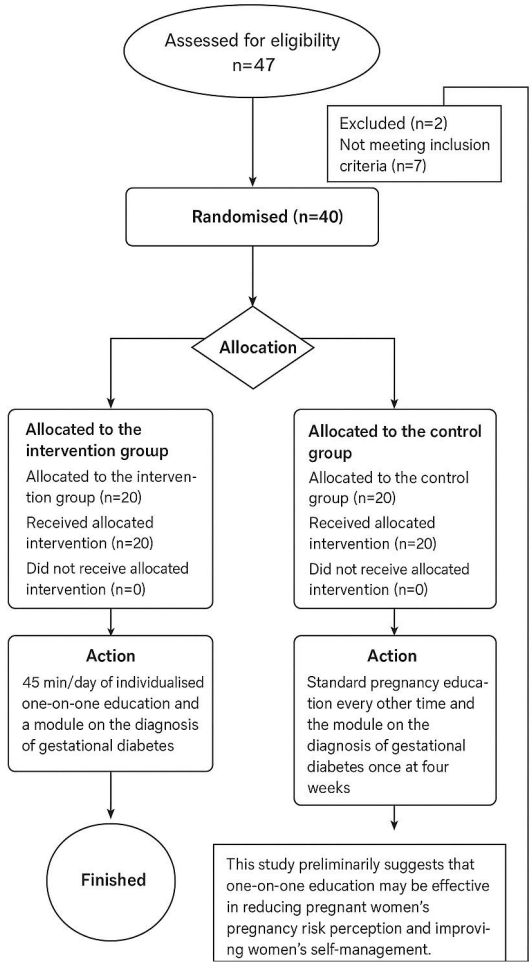


Figure 1. Research CONSORT Diagram

protocols, which included personalized instruction from a diabetes education nurse. The instruction covered self-administration of insulin (if prescribed), monitoring of blood glucose levels, and education on GDM management during pregnancy. The pregnant women assigned the number 2, who were placed in the individual education group, received a more comprehensive education program. This program was delivered by a certified diabetes nurse and a certified prenatal education midwife over a four-week period, with weekly 40-minute sessions. The sessions covered various self-management skills related to gestational diabetes and pregnancy, including blood glucose monitoring, insulin administration and tracking, GDM nutrition, weight control, diet, self-management, physical activity, healthy lifestyle behaviors, utilization of health care services, and follow-up care. Since the education was provided individually, the dates for each session were scheduled during the previous session based on the participant's availability.

Training Program

Week 1: Definition and Symptoms of Gestational Diabetes

What is gestational diabetes? What are its symptoms? (What causes it? Is it permanent or temporary?)

The role of sugar in the body and its effects on pregnancy and fetal development.

Home blood sugar monitoring and evaluation, recording.

Special educational needs of pregnant women.

Week 2: Antidiabetic Medications Used During Pregnancy

What are the medications used, and how should they be administered?

Importance of insulin therapy, types and effects, injection sites and site rotation, as well as the side effects of therapy and storage considerations for insulin.

Special educational needs of pregnant women.

Week 3: Gestational Diabetes and Diet

Importance of nutrition, meal planning, essential nutrients affecting blood sugar levels: carbohydrates.

Snack options (sample menus, recipes).

Diet and fetal development.

Special educational needs of pregnant women.

Week 4: Effects of Gestational Diabetes on Maternal and Child Health

Acute complications and prevention of gestational diabetes.

Self-care and self-sufficiency in gestational diabetes (pregnancy-week appropriate exercise activities, self-care, hygiene).

Special educational needs of pregnant women.

Referral to Diabetes Nursing Clinic

All pregnant women who are diagnosed with gestational diabetes and visit the prenatal clinic are referred to the diabetes nursing clinic, where they receive education on topics such as gestational diabetes and blood sugar monitoring, and insulin usage. Additionally, information is provided regarding the weekly training sessions for the study group and they are notified that they may participate if they wish. Pregnant women who indicate that they cannot attend are included in the control group. Those who express they cannot attend are informed that they can join at any time, and the information is personally conveyed during pregnancy school registration. Moreover, information brochures on gestational diabetes are also provided to the women in the control group. Regardless of their group, pregnant women may receive postpartum follow-up care from the postpartum clinic at any time after delivery. This information is provided to all pregnant women during discharge education in the hospital.

Compliance with the Educational Program

Trainings for willing participants in the study group are scheduled based on the dates and times requested by the pregnant women, coordinated with prenatal clinic appointments and/or examinations like ultrasounds (scheduled half an hour before or after the appointments). Additionally, follow-up appointments for all participants of the pregnancy school and/or those attending these trainings are scheduled by the hospital for advanced ultrasounds, tests, etc.

Data Collection

The study data were collected through face-to-face interviews conducted by a diabetes education nurse in a room that ensured patient privacy. The Descriptive Characteristics Form for Pregnant Women', the Diabetes Self-Management Questionnaire (DSMQ), and the Perception of Pregnancy Risk Questionnaire (PPRQ) were administered to the pregnant women who were referred to the diabetes nursing clinic after their initial diagnosis but had not yet begun education. For the individual education group, the scales were applied for the second time following the completion of a four-week education program, while for the control group, the scales were re-administered during the first hospital visit, which took place at least four weeks after the initial assessment. The data related to childbirth, including the baby's weight, length, and appearance, pulse, grimace, activity, and respiration (APGAR) scores, were obtained from the postnatal information management system and recorded on the Descriptive Characteristics Form. The data collected through face-to-face interviews were gathered in approximately 25-30 minutes.

Data Collection Tools

The data for the study were collected using the Descriptive Characteristics Form for Pregnant Women, the DSMQ, and the PPRQ [21,22].

Descriptive Characteristics Form for Pregnant Women

This form was developed by the researcher based on relevant literature. It consists of 30 questions related to personal, obstetric, and gynecological characteristics. The personal characteristics section includes questions regarding age, education level, marital status, occupation, income level, family type, height-weight, smoking/alcohol use, family history, and the presence of chronic diseases. The obstetric and gynecological section covers questions about the number of pregnancies, gestational week, weight gained during pregnancy, number of live births, and age at first menstruation. The section for data obtained from patient files includes information related to childbirth, such as the baby's weight, length, and APGAR score.

Diabetes Self-Management Questionnaire (DSMQ)

The DSMQ is a 16-item self-assessment scale widely used in studies to evaluate the relationship between diabetes self-management and glycemic control among diabetic patients. The scale is in a four-point Likert format and consists of four sub-dimensions: glucose management, dietary control, physical activity, and healthcare use. Scores range from 0 to 10, with higher scores indicating better diabetes self-management. In the Turkish adaptation of the scale [21], the Cronbach's alpha value was found to be 0.85 study, and the Cronbach's alpha value of the scale was calculated as 0.86.

Perception of Pregnancy Risk Questionnaire (PPRQ)

The PPRQ was developed by Heaman and Gupton in 2009 to assess the risk perception of pregnant women. The scale consists of nine items and is a visual analog measurement tool. It has two sub-dimensions: risk to baby and risk to self. Below each item, there is a 0-100 mm linear line with labels ranging from "no risk at all" to "extremely high risk". The total score is calculated by summing the scores for each of the nine items and dividing the total by nine. A higher score indicates an increased perception of risk related to the woman and her baby. In the Turkish validity and reliability study of the scale [22], the total Cronbach's alpha coefficient was found to be 0.84. For this study, the Cronbach's alpha value of the scale was calculated as 0.95.

Statistical Analysis

The data obtained from the study were analyzed using the SPSS 25.0 (IBM, Armonk, NY, USA) software. Since the data followed a normal distribution, descriptive statistics, independent t-test, One-Way ANOVA, and Pearson correlation tests were applied. The results were evaluated at a 95% confidence interval, and the significance level was set at $p<0.05$.

RESULTS

The distribution of the descriptive characteristics of the pregnant women in the individual education and control groups, along with their comparisons, is presented in Table 1. No statistically significant differences were found between the groups in terms of age, education level, employment status, or income level ($p>0.05$), indicating that the two groups were similar in terms of their descriptive characteristics. However, it was observed that the body mass index (BMI) was higher in the individual education group, and that this difference was statistically significant between the groups ($p<0.05$). There is no smoking or alcohol use in the control and individual education groups.

There were no statistically significant differences between the groups regarding age at first menstruation, total number of pregnancies, gestational week, weight gained during pregnancy, the week of referral to the diabetes clinic, mode of delivery, family history of diabetes, regular blood glucose monitoring during pregnancy, and insulin use ($p>0.05$), indicating that the two groups had similar descriptive characteristics. However, it was found that the gestational week at delivery in the control group was two weeks later than that in the individual education group, and that this difference was statistically significant ($p<0.05$) (Table 2).

When comparing the babies of the pregnant women in the control and individual education groups in terms of birth weight and length, as presented in Table 3, it was observed that although both groups were within the normal range, the babies in the control group had higher birth weights and lengths compared to those in the individual education group. This difference was found to be statistically significant ($p<0.05$). In contrast, the APGAR scores were similar between the two groups, with no statistically significant difference observed ($p>0.05$).

It was found that the women in the individual education group demonstrated significantly higher engagement in pregnancy-related information-seeking behaviors compared to the control group, and that this difference was statistically significant ($p<0.05$). However, no statistically significant differences were found between the two groups in terms of paying attention to healthy eating habits, exercising regularly, or developing good sleep habits ($p>0.05$), indicating that both groups exhibited similar characteristics in these aspects (Table 4).

When comparing the initial evaluation scores of the PPRQ and DSMQ and their sub-dimension, it was found that the total DSMQ score was higher in the individual education group, and that this increase was statistically significant ($p<0.05$). However, no significant differences were observed in the scores of the other sub-dimensions ($p>0.05$). After the four-week diabetes self-management education, a comparison of the total PPRQ and DSMQ scores between the control and individual education groups revealed no significant difference in pregnancy risk perception. However, the total DSMQ score showed a statistically significant increase in the individual education group ($p<0.05$). While there were no significant differences between the two groups in the sub-dimensions of the PPRQ ($p>0.05$), there were statistically significant differences in the DSMQ sub-dimensions, including glucose management (Graph 1D), dietary control (Graph 1E), health care use (Graph 1G), and diabetes self-management (Graph 1H) ($p<0.05$) (Table 5, Graph 1).

Table 1. Distribution and Comparison of the Descriptive Characteristics of Pregnant Women in the Control and Individual Education Groups					
	Control group		Individual education group		p
BMI	30.550±3.84		34.750±6.39		2.516 0.016
	n	**%**	**n**	**%**	
Age					
1-18-25	1	5	0	0	1.268 0.531
2-26-35	15	75	17	85	
3-36-45	4	20	3	15	
Education					
1. Primary school	3	15	0	0	5.978 0.095
2. Middle school	5	25	8	40	
3. High school	6	30	8	40	
4. Undergraduate degree	4	20	4	20	
5. Graduate degree	2	10	0	0	
Working status					
Yes	2	10	5	25	1.558 0.204
No	18	90	15	75	
Income status					
1. Income less than expenses	2	10	6	30	3.290 0.193
2. Income equal to expenses	17	85	14	70	
3. Income more than expenses	1	5	0	0	
BMI: Body mass index					

Table 2. Comparison of the Obstetric and Diabetes History of Pregnant Women in the Control and Individual Education Groups					
	Control group		Individual education group		p
Age at first menstruation	13.30±1.21		13.15±1.13		-0.403 0.689
Total number of pregnancies	2.10±1.07		2.65±0.98		1.688 0.100
The week of referral to the diabetes clinic	32.15±3.80		31.00±2.75		-1.096 0.280
Weight gained during pregnancy	12.20±4.07		10.35±4.23		-1,408 0.167
Gestational week at delivery	37.90±1.51		35.85±2.96		-2.755 0.009
	n	**%**	**n**	**%**	**p**
Delivery type					
Vaginal delivery	5	25	5	25	0.000 0.642
Cesarean section	15	75	15	75	
Is there a family history of diabetes?					
1. Yes	7	35	9	45	0.417 0.519
2. No	13	65	11	55	
Was regular blood sugar monitoring performed during pregnancy?					
1. Yes	8	40	5	25	1.151 0.562
2. No	8	40	9	45	
3. Rarely	4	20	6	30	
Insulin use					
1. Yes	4	20	5	25	1.244 0.537
2. No	16	80	15	75	

Table 3. Comparison of the Newborn Variables at Delivery Between Pregnant Women in the Control and Individual Education Groups			
	Control group	Individual education group	p
Baby's birth weight	3465.750±655.232	2866.2500±715.456	-2.764 0.009
Baby's length	51.750±2.425	49.200±4.187	-2.357 0.024
Baby's APGAR score at 1 minute	7.100±1.518	7.000±1.589	-0.203 0.840
Baby's APGAR score at 5 minutes	8.550±0.944	8.450±0.998	-0.325 0.747
APGAR: Appearance, pulse, grimace, activity, and respiration			

Table 4. Comparison of Healthy Lifestyle Behavior Variables Between Pregnant Women in the Control and Individual Education Groups					
	Control group		Individual education group		
	n	%	n	%	p
Healthy eating habits					
1. Yes	19	95	16	80	2.057 0.342
2. No	1	5	4	20	
Regular exercise					
1. Yes	1	5	2	10	0.360 1.000
2. No	19	95	18	90	
Developing good sleep habits					
1. Yes	1	5	4	20	2.057 0.342
2. No	19	95	16	80	
Seeking information on pregnancy					
1. Yes	4	20	20	100	26.667 0.000
2. No	16	80	0	0	

When comparing the initial and final evaluations of the PPRQ and DSMQ scores in the control group, it was observed that the PPRQ scores decreased and that the DSMQ scores increased; however, these changes were not statistically significant ($p>0.05$). In the individual education group, an analysis of the PPRQ and DSMQ scores before and after the four-week self-management education revealed a decrease in PPRQ scores and an increase in DSMQ scores. Furthermore, there were statistically significant changes in all sub-dimensions, except for risk to self and physical activity ($p<0.05$). Comparison of pre-test and post-test mean scores for PPRQ and DSMQ, including overall scores and sub-dimension results.

