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REVIEW

An Approach Appropriate for the Art of Nursing: Individualized Management

Hemşirelik Sanatına Uygun Bir Yaklaşım: Bireyselleştirilmiş Yönetim

Demet Duman[1], Merdiye Şendir[2]

[1]Department of Fundamentals of Nursing, University of Health Sciences Turkey, Başakşehir Çam and Sakura City Hospital, İstanbul, Turkey
[2]Department of Fundamentals of Nursing, University of Health Sciences Turkey, Dean of Hamidiye Nursing Faculty, İstanbul, Turkey

Abstract

Developments in the historical process have made innovation in management approaches inevitable. To adapt to these cultural and managerial changes, new management approaches have emerged at different times. In addition, nursing has undergone many changes in the fields of education, practice, management, and research from the past to the present. The nursing profession has been able to adapt and develop to the needs of the future with what it has learned from experience. In the literature, it is predicted that management approaches will evolve on the basis of information technologies, high ideals, and individual-oriented theories. The concept of individuality in nursing is related to the well-being of nurses who provide health services as well as the results of nursing care that healthy/patient individuals need with their unique qualities. When nurses' individual experiences, family situations, personality traits, professional knowledge, and experiences are considered in the managerial approach, their contribution to health services and the effectiveness of health care services may increase. This study aimed to explain the concept of individualized management within the framework of the information obtained considering the literature and to make inferences.

Keywords: Individualized, individualized care, management, nurse management, nursing

Öz

Tarihsel süreçte yaşanan gelişmeler, yönetim yaklaşımlarında yenileşimi kaçınılmaz hale getirmiştir. Bu kültürel ve yönetimsel değişimlere uyum sağlayabilmek için farklı zamanlarda yeni yönetim yaklaşımları ortaya çıkmıştır. Bunun yanı sıra hemşirelik de geçmişten günümüze eğitim, uygulama, yönetim, araştırma alanlarında birçok değişim geçirmiştir. Hemşirelik mesleği deneyimlerden öğrendikleri ile geleceğin ihtiyaçlarına uyum sağlayabilmiş ve gelişebilmiştir. Literatürde yönetim yaklaşımlarının bilgi teknolojilerine dayalı, yüksek idealler ve birey odaklı teorilerle gelişerek evrileceği öngörülmektedir. Hemşirelikte bireysellik kavramı; sağlıklı/hasta bireylerin kendilerine özgü nitelikleriyle gereksinim duydukları karşılanan hemşirelik bakımının sonuçlarıyla ilişkili olduğu kadar, sağlık hizmetlerini sunan hemşirelerin iyi oluşluklarıyla da ilgilidir. Hemşirelerin bireysel yaşantıları, aile durumları, kişilik özellikleri, mesleki bilgi ve deneyimleri yönetsel yaklaşımda dikkate alındığında, sağlık hizmetlerine sundukları katkı ve sağlık bakım hizmetlerinin etkinliği artabilecektir. Bu çalışmada, literatür ışığında elde edilen bilgiler çerçevesinde bireyselleştirilmiş yönetim kavramının açıklanması, çıkarımlarda bulunulması amaçlanmıştır.

Anahtar Kelimeler: Bireyselleştirilmiş, bireyselleştirilmiş bakım, yönetim, hemşirelik yönetimi, hemşirelik

Introduction

Human beings have been separated from all other living beings in the world since their existence because of their different developmental characteristics. Today, each individual is recognized as unique,unique, and unique, and their needs differ in case of health/illness. An individual is defined as a single entity with distinctive characteristics that cannot be divided without losing its unique qualities, and individuality is defined as "the totality of the characteristics that distinguish a person from others" (1,2). The individual is in constant interaction with his/her environment as a physical, socio-political, cultural, and ecological entity (3). The word "individualize" means "to consider something individually" (2,4). To develop with existence and to continue some activities, the need to assign tasks to individuals and to maintain practices for a purpose in line with the same goal has also emerged.

Corresponding Author:
Demet Duman, iklima-85@hotmail.com

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The nursing profession is a transcultural service providing profession that aims to provide decent service to individuals with individualized care that is holistic, respectful to lifestyle and cultural values, and one of the most important basic values of health services (5). With holistic care, the nurse focuses on the use of nursing knowledge, theory, expertise, and intuition in the healing process by considering individuals receiving health care as a whole with their emotions, environment, relationships, body, mind, spirit, and social and cultural aspects (6). Directing nurses toward the right goals due to their duties and responsibilities is related to the leadership behaviors of managers (7). This study aimed to explain the concept of individualized management within the framework of the findings obtained considering the literature and to make inferences.

Developments in the historical process have made innovation in management approaches inevitable. To adapt to these changes and developments, new management approaches have emerged at different times (8). Although management approaches in the world seem to be divided into recipes, processes, and tactics, excellent management should be evaluated in contrast to rigid and stereotypical attitudes. In the literature, it is emphasized that the fact that many managers see leadership style as an individual characteristic rather than a strategic choice may cause managerial error and that it is not enough to turn to any style alone (9). As a leader, the manager should think about which style will best respond to the requirements of the individual and the specific situation in which he/she is in, rather than choosing a style that will suit him/her. It is stated that the use of different leadership styles, such as reassuring, democratic, immersive, supportive, supportive, affinity, directive, etc., in accordance with the task to be given will contribute positively to the climate of the organization and increase the performance of the working individuals (9-11).

Teams in healthcare delivery are as unique as the individuals who make them up. It is appropriate for the best managers to understand that each individual has different skills, expertise, opinions, aspirations, and needs. They are also expected to ensure that each individual works in a way that puts them in a position to feel superior, valued, and contribute to the organization. It is considered appropriate to avoid a one-dimensional management approach that will support and advance the team beyond its goals (10,12). Individualized management means adapting the management style to cater to the personalities, preferences, and passions of individuals within the team. One member of the team may be particularly extroverted, whereas another may be introverted and expect praise in the environment. Some differences, however small, can make the difference between a healthy management relationship and one that misses the mark, becomes toxic, and leads to attrition. Managers are expected to understand the individuals in the team better and provide more flexibility, trust, and autonomy. Once the right team is in place, with clear expectations, realistic goals, and the right tasks to accomplish, it is necessary to empower individuals to bring their talents to bear. Likewise, simultaneous feedback, listening, and, most importantly, facilitating change should be allowed. The manager's role is to advocate for team members, ensuring that they have the right equipment and skills to complete a task, project, or goal. In the management of healthcare services, giving the right tasks to the right people at the right time in terms of their practices can be considered as a reflection of the art aspect of the nursing profession as well as the science aspect (12-14).