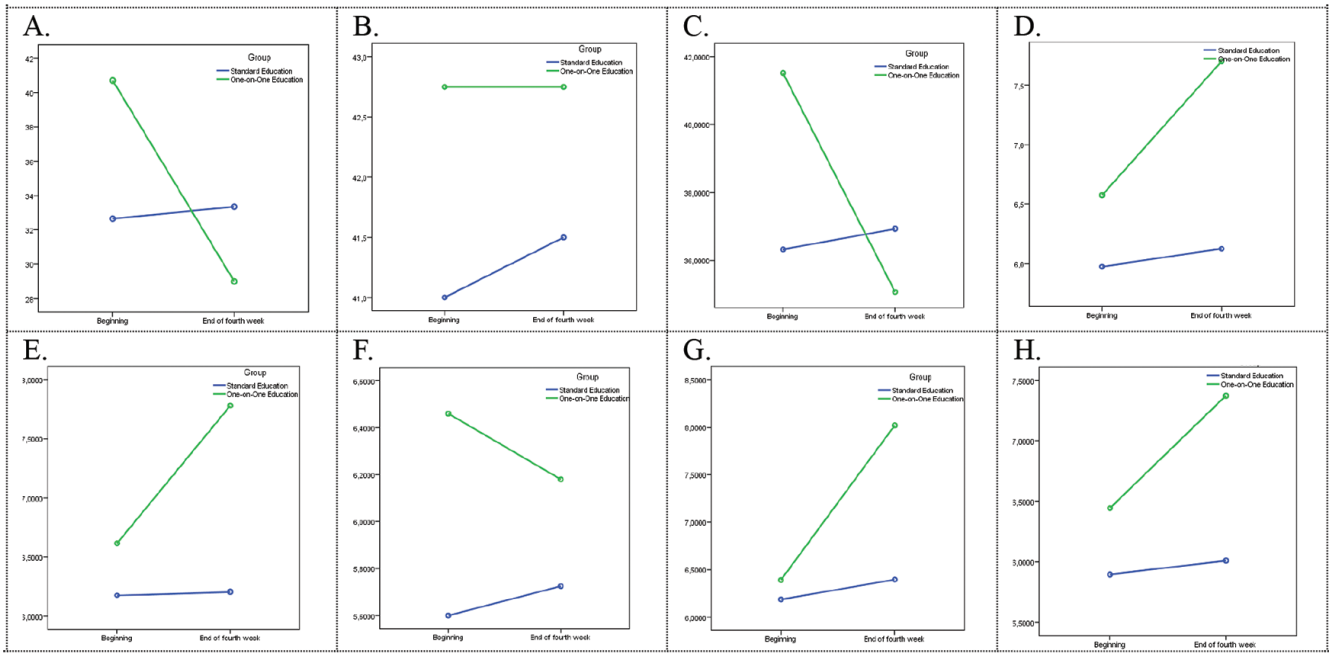
DISCUSSION

Tight glycemic control and self-monitoring of glucose levels, along with adopting healthy lifestyle behavior changes, are essential for reducing pregnancy complications related to GDM. These interventions require women to quickly learn and adopt challenging self-management skills in a short time. Health education is a fundamental component of care for successful GDM management and rapid adaptation to these changes [23-26].

This study was conducted in light of the need for research and evidence on the impact of component face-to-face nursing education and counseling on self-management in pregnant women with GDM, a condition with high prevalence in Türkiye and known to have negative effects on maternal and infant health.

Controlling weight gain during pregnancy, which is a modifiable risk factor for adverse pregnancy outcomes, contributes to the early detection, prevention, and intervention of negative perinatal outcomes [25,26]. In a study conducted in China involving a retrospective review of prenatal medical information from 41.845 pregnant women, a high BMI in early pregnancy was identified as a risk factor for gestational diabetes, whereas an increase in BMI before gestational risk screening was not found to be associated with an increased risk of GDM [27]. In the present study, the BMI of the pregnant women in the individual education group was higher at the start of the study compared to the control group. Given that an increase in BMI before gestational risk screening was not linked to an increased risk of GDM in the literature, this difference was not expected to affect the study's outcomes.

Studies have described pregnancy as a "window of opportunity" both for identifying women at risk of future health conditions and



Graph 1. Comparison of Pre-test and Post-test Mean Scores for PPRQ and DSMQ, Including Overall Scores and Sub-dimension Results, in the Experimental and Control Groups
(A) Risk to baby, (B) Risk to self, (C) Perception of pregnancy risk, (D) Glucose management, (E) Dietary control, (F) Physical activity, (G) Health care use, (H) Diabetes self-management, Green line: One-on-one education, Blue line: Standard education
PPRQ: Perception of Pregnancy Risk Questionnaire, DSMQ: Diabetes Self-Management Questionnaire

for promoting lifestyle changes [28,29]. In women with a history of GDM, a perceived low risk may act as a barrier to adopting risk-reducing lifestyle changes, while a well-managed and perceived level of risk can play a significant role in adopting preventive health behaviors [29]. When examining the results of various studies, it has been found that women often experience anxiety, fear, and panic upon receiving a GDM diagnosis, with many expressing that changing their eating habits and engaging in exercise are particularly challenging adjustments [30]. A statistically significant positive correlation between risk perception and exercise behavior has also been identified [31]. Moreover, many women diagnosed with GDM tend to underestimate their personal risk of developing diabetes later in life [29]. The literature indicates that pregnancy risk perception may be related to factors such as the number of births, maternal age, and pregnancy complications, underscoring the importance of individualized assessments [32]. At the beginning of this study, risk perception scores were similar for both groups. However, as the study progressed, the individual education group showed a decrease in sub-dimension scores related to the perception of risk to baby and overall pregnancy risk, while the control group exhibited an increase in these scores. This result was attributed to the ability of the women in the individual education group to express themselves and their concerns more comfortably, directly address their uncertainties and anxieties, and receive answers, leading to better management of their risk perception.

Knowledge of GDM is crucial for its effective management. Health education provided to women is highly effective in increasing their knowledge about the disease, correcting any misconceptions, preventing complications related to the condition, and enhancing their self-management skills [16,33]. Studies on improving self-efficacy emphasize the importance of personalized and customizable approaches to enhance the effectiveness of GDM management practices, facilitate changes in habits, and make goals more achievable [34]. Studies on improving self-efficacy highlight the importance of personalized and customizable interventions in increasing the effectiveness of GDM management practices, facilitating changes in habits, and making goals more attainable [34]. A systematic review of 70 studies emphasizes that when pregnant women with gestational diabetes reach a certain level of self-management and self-efficacy, they can positively control their diet and body weight [3]. Haron et al. [16] conducted a review of 19 studies to explore self-management strategies, educational content, and their effectiveness for women with GDM. Their findings highlight the significant positive impact these interventions have on the management of GDM. These include improved self-management behaviors, higher satisfaction scores, enhanced self-efficacy, better glucose control, and improved pregnancy outcomes. In this study, both the control and individual education groups showed an increase in total diabetes self-management scores and scores across all sub-dimensions, except for physical activity. However, in the intra-group comparisons, the self-management scores of the women in the individual education

Table 5. Comparison of Pre-test and Post-test Mean Scores for PPRQ and DSMQ, Including Overall Scores and Subdimension Results, Both Within and Between the Control and Individual Education Groups

	Scale and their sub-dimensions initial evaluation		Control group			Individual education group				
			After 4 weeks	p-value	Initial evaluation	After 4 weeks	p-value	Inter-group baseline comparison (t;p)	Inter-group post-assessment comparison (t;p)	
PPRQ	Risk to baby	Mean ± SD	32.65±16.56	33.35±16.70		40.70±10.72	29.00±8.14		1.824	-1.047
		Intragroup difference (t;p)	-0.082		0.935	3.885		0.000	0.076	0.302
	Risk to self	Mean ± SD	41.00±19.77	41.500±18.83		42.75±7.56	42.75±7.56		0.370	0.275
		Intragroup difference (t;p)	-0.116		0.908	0.000		1.000	0.714	0.785
DSMQ	Perception of pregnancy risk	Mean ± SD	36.32±16.72	36.93±16.43		41.51±8.00	35.06±6.97		1.253	-0.467
		Intragroup difference (t;p)	-0.133		0.895	2.717		0.010	0.218	0.643
	Glucose management	Mean ± SD	5.97±1.32	6.12±1.46		6.57±1.07	7.70±0.69		1.572	4.336
		Intragroup difference (t;p)	-0.340		0.736	-3.918		0.000	0.124	0.000
	Dietary control	Mean ± SD	6.17±1.19	6.20±1.13		6.61±1.13	7.78±0.84		1.192	4.964
		Intragroup difference (t;p)	-0.081		0.936	-3.681		0.001	0.241	0.000
	Physical activity	Mean ± SD	5.60±1.35	5.72±1.26		6.46±1.39	6.18±1.15		1.979	1.189
		Intragroup difference (t;p)	-301		0.765	0.693		0.493	0.06	0.242
	Health-care use	Mean ± SD	6.18±1.56	6.39±1.35		6.39±1.69	8.02±0.72		0.398	4.725
		Intragroup difference (t;p)	-0.454		0.652	-3.959		0.000	0.693	0.000
	Diabetes self-management	Mean ± SD	5.89±0.94	6.01±0.93		6.44±0.66	7.37±0.41		2.118	5.951
		Intragroup difference (t;p)	-0.386		0.702	-5.276		0.000	0.041	0.000

PPRQ: Perception of Pregnancy Risk Questionnaire, DSMQ: Diabetes Self-Management Questionnaire, SD: Standard deviation

group increased significantly before and after the intervention. Despite the higher initial BMI of the women in the individual education group, their babies' birth weights were lower compared to the control group, and the average birth weight was below the threshold for macrosomia, a common complication of GDM. In a randomized controlled study conducted in China, a couple-based intervention program was applied to the intervention group, while the control group received individual GDM education. At the end of the program, GDM knowledge and self-management improved significantly in both groups, but greater improvement was observed in the intervention group. Consistent with this study, the babies' birth weights in the intervention group were also found to be significantly lower [2]. A review of 30 qualitative studies that examined the self-reported barriers to self-management among pregnant women with GDM categorized the obstacles into three main themes: (a) knowledge and beliefs, (b) skills and abilities, and (c) environment and social support. Under the subtheme of physical limitations in the "skills and abilities" theme, it was

reported that pregnant women were more prone to fatigue, may suffer from pelvic and perineal pain, and may experience more mobility issues compared to the general population. These factors were identified as barriers to maintaining a regular exercise routine for women with GDM [20]. In this study, no progress was observed in the physical activity sub-dimension of diabetes self-management for either the individual education group or the control group. Although health care providers often recommend maintaining or increasing physical activity during pregnancy, these recommendations may not be persuasive enough to overcome traditional beliefs and perceptions that pregnancy requires extra care, rest, and recovery [35,36]. The lack of change in the physical activity sub-dimension in both groups could be linked to the prevailing cultural perspective in our society.

Study Limitations

This study has certain limitations. The study was conducted in a single center, which may limit the generalizability of the findings. Additionally, the small sample size and short follow-up period may have influenced the outcomes. Future multicenter studies with larger sample sizes and longer follow-up periods are recommended to confirm these results.

CONCLUSION

Women need to recognize their potential for a safe pregnancy, and one of the most effective ways to achieve this is through educational and counseling interventions. This study found that individualized GDM self-management education and counseling provided by nurses facilitated and positively impacted women's management of perceived pregnancy risk. As women's knowledge levels increased, their perceived risk decreased, which indirectly positively influenced the implementation of self-management skills training. It was observed that individual education significantly increased and positively impacted the scores on the diabetes self-management scale, with significant improvements in all sub-dimensions except physical activity. This lack of improvement in physical activity may be influenced by social beliefs and perceptions, where pregnant women are expected to rest and reduce movement. Therefore, promoting physical activities that are safe and will not adversely affect pregnancy could be beneficial for broader acceptance among pregnant women. National studies on the benefits of physical activity during pregnancy and its positive effects on pregnancy and GDM management could play a crucial role in raising social awareness. Similar to individualized education programs, there is also a need for physical activity planning and studies to promote physical activity during pregnancy. Additionally, the study demonstrated that self-management education was significantly associated with lower birth weights. Follow-up studies during the postpartum period are needed to determine whether the effects of the intervention are long-lasting or specific to pregnancy, as adopting healthy lifestyle behaviors after pregnancy could help reduce the risk of developing type 2 diabetes. In conclusion, diabetes self-management education provided by midwives and nurses, who spend the most time with pregnant women, positively influenced diet, lifestyle changes, and the use of health care services, as well as having positive effects on perinatal outcomes.

Ethics

Ethics Committee Approval: Ethical approval for the study was obtained from the Ethics Committee of University of Health Sciences Türkiye, Başakşehir Çam and Sakura City Hospital (approval no.: 78, date: 31.01.2024), and the study was conducted in accordance with the Helsinki Declaration.

Informed Consent: The purpose and procedures of the study were verbally explained to all participants by the researchers. Data collection was completed after obtaining written informed consent from each participant.

Footnotes

Author Contributions

Concept: AÖ, FA; Design: AÖ, FA; Data Collection or Processing: AÖ, BAH; Analysis or Interpretation: AÖ, FA; Literature Search: AÖ, FA; Writing: AÖ, FA.

Conflict of Interest: No conflict of interest was declared by the authors.

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Does Expectant Mothers' Fear of Childbirth Affect Their Prenatal Attachment Level?: A Cross-sectional Study

Anne Adaylarının Doğum Korkusu Doğum Öncesi Bağlanma Düzeylerini Etkiliyor mu?: Kesitsel Bir Çalışma

Hacer Ataman[1], Merve İnan Budak[2], Özlem Akarsu Akkaya[3]

[1]İstanbul Medeniyet University Faculty of Health Sciences, Department of Obstetrics and Gynecology Nursing, İstanbul, Türkiye
[2]İstanbul Medeniyet University Faculty of Health Sciences, Department of Psychiatric Nursing, İstanbul, Türkiye
[3]İstanbul Medeniyet University Faculty of Health Sciences, Department of Child Health and Diseases Nursing, İstanbul, Türkiye

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ABSTRACT

Objective: The purpose of this study was to examine the relationship between fear of childbirth and prenatal attachment in pregnant women in the last trimester.

Methods: The study was descriptive and correlational. The sample comprised of 300 pregnant women. Data were obtained using the "Patient Information Form", "Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ)" A version, and "Prenatal Attachment Inventory (PAI)".

Results: A statistically significant difference was indicated between the mean W-DEQ score and the employment status, number of children, family type, and the effect of pregnancy on the relationship with the husband. There was a statistically significant difference between the educational status of the pregnant, the educational status of the husband, the number of previous pregnancies, the number of living children, and the effect of pregnancy on the relationship with the husband and the mean PAI score. A statistically significant relation was revealed between PAI and W-DEQ ($p<0.0001$). Accordingly, it was shown that as the fear of childbirth increased, the level of prenatal attachment also increased.

Conclusion: Fear of childbirth and prenatal attachment levels of pregnant should be evaluated. Eliminating the fear of childbirth and strengthening prenatal attachment is important for a healthy pregnancy, delivery, and postpartum period.

Keywords: Fear of childbirth, pregnancy, prenatal attachment

ÖZ

Amaç: Bu çalışmanın amacı, son trimesterdeki gebe kadınlarda doğum korkusu ile doğum öncesi bağlanma arasındaki ilişkiyi incelemektir.

Yöntem: Çalışma tanımlayıcı ve ilişkiseldir. Örneklem 300 gebe kadından oluşmaktadır. Veriler, "Hasta Bilgi Formu", "Wijma Doğum Beklentisi/Deneyim Ölçeği (W-DEQ)" versiyon A ve "Prenatal Bağlanma Envanteri (PBE)" kullanılarak elde edilmiştir.

Bulgular: W-DEQ puan ortalaması ile çalışma durumu, çocuk sayısı, aile tipi ve gebeliğin eşle ilişkiye olan etkisi arasında istatistiksel olarak anlamlı bir fark bulunmuştur. Gebenin eğitim durumu, eşin eğitim durumu, önceki gebelik sayısı, yaşayan çocuk sayısı ve gebeliğin eşle ilişkiye etkisi ile PBE puan ortalaması arasında istatistiksel olarak anlamlı bir fark saptanmıştır. PBE ile W-DEQ arasında istatistiksel olarak anlamlı bir ilişki tespit edilmiştir ($p<0,0001$). Buna göre doğum korkusu arttıkça prenatal bağlanma düzeyinin de arttığı bulunmuştur.

Sonuç: Gebelerin doğum korkusu ve prenatal bağlanma düzeyleri değerlendirilmelidir. Doğum korkusunun giderilmesi ve prenatal bağlanmanın güçlendirilmesi, sağlıklı bir gebelik, doğum ve doğum sonrası dönem için önemlidir.

Anahtar kelimeler: Doğum korkusu, gebelik, prenatal bağlanma

ORCID IDs: HA. 0000-0002-2315-9298; MİB. 0000-0002-4334-6779; ÖAA. 0000-0001-7150-7683

Corresponding Author: Hacer Ataman,
E-mail: hacer.ataman@medeniyet.edu.tr

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INTRODUCTION

Pregnancy is one of the natural processes of a woman's life [1]. Women experience various physiological and psychological changes during pregnancy. Ambivalence related to psychological changes ise experienced in the first trimester of pregnancy. This feeling decreases in the second trimester and increases again in the last trimester. In the last trimester, women experience pregnancy-related problems; they want the baby, but they are afraid of birth and experience more intense anxiety about birth than in other trimesters [2,3].

Despite advancements in healthcare services leading to fewer complications during pregnancy, labor, and the postpartum period, many women experience fear related to these stages [4]. Fear of childbirth is an obstetrical and psychological widespread issue that significantly impacts women's health and well-being [5-8]. Biological factors such as labor pain, psychological factors including personality traits and previous traumatic experiences, social factors such as lack of support or economic reasons, and secondary factors like previous birth experiences lead to the development of fear of childbirth [3,4,9].

The fear of childbirth can significantly affect a pregnant woman's daily life. Fear of childbirth at higher levels, it impairs the quality of life of pregnant women. Increased stress and anxiety related to childbirth may lead to emotional, behavioral, and physical changes. Pregnant women may experience restlessness, irritability, insomnia, episodes of crying or tachycardia, and alterations in their nutrition and physical activity levels. Fear of labor can also lead to complications during childbirth, potentially impacting the health of both the fetus and newborn, and may even result in fetal distress [4,10-12].

One of the important issues for the psychosocial well-being of pregnant women is prenatal attachment [1]. Prenatal attachment denotes the emotional connection between expectant parents with their unborn child [13]. During the prenatal period, the pregnant woman adapts to motherhood under the influence of the hormonal and physical changes she experiences, establishes a bond with her baby [1]. Prenatal attachment can have positive or negative effects during pregnancy and postpartum [14]. Failure to establish a secure prenatal attachment may pose physical and psychological risks to the infant. During the pregnancy period, mothers typically assume a protective role or feel a sense of responsibility for the baby's well-being [15]. This attachment fosters adaptation to pregnancy and significantly influences the mother-child relationship postnatally [13,16].

Prenatal attachment is influenced by various individual and environmental factors, including fear of childbirth [17]. Due to fear of childbirth, a woman's ability to establish a relationship with the unborn and newborn may be negatively affected [18]. Fear experienced during pregnancy can impair prenatal attachment, leading to psychosocial challenges in mother and baby by pregnancy, delivery, and the postnatal period [1]. Stress during pregnancy and fear of childbirth can increase obstetric problems including preeclampsia, preterm labor, posttraumatic stress disorder, postpartum anxiety, depression and psychosis, even increase the need for psychiatric care and as well as delays in mother-infant bonding [4,19].

The purpose of this study was to examine the relationship between fear of chidbirth and prenatal attachment in pregnant women in the last trimester.

MATERIAL AND METHOD

Study Design

The study is descriptive and correlational. The research data were collected by the researchers through face to face interviews between March 2019 and March 2020.

Population and Sample of the Study

The research population consisted of pregnant women followed up in the pregnancy outpatient clinic of a training and research hospital in İstanbul. The sample consisted of pregnant who applied to the outpatient clinic and met the criteria for participation in the research. The sample size was determined using power analysis with a "95% confidence interval", "5% margin of error", "0.5 effect size", and "80% power". The study was completed with 300 pregnant women who met the inclusion criteria.

Inclusion Criteria

Eligibility criteria for participation in the study included: being a healthy pregnant woman in the third trimester of pregnancy (28^{th} to 40^{th} weeks), voluntary willingness to participate, age between 18 and 45 years, no communication difficulties, and the ability to read and write.

Data Collection Tools

Data were collected using the following instruments: the "Patient Information Form", the "Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) A Version", and the "Prenatal Attachment Inventory (PAI)".

Patient Information Form: It was created by the researchers in line with the literature [3,4,11,15,20].

Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) A Version: W-DEQ was developed by Wijma et al. to measure women's feelings and fears about childbirth. The validity and reliability study of the Turkish version was conducted by Korukcu et al. [20] W-DEQ consists of 33 items is six-point Likert type. The minimum score on the scale is 0, while the maximum score is 165. Higher scores indicate a higher fear of childbirth. In the Turkish validity and reliability, Cronbach's alpha of W-DEQ was 0.89 [20] while this value was 0.88 in this study.

The Prenatal Attachment Inventory (PAI): PAI was developed by Mary Muller in 1993. It was adapted into Turkish by Yılmaz and Kızılkaya Beji [15]. The scale consists of 21 items, a four-point Likert type. A minimum score of 21 and a maximum score of 84 can be obtained from the scale. An increase in the score of the

pregnant woman indicates an increase in the level of attachment. In the Turkish validity and reliability, Cronbach's alpha of PAI 0.84 [15]. While this value was 0.85 in this study.

Ethical Considerations

Ethics committee approval was obtained from the Social and Humanities Research and Publication Ethics Committee İstanbul Medeniyet University (date: 12.02.2019). Necessary permissions were also secured from the İstanbul Provincial Health Directorate and the institution where the research was conducted. Participants were enrolled in the study after providing their informed consent. The study was conducted in accordance with the principles outlined in the Declaration of Helsinki, and the study adhered to scientific and universal ethical standards.

Statistical Analysis

Statistical analyses were performed using "version 20.0 of the Statistical Package for Social Sciences (IBM SPSS Statistics, New York, USA)". Descriptive statistics were reported as means ± standard deviations for continuous variables. Categorical and binary variables were reported as "counts" and "frequencies". The Shapiro-Wilk test was used to assess the distribution of all data. All data, including categorical and continuous variables, exhibited a normal distribution. Given that the data followed a normal distribution, analysis of variance was employed for comparisons involving three or more groups, while the "Student's T-Test" was used for comparisons between two groups. The relationship between the PAI and the W-DEQ was examined using "linear regression analysis". A significance level of $p<0.05$ was considered statistically significant.

RESULTS

The mean age of the pregnant women who participated in the research was 27.28±4.93 years, with a mean gestational age of 35.56±2.63 weeks. The distribution of pregnant women according to their socio-demographic and clinical characteristics is detailed in Table 1.

The comparison of socio-demographic and clinical characteristics of the pregnant with their mean W-DEQ and PAI scores are detailed in Table 2. Statistically significant differences were revealed between the mean W-DEQ scores and employment

Table 1. Socio-demographic and Clinical Characteristics of Pregnant Women (n=300)

Age ($\bar{X}$ ± SD) 27.28±4.93 years

Pregnancy week ($\bar{X}$ ± SD) 35.56±2.63 week

Characteristics	n (%)	Characteristics	n (%)
Education status		**Husband education status**	
Literate	23 (7.7)	Literate	12 (4.0)
Primary school graduate	53 (17.7)	Primary school graduate	51 (17.0)
Secondary education	126 (42.0)	Secondary education	140 (46.7)
University	93 (31.0)	University	88 (29.3)
Post graduate	5 (1.7)	Post graduate	9 (3.0)
Employment status		**Husband employment status**	
Employed	57 (19.0)	Employed	285 (95.0)
Unemployed	243 (81)	Unemployed	5 (5.0)
Economic status		**Family type**	
Income<expense	94 (31.3)	Nuclear family	247 (82.3)
Income=expense	159 (53.0)	Extended family	48 (16.0)
Income>expense	47 (15.7)	Reconstituted family	5 (1.7)
Duration of marriage (year)		**Number of previous pregnancies**	
1-3	162 (54)	0	2 (0.7)
4-6	63 (21)	1	141 (47.0)
7-9	39 (13)	2	77 (25.7)
10-12	15 (5)	3	56 (18.7)
13 years and more	21 (7)	4	24 (8.0)
Number of abortus		**Number of curettages**	
1	46 (15.3)	1	35 (11.7)
2	6 (2.0)	2	1 (0.3)
3	1 (0.3)	3	2 (0.7)
4	1 (0.3)		
9	1 (0.3)		
Number of living children			
0	167 (55.7)		
1	82 (27.3)		
2	43 (14.3)		
3	5 (1.7)		
4	3 (1.0)		

$\bar{X}$: Mean, SD: Standard deviation

status, family type, number of children, and the effect of pregnancy on the relationship with the husband. Significant differences were also revealed between the educational status of the pregnant, the academic status of their husband, the number of previous pregnancies, the number of living children, and the effect of pregnancy on the relationship with the husband and the mean PAI scores.

The mean total score for the W-DEQ was 53.06±22.64 (range: 0-125), the mean total score for the PAI was 39.85±9.68 (range: 21-75). Regression analysis demonstrated a statistically significant relationship between the W-DEQ and PAI scores (p<0.0001) (Table 3).

Table 2. Comparison of Socio-demographic and Clinical Characteristics of Pregnant Women and Mean Scores of W-DEQ and PAI (n=300)

Characteristics	W-DEQ (Mean ± SD)	p	PAI (Mean ± SD)	p
Educaion status				
Literate	59.86±23.7	0.343	43.17±9.92	<0.0001
Primary school graduate	56.71±25.38		44.50±10.77	
Secondary education	52.46±19.92		39.75±9.11	
University	49.82±24.15		36.50±8.49	
Post graduate	58.0±17.26		39.60±9.39	
Husband education status				
Literate	65.16±28.75	0.485	40.91±10.05	0.008
Primary school graduate	56.43±26.08		43.41±10.74	
Secondary education	52.40±21.17		40.30±9.58	
University	50.82±21.65		37.57±8.65	
Post graduate	49.77±22.60		33.22±6.55	
Employment status				
Employed	44.52±23.61	0.002*	37.45±9.41	0.071
Unemployed	55.05±21.98		40.40±9.68	
Family type				
Nuclear family	51.59±21.34	0.013	39.34±9.27	0.133
Extended family	61.85±26.22		42.83±113.35	
Reconstituted family	40.60±31.26		36.20±8.25	
Number of previous pregnancies				
0	44.5±4.94	0.380	34.50±6.36	0.001
1	51.26±22.76		37.56±8.99	
2	55.70±21.96		40.28±7.83	
3	51.62±20.30		41.89±10.23	
4	59.16±28.92		47.50±12.82	
Number of living children				
0	51.47±22.51	0.039	37.87±8.76	<0.0001
1	54.06±22.05		39.93±8.53	
2	52.86±21.11		44.41±10.83	
3	66.20±33.45		51.20±13.02	
4	94.33±4.93		62.66±2.08	
The effect of pregnancy on the relationship with the husband				
Positive	50.95±22.41	0.003	38.71±8.97	0.001
Negative	69.40±11.45		43.20±6.97	
Ineffective	61.91±22.07		45.16±11.50	

*Student's t-test
SD: Standard deviation, W-DEQ: Wijma Delivery Expectancy/Experience Questionnaire, PAI: Prenatal Attachment Inventory

Table 3. Linear Regression Analysis Results

	B	Beta	p	95% CI
W-DEQ	0.108	0.253	<0.0001	0.063-0.153
Number of pregnancies	2.129	0.219	<0.0001	1.042-3.216
Education year	-0.304	-0.138	0.016	-0.550-(-0.57)

W-DEQ: Wijma Delivery Expectancy/Experience Questionnaire, CI: Confidence interval

DISCUSSION

The research investigating the relationship between fear of childbirth experienced by pregnant in the last trimester and their prenatal attachment status indicate that unemployment among the pregnant was associated with increased fear of childbirth. This finding aligns with similar research in the field [21,22]. The continuation of a woman's employment may mitigate fear of childbirth due to its positive psychosocial and financial impacts.

The study showed that having a larger family structure was associated with increased fear of birth. However, this finding contrasts with the study by Arslantaş et al. [2], which concluded that family type did not influence fear of childbirth. It is possible that differing characteristics of the sample groups contributed to these disparate findings.

The study revealed that women with multiple children experienced higher levels of fear of childbirth. This observation is consistent with the findings of Gökçe İsbir et al. [22], who also declared that multiparous women experienced fear of childbirth more frequently. Strategies such as obtaining information, planning, receiving empathic support, managing emotions through various techniques, and maintaining a positive focus may help mitigate the fear of childbirth [23]. It is important to recognize that negative previous pregnancy and birth experiences may contribute to heightened fear in subsequent pregnancies and births.

The study showed that a negative impact of pregnancy on the relationship with the husband was associated with increased fear of childbirth among pregnant. The literature reports that women who could not receive physical or emotional support from their husbands experienced higher levels of fear of childbirth [10]. Support from a partner and a positive relationship with the husband may enhance psychosocial well-being and help mitigate fear of childbirth.

The study also revealed that prenatal attachment levels were higher among both participants and their husbands with primary education. This finding aligns with some studies in the literature [16] but contrasts with others [24], indicating that while some research shows an increase in prenatal attachment with higher educational levels, other studies do not. These discrepancies suggest that educational attainment should be considered when planning interventions related to fear of childbirth, prenatal attachment, and other related issues.