Nursing philosophy expects that care should be provided by considering the valuable, unique, and bio-psycho-psycho-socio-cultural integrity of each individual. Since each person's reactions to health and disease are different from each other, the support of health care professionals is needed to heal diseases and improve health (3,15). This approach is important in the care to be given to healthy/sick individuals who need help, as well as in terms of the well-being of nurses who perform health care services. Individualized management involves treating the needs, experiences, personality traits, life events, priorities, education/professional knowledge, skill level, health-disease status, expectations from the profession, and professionalism of the nurse as an individual in the management of health care services. This leadership approach should be realized in line with the philosophy of nursing that accepts the individual as unique-unique-unique. Individualized management should not be understood as a management approach that occurs in line with the demands of individuals, but as a management approach in which the manager considers the individual characteristics of nurse colleagues to improve their performance and quality of care. The manager should determine what kind of support the nurses need at various stages of their professional life and the approach to support them in various issues for their development. In other words, individualized management is the realization of managerial behaviors considering nursing philosophy, values, and ethical elements, considering the individual characteristics of the nurse (16).

Individualized management in nursing is a health care management approach that considers nurses' personal lifestyles/characteristics and preferences and their participation in the process of making decisions that may affect the working order (7,12). At the same time, nurses' leisure time activities, private lives, work-related experiences, physical indicators, behaviors related to coping methods, thoughts, and professional perceptions are considered by the manager. Nurse managers who adopt an individualized management approach are aware that their colleagues are unique individuals and take their experiences, behaviors, thoughts, and perceptions into consideration when making decisions. The traditional nursing culture, with its work-oriented and stereotypical hierarchical structure, is considered an obstacle to individualized management (17). Achieving better health care outcomes is possible with a management approach that supports individuality. Problems such as nurses' lack of knowledge and practice, working overtime, communication problems between team

members, and lack of interdisciplinary cooperation make individualized management more difficult. Çetinkaya Kutun et al. (18) emphasized in their study the need to determine the effectiveness of nursing services management in hospitals; in order to increase the effectiveness of management, they emphasized the necessity of establishing environments where the participation of the team is ensured by determining common goals, ensuring effective communication and cooperation among employees, clearly defining the job descriptions of nurses in decision-making mechanisms and taking part in different management positions, considering the specialization areas and experience periods of nurses (5,17).

This approach allows nurses to be managed and evaluated in different ways, considering their intellectual strengths and weaknesses at the individual level. It involves adapting organizational goals to coincide with nurses' individual passions and personalities. This approach will motivate employees without their awareness. Some individuals like to accomplish day-to-day goals, whereas others may prefer long-term initiatives and practices with periodic check-ups. This may seem like a lot of work for managers, but capitalizing on the uniqueness of each of the nurses increases accountability, challenges the status quo, and builds a stronger team spirit. It is important that the manager spends more time with the nurses, keeps abreast of developments, and gives everyone the same opportunity to be heard. Taking detailed notes during interviews to help team members feel that their voice is respected will also help them remember much of the conversation. Similarly, it is important to take follow-up notes to better understand how things are progressing in terms of team members' performance. It would be appropriate to monitor and congratulate days with personal meaning, such as birthdays, postgraduate graduations, and weddings. Showing interest in the lives of team members can make them feel valued instead of feeling like a cog in the machine. In this approach, getting as much information as possible about the nurses' families, interests, hobbies, music preferences, and so on can make things go more smoothly, and the feelings and thoughts underlying the behaviors of individuals can be evaluated more accurately. Thus, an individual who is unsuccessful enough in a given task due to his/her circumstances is not evaluated as a failure not because he/she is not suitable for the task, but because of a task that he/she cannot fulfill because the conditions at that moment are not suitable. When suitable conditions are provided, gains can be achieved again. This can help build deep bonds and find common interests in the sometimes monotonous professional work life and the challenging health sector (11,12,19). Demonstrating that nurses' personal and professional development is valued will also serve as a setting for getting to know employees' aspirations, personalities, strengths, and weaknesses. This will allow for easier adaptation of the management style. Managers sitting in front of their phone or computer, showing no real investment in their team members, can erode trust and camaraderie. When individualized management is not prioritized, inadequate management of health care services, loss of productivity, absenteeism, and sloppy care due to burnout may occur. Prolonged length of stay in healthcare institutions may result in consequences that may negatively affect institutions, staff, and individuals receiving healthcare services. The benefits that can be expected in this context will be a higher sense of pride, empowered nurses, healthier professional relationships, and increased visibility of health care services by individualizing management.

Conclusions and Recommendations

Given the increasing pace of fundamental change in healthcare delivery, the nursing profession is particularly challenged to enact a new, eclectic model of nursing leadership that engages nurses in management. Without this, both managers and individual nurses may risk becoming immobilized in an era of profound change (14,20). The literature emphasizes that creating an equitable culture and infrastructure to support nurse participation is critical for success (21). Effective nursing leadership also results in the retention of nurses in the organization, job satisfaction, commitment, and a moderate working climate. Satisfaction with the nursing care services provided to them is directly related to the leadership styles of nurse managers (22).

Nurse managers should first clarify ideals and values and nurture hope for the future in a way that will mobilize nurses to action through behaviors in an environment of love that they create due to the nature of humanism. It is predicted that nurses will work happier and more motivated, the results of health care services will improve, and the quality of nursing care will increase with an individualized management approach in accordance with the changing generation (23). In this context, it is thought that it would be appropriate to adopt an individualized management approach that is suitable for the development and changes of nurses in line with the philosophy of the profession, taking into account the impact of nurses' knowledge and experience, life experiences, and life events on their performance, and using leadership styles such as authoritarian, democratic, and participatory that have been accepted for years (24). It is recommended to conduct scientific studies with a high level of evidence in the field of nursing on the subject.

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ORIGINAL ARTICLE

Knowledge, Attitudes, and Beliefs of Parents Toward the Human Papilloma Virus Vaccine

Ebeveynlerin Human Papilloma Virüs Aşısına Yönelik Bilgi, Tutum ve İnançları

Aylin Kurt[1], Ebru Cirban Ekrem[1], Fatma Dinç[2]

[1]Bartın University Faculty of Health Sciences, Bartın, Turkey
[2]Department of Nursing, Bartın University Faculty of Health Sciences, Bartın, Turkey

Abstract

Objective: To evaluate the attitudes, beliefs, and knowledge of parents regarding the human papilloma virus (HPV) vaccine.

Method: We conducted a cross-sectional study using a digitally prepared survey form delivered via social media platforms to 420 participants with children aged 9-18 years. "Data collection forms included the descriptive information form and health belief model scale on HPV infection and vaccination." Statistical differences between the groups were analyzed using t-tests and ANOVA. The source of the discrepancy among groups (post-hoc) was examined using the Bonferroni test.

Results: Among the parents, 53.3% lacked adequate knowledge regarding the vaccine, 92.4% had not vaccinated their children against HPV, and another 39.5% were undecided regarding vaccination. The primary reason for not vaccinating, as reported by 34.0% of respondents, was inadequate knowledge regarding the vaccine. Differences were observed in the perceived benefit, barrier, sensitivity, and severity of HPV vaccines based on hearing about the vaccine, personal vaccination status, consideration of vaccinating one's child, source of vaccine information, fear of vaccine side effects, and lack of information ($p<0.05$).

Conclusion: The study found that most participating parents lacked sufficient knowledge on HPV vaccines. Beliefs about HPV vaccination were affected by fear of side effects, scarcity of information, and seeking information from non-healthcare sources. In future research, it is recommended that healthcare providers, such as nurses, who offer health services to their community and have education and counseling duties related to health, prepare and enact training initiatives on HPV vaccination for both parents and adolescents.

Keywords: Human papilloma virus, parents, knowledge, attitude, belief

Öz

Amaç: Ebeveynlerin human papilloma virüs (HPV) aşısına yönelik bilgi, tutum ve inançları incelemektir.

Yöntem: Bu kesitsel araştırma 9-18 yaş arasında çocuğu olan 420 ebeveyn ile gerçekleştirildi. Veriler dijital ortamda hazırlanan veri toplama formunun online anket bağlantısı ebeveynlere sosyal medya platformları aracılığı ile ulaştırılarak verileri toplandı. "Tanıtıcı bilgi formu" ve "HPV enfeksiyonu ve aşılamasına ilişkin sağlık inanç modeli ölçeği" veri toplama formlarıydı. Gruplar arasındaki istatistiksel farklar t-testleri ve ANOVA kullanılarak analiz edildi. Gruplar arasındaki farklılığın kaynağı (post-hoc) Bonferroni testi kullanılarak incelendi.

Bulgular: Ebeveynlerin %53,3'ü HPV aşısı hakkında yeterli bilgiye sahip değildi. %92,4'ü çocuğuna HPV aşısı yaptırmamıştı ve 39,5'i yaptırmada kararsızdı. Aşı hakkındaki bilgi yetersizliği aşı yaptırmama nedenlerinin en başındaydı (%34,0). Daha önce HPV aşısını duyma, kendisine aşı yaptırma, çocuğuna aşı yaptırmayı düşünme, aşı hakkındaki bilgi kaynağı (internet), HPV aşısının yan etki oluşturabileceği korkusu, bilgi yetersizliği HPV aşılarına yönelik ebeveynlerin algıladıkları yarar, engel, duyarlılık ve ciddiyet farklılık gösteriyordu ($p<0,05$).

Sonuç: Bu çalışma, katılımcı ebeveynlerin çoğunun HPV aşıları hakkında yeterli bilgiye sahip olmadığını ortaya koydu. Yan etki korkusu, bilgi yetersizliği ve sağlık profesyoneli dışındaki bir kaynaktan bilgi edinmek ebeveynlerin HPV aşısına yönelik inançlarını etkiliyordu. Gelecek araştırmalarda topluma sağlık hizmeti sunan, sağlık konusunda eğitim ve danışmanlık görevleri bulunan hemşirelerin ebeveynlere ve adölesanlara yönelik HPV aşısının uygulanması konusunda eğitimler planlaması ve uygulaması önerilmektedir.

Anahtar Kelimeler: Human papilloma virüs, ebeveyn, bilgi, tutum, inanç

Corresponding Author:
Aylin Kurt, aylinkurt67@gmail.com

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Introduction

Human papilloma virus (HPV) is responsible for cervical, anal, and penile cancers, and genital warts, in both men and women. It is the most prevalent sexually transmitted infection worldwide, with an estimated lifelong probability of infection exceeding 80% (1). Globally, cervical cancer rates are the highest among cancers caused by HPV. According to the World Health Organization (WHO), in 2020 alone, approximately 604,000 women received a cervical cancer diagnosis, with 342,000 women losing their lives due to the disease (2). More than 99% of cervical cancer patients have at least one oncogenic HPV genotype. HPV 16 and 18 are responsible for approximately 70% of cervical cancers worldwide, whereas HPV 6 and 11 cause approximately 90% of genital warts (3,4).

HPV-related diseases can be prevented through primary prevention measures such as prophylactic vaccination. The HPV vaccine is administered in vaccination programs worldwide, primarily to young girls, but it is also approved for both sexes and covers boys in some countries and regions (1,5,6). The WHO has endorsed the HPV vaccine as the initial strategy in the prevention of cervical cancer and recommended its administration before the first sexual encounter (7).