The study identified an increase in the number of pregnancies and children as factors associated with higher levels of prenatal attachment. Koç Özkan et al. [16] reported that women with three or more pregnancies had higher PAI scores. Similarly, Gürol et al. [25] emphasized that women with a greater number of children exhibited higher levels of attachment compared to those with 1-2 children. These findings suggest that individual and cultural factors related to pregnancy and childbearing may influence prenatal attachment.

The research identified that the prenatal attachment levels who reported that their relationship with their partner was not affected by pregnancy were significantly higher compared to those who reported a positive or negative impact. Küçükkaya et al. [26] also observed that prenatal attachment increased with greater couple harmony. This highlights the importance of positive relationships and harmony between husbands for fostering healthy prenatal attachment, as well as for the well-being during pregnancy, childbirth, and the postpartum period.

The mean total score for the W-DEQ among the participants in this study was 53.06±22.64. Existing literature presents varying findings, with some studies reporting lower [27] and others higher levels of fear of childbirth [22,28]. These discrepancies may be attributed to differences in socio-demographic and clinical characteristics among pregnant.

In the research, the mean total score for the PAI among pregnant women was detected to be 39.85±9.68. This indicates that the level of prenatal attachment in our research was lower compared to that reported in the literature [13,29,30]. Variations in prenatal attachment levels may be attributed to differences in sample characteristics.

The study also revealed that as the fear of birth increased, the level of prenatal attachment also increased. This finding is consistent with the results reported by Gürol et al. [25]. Conversely, other studies have indicated that higher levels of fear of childbirth are associated with decreased levels of prenatal attachment [1,31,32]. Therefore, it is essential to evaluate pregnant in terms of both fear of childbirth and prenatal attachment. Based on these evaluations, targeted interventions should be implemented to support maternal, infant, and family health.

Study Limitations

The generalizability of the research findings is limited by the fact that the research was conducted at a single hospital. Additionally, the data obtained are confined to the information provided by the participants, which may restrict the broader applicability of the results.

CONCLUSION

Investigating the levels of fear of childbirth and prenatal attachment among pregnant women is crucial for ensuring maternal and infant health. Healthcare professionals should implement appropriate interventions to address and alleviate fear in pregnant who experience birth anxiety and to enhance prenatal attachment in those with weak attachment. Ensuring that fear is managed effectively and fostering a strong bond between mother and baby is vital for the health of the mother, infant, and family.

Ethics

Ethics Committee Approval: Ethics committee approval was obtained from the Social and Humanities Research and Publication Ethics Committee İstanbul Medeniyet University (date: 12.02.2019).

Informed Consent: Participants were enrolled in the study after providing their informed consent.

Footnotes

Author Contributions

Concept: HA, MİB, ÖAA; Design: HA, MİB, ÖAA; Data Collection or Processing: MİB, ÖAA; Analysis or Interpretation: HA, MİB, ÖAA; Literature Search: HA, MİB, ÖAA; Writing: HA, MİB, ÖAA.

Conflict of Interest: No conflicts of interest were declared by the authors.

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Factors Associated with Sleep Hygiene, Sleep Quality and Sleepiness in Pregnant Women

Gebelerde Uyku Hijyeni, Uyku Kalitesi ve Uykululuk ile İlişkili Faktörler

Döndü Sevimli Güler[1], Selda Yörük[2]

[1]Sakarya University of Applied Sciences Faculty of Health Sciences, Department of Nursing, Sakarya, Türkiye
[2]Balıkesir University Faculty of Health Sciences, Department of Midwifery, Balıkesir, Türkiye

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ABSTRACT

Objective: This study aimed to identify socio-demographic, obstetric, and lifestyle-related factors affecting sleep hygiene, sleep quality, and sleepiness in pregnant women.

Methods: This cross-sectional study recruited 580 pregnant women. Data were collected with a descriptive data form, the Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, and Sleep Hygiene Index (SHI). Statistical analyses were conducted using chi-square test, independent group t-test, Kruskal-Wallis test analysis of variance, and logistic regression analysis.

Results: The prevalence of poor sleep quality in the participants was 62.9%, the prevalence of increased daytime sleepiness was 6.9%, and the mean SHI score was 11.03±6.39. Daytime sleepiness prevalence was significantly higher (p=0.034) among the participants who reported checking social media 30 minutes before going to sleep at night. Sleep quality decreased significantly (p=0.024) over the trimesters. Daytime sleepiness prevalence was significantly higher for participants experiencing their first or second pregnancy and during the second trimester (p<0.05). Participants who had previously given birth once had significantly higher sleep hygiene scores than those who had never given birth and those who had given birth at least twice before (p=0.029). In pregnant women who had never given birth, daytime sleepiness was 4.45 times [confidence interval (CI) 95% 1.50-13.22] higher in the univariate analysis and 4.85 times (CI 95% 1.41-16.72) higher in the multivariate analysis compared to pregnant women who had given birth at least twice before. Finally, the univariate analysis showed that sleep quality was 0.64 times (CI 95% 0.44-0.92) better during the second than the third trimester (p=0.017).

Conclusion: For pregnant women, quality of sleep deteriorates through the trimesters. Pregnant women who use social media before sleep are more likely to experience excessive daytime sleepiness.

Keywords: Sleep hygiene, sleep quality, sleepiness

ÖZ

Amaç: Çalışmada, gebelerde uyku kalitesi, uykululuk ve uyku hijyenini etkileyen sosyo-demografik, obstetrik ve bazı yaşam tarzı ile ilişkili faktörlerin belirlenmesi amaçlanmıştır.

Yöntem: Kesitsel olarak planlanan bu çalışmaya, 580 gebe katılmıştır. Araştırmanın verileri, tanımlayıcı veri formu, Pittsburgh Uyku Kalitesi İndeksi, Epworth Uykululuk Ölçeği ve Uyku Hijyen İndeksi ile toplandı. İstatistiksel analizi, tanımlayıcı istatistikler, ki-kare testi, bağımsız gruplarda t testi, Kruskal-Wallis varyans analizi, lojistik regresyon analizi ile değerlendirildi.

Bulgular: Gebelerde kötü uyku kalitesi prevalansı %62,9 artmış gün içi uykululuk sıklığı %6,9 ve Uyku Hijyeni İndeksi puan ortalaması, 11,03±6,39'dur. Geceleri uyumadan 30 dakika önce sosyal medyayı kontrol eden gebelerde, artmış gün içi uykululuk anlamlı olarak daha yüksektir (p=0,034). Trimester arttıkça gebelerin uyku kalitesinin kötü olduğu ve istatistiksel olarak anlamlı olduğu saptandı (p=0,024). Katılımcıların artmış gün içi uykululuk nullipara gebelere göre ve primaparlarda ve ikinci trimesterdeki gebelerde anlamlı olarak daha fazla olduğu saptandı (p<0,05). Uyku hijyen puan ortalaması

ORCID IDs: DSG. 0000-0003-2618-4920; SY. 0000-0003-3840-1996

Corresponding Author: Döndü Sevimli Güler,
E-mail: donduguler@subu.edu.tr

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primipara gebelerde anlamlı olarak daha yüksektir (p=0,029). Hiç doğum yapmayan gebelerde, doğum sayısı 2 ve üzeri olan gebelere göre tek değişkenli analizde artmış gün içi uykululuk 4,45 kat [güven aralığı (GA) %95 1,50-13,22), çok değişkenli analizde ise 4,85 kat (GA %95 1,41-16,72) fazladır. Ayrıca ikinci trimesterdeki gebelerde, üçüncü trimesterdeki gebelere göre, tek değişkenli analizde uyku kalitesinin 0,64 kat (GA %95 0,44-0,92) daha iyi olduğu saptandı (p=0.017).

Sonuç: Gebelerde trimester ilerledikçe uyku kalitesi kötüleşmektedir. Uyku öncesi sosyal medya kullanan gebelerde, gün içi artmış uykululuk daha fazladır.

Anahtar kelimeler: Uyku hijyeni, uyku kalitesi, uyku hali

INTRODUCTION

During pregnancy, sleep and wakefulness rhythms change due to anatomical, physiological, psychological, and hormonal changes, resulting in frequent sleep-related problems such as insufficient sleep duration and poor sleep quality [1-3]. The most common sleep disorders in pregnant women are insomnia, obstructive sleep apnea, and restless legs syndrome [2]. Sleep problems during pregnancy also vary according to trimester. For example, Sedov et al. [1] concluded from a meta-analysis that the prevalence of sleep disorders in the first, second, and third trimester was 54.3%, 49.3%, and 69.6%, respectively. Another meta-analysis study conducted in low- and middle-income countries found that sleep quality worsens as gestational age progresses while its frequency varies between 37% and 60% [4]. A third meta-analysis study conducted during the COVID-19 pandemic found that 56% of pregnant women reported sleep problems, although the prevalence fell to 13% after corrections were made in the analyses. The study also showed that the woman's age was the strongest predictor of sleep disorders [5]. Bahani et al. [6] found that sleep disorders among pregnant women also depended on parity, education status, anxiety, depression, and a risky pregnancy history. Their structural equation model determined that obstetric characteristics, psychological factors, and lifestyle directly affected sleep quality.

Good and quality sleep during pregnancy is necessary for both maternal and fetal health. Studies have determined the importance of sleep disorders during pregnancy and their effects on neonatal and maternal outcomes. Regarding the baby, sleep-related respiratory symptoms are positively related to intrapartum fetal risk and likelihood of emergency cesarean deliver [7]. Sleep deprivation in pregnant women is also negatively associated with fetal health, fetal growth, birth weight, premature birth and stillbirth [8]. Regarding maternal health, sleep deprivation increases the risk of gestational hypertension, preeclampsia, gestational diabetes, cesarean delivery, and antenatal and postpartum depression [9-12]. A prospective study determined that low sleep quality is associated with the risk of antepartum suicidal ideation [11]. Sleep disorders in pregnancy also reduce the quality of life and can have long-term effects. Pregnant women can also be affected by their use of technological devices, particularly going to bed late at night, which can cause daytime sleepiness. Smartphone addiction has been shown to reduce sleep quality in pregnant women who give birth prematurely [13].

Given these effects, health professionals need to become more aware of the high prevalence of poor sleep quality in pregnant women and its negative health effects. In order to maintain healthier pregnancies and improve health in Türkiye, it is necessary to determine the prevalence of sleep quality and sleep disorders and identify the affecting factors. Accordingly, the present study aims to determine the socio-demographic, obstetric, and lifestyle factors affecting sleep hygiene, sleep quality, and sleepiness in pregnant women in Türkiye.

MATERIAL AND METHOD

Research Universe and Sample

This cross-sectional study was conducted with pregnant women served by Sakarya Education and Research Hospital. The study's universe consisted of 16,787 pregnant women who applied to the hospital in 2019. The required sample size was calculated using OpenEpi, version 3 [14]. Çelik and Köse [15] found that 28.2% of pregnant women reported poor sleep quality. Accordingly, we aimed initially to recruit at least 519 pregnant women with an expected sleep disorder frequency of 28.2%, an absolute deviation of 1%, and a confidence level of 99%. After including a reserve sample of 10%, we determined a minimum sample size of 570 pregnant women. The study was completed with 580 pregnant women.

The inclusion criteria were defined as healthy communication, literate, and volunteer pregnant women. The exclusion criteria were pregnant women who did not want to participate, under the age of 18, with threatened miscarriage, at risk of premature birth, diagnosed with a high-risk pregnancy and/or psychiatric diseases, and/or communication disabilities.

Data Collection Tools

The data for the study were collected using a descriptive data form, the Pittsburgh Sleep Quality Index (PSQI), the Epworth Sleepiness Scale (ESS), and the Sleep Hygiene Index (SHI).

The descriptive data form included items about the participants' socio-demographic characteristics, pregnancy history, and habits. Socio-demographic items included age, education, occupation, economic status, and spouse's occupation and education. Pregnancy history items included gestational week, pre-pregnancy body mass index, weight gained during pregnancy, whether the pregnancy was planned, previous miscarriage, gravida, parity, and health problems experienced during pregnancy. Items about habits included smoking, social media use, exercise information, and frequency of consuming beverages containing caffeine. Checking social media (Facebook, Instagram, Twitter, etc.) 30 minutes before going to bed at night was coded as rarely, occasionally, and frequently. Daily time spent on social media

was coded as 0-30 min., 31-60 min., 61-120 min., and 121 min. or more. Regular exercise, physical activity done for more than half an hour at least 3 days a week was coded as "No", "Yes". Participants were also asked about the number of hours usually spent exercising or doing sports activities before sleep.

PSQI was developed by Buysse et al. [16] in 1989 for psychiatric practices and clinical research. It evaluates sleep quality in the last month. The validity and reliability of the Turkish version was evaluated by Ağargün et al. [17] in 1996. They reported a Cronbach's alpha reliability coefficient of 0.80. In the present study, the Cronbach's alpha reliability coefficient was 0.73. Of the PSQI's 24 items, 19 are self-report questions while five are answered by the spouse or roommate, are used only for clinical information, and not included in the scoring. The PSQI provides a quantitative measure of sleep quality, a total score below 5 is defined as "good sleep" while a total score of 5 or above is defined as "bad sleep".

The ESS was developed by Johns to measure both the quality and quantity of sleepiness and general level of daytime sleepiness [18]. The scale was adapted to Turkish and assessed for reliability and validity by Ağargün et al. [19], who reported a Cronbach's alpha coefficient of 0.80. In the present study, the coefficient was 0.67. A score of 11 or more indicates excessive daytime sleepiness.

SHI was developed by Mastin et al. [20] to evaluate sleep hygiene by determining the frequency of sleep hygiene behaviors. The scale was adapted to Turkish and tested for validity and reliability by Ozdemir et al. [21], who reported a Cronbach's alpha value of 0.70. The Cronbach's alpha coefficient for the present study was 0.64. The SHI has 13 items that are answered using a five-point Likert type scale (none: 1, always: 5). Hence, total scores can vary between 13 and 65, with higher scores indicating worse sleep hygiene.

Data Collection

Data were collected from pregnant women who applied to the hospital's obstetrics and gynecology clinic and pregnancy information class. Informed consent forms were signed by those who met the inclusion criteria to obtain written consent. The participants completed the descriptive data form and scales under the researcher's supervision. Completion of the questionnaires took approximately 10-15 minutes.

Statistical Analysis

Statistical analysis was performed using the SPSS 20.0. Descriptive statistics were expressed as arithmetic mean, standard deviation, number, and percentage. Independent samples t-tests, chi-square tests, and the Kruskal-Wallis test for independent groups were used to evaluate the relationships between participants' sleep hygiene, sleep quality, and sleepiness scores and their socio-demographic and obstetric characteristics. Logistic regression analysis was performed to identify variables predicting sleep quality and sleepiness. A logistic regression model was created using the Enter method with those variables that were statistically significant in the univariate analysis. A difference was considered significant if the p-value was less than 0.05.