Parents play a crucial role in deciding whether to vaccinate their children against HPV. Previous research indicates that vaccine acceptance is influenced by knowledge, personal beliefs, and health behaviors. Several studies across different settings suggest that parents possess inadequate knowledge about HPV and the HPV vaccine (1,8,9). Positive parental beliefs and attitudes are significant predictors of HPV vaccination. Scientific literature indicates that parents with a strong perception of the benefits of HPV vaccine, who believe in its efficacy and protective value against life-threatening illnesses, are more inclined to immunize their offspring (10,11).

Cervical cancer accounts for 3.7% of all cancers in Turkey and is the third most common type of genital cancer in women (12). Despite this, the national routine vaccination schedule in Turkey does not yet include the HPV vaccine (13). Studies have shown that some parents may be hesitant to vaccinate their school-age children against HPV for various reasons (14). Nurses are professionals who frequently interact with children and their parents. They can provide parents with counseling on HPV vaccination and address their concerns and hesitations. By taking an active role in improving adolescent health, nurses can assess parents' attitudes and beliefs toward HPV vaccination, develop comprehensive educational programs to address knowledge gaps, and reduce vaccine hesitancy (15). Understanding parental attitudes toward HPV vaccination and identifying barriers can inform the development of effective interventions to increase vaccination rates (16). However, only a limited number of published studies have focused on determining nurses' knowledge, beliefs, and attitudes toward HPV vaccination among parents (17,18).

Main Points

- Most parents who participated had insufficient knowledge of the human papilloma virus (HPV) vaccines.
- Parental beliefs toward HPV vaccination were influenced by fear of side effects, lack of information, and obtaining information from a non-medical professional source.
- Health professionals play a critical role in educating families, which can enhance vaccine awareness and acceptance rates among parents.

Material and Method

Study Design and Participants

The study was conducted using a cross-sectional design. The study population comprised parents residing in Turkey. Convenience sampling, a non-probability sampling method, was used because it was not feasible for the researchers to identify the participating parents in the digital environment. An online survey was conducted between March and October 2023, and 420 parents were interviewed. The inclusion criteria were as follows: (a) Being a parent (b) Having a child between the ages of 9 and 18 (c) Agreeing to participate in the study (d) Completing the data collection forms com.

Data Collection

Data were collected from March to October 2023 via social media platforms, where parents were given access to an online survey link to a digitally prepared data collection form. Before participation, parents were informed about the data's purpose, scope, measurement tools, and confidentiality. The "introductory information form" and "health belief model scale on human papillomavirus ınfection and vaccination (HBMS-HPVV)" were implemented to collect data.

Descriptive information form: The form, created in accordance with the literature (19-21), comprised six queries that aimed to establish descriptive traits of the child and parents, demographic details, familiarity with general vaccinations, HPV vaccination, and vaccination status.

HBMS-HPVV: Kim (22) developed this scale to determine health beliefs. Guvenc et al. (23) adapted the Turkish version in 2016. The scale comprises four sub-dimensions: The perception of seriousness (4 items), the perception of obstacles (5 items), the perception of benefits (3 items), and the perception of sensitivity (2 items). The items on the scale are of the four-point Likert type and require responses ranging from "not at all" (1 point) to "very much" (4 points), with "a little" (2 points) and "quite" (3 points) in between. The responses by the individual are scored on the item's score, and the overall scores of each subsection are computed. The final score is determined by dividing the total score by the number of items present in the subsection, after which the scores for severity, obstacle, sensitivity, and benefit are calculated. The average score for each subsection falls within the range of 1-4. A high perception of benefit score indicates that the respondent believes that HPV vaccination provides benefits, whereas a high perception of seriousness

score indicates that the respondent views HPV infection as a serious issue. Similarly, a high barrier score means that the respondent perceives obstacles hindering vaccination, and a high sensitivity score indicates significant personal sensitivity toward this matter. The sub-dimensions of the scale demonstrated high reliability coefficients with Cronbach's alpha values of 0.78 for the perception of seriousness, 0.71 for the perception of barrier, 0.78 for the perception of benefit, and 0.72 for the perception of sensitivity. The total Cronbach's alpha reliability coefficient cannot be calculated because the scale's total score was not assessed (23). The study identified the perception of seriousness as 0.78, perception of obstacle as 0.76, perception of benefit as 0.77, and perception of sensitivity as 0.84.

Statistical Analysis

Statistical analyses were conducted using SPSS 22.0 software. Descriptive data were analyzed using the measures of frequency, percentage, mean, and standard deviation. Normal distribution of the data was confirmed by examining the skewness and kurtosis values. Statistical differences between the groups were analyzed using t-tests and ANOVA. The source of the discrepancy among groups (post-hoc) was examined using the Bonferroni test. The level of significance was assessed at $p<0.05$.

Ethics

Ethical approval was obtained from the Social and Humanities Ethics Committee of the Bartın University (protocol number: 2023-SBB-0003, date: January 18, 2023). Before the online survey's commencement, parents were informed about the study's purpose and extent as well as data confidentiality and were asked to indicate their consent by checking the appropriate box if they wished to proceed with the survey. All study procedures were performed in accordance with the Declaration of Helsinki.

Results

Of the study participants, 80.5% were mothers, and the average age of parents was 38.75±3.79 years, with a range of 23-63 years. An estimated 51.2% of the parents were university graduates and reported a medium income level. The majority of families surveyed (89.5%) were classified as extended households, and 53.8% had one child (Table 1).

Specifically, the mean score for "perceived benefit" was 3.14±1.18, "perceived susceptibility" was 3.09±1.33, "perceived severity" was 3.10±0.64, and "perceived barrier" was 2.31±0.77. The parental mean scores for the HBMS-HPVV subscales were low overall. This means that individuals who believe that HPV vaccination is advantageous, consider HPV infection a grave issue, perceive significant obstacles to vaccination, and exhibit low sensitivity to the subject (Table 2).

96.7% of parents vaccinated their children according to the Ministry of Health's vaccination schedule. The most prevalent reason for not adhering to the schedule (3.0%) was distrust of vaccine ingredients. In addition, 76.7% of participants reported prior knowledge of the HPV vaccine. Of these, 53.3% lacked sufficient familiarity with the vaccine and 83.3% had not been vaccinated themselves. Parents received most of their information about the HPV vaccine (19.8%) from

Table 1.
Characteristics of Parents (n=420)

	n	%
Parent		
Mother	338	80.5
Father	82	19.5
Age (parents)	Mean ± SD=38.75±3.79	Min-max=23-63
Education status		
Primary-secondary school	28	6.7
High school	74	17.6
University	215	51.2
Postgraduate	103	24.5
Income status		
Good	100	23.8
Middle	300	71.4
Bad	20	4.8
Family type		
Extended family	24	5.7
Nuclear family	376	89.5
Fragmented family	20	4.8
Number of children		
1	226	53.8
2	148	35.2
3	30	7.1
4 and more	16	3.8

SD=Standard deviation

Table 2.
Distribution of Parents' Scores in the Sub-dimensions of the Health Belief Model Scale on Human Papillomavirus Infection and Vaccination (n=420)

	Mean ± SD	Minimum
HBMS-HPVV		
Perceived benefit	3.14±1.18	1
Perceived responsiveness	3.09±1.33	1
Perceived seriousness	3.10±0.64	1
Perceived barrier		

HBMS-HPVV=Health belief model scale of human papilloma virus infection and vaccination, SD=standard deviation

educational institutions. Of the parents surveyed, 92.4% had not vaccinated their child against HPV, and 39.5% were undecided. The primary reason for not vaccinating was a lack of information about the vaccine, with 34.0% citing this as the main barrier (Table 3).

Table 3.
Difference in the Mean Scores of HBMS-HPVV Sub-dimensions According to Parents' Knowledge and Behaviors Regarding General Vaccines and HPV Vaccine (n=420)

			Perceived benefit	Perceived responsiveness	Perceived seriousness	Perceived barrier
	n	%	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Having your child(ren) vaccinated against vaccines included in the Ministry of Health vaccination calendar						
Yes	406	96.7	3.16±1.19	3.10±1.34	3.12±0.64	2.31±0.77
No	14	3.3	2.52±0.71	2.64±0.77	2.71±0.29	2.40±0.77
Significance			t=3.230, p=0.005	t=2.151, p=0.047	t=4.840, p<0.001	t=-0.399, p=0.696
Reasons for not having their child/children vaccinated against the vaccines included in the Ministry of Health vaccination calendar*						
Inadequate information on vaccinations	6	1.4	2.88±0.86	2.83±0.93	3.25±0.59	2.26±1.26
Disbelief in the impact of vaccination on diseases	2	0.5	3.12±0.88			
Allocation of some vaccines for a fee	4	1.0	2.83±0.96	3.25±0.28	3.12±0.14	2.50±0.80
Distrust of the content of vaccines	14	3.3	2.52±0.85	2.14±0.81	2.53±0.84	2.51±0.78
Significance			F=0.443, p=0.724	F=2.848, p=0.061	F=2.424, p=0.075	F=0.940, p=0.438
Hearing about the HPV vaccine						
Yes	322	76.7	3.27±1.26	3.08±0.72	3.16±0.57	2.31±0.77
No	98	23.3	2.74±0.79	3.13±2.43	2.92±0.79	2.33±0.76
Significance			t=4.952, p<0.001	t=-0.208, p=0.835	t=2.724, p=0.007	t=-0.178, p=0.859
Getting herself vaccinated against HPV						
Yes	70	16.7	3.72±2.36	3.20±0.74	3.35±0.59	2.18±0.83
No	350	83.3	3.03±0.71	3.07±1.42	3.05±0.64	2.34±0.75
Significance			t=2.430, p=0.018	t=1.100, p=0.273	t=3.780, p<0.001	t=-1.442, p=0.153
Acquire adequate knowledge about the HPV vaccine						
Yes	196	46.7	3.50±1.48	3.29±0.62	3.34±0.52	2.23±0.82
No	224	53.3	2.83±0.71	2.91±1.70	2.90±0.66	2.38±0.71
Significance			t=5.827, p<0.001	t=3.063, p=0.002	t=7.588, p<0.001	t=-1.995, p=0.047
HPV vaccine information resource*						
People who have received this vaccine (1)	16	3.8	3.00±0.17	2.84±0.27	2.79±0.17	2.41±0.18
Healthcare professionals (2)	80	19.0	3.57±0.24	3.21±0.06	3.21±0.05	2.17±0.07
Newspapers, journals, and scientific articles (3)	33	7.9	3.26±0.08	3.15±0.12	3.18±0.07	2.56±0.15
Institutions attended (4)	83	19.8	3.36±0.07	3.28±0.08	3.42±0.06	2.27±0.09
Television/internet/social media (5)	18	4.3	3.25±0.15	2.77±0.21	3.11±.0.13	2.95±0.18
Significance			F=1.568, p=0.295	F=1.847, p=0.180	F=1.133, p=0.401	F=3.658, p=0.003
Post-hoc						2-5 p=0.002 4-5 p=0.011