Ethical Considerations

Before conducting the research, official permission was obtained from the Sakarya University Faculty of Medicine Non-Interventional Ethics Committee (approval no.: 445, date: 07.07.2020) and the institution where the application was made. The study was conducted in accordance with the World Medical Association Declaration of Helsinki.

RESULTS

The study included 580 pregnant women with a mean age of 28.30±5.31 years (min.: 18; max.: 45). Regarding education, 33.4% were high school graduates and, likewise, university graduates (33.4%). Regarding socio-economic status, 70.3% reported that their income equaled their expenses. Regarding obstetric status, 58.8% of the pregnant women were in the 3rd trimester, 32.6% were primigravida, 37.8% were primipara, and 26.9% had a history of miscarriage. In addition, 27.1% stated that their pregnancy was not planned, 15.9% were smokers, and 14.8% had a chronic disease.

The prevalence of poor sleep quality was 62.9%, while the prevalence of daytime sleepiness was 6.9%.

No significant relationships were found between sleep hygiene, sleep quality, and sleepiness scores, or between those and the pregnant women's socio-demographic characteristics. Increased daytime sleepiness was significantly higher in the participants who checked social media 30 min. before going to bed at night (p=0.034) (Table 1).

Table 2 shows the participants' obstetric characteristics and sleep quality. Sleep quality declined significantly across the trimesters (p=0.024). More specifically, daytime sleepiness was significantly higher in nullipara and 2nd trimester pregnant women (p<0.05). The mean sleep hygiene score was significantly higher in primipara participants than in those who had never given birth or had given birth at least twice (p=0.029).

Table 3 presents the crude odds ratio values from univariate and multivariate analyses, as well as the adjusted odds ratio values adjusted for age and education. These show a statistically significant relationship between the pregnant women's sleepiness and sleep quality, and socio-demographic and obstetric variables. More specifically, daytime sleepiness was 2.30 times higher [confidence interval (CI) 95% 1.16-4.56] for participants in the second trimester compared to those in the third (p=0.016). However, no significant relationship was found in the multivariate analysis (p=0.127). In addition, sleepiness was 1.99 times (CI 95% 1.04-3.82) more (p=0.037) higher in pregnant women who used social media 30 minutes before going to bed at night compared to those who did not. However, no significant relationship was found in the multivariate analysis (p=0.111). Comparing nulliparous pregnant women with pregnant women with 2 or more births, increased daytime sleepiness was 4.45 times (95% CI 1.50-13.22) higher in the univariate analysis and 4.85 times (95% CI 1.41-16.72) higher in the multivariate analysis. Finally, sleep quality was 0.64 times (95% CI 0.44-0.92) better among pregnant women in the second trimester compared to pregnant women in the third trimester in the univariate analysis (p=0.017).

Table 1. Relationship Between Sleep Hygiene, Sleep Quality, and Sleepiness Based on the Socio-demographic Characteristics of Pregnant Women (n=580)								
	Sleep quality		p-value	Daytime sleepiness		p-value	Sleep hygiene	p-value
	Good 5≥	Bad 5<		Normal <11	High 11≥		Mean ± SD	
	n (%)	n (%)		n (%)	n (%)			
Age								
≤29	135 (37.5)	225 (625)	0.783	330 (91.7)	30 (8.3)	0.081	11.63±7.03	0.110
30≥	80 (36.4)	140 (63.6)		210 (95.5)	10 (4.5)		10.75±5.14	
Educational status								
Primary school	74 (39.2)	115 (60.8)	0.470	175 (92.6)	14 (7.4)	0.736	11.55±5.81	0.504
Secondary and high school	141 (36.1)	250 (63.9)		365 (93.4)	26 (6.6)		11.17±6.66	
Pre-pregnancy BMI								
Normal	126 (38.7)	200 (61.3)		302 (92.6)	24 (7.4)		11.12±6.67	
25 or above	89 (35.0)	165 (65.0)	0.372	238 (93.7)	16 (6.3)	0.616	11.52±6.02	0.452
Economic status								
Low	38 (41.3)	54 (58.7)		88 (95.7)	4 (4.3)		11.72±5.88	
Middle	142 (34.8)	266 (65.2)	0.209	378 (92.6)	30 (7.4)	0.575	11.48±6.54	0.98
High	35 (43.8)	45 (56.2)		74 (92.5)	6 (7.5)		9.88±6.05	
Smoking								
No	183 (37.5)	305 (62.5)	0.621	454 (93.0)	34 (7.0)		11.39±6.55	
Yes	32 (34.8)	60 (65.2)		86 (93.5)	6 (6.5)	0.877	10.80±5.45	0.418
History of chronic disease								
Yes	29 (33.7)	57 (66.3)	0.486	81 (94.2)	5 (5.8)	0.668	11.22±6.46	0.497
No	186 (37.7)	308 (62.3)		459 (92.9)	35 (7.1)		11.73±5.97	
Checking social media 30 minutes before going to bed at night								
No	156 (38.5)	249 (61.5)	0.272	383 (94.6)	22 (5.4)	**0.034**	11.01±6.15	0.094
Yes	59 (33.7)	116 (66.3)		157 (89.7)	18 (10.8)		11.97±6.89	
Time spent on social media in a day								
0-60 min.	133 (39.8)	201(60.2)		317 (94.9)	17 (5.1)		11.35±6.53	
61-120 min.	54 (33.8)	106 (66.2)	0.274	147 (91.9)	13 (8.1)	0.079	11.15±6.42	0.833*
121 min. and more	28 (32.6)	58 (67.4)		76 (88.4)	10 (11.6)		11.33±5.82	
Do not exercise regularly								
No	145 (35.4)	265 (64.6)	0.187	383 (93.4)	27 (6.6)	0.646	11.50±6.03	0.242
Yes	70 (41.2)	100 (58.8)		157 (92.4)	13 (7.6)		10.81±7.17	

*Kruskal-Wallis Test, Bonferroni corrections, SD: Standard deviation, BMI: Body mass index

Table 2. Relationship Between Sleep Hygiene, Sleep Quality, and Sleepiness According to Obstetric Characteristics of Pregnant Women (n=580)

	Sleep quality		p-value	Sleepiness		p-value	Sleep hygiene	p-value
	Good 5≥	Bad 5<		Normal 10<	High 10≥		Mean ± SD	
	n (%)	n (%)		n (%)	n (%)			
1st trimester	20 (46.5)	23 (53.5)		39 (90.7)	4 (9.3)		11.51±6.28	
2nd trimester	84 (42.9)	112 (57.1)	0.024	176 (89.8)	20 (10.2)	**0.043**	11.06±7.07	0.311*
3rd trimester	111 (32.6)	230 (67.4)		325 (95.3)	16 (4.7)		11.40±5.99	
Gravida								
Nullugravida	78 (41.3)	111 (58.7)	0.145	173 (91.5)	16 (8.5)	0.300	11.02±6.95	0.415
Primagrivida	137 (35.0)	254 (65.0)		367 (93.9)	24 (6.1)		11.49±6.11	
Parite								
Nullipara	84 (40.6)	123 (59.4)		185 (89.4)	22 (10.6)		10.47±6.39	
Primipara	79 (36.1)	140 (63.9)	0.385	205 (93.6)	14 (6.4)	**0.011**	11.89±6.78	**0.029**
Multipara	52 (33.8)	102 (66.2)		150 (97.4)	4 (2.6)		11.55±5.69	
Previous abortion								
Yes	58 (37.2)	98 (62.8)		146 (93.6)	10 (6.4)	0.774	10.85±5.90	0.296
No	157 (37.1)	266 (62.9)	0.989	393 (92.9)	30 (7.1)		11.45±6.57	
Having health problems during the current pregnancy								
Yes	44 (38.6)	70 (61.4)	0.706	104 (91.2)	30 (6.4)	0.378	11.45±6.62	0.771
No	171 (36.7)	295 (63.3)		436 (93.6)	10 (8.8)		11.26±6.34	
Planned pregnancy								
Yes	160 (37.8)	263 (62.2)	0.536	390 (92.2)	33 (7.8)	0.158	11.30±6.61	0.999
No	55 (35.0)	102 (65.0)		150 (95.5)	7 (4.5)		11.29±5.77	

*Kruskal-Wallis Test, Bonferroni Corrections, SD: Standard deviation

Table 3. Univariate Analysis and Multivariate Regression Analysis of Factors Associated with Sleep in Pregnant Women

	Sleepiness						Sleep quality					
	Univariate analysis			Multivariate analysis			Univariate analysis			Multivariate analysis		
	cOR	CI 95%	p-value	aOR	CI 95%	p-value	cOR	CI 95%	p-value	aOR	CI 95%	p-value
Trimester												
1st trimester	2.08	0.66-6.54	0.209	2.24	0.69-7.21	0.175	0.55	**0.29-1.05**	**0.072**	**1.21**	**0.62-2.36**	**0.57**
2nd trimester	2.30	1.16-4.56	**0.016**	1.75	0.85-3.61	**0.127**	0.64	0.44-0.92	**0.017**	**1.84**	**0.96-3.50**	**0.06**
3rd trimester	1			1			1					
Checking social media 30 minutes before going to bed at night												
No	1			1								
Yes	1.99	1.04-**3.82**	0.037	1.75	0.87-3.49	0.111						
Parite												
0	4.45	1.50-13.22	0.007	4.85	1.41-16.72	0.012						
1	2.56	0.82-7.93	0.103	2.89	0.87-9.62	0.083						
2+	1			1								

cOR: Crude odds ratio, aOR: Adjusted odds ratios, CI: Confidence interval
a: Correction for age and education

DISCUSSION

The study was conducted to identify the factors affecting sleep hygiene, sleep quality, and daytime sleepiness among pregnant women in Türkiye. The main findings were that sleep quality worsened across trimesters and was associated with parity. There were no statistically significant relationships with socio-demographic factors. Regarding habits, excessive daytime sleepiness was more common in pregnant women who used social media before sleep.

Sleep quality can be assessed using both subjective and objective measurements. Scales commonly used in both clinical practice and research include the ESS, PSQI, Insomnia Severity Index, International Restless Legs Syndrome Rating Scale, and the Global Sleep Assessment Questionnaire.

The prevalence of poor sleep quality in the present study was 62.9%. No associations were found between poor sleep quality and socio-demographic characteristics, lifestyle, or obstetric variables. Sleep quality worsened across the trimesters, with 53.5%, 57.1%, and 67.4% of participants reporting poor sleep quality in the 1st, 2nd, and 3rd trimester, respectively. Similarly, from their meta-analysis, Mislu et al. [4] reported poor sleep quality frequencies of 37.4%, 47.6%, and 60.1%, respectively.

In the present study, there was no significant association between sleep quality in the 3rd and 1st trimester. The univariate analysis showed that sleep quality was significantly better in 2nd trimester compared to the 3rd trimester, although no significant association was found in the multivariate analysis. Kiyoko et al. [22] also found no relationship between the trimesters regarding sleep quality, although it was worse in the 3rd trimester. They also found that back pain and leg cramps significantly affect sleep efficiency in the 3rd trimester, while health-related impairments to quality of life include severe physical pain, poor physical function, and inadequate sleep [22]. Christian et al. [23] argue that individual differences should be emphasized in evaluating perinatal sleep health.

While sleepiness was not associated with the number of pregnancies in our study, it was associated with parity. In contrast, Robertson et al. [7] found no association between parity and sleepiness. From a clinical perspective, the ESS is easy to administer and acceptable to pregnant women. However, there is controversy about the benefits of objective and self-reported methods in assessing sleep disorder symptoms in pregnancy [7].

Using smartphones before going to bed and exposure to low-intensity blue light can seriously affect sleep quality and circadian rhythms [24]. We found that excessive daytime sleepiness was higher in pregnant women who reported checking social media 30 min. before going to bed, whereas there was no relationship between time spent on social media during the day and sleep disorders. However, we did not ask at what times the pregnant women actively used social media. In adults and university students, social media use in bed before sleep is associated with insomnia and shorter sleep duration [25]. In young adults, sleep disorders are more common in adults who use social media more during the day than in adults who use it less [13].

Study Limitations

A key limitation of this study is its cross-sectional design. Because data on sleep, socio-demographic, and lifestyle factors were collected at a single point in time, the study can only identify associations between these factors (e.g., social media use and daytime sleepiness) but cannot establish a definitive cause-and-effect relationship. For example, it is unclear whether using social media before bed causes increased daytime sleepiness, or if pregnant women who are already experiencing poor sleep and high sleepiness are more likely to use social media late at night. Future longitudinal studies that track participants over the course of their pregnancy would be necessary to better determine the temporal and causal relationships between these variables.

CONCLUSION

In conclusion, the present study's findings indicate that sleep quality for pregnant women worsens across the trimesters. In addition, pregnant women who use social media before sleep have higher levels of daytime sleepiness.

Among the strengths of this study is that we included pregnant women in all trimesters and used three scales to assess sleep disorders. Sleep quality can be improved and adverse outcomes in pregnancy reduced through various strategies. These include ensuring quality sleep hygiene, practicing relaxation techniques before going to bed, providing a comfortable sleep environment, and seeking medical advice for sleep disorders.

Ethics

Ethics Committee Approval: The study was obtained from the Sakarya University Faculty of Medicine Non-Interventional Ethics Committee (approval no.: 445, date: 07.07.2020) and the institution where the application was made. The study was conducted in accordance with the World Medical Association Declaration of Helsinki.

Informed Consent: Informed consent forms were signed by those who met the inclusion criteria to obtain written consent.

Footnotes

Author Contributions

Surgical and Medical Practices: DSG, SY; Concept: DSG, SY; Design: DSG, SY; Data Collection or Processing: DSG, SY; Analysis or Interpretation: DSG, SY; Literature Search: DSG, SY; Writing: DSG, SY.

Conflict of Interest: No conflict of interest was declared by the authors.

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An Examination of the Correlation Between Future Anxiety and Perceived Wellness Among Students of the Faculty of Health Sciences

Sağlık Bilimleri Fakültesi Öğrencilerinin Gelecek Kaygısı ve Algılanan Esenlikleri (Wellness) Arasındaki İlişkinin İncelenmesi

Edanur Gündüz Alan, Ayşe Şahin

Ardahan University, Institute of Postgraduate Education, Health Management Program, Ardahan, Türkiye

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ABSTRACT

Objective: The aim of this study was to examine the correlation between future anxiety and perceived wellness among students of the faculty of health sciences.