Table 3.
Continued

			Perceived benefit	Perceived responsiveness	Perceived seriousness	Perceived barrier
	n	**%**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
HPV vaccination for your child(ren)						
Yes	32	7.6	3.27±0.61	3.07±0.82	3.09±1.36	2.27±0.88
No	388	92.4	3.13±1.22	3.09±1.36	3.25±0.64	2.32±0.76
Significance			t=1.067, p=0.291	t=-0.099, p=0.922	t=1.293, p=0.197	t=-0.293, p=0.772
Considering HPV vaccination for the child						
Yes (1)	170	40.4	3.64±0.12	3.56±0.13	3.38±0.03	2.25±0.06
No (2)	72	17.1	2.58±0.08	2.33±0.10	2.63±0.08	2.56±0.08
Not sure (3)	166	39.5	3.47±0.05	3.41±0.05	3.21±0.04	2.27±0.05
Significance			F=20.856, p<0.001	F=18.291, p<0.001	F=10.647, p<0.001	F=1.911, p=0.021
Post-hoc			1-2, p<0.001	1-2, p<0.001	1-2, p<0.001	1-2, p=0.024
Reason for not vaccinating						
Lack of information about the vaccine (1)	143	34.0	2.76±0.05	3.01±0.16	2.89±0.05	2.34±0.06
Fear of side effects (2)	21	5.0	3.33±0.12	2.85±0.13	3.10±0.11	1.84±0.05
Thought it was not necessary (3)	12	2.9	2.88±0.18	2.50±0.21	2.70±0.14	2.53±0.21
Fear of infertility (4)	2	0.5	2.33±0.19	3.00±0.17	2.75±0.15	2.40±0.29
Possibility of interfering with my child's hormones (5)	2	0.5	2.00±0.36	2.00±0.26	4.00±0.19	1.00±0.39
Risk of allergy (6)	2	0.5	2.66±0.10	2.50±0.14	2.50±0.21	2.20±0.22
S/he is young, s/he should decide with her/his own knowledge in the future (7)	6	1.4	2.88±0.30	3.33±0.42	3.16±0.38	2.40±0.36
Not wanting to be given a virus, even preventively, if there are no symptoms (8)	6	1.4	2.83±0.38	2.16±0.45	2.25±0.45	3.53±0.15
Mistrust of vaccines (9)	12	2.9	2.22±2.22	2.00±0.33	2.91±0.20	2.80±0.10
Thinks the child is a minor (10)	14	3.3	3.03±0.08	2.78±0.17	3.25±0.12	2.28±0.18
Significance			F=3.589, p<0.001	F=0.743, p=0.670	F=2.228, p<0.022	F=5.193, p<0.001
Post-hoc			2-8, p=0.031 2-9, p=0.030		5-8, p=0.042	1-8, p<0.001 2-8, p<0.001 2-9, p<0.001

**More than one option was marked.*
HPV=human papilloma virus, HBMS-HPVV=health belief model scale on human papilloma virus infection and vaccination, SD=standard deviation

The perceived benefits (3.16±1.19, 2.52±0.71; t=3.230, p=0.005), perceived susceptibility (3.10±1.34, 2.64±0.77; t=2.151, p=0.047), and perceived seriousness (3.12±0.64, 2.71±0.29; t=4.840, p<0.001) were observed to be higher among those who had heard about the HPV vaccine, compared to those who had not. Additionally, the mean scores of perceived benefits (3.27±1.26, 2.74±0.79; t=4.952, p<0.001) and perceived seriousness (3.16±0.57, 2.92±0.79; t=2.724, p=0.007) from the HBMS-HPVV sub-dimensions were higher among parents who had heard about the HPV vaccine than among those who had not. The mean scores for perceived benefits (3.72±2.36, 3.03±0.71; t=2.430, p=0.018) and perceived seriousness (3.35±0.59, 3.05±0.64; t=3.780, p<0.001) of parents who received HPV vaccination were higher than those who did not. Parents who were sufficiently informed about the HPV vaccine had higher scores for perceived benefits (3.50±1.48, 2.83±0.71; t=5.827, p<0.001) and perceived sensitivity (3.29±0.61, 2.96±0.69; t=4.310, p<0.001) in the HBMS-HPVV sub-dimensions. The scores for perceived seriousness (3.34±0.52, 2.90±0.66; t=7.588, p<0.001), perceived barrier (2.23±0.82, 2.38±0.71; t=-1.995, p=0.047), and the numerical data (62, 2.91±1.70;

t=3.063, p=0.002) indicated higher values compared to those without. Participants who received information about the HPV vaccine from TV/internet/social media (mean score of 2.95±0.18) reported higher perceived barriers from the HBMS-HPVV sub-dimensions than those who obtained information from health professionals (mean score of 2.17±0.07) and educational institutions (mean score of 2.27±0.09) (F=3.658, p=0.003). Parents considering HPV vaccination for their children scored higher in the sub-dimensions of perceived benefit (3.64±0.12, 2.58±0.08; p<0.001), perceived susceptibility (3.56±0.13, 2.33±0.10; p<0.001) and perceived seriousness (3.38±0.03, 2.63±0.08; p<0.001) of the HBMS-HPVV. Additionally, their mean score for perceived barrier (2.25±0.06) was lower than those who did not consider vaccination (2.56±0.08; p=0.024).

Parents who did not vaccinate their children against HPV because of concerns about side effects (mean score 3.33±.0.12) had higher perceived benefit scores in the HBMS-HPVV sub-dimensions compared with those who refused the vaccine as a preventive measure for their children in the absence of symptoms (mean score 2.00±0.36) or were skeptical about the vaccine (mean score 2.22±2.22) (F=3.589, p<0.001). Parents concerned about the impact of vaccination on their child's hormones (mean score of 4.00±0.19) reported higher perceived benefits on the HBMS-HPVV subscale compared with parents with vaccination insecurity (mean score of 2.25±0.45) (F=2.228, p<0.022). The mean scores for perceived benefits of the HBMS-HPVV sub-dimensions were higher among parents who would not administer the vaccine, even if it was preventive and no symptoms were present (3.53±0.15). In contrast, parents with insufficient knowledge about vaccination (2.34±0.06) and those who did not vaccinate their children because of fear of side effects (1.84±0.05) had lower scores. This difference was statistically significant (F=5.193, p<0.001) (Table 3).

Discusion

This study investigated parents' knowledge, attitudes, and beliefs regarding the HPV vaccine. Of the parents surveyed, 76.7% had prior awareness of the vaccine. However, 53.3% lacked adequate information, and a striking 92.4% had not inoculated their children. The perceived benefits, barriers, sensitivity, and severity of HPV vaccines among parents varied depending on whether they had prior knowledge of the HPV vaccine, received the vaccine themselves, considered vaccinating their child, received information about the vaccine from the internet, fear of possible side effects from the vaccine, and lack of information available. Although the efficacy of the HPV vaccine is well documented, the studies analyzed reveal limited public awareness and knowledge regarding the vaccine (3,24). The number of studies focusing on awareness of this matter should be increased.