Methods: The descriptive, cross-sectional, and correlational study comprised a sample of 197 students studying at the faculty of health sciences of a public university. The data were collected using the "Socio-demographic Data Form", the "Perceived Wellness Scale (PWS)", and the "Future Anxiety Scale (FAS)" in university students. The analysis of the study incorporated a range of statistical techniques, including descriptive statistics, normality analysis, reliability analysis, difference analysis, correlation analysis and regression analysis.

Results: The mean FAS score of the students was 2.768±0.713, and the mean PWS score was 4.178±0.663. The findings indicated a negative, moderate and significant relationship between students' future anxiety and their perceived wellness (r=-0.607, p>0.05).

Conclusion: As future anxiety levels increase, students' perceived wellness levels decrease. In this context, it is recommended that holistic intervention and support systems be developed at the individual, institutional and social levels in order to reduce students' future anxiety and increase their wellness.

Keywords: Future anxiety, perceived wellness, wellness, health sciences faculty students

ÖZ

Amaç: Bu araştırma, sağlık bilimleri fakültesi öğrencilerinin gelecek kaygısı ile algılanan esenlik düzeyleri arasındaki ilişkiyi incelemeyi amaçlamaktadır.

Yöntem: Tanımlayıcı, kesitsel ve ilişkisel türdeki araştırmanın örneklemini bir kamu üniversitesi sağlık bilimleri fakültesinde öğrenim gören 197 öğrenci oluşturmaktadır. Veriler, "Sosyo-demografik Veri Formu", "Algılanan Esenlik Ölçeği (AEÖ)" ve üniversite öğrencilerinde "Gelecek Kaygısı Ölçeği (GKÖ)" ile toplanmıştır. İstatistiksel analizlerde tanımlayıcı istatistikler, normallik testleri, güvenilirlik analizleri, fark analizleri, korelasyon ve regresyon analizleri kullanılmıştır.

Bulgular: Araştırmada öğrencilerin GKÖ puan ortalaması 2,768±0,713; AEÖ puan ortalaması 4,178±0,663' tür. İki değişken arasında negatif yönlü, orta düzeyde anlamlı bir ilişki saptanmıştır (r=-0,607, p<0,05).

Sonuç: Gelecek kaygısı arttıkça öğrencilerin algılanan esenlik düzeyi azalmaktadır. Bu bağlamda, öğrencilerin gelecek kaygısını azaltmak ve esenlik düzeylerini artırmak için bireysel, kurumsal ve toplumsal düzeyde bütüncül müdahale ve destek sistemlerinin geliştirilmesi önerilmektedir.

Anahtar kelimeler: Gelecek kaygısı, algılanan esenlik, wellness, sağlık bilimleri fakültesi öğrencileri

ORCID IDs: EGA. 0000-0002-3578-9019; AŞ. 0000-0001-9019-4109

Corresponding Author: Ayşe Şahin,
E-mail: aysesahin@ardahan.edu.tr

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INTRODUCTION

The Turkish Language Association (TDK) defines anxiety as "an uneasy feeling arising from the expectation of a bad situation" [1]. This phenomenon can vary from person to person, with some experiencing a transient reaction while others encounter a persistent and problematic response. According to the extant literature, state anxiety is defined as an emotional state that occurs temporarily depending on certain events. By contrast, trait anxiety is defined as a psychological state with a more long-term and generalised structure [2]. A variety of individual and environmental factors contribute to the development of anxiety. While factors such as gender, age, socio-economic status, parental attitudes and the number of siblings may influence the expression of this emotion, the educational and occupational status of the parents, as well as the child's academic achievements, are also significant contributors to its development [3,4]. In this context, future anxiety refers to an individual's inability to plan for the future and his/her anxiety about uncertainties. This type of anxiety, which is frequently observed especially in young individuals, increases with uncertainty, insecurity, perception of danger and inadequate coping skills. However, it has been stated that goal-setting and sharing behaviours play a protective role in reducing anxiety [5].

Emotional reactions such as anxiety have been demonstrated to exert an effect on an individual's level of wellness. TDK defines the concept of wellness as "the state of being well, salvation, anti-disease" [1]. Dunn [6] conceptualised wellness as a multidimensional structure; this approach was subsequently developed by subsequent researchers who added physical, psychological, emotional, spiritual, social, occupational, intellectual and environmental dimensions [7,8]. The term "perceived wellness" is defined as the positive evaluations that individuals have about their health. This concept pertains to the subjective perception of one's own health status, as opposed to an objective determination of physical wellness.

The theoretical models developed in this direction have expanded the scope of the concept of wellness and are based on the understanding of perceived wellness, which is based on the subjective health assessment of the individual [9,10]. The concept under discussion is subjective in nature and consists of five main components: The perceptual nature of wellness, integrated systems, multidimensionality, salutogenic orientation and disposition orientation [9,11].

The extant theoretical frameworks posit that emotional experiences, such as anxiety, can influence how individuals perceive their wellness. Research findings indicate that heightened anxiety may potentially diminish psychological resilience and exert a negative influence on subjective well-being [5,12]. A review of the extant literature in the Turkish context reveals that, while future anxiety and perceived wellness have been the focus of separate lines of inquiry, their interrelationship remains largely unexplored. The study's originality derives from its status as one of the first to examine future anxiety and perceived wellness in a national context.

Accordingly, the aim of this study is to examine the correlation between future anxiety and perceived wellness levels of the students of the faculty of health sciences. In this context, the research seeks to provide answers to the following questions:

1. What are the levels of future anxiety and perceived wellness among the students of the faculty of health sciences?

2. Is there a statistically significant relationship between students' future anxiety and perceived wellness levels?

3. Do students' future anxiety and perceived wellness levels differ significantly according to socio-demographic variables such as age, gender, department, year of study, and income level?

MATERIAL AND METHOD

This quantitative research, which is descriptive, cross-sectional and correlational, was conducted with students studying at the faculty of health sciences of a state university between September and December 2024. The population comprised 286 enrolled students. The target minimum sample size was set at 167 students, with a 5% margin of error and 95% reliability. A face-to-face survey was administered to 210 students using a convenience sampling method. Thirteen incomplete or biased surveys were excluded from the analysis, which was conducted on 197 students, yielding a response rate of 68.8%. The participants completed the survey in approximately 10 to 15 minutes In this study, fourth-year students from the health management (HM) (n=2) and emergency aid and disaster management (EADM) (n=3) departments were not included in the analyses due to their insufficient representation, which would not allow for reliable statistical interpretation. Moreover, as the nursing department is newly established, only first-year students participated, which constitutes a limitation in terms of examining wellness across different academic levels. An ethics committee decision was obtained for the study, from the Ardahan University Scientific Research and Publication Ethics Committee (approval number: E-67796128-800-2400021393, date: 04.07.2024). Additionally, permission to conduct the survey was obtained from the Dean of the Faculty of Health Sciences, dated September 12, 2024, and numbered 2400030566. Prior to the survey, volunteer participants were informed, and written and verbal consent was obtained.

Data Collection Tools

The data were collected from university using a face-to-face questionnaire including the Socio-demographic Data Form, the Perceived Wellness Scale (PWS) and the Future Anxiety Scale (FAS) in university students. The data form incorporated demographic variables, such as age, gender and department. The PWS, developed by Adams [7] and adapted into Turkish by Memnun [9], is a 36-item, six-point Likert-type scale (1=strongly disagree to 6=strongly agree) measuring six dimensions: physical, emotional, social, psychological, spiritual, and intellectual. Twelve negative items are reverse-coded (2, 4, 7, 11, 12, 14, 17, 23, 25, 29, 34,

and 37), and total scores range from 36 to 216, with scores ≥144 (average ≥4) indicating high perceived wellness. Original internal consistency ranged from α=0.64 to 0.81 for subscales and α=0.91 for the total scale. In the Turkish adaptation studies Cronbach's alpha (α) value was 0.84 [9,11]. The FAS, developed by Geylani and Çiriş Yıldız [13], includes 19 items on a five-point Likert scale across two subscales: Fear of the Future (FF) and Hopelessness about the Future (HF), where higher scores reflect greater future anxiety [13]. Original α values were 0.95 (FF), 0.88 (HF), and 0.91 (FAS) [13].

Statistical Analysis

Data were analyzed using SPSS 24.0. Normality was assessed using the Kolmogorov-Smirnov test and skewness-kurtosis coefficients within ±2 [14]. All variables except social wellness were found to be normally distributed. Accordingly, parametric tests [Independent samples t-test One-Way Analysis of Variance (ANOVA)] were applied to normally distributed variables. The Kruskal-Wallis H test was preferred to ensure statistical reliability when group variances differed by fourfold or more from the smallest mean [15]. Descriptive statics [mean ($\overline{X}$), standart deviation, Pearson correlation, and multiple regression analyses were also performed; the level of significance was accepted as $p<0.05$.

RESULTS

In this study, the sample consisted of 197 students. The majority of participants were female (71.6%), and 43.7% were enrolled in the HM department. The most common age groups were 19 (26.4%) and 21 years (24.9%). A total of 43.1% of participants resided in provincial centers. The highest proportion of mothers had completed primary school (30.5%), while most fathers had completed secondary school (37.6%). The largest academic subgroup comprised first-year HM students (21.3%). Additionally, 54.3% of participants had health coverage under the Social Security Institution, and 52.3% reported that their household income was equal to their expenses (Table 1).

According to the Kolmogorov-Smirnov test, the variables FF, FAS and PWS satisfied the assumption of normality ($p>0.05$). Skewness and Kurtosis values were within the acceptable range of ±2 for all variables, except for social wellness. Accordingly, parametric tests (Independent samples t-test and ANOVA) were employed. However, when the difference in group sizes was fourfold or greater, non-parametric methods (Kruskal-Wallis H test) were preferred. The mean FAS score was at a moderate level ($\overline{X}$=2.768), while the mean PWS score was moderate to high ($\overline{X}$=4.178). In the present study, the Cronbach's alpha values for the PWS were α=0.859 for the total scale, with sub-dimensions ranging from α=0.743 (Spiritual) to α=0.858 (Social) Also, α values were found 0.865 (FF), 0.832 (HF) and 0.872 (FAS), respectively (Table 2). Both

Table 1. Demographic Characteristics of the Participants (n=197)

Variables	Group	f	%	Variables	Group	f	%
Gender	Female	141	71.6	Place of residence	Province	85	43.1
	Male	56	28.4		District	63	32.0
Age	18 years and below[1]	28	10.7		Village	49	24.9
	19 years[2]	52	26.4	Department	Health management	86	43.7
	20 years[3]	38	19.3		Emergency aid and disaster management	85	43.1
	21 years[4]	49	24.9		Nursing	26	13.2
	22 years and above[5]	30	14.2	Academic year by department	HM-1	42	21.3
Mother's educational status	Illiterate	50	25.4		HM-2	28	14.2
	Literate	8	4.1		HM-3	16	8.1
	Primary school	60	30.5		EADM-1	25	12.7
	Middle school	49	24.9		EADM-2	33	16.8
	High school	26	13.2		EADM-3	27	13.7
	Bachelor's degree	4	2.0		N-1	26	13.2
Father's educational status	Illiterate	6	3.0	Social security coverage	Social security institution (SGK)	107	54.3
	Literate	5	2.5		Other	30	15.2
	Primary school	47	23.9		None	60	30.5
	Middle school	74	37.6	Income status	Income is less than expenses	77	39.1
	High school	49	24.9		Income equals expenses	103	52.3
	Bachelor's degree	15	7.6		Income is more than expenses	17	8.6
	Master degree	1	0.5				

HM: Health management, EADM: Emergency aid and disaster management, N: Nursing

Table 2. Normality test, reliability analysis and average scores (n=197)						
Scales and sub-dimentions	**Mean ($\overline{X}$)**	**SD**	**Kolmogorov–Smirnov (p)***	**Skewness**	**Kurtosis**	**(α)**
FF	2.982	0.817	0.062*	0.153	-0.378	0.865
HF	2.338	0.879	0.000	0.485	-0.249	0.832
FAS	2.768	0.713	0.200*	0.199	-0.023	0.872
Psychological	4.027	1.100	0.001	-0.379	-0.301	0.794
Emotional	4.360	0.992	0.003	-0.699	0.737	0.808
Social	4.951	1.076	0.000	-1.687	3.104	0.858
Physical	3.714	1.173	0.014	-0.153	-0.376	0.811
Spiritual	3.746	1.323	0.000	-0.130	-0.832	0.743
Intellectual	4.187	1.004	0.003	-0.603	0.406	0.791
PWS	4.178	0.663	0.200*	-0.255	0.075	0.859

*p<0.05
FF: Fear of the Future, HF: Hopelessness about the Future, FAS: Future Anxiety Scale, SD: Standard deviation, PWS: Perceived Wellness Scale

scales demonstrated strong internal consistency and construct validity, supporting their use in this population.

Table according to the results obtained from the difference analyses, future anxiety showed a statistically significant difference only by the grade variable (p<0.05). In contrast, perceived wellness varied significantly by age, department, grade, and income status (p<0.05). No statistically significant differences were found for the other variables (p>0.05) (Table 3).

The results of the ANOVA and least significant difference (LSD) post-hoc test based on age revealed statistically significant differences in psychological wellness [F(4.192)=3.499, p=0.009], intellectual wellness [F(4.192)=2.708, p=0.032], and overall PWS [F(4.192)=2.583, p=0.039]. Students aged 18 and under reported significantly higher levels of psychological wellness ($\overline{X}$=4.661) compared to those aged 20 and 21. This age group also demonstrated higher intellectual wellness ($\overline{X}$=4.571) and perceived wellness ($\overline{X}$=4.468) compared to students aged 21 (p<0.05) (Table 3).

According to the results of the ANOVA and Tukey post-hoc test based on the department variable, significant differences were found in the spiritual and intellectual wellness sub-dimensions, in addition to the overall PWS score (p<0.05) (Table 3). Students from the EADM department exhibited higher levels of spiritual wellness ($\overline{X}$=4.137), while students from the HM department demonstrated higher intellectual wellness levels ($\overline{X}$=4.465) compared to those in other departments. Furthermore, PWS scores of nursing students when compared to their counterparts from other departments (X^2=3.813) (Table 3).

Based on the results of the One-Way ANOVA and LSD post-hoc analyses conducted by grade, statistically significant differences were identified in several variables (p<0.05). HF scores were significantly lower in HM-1 students ($\overline{X}$=2.148) compared to EADM-3 ($\overline{X}$=2.615) and nursing-1 (N-1) ($\overline{X}$=2.623) students, while EADM-1 students ($\overline{X}$=2.000) scored lower than HM-3 ($\overline{X}$=2.613), EADM-3, and N-1. FAS levels were also lower in HM-1 ($\overline{X}$=2.549) and EADM-1 ($\overline{X}$=2.512) than in EADM-3 ($\overline{X}$=3.030) and N-1 ($\overline{X}$=3.062). Psychological wellness was significantly higher in HM-1 students ($\overline{X}$=4.506) compared to HM-2 ($\overline{X}$=3.902), EADM-2 ($\overline{X}$=3.917), EADM-3 ($\overline{X}$=3.648), and N-1 ($\overline{X}$=3.654). Spiritual wellness was highest in EADM-2 students ($\overline{X}$=4.768), followed by EADM-1 ($\overline{X}$=4.013), which was also significantly higher than that of N-1 students ($\overline{X}$=3.205). Intellectual wellness was significantly higher in HM-1 ($\overline{X}$=4.633) compared to HM-3 ($\overline{X}$=4.038), EADM-2 ($\overline{X}$=4.030), EADM-3 ($\overline{X}$=3.726), and N-1 ($\overline{X}$=3.746), while HM-2 ($\overline{X}$=4.457) and EADM-1 ($\overline{X}$=4.392) students also scored higher than EADM-3 and N-1. Finally, overall PWS was highest in HM-1 students ($\overline{X}$=4.425), followed by EADM-1 ($\overline{X}$=4.392) and EADM-2 ($\overline{X}$=4.219), while N-1 students had the lowest PWS scores ($\overline{X}$=3.813). These findings suggest that perceived wellness and future anxiety significantly differ by academic year and department (Table 3).

The results of the Kruskal-Wallis H test based on income status revealed statistically significant differences in social wellness and overall PWS scores (p<0.05, Table 3). Students whose income was less than their expenses reported significantly lower levels of social wellness and perceived wellness compared to those whose income was equal to their expenses [social wellness: $\chi^2(2)=11.480$, p=0.003; PWS: $\chi^2(2)=6.796$, p=0.033; 1<2] (Table 3).

According to the findings of Table 4, FF showed weak negative correlations with all perceived wellness dimensions, including psychological (r=-0.278), emotional (r=-0.412), social (r=-0.281), physical (r=-0.245), spiritual (r=-0.306), and intellectual wellness (r=-0.307) (p<0.01). HF demonstrated a moderate negative correlation with psychological wellness (r=-0.561, p<0.01), weak negative correlations with intellectual (r=-0.401), social (r=-0.442), and spiritual (r=-0.303) wellness (p<0.01), and very weak but statistically significant negative correlations with emotional (r=-0.283, p<0.01) and physical (r=-0.156, p<0.05) dimensions. The total FAS score was weakly negatively correlated with all wellness

Tablo 3. Analyses of Differences

Variables	n	Scales and Sub-dimentions									
		FF	HF	FAS	Psychological	Emotional	Social	Physical	Spiritual	Intellectual	PWS
Age											
18 years and below[1]	28	2.911±0.903	2.179±0.948	2.667±0.833	4.661±1.059	4.643±1.025	5.107±1.015	3.950±1.052	3.702±1.252	4.571±1.006	4.468±0.646
19 years[2]	52	2.844±0.843	2.300±0.853	2.663±0.741	3.995±1.024	4.490±0.976	5.019±0.980	3.742±1.180	3.603±1.295	4.177±1.021	4.200±0.688
20 years[3]	38	3.100±0.741	2.358±0.898	2.853±0.679	3.849±1.214	4.342±0.928	4.803±1.304	3.600±1134	3.816±1.212	4.037±1.072	4.085±0.643
21 years[4]	49	3.133±0.821	2.498±0.828	2.921±0.625	3.770±1.011	4.020±0.993	4.959±0.871	3.710±1.178	3.653±1.475	3.927±0.919	4.007±0.575
22 years and above[5]	30	2.893±0.763	2.267±0.931	2.684±0.709	4.142±1.080	4.450±0.976	4.858±1.296	3.593±1336	4.100±1.328	4.460±0.902	4.269±0.723
t/F/χ^2*; p; difference		F=1.128, p=0.344	F=0.710 p=0.586	F=1.232 p=0.299	F=3.49, p=0.009** LSD:1>3,4	F=2.358; p=0.055	F=0.432; p=0.786	F=0.455; p=0.768	F=0.780; p=0.539	F=2.708; p=0.032**; LSD: 1>4	F=2.583; p=0.039**; LSD:1>4
Department											
HM[1]	86	2.890±0.848	2.253±0.811	2.678±0.706	4.206±1.070	4.450±1.021	5.026±1.066	3.723±1.062	3.523±1.216	4.465±0.866	4.264±0.630
EA-DM[2]	85	2.985±0.766	2.336±0.906	2.769±0.669	3.962±1.106	4.331±1.051	4.976±1.105	3.826±1.306	4.137±1.341	4.040 ±1.056	4.203±0.641
N[3]	26	3.281±0.835	2.623±0.979	3.062±0.818	3.654±1.105	4.160±0.617	4.615±0.983	3.315±1.001	3.205±1.293	3.746 ±1.035	3.813±0.742
t/F/χ^2*; p; difference		F=2.319; p=0.101	F=1.779; p=0.172	F=2.955; p=0.054	F=2.839; p=0.061	F=0.913; p=0.403	F=1.507; p=0.224	F=1.910; p=0.151	F=7.581; p=0.001; Tukey: 2>1.3	F=7.130; p=0.001; Tukey: 1>2.3	F=4.911; p=0.008; Tukey: 3<1.2
Grade											
HM-1[1]	42	2.750±0.926	2.148±0.894	2.549±0.822	4.506±1.063	4.631±1.033	5.185±0.966	3.843±1.048	3.516±1.332	4.633±0.945	4.425±0.663
HM-2[2]	28	3.021±0.869	2.207±0.731	2.750±0.623	3.902±0.859	4.214±1.065	4.973±1.167	3.479±1.001	3.500±1.124	4.457±0.705	4.110±0.586
HM-3[3]	16	3.025±0.513	2.613±0.634	2.888±0.421	3.953±1.256	4.385±0.869	4.703±1.119	3.838±1.192	3.583±1.119	4.038±0.801	4.113±0.539
EADM-1[4]	25	2.768±0.671	2.000±0.821	2.512±0.628	4.360±1.123	4.607±0.932	4.970±0.950	3.744±1.423	4.013±1.078	4.392±1.040	4.359±0.695
EADM-2[5]	33	2.942±0.723	2.364±0.882	2.749±0.633	3.917±1.078	4.000±1.233	5.159±1.199	3.830±1.433	4.768±1.327	4.030±1.024	4.219.±.0.617
EADM-3[6]	27	3.237±0.851	2.615±0.938	3.030±0.672	3.648±1.050	4.481±0.814	4.759±1.119	3.896±1.052	3.481±1.265	3.726±1.045	4.040.±.0.601
N-1[7]	26	3.281±0.835	2.623±0.979	3.062±0.818	3.654±1.105	4.160±0.617	4.615±0.983	3.315±1.001	3.205±1.293	3.746±1.035	3.813±0.742
t/F/χ^2*; p; difference		F=1.954; p=0.074	F=2.303; p=0.036; LSD: 1<6.7; 4<3,6,7	F=2.760; p=0.014; SD: 1,4<6,7	F=3.047; p=0.007**; LSD: 1>2,5,6,7	F=1.901; p=0.083	F=1.255; p=0.280	F=0.968; p=0.448	F=5.407; p=0.000**; LSD: 5>1,2,3,4,6,7; 4>7	F=4.254; p=0.000**; LSD: 1>3,5,6,7; 2,4>6,7)	F=3.064; p=0.007**; LSD: 1>2,6,7; 7<4,57

Tablo 3. Continued

Variables	n	Scales and Sub-dimentions								
		FF	HF	FAS	Psychological	Emotional	Social	Physical	Spiritual	Intellectual	PWS
Income status											
Income < Expenses[1]	77	109.89	108	110.92	92.53	88.55	81.99	94.98	93.26	96.56	85.79
Income = Expenses[2]	103	92.59	95.3	92.25	102.66	107.71	110.4	100.79	103.46	98.49	107.37
Income > Expenses[3]	17	88.53	80.65	85.88	106.18	93.53	106.97	106.38	98	113.15	108.12
t/F/χ^2*; p; difference		χ^2=4.694; p=0.096	χ^2=4.138; p=0.126	χ^2=5.717; p=0.057	χ^2=1.697; p=0.428	χ^2=5.167; p=0.075	χ^2=11.480; p=0.003**; 1<2	χ^2=0.772; p=0.680	χ^2=1.426 p=0.490	χ^2=1.201 p=0.548	χ^2=6.796 p=0.03**1<2

*t=Independent simple t test, F= One-Way Analysis of Variance, χ^2=Kruskal-Wallis H test, **p<0.05
FF: Fear of the Future, HF: Hopelessness about the Future, FAS: Future Anxiety Scale, PWS: Perceived Wellness Scale, HM: Health management, EADM: Emergency aid and disaster management, N: Nursing, LSD: Least significant difference

dimensions, with coefficients ranging from r=-0.252 to r=-0.443 (p<0.01). At the overall scale level, FF was weakly negatively correlated with PWS scores (r=-0.498, p<0.01), while HF and FAS showed moderate negative correlations with PWS (r=-0.551 and r=-0.607, respectively; p<0.01). These results indicate that as future anxiety and its subdimensions increase, perceived wellness significantly decreases (Table 4).

A multiple regression analysis was conducted to examine whether FF and hopelessness predict perceived wellness. The overall model was statistically significant, F(2.194)=63.883, p<0.001, and explained approximately 39% of the variance in perceived wellness (R^2=0.397, adjusted R^2=0.391). Both FF (B=-0.270, β=-0.333, t=-5.499, p<0.001) and hopelessness (B=-0.316, β=-0.420, t=-6.919, p<0.001) were significant negative predictors of perceived wellness. Collinearity statistics (tolerance=0.846, variance inflation factor=1.183) indicated no multicollinearity problems (Table 5).

DISCUSSION

The study found that students experienced moderate levels of future anxiety, which may be influenced by individual, cultural, and environmental factors. Consistent with previous research, variations in future anxiety levels have been reported across different contexts [16-21]. Regarding wellness, participants exhibited moderate but nearly high levels. As highlighted in existing literature, wellness scores tend to be higher in the emotional and social dimensions. During the pandemic, social wellness showed an upward trend, whereas physical wellness declined [9,22-24]. Several factors have been identified as negatively impacting wellness during this period, including increased workload, fear of transmission, and a lack of awareness [25]. Nevertheless, some studies have reported low overall wellness levels [26] or found high general wellness alongside low physical wellness, particularly among academicians [27].

The study revealed that participants aged 18 years and under exhibited higher levels of wellness compared to those aged 21 and above, with statistically significant differences observed particularly in the psychological and intellectual dimensions (p<0.05). This finding is consistent with several previous studies [28]; however, other research has demonstrated that spiritual, physical, and intellectual wellness tends to increase with age [9,29-32]. Conversely, certain studies have reported no significant differences based on age or have suggested that individuals under 18 may perceive lower levels of wellness [8,23,26,27,33-36]. Taken together, these findings indicate that the relationship between age and wellness is not linear or unidirectional. Instead, it appears to be shaped by a complex interplay of factors such as developmental stage, level of responsibility, expectations, and social and environmental conditions. These results suggest that the association between age and perceived wellness is context-dependent and cannot be explained by age alone.

A significant disparity was identified in the dimensions of general wellness, spiritual, and intellectual wellness when the department variable was taken into account. Specifically, nursing students exhibited lower levels of general wellness, while EADM students demonstrated higher scores in spiritual wellness. Conversely, students from the HM department exhibited higher levels of intellectual wellness. This finding is consistent with previous research that has documented significant variations in wellness dimensions based on academic department [8,22,28]. These findings suggest that academic specialization may influence students' wellness levels through differences in curriculum structure, workload, and exposure to stressors. Overall, these results indicate that departmental context plays a key role in shaping students' wellness profiles.

Table 4. Correlation Analysis

Dimentions	1	2	3	4	5	6.	7.	8	9	10
1. FF	—									
2. HF	0.393**	—								
3. FAS	0.926**	0.711**	—							
4. Psychological	-0.278**	-0.561**	-0.443**	—						
5. Emotional	-0.412**	-0.283**	-0.431**	0.261**	—					
6. Social	-0.281**	-0.442**	-0.390**	0.446**	0.283**	—				
7. Physical	-0.245**	-0.156*	-0.252**	0.227**	0.282**	0.271**	—			
8. Spiritual	-0.306**	-0.303**	-0.358**	0.185**	0.171*	0.156*	0.029	—		
9. Intellectual	-0.307**	-0.401**	-0.399**	0.403**	0.154*	0.317**	0.165*	0.238**	—	
10. PWS	-0.498**	-0.551**	-0.607**	0.676**	0.634**	0.660**	0.595**	0.438**	0.614**	—

*p<0.05, **p<0.01
FF: Fear of the Future, HF: Hopelessness about the Future, FAS: Future Anxiety Scale, PWS: Perceived Wellness Scale

Table 5. Multiple Regression Analysis

Predictor	B	SE B	β	t	p	Tolerance	VIF
Constant	5.725	0.148	–	38.615	0.000	–	–
FF	-0.270	0.049	-0.333	-5.499	0.000	0.846	1.183
HF	-0.316	0.046	-0.420	-6.919	0.000	0.846	1.183

Note dependent variable=perceived Wellness (AEO). Model summary: R=0.630, R^2=0.397, adjusted R^2=0.391, F(2.194)=63.883, p<0.001, Durbin-Watson=1.883
SE: Standard error, VIF: Variance inflation factor, FF: Fear of the future, HF: Hopelessness about the future

As indicated by grade level, first-year students demonstrated reduced levels of future anxiety in comparison to their upper-class counterparts across several departments (p<0.05). This finding is consistent with studies showing that future anxiety tends to increase with each successive academic year [19,28,37-39]. Recent research has indicated that anxiety levels are notably elevated among final-year students, primarily attributable to concerns regarding graduation, employment prospects, and the mounting pressure to plan for the future. Conversely, among early-grade students, factors such as challenges in adapting to university life, limited social support, and a lack of structured future planning have also been identified as contributing to elevated anxiety levels. However, several studies have found no significant differences in future anxiety based on grade level, or have reported higher anxiety in grades other than the final year [40-43]. In particular, elevated anxiety levels among first-year students have been associated with challenges such as adapting to university life, separation from family, and the social adjustment process [44].

In a similar vein, first-year students were found to have higher levels of wellness, with significant differences observed in the psychological, spiritual, and intellectual dimensions (p<0.05). These findings are consistent with previous research indicating that wellness levels may vary based on education level [28,30]. However, other studies have reported variations in specific dimensions or noted higher levels of wellness among upper-grade students [22,26]. These patterns highlight the importance of early-stage support mechanisms, as the decline in wellness across grade levels may reflect unmet psychological and academic needs.