In the study, 92.4% of parents did not vaccinate their children against HPV, while 39.5% were undecided. Insufficient information about vaccination was the primary cause of both low vaccination rates and indecision. Thus, it is crucial for midwives and nurses to provide information and training on the topic. It is imperative to inform healthcare professionals, who are significant information sources, about this matter to promote HPV vaccination in society (25).

The perceived benefits, barriers, sensitivity, and severity of HPV vaccines varied among parents with insufficient knowledge about the vaccine compared with those with adequate knowledge, according to the study. In Thailand, a correlation was found between parents' knowledge and beliefs about the HPV vaccine and their acceptance of it (26). The acceptance rate of HPV vaccination for girls among Indonesian parents is notably higher, standing at 96%, compared with that of the United States, which is only 75% (27). In Brazil, 92% of parents approved HPV vaccination for girls and 86% approved for boys aged 18 and under (28). Because the HPV vaccine has not yet been incorporated into the national vaccination program in our country, parents' comprehension and views regarding the vaccine significantly affect its feasibility. Consequently, this situation indicates that families need additional information about the HPV vaccine, and parents must be educated on this issue to enhance vaccination rates.

In our study, the main reason why parents did not have their children vaccinated against the HPV vaccine was inadequate knowledge about the vaccine. Other factors included perceived risks of the vaccine, such as potential severe reactions and side effects, concerns that girls aged 9-13 were too young for vaccination, and fears that the vaccine could promote earlier sexual activity among girls (28). According to a study conducted in our country, 70% of parents oppose HPV vaccination because of a lack of detailed information about the vaccine (3). Misunderstandings about the HPV vaccine are often due to inadequate knowledge of the vaccine (24).

Parents who feared that the HPV vaccine could cause side effects perceived a higher level of barrier against HPV vaccination. Bonanni et al. (29) reported no deaths due to the HPV vaccine in their study and found it to be generally safe and well-tolerated. The most frequently reported side effects were local complications related to the injection site. Despite the scientific evidence supporting HPV vaccination, there are various barriers, including psychological conditions, religious and cultural beliefs, and concerns regarding severe side effects such as orthostatic tachycardia syndrome. In societies where media and websites are prominent information sources, the proliferation of unverified misinformation puts many women at risk of developing HPV-related cancer. VanWormer et al. (30) found that concerns about vaccine harms can negatively impact individuals' vaccination status.

This study found that parents have insufficient knowledge about HPV vaccination. Lack of information poses a significant obstacle for parents when making decisions

about their children's healthcare. This lack of knowledge has also been reported in previous studies (31,32). Despite the availability of the HPV vaccine in Turkey since 2007, many parents are hesitant to vaccinate their daughters because of a lack of awareness or fear of side effects (32). To address this issue, it is important to increase awareness about HPV vaccination among parents. Nurses can play a crucial role in organizing training programs for parents (15). Through this training, parents can receive accurate information about the vaccine and correct any misinformation about its associated risks (33,34).

Study Limitations

The study had some limitations. First, although providing data collection online provides a wider and faster reach to participants, it may also require internet access and a certain level of education. This may limit the findings obtained from representing the society. Secondly, the education level of the majority of the parents in the study was university or postgraduate. This may limit the generalizability of the results. Thirdly, the fact that the study was conducted in Turkey may have some opinions about HPV screening in Muslim countries, especially for unmarried sexually active women.

Conclusion

The study revealed that most parents who participated had insufficient knowledge regarding HPV vaccines. Parental beliefs toward HPV vaccination were influenced by fear of side effects, lack of information, and obtaining information from a non-medical professional source. Successful implementation of screening and vaccination programs aimed at protecting and improving health relies heavily on the role of nurses. Nurses play a critical role in educating families, which can enhance vaccine awareness and acceptance rates among parents. In future research, nurses who deliver health services and have obligations for health education and counseling in the community should organize and execute training sessions aimed at HPV vaccination for parents and adolescents. These sessions will significantly promote awareness of HPV vaccination among the public and potentially reduce the incidence of cervical cancer.

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ORIGINAL ARTICLE

Searching for Health Information on the Internet; Determining the Relationship Between Nurses' Cyberchondria Levels, Health Anxiety, and Effective Factors

İnternette Sağlık Bilgilerinin Aranması; Hemşirelerin Siberkondri Düzeyleri ile Sağlık Kaygıları ve Etkileyen Faktörler Arasındaki İlişkinin Belirlenmesi

Seda Şahan[1], Elif Deniz Kaçmaz[2]

[1]Department of Nursing Fundamentals, İzmir Bakırçay University Faculty of Health Sciences, Nursing, İzmir, Turkey
[2]Department of Psychiatric Nursing, İzmir Bakırçay University Faculty of Health Sciences, Nursing, İzmir, Turkey

Abstract

Objective: Rapid technological developments have increased the search for health-related information on the internet. It has also affected nurses, who have high concerns about diseases due to the nature of their profession. This study was conducted to examine the relationship between nurses' cyberchondria levels and health anxiety and the influencing factors.

Method: Health anxiety inventory and cyberchondria severity scale were used as data collection tools in this study conducted with 388 nurses working in a state hospital in Turkey. The t-test, One-Way ANOVA, correlation, and logistic regression analyses were used in the data analysis.

Results: It was determined that the total score of the nurses on the health anxiety scale was 26.34±2.66 and the total mean score of the nurses on the cyberchondria severity scale was 34.92±3.77. A high positive correlation was found between cyberchondria and health anxiety (ρ=0.986; p=0.013). It was found that demographic variables significantly predicted cyberchondria scale scores and health anxiety.

Conclusion: Because of the analysis, it was determined that the health anxiety and cyberchondria severity of the nurses participating in the study were moderate. It is thought that nurses' professional knowledge and awareness of diseases increase their health anxiety, and they conduct more research on health problems via the internet. Considering the prevalence of internet use today, it is recommended to plan in-service training on internet literacy for nurses.

Keywords: Cyberchondria, health anxiety, nurse, online search, health information

Öz

Amaç: Tekonolojideki hızlı gelişmeler, internet ortamında sağlıkla ilgili bilgi arayışının artmasına neden olmuştur. Mesleğin doğasından kaynaklı hastalıklarla ilişkili kaygıları yüksek olduğu belirtilen hemşireleri de etkilemiştir. Bu çalışma hemşirelerin siberkondri düzeyleri ve sağlık anksiyeteleri arasındaki ilişkinin ve ektileyen faktörlerin incelenmesi amacıyla yapılmıştır.