Although this study did not find a statistically significant relationship between income level and future anxiety, previous research has shown inconsistent results. Some studies report higher anxiety among low-income individuals [42,45-48], while others find no meaningful association [20]. It has been proposed that economic anxiety may be influenced not only by actual income but also by individuals' perceptions of financial freedom and autonomy [49]. These findings imply that the relationship between economic status and future anxiety is complex and influenced by subjective perceptions. Regarding wellness, individuals whose income was lower than their expenditure reported lower overall and social wellness. However, previous studies have shown notable discrepancies between income and psychological wellness [30], suggesting that financial status alone may not fully explain variations in wellness.

Research findings indicate that future anxiety is a significant factor contributing to reduced overall wellness among students. During periods of heightened uncertainty, life satisfaction tends to decrease, psychological resilience is undermined, and general wellness deteriorates [50-53]. Rising academic pressures, unpredictability, and concerns about career prospects have been shown to directly affect the psychological wellness of university students [54]. The findings indicate that general well-being and wellness levels are not only influenced by current living conditions, but also by individuals' expectations and concerns regarding the future. Indeed, some studies have shown that there are inverse relationships between future anxiety and depression,

stress and happiness levels in medical and HM students [43,46]. In this context, the wellness of individuals can be regarded as a critical psychological buffer against the negative effects of future anxiety.

Study Limitations

This research only included students from the faculty of health sciences at one university, and the results cannot be generalized. It is assumed that participants understood the statements on the survey correctly and answered them as they understood.

CONCLUSION

The study revealed that students experienced moderate future anxiety and moderate to high levels of perceived wellness. A moderate, significant and negative correlation was indicated, suggesting that higher anxiety levels were associated with reduced overall wellness. While age, department, income, and grade level were associated with various wellness dimensions, only grade level significantly influenced future anxiety. The findings of this study indicate that students' perceptions of wellness are significantly influenced by their concerns regarding the future. Higher anxiety among upper-year students may be associated with the ambiguities surrounding graduation and employment prospects. Notably, students in practice-oriented departments, such as nursing, reported lower levels of wellness, likely due to the combined pressures of practical training and academic expectations. In view of these findings, academic institutions should consider ways to enhance access to psychological counselling, implement targeted anxiety-reduction programmes, and establish regular monitoring procedures for student wellness. It is imperative that higher education policies adopt a holistic, student-centred framework that integrates wellness-focused curricula, effective guidance systems, and employment support to foster sustainable student development.

Ethics

Ethics Committee Approval: Approval for the study was obtained from the Ardahan University Scientific Research and Publication Ethics Committee (approval number: E-67796128-800-2400021393, date: 04.07.2024).

Informed Consent: Prior to the survey, volunteer participants were informed, and written and verbal consent was obtained.

Footnotes

Author Contributions

Concept: EGA, AŞ; Design: EGA, AŞ; Data Collection or Processing: EGA, AŞ; Analysis or Interpretation: EGA, AŞ; Literature Search: EGA, AŞ; Writing: EGA, AŞ.

Conflict of Interest: The authors declares that there is no conflict of interest.

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J Acad Res Nurs 2025;11(3):185-6

Percutaneous Endoscopic Gastrostomy: Peristomal Leakage

Perkütan Endoskopik Gastrostomi: Peristomal sızıntı

Güldan Kahveci[1], Sema Basat[2]

[1]University of Health Sciences Türkiye, Ümraniye Training and Research Hospital, Clinic of Nutritional Nursing, İstanbul, Türkiye
[2]University of Health Sciences Türkiye, Ümraniye Training and Research Hospital, Clinic of Internal Medicine, İstanbul, Türkiye

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Dear Editor,

Peristomal leakage is a common complication around the insertion site of a percutaneous endoscopic gastrostomy (PEG) tube [(1)]. It is usually caused by leakage of stomach contents or nutritional product into the peristomal area, which can lead to skin irritation, infection, or hypergranulation. A small peristomal leak may occur in the week following placement, but leakage of stomach contents can lead to peristomal infection and even tube loss [(1,2)].

Causes of Peristomal Leakage

Risk factors for peristomal leakage include skin infection, increased gastric acid secretion, gastroparesis, distension, constipation, lateral bending of the tube, increased tension between the internal and external bumpers, Buried Bumper Syndrome and hypergranulation tissue. Additionally, factors such as diabetes, immunosuppression, and malnutrition may impede wound healing [(1-3)].

Management of Peristomal Leakage

The skin around the PEG tube should be cleaned regularly and protected with barrier creams containing zinc oxide [(4,5)]. In addition, foam dressings can be used instead of gauze to reduce local skin irritation (foam draws drainage away from the skin, while gauze prevents skin maceration). Unnecessary tube movement or excessive pressure should be avoided. Proton pump inhibitors (PPI) can be used to reduce leakage by minimizing gastric acid secretion. It maybe useful to initiate prokinetic agents to manage gastric residual volume and switching from bolus feeding to intermittent or continuous infusion with pump. Hypergranulation tissue can be treated with silver nitrate or steroid creams. If all the above-mentioned measures fail, the PEG tube should be removed and a gastrostomy tube should be placed in a new location [(1,5)]. In one of our cases, NÖ was a 56-year-old mobile female patient with tracheostomy, diagnosed with stage 4 laryngeal cancer who is receiving chemotherapy and radiotherapy. The patient's PEG tube started leaking 1 week after the PEG tube was placed (Figure 1). Her dressing is wetted 3 times a day. The patient's anamnesis revealed no instances of constipation, a factor known to increase intra-abdominal pressure. However, the presence of cough was noted and also patient fed bolus. After physician's order the patient was started on PPI (pantoprazole-once a day) and prokinetic agent (domperidone-three times a day). It was recommended that the dressings be changed as they got wet and applied with a barrier cream containing zinc oxide. The patient's PEG insertion site image at the end of the first and second weeks after treatments is as shown in Figures 2,3.

Informing caregivers about possible complications and controls in PEG care education will reduce complications and contribute positively to the long-term use of the PEG tube. However, the importance of close follow-up of the patient in the presence of complications is also seen in the case presented here.

ORCID IDs: GK. 0000-0002-6864-5310; SB. 0000-0002-6479-1644

Corresponding Author: Güldan Kahveci,
E-mail: nurse.guldan@gmail.com

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Publication Date: 02.12.2025

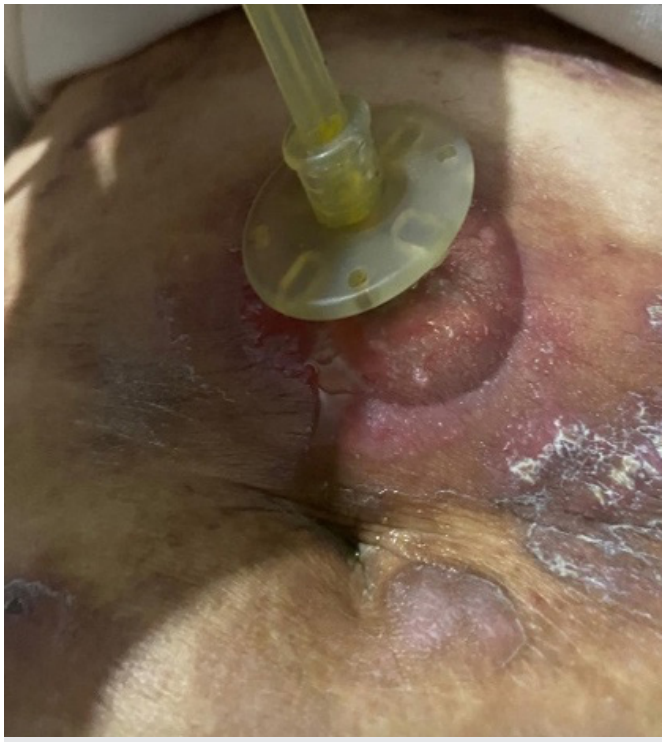

Figure 1. Skin Ulcer with Persitomal Leakage

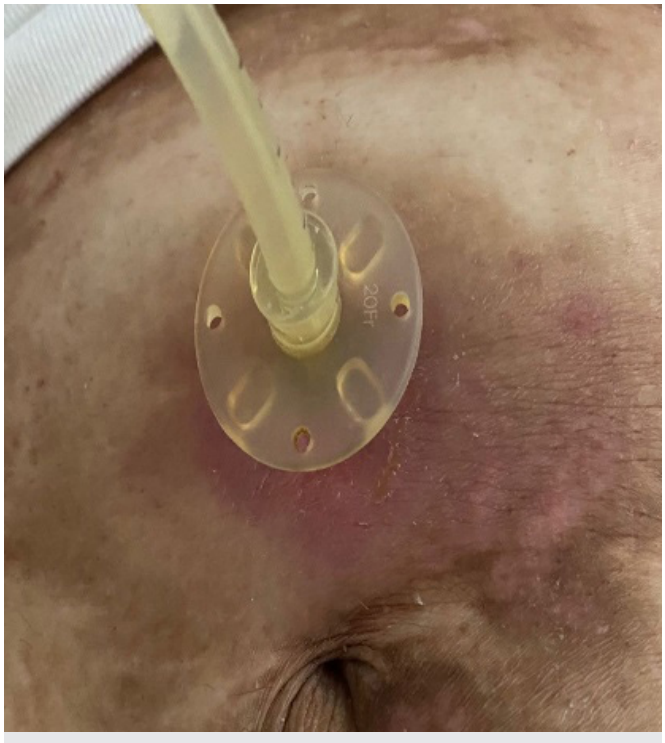

Figure 2. One Week After Treament

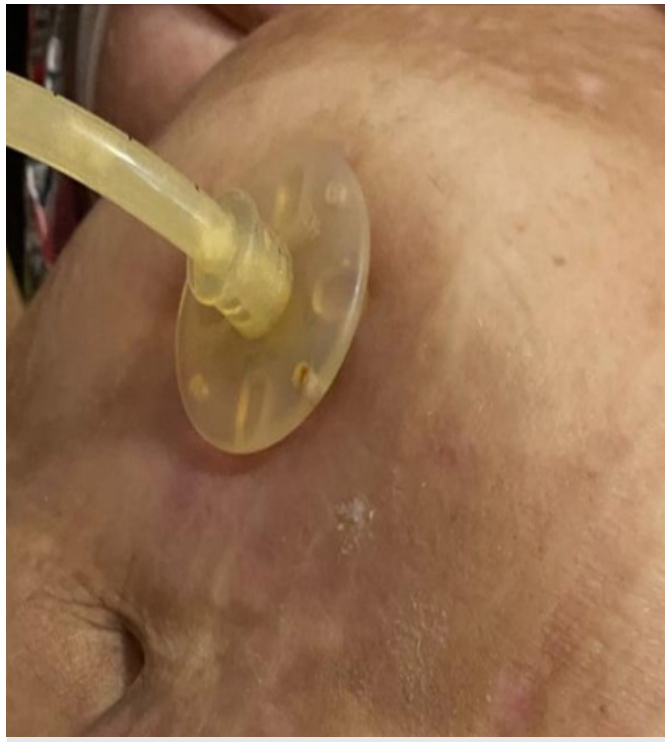

Figure 3. Two Week After Treatment

Footnotes

Authorship Contributions

Concept: GK, SB; Design: GK, SB; Analysis or Interpretation: GK, SB; Literature Search: GK, SB; Writing: GK, SB.

Conflict of Interest: No conflicts of interest were declared by the authors.

Financial Disclosure: This study received no financial support.

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doi:10.55646/jaren.2024.79026

In the article titled "*Kurt B, Yılmaz S. Determination of Vaginal Infection Frequency and Perceived Stress Level in Menopausal Women. J Acad Res Nurs. ;10(3):199-208 doi: 10.55646/jaren.2024.79026*" published in the Journal of Academic Research in Nursing volume 10, issue 3, 2024, the corresponding author informed us that the ethics committee approval date in the study was inadvertently stated incorrectly by the author.

In this context, the relevant documents have been reviewed, and the necessary updates have been made to correct the relevant error. These corrections are summarized below.

Published on page 201;

Araştırmanın etik yönü

Araştırma için Çankırı Karatekin Üniversitesi Etik Kurulu'ndan (19 Ocak 2023, sayı 5) ve ilgili kurumdan (16 Şubat 2023, sayı 3) yazılı onay alınmıştır. Araştırmaya dahil edilmeden önce araştırmanın amacı ve yöntemi hakkında kadınlara bilgi verilmiştir. Araştırmaya katılmayı kabul eden kadınlardan bilgilendirilmiş onam alınmıştır. Bu araştırma Helsinki Deklarasyonuna uygun olarak yürütülmüştür.

Corrected page 201;

(The corrected parts are given in bold)

Araştırmanın etik yönü

Araştırma için Çankırı Karatekin Üniversitesi Etik Kurulu'ndan **(07.02.2022, sayı 24)** ve ilgili kurumdan **(15.02.2022, sayı 44)** yazılı onay alınmıştır. Araştırmaya dahil edilmeden önce araştırmanın amacı ve yöntemi hakkında kadınlara bilgi verilmiştir. Araştırmaya katılmayı kabul eden kadınlardan bilgilendirilmiş onam alınmıştır. Bu araştırma Helsinki Deklarasyonuna uygun olarak yürütülmüştür.

Published on page 207;

Etik kurul onayı

Bu araştırma için Çankırı Karatekin Üniversitesi Etik Kurulundan onay alınmıştır (Karar no: 3/19.01.2023).

Corrected page 207;

(The corrected parts are given in bold)

Etik kurul onayı

Bu araştırma için Çankırı Karatekin Üniversitesi Etik Kurulundan onay alınmıştır **(Karar no: 24/07.02.2022).**

Published on page 207;

Ethical approval

This study was approved by the Çankırı Karatekin University Ethics Committee (Protocol no: 3/19.01.2023).

Corrected page 207;

(The corrected parts are given in bold)

Ethical approval

This study was approved by the Çankırı Karatekin University Ethics Committee **(Protocol no: 24/07.02.2022).**

2025 REVIEWER INDEX

Ahmet Özdemir
Atiye Aydın
Aylin Palloş
Aytül Hadımlı
Besey Ören
Cemile Savcı
Cüneyt Çalışkan
Çiğdem Şen Tepe
Deniz Kaya Meral
Döndü Sevimli Güler
Elnaz Karamelikli
Esra Sabancı Baransel
Fadime Bayrı Bingöl
Fatma Ersin
Gönül Kurt
Gülçin Bozkurt
Gülsen Çayır
Hafize Öztürk Can
Hamdiye Banu Katran
Hatice Tambağ
Hicran Yıldız
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Merve Tuncer
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Nursel Alp Dal
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Sabah Tüzün
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Selman Celık
Sevil Şahin
Seyhan Çerçi
Sibel Coşkun
Sibel Tunç Karaman
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