Yöntem: Türkiye'de bir devlet hastanesinde çalışan 388 hemşire ile yürütülen bu araştırmada, veri toplama aracı olarak; hemşire bilgi formu, sağlık anksiyetesi envanteri, siberkondri ciddiyeti ölçeği kullanılmıştır. Verilerin analizinde sayı yüzdelik dağılımı, t-test. One-Way ANOVA, korelasyon ve lojistik regresyon analizleri kullanılmıştır.

Bulgular: Hemşirelerin sağlık kaygısı ölçeğinden aldıkları toplam puanın 26,34±2,66, siberkondri şiddet ölçeğinden aldıkları toplam puan ortalamasının ise 34,92±3,77 olduğu belirlenmiştir. Siberkondri ile sağlık kaygısı arasında yüksek düzeyde pozitif korelasyon bulunmuştur (ρ=0,986; p=0,013). Demografik değişkenlerin siberkondri ölçeği puanlarını ve sağlık kaygısını anlamlı düzeyde yordadığı bulunmuştur.

Sonuç: Araştırma sonucuna göre hemşirelerin sağlık kaygısı ve siberkondri şiddetinin orta düzeyde olduğu belirlenmiştir. Hemşirelerin hastalıklarla ilgili mesleki bilgi ve farkındalıklarının sağlık kaygılarını artırdığı, sağlık sorunlarına ilişkin internet üzerinden daha fazla araştırma yaptıkları düşünülmektedir. Günümüzde internet kullanımının yaygınlığı dikkate alındığında hemşirelere yönelik internet okuryazarlığı konusunda hizmet içi eğitimlerin planlanması önerilmektedir.

Anahtar Kelimeler: Siberkondri, sağlık kaygısı, hemşire, çevrimiçi arama, sağlık bilgileri

Corresponding Author:
Seda Şahan, seda.sahan@bakircay.edu.tr

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Introduction

Access to information by individuals worldwide and in our country is rapidly increasing in online environments. Online environments are seen as an essential source of health information due to the increasing access of individuals to online health support groups, websites containing health information, health institutions, ministry information sites, and health professionals over the internet (1). The concept of cyberchondria emerged as a reflection of the concept of hypochondria, which is seen as fear and anxiety due to different interpretations of bodily sensations, in online environments (2). Cyberchondria is the excessive and repetitive search for health information online for reasons such as reducing people's anxiety about their health status or dissatisfaction with health institutions. Cyberchondria includes self-diagnosis, searching for most health-related information on the internet instead of consulting experts, and online health research (3,4). Studies show that 75-89% of individuals search for health information online (5,6). Previous studies have shown that self-diagnosis behaviors cause unnecessary psychological stress, leading to anxiety about one's health status (7-9). When individuals search for health information online, their anxiety levels increase, the reliability of the information is questioned, and it turns into a cycle in which people's efforts to seek reassurance continue (10).

Health anxiety causes individuals to interpret their situation negatively because of searching online for diseases that are not life-threatening and have no severe symptoms. This situation negatively affects the physical health of individuals and increases their health anxiety (11). Health anxiety is often defined by excessive worry or fear based on the misappraisal of symptoms and bodily sensations (12).

Healthcare workers' health anxiety is reported to be higher than that in other occupational groups (13). Because of the nature of their work, nurses are exposed to various stress factors, such as caring for critically ill patients, long-term confrontation with dying patients, and feeling a high level of responsibility. These stress factors and the resulting devastating psychological and physiological effects can lead to more negative consequences that endanger human life, such as various diseases, decreased occupational performance, deterioration of emotional functions, reduced productivity, and increased anxiety (14).

Nurses should be able to search for disease-related content on the Internet because it is relevant to professional nursing knowledge (15,16). Nurses' online searches for health information may affect their participation in care, quality of care, commitment, or leaving their profession (7). Therefore, it is essential to determine nurses' cyberchondria and health anxiety levels. This study was conducted to reveal the relationship between nurses' cyberchondria status and health anxiety and to examine these situations according to various variables.

Main Points

- This study showed that nurses' health anxiety and cyberchondria severity were moderate, and there was a positive relationship between health anxiety and cyberchondria.
- It was found that socio-demographic variables, gender, unit of work, and presence of chronic disease affected health anxiety and cyberchondria levels.
- This study determined that chronic disease, an independent variable, was the most critical predictor of cyberchondria.

Material and Method

This study sought answers to the following research questions:

1. Which variables affect nurses' health anxiety levels?

2. What variables affect nurses' cyberchondria levels?

3. Is there a relationship between nurses' health anxiety and cyberchondria levels?

Design

This descriptive, cross-sectional study was conducted to determine the correlation between cyberchondria, health anxiety, and effective factors in nurses.

Participants and the Procedure

The study population consisted of nurses working in a state hospital. A purposeful sampling method was used in the study, and the sample size was determined using a computer program (G*Power 3.1 version). The G*Power analysis [confidence interval (CI) of 95%, an error rate of 5%, and an incidence of 50%] was conducted with 388 nurses for 98% power. The data were collected from November 2022 to February 2023 in Turkey.

Data Collection Process

The data of the study were collected using a nurse information form, cyberchondria severity scale, and the health anxiety inventory (HAI). The researcher informed all nurses about the purpose of the study. Written consent was also obtained from the volunteer nurses.

Data Collection Tools

Nurse information form: The form prepared by the researchers in light of the literature is composed of seven questions related to nurses' demographic information (age, gender), professional experience (working year, clinic), and illness (presence of illness, caregiving).

Cyberchondria severity scale: The short form of the cyberchondria severity scale was used in this study. Barke et al. (17) prepared the short form of the 33-item scale developed by McElroy and Shevlin (16), and the Turkish validity and reliability of the short form were evaluated by Tuğtekin and Barut Tuğtekin (18). CSS-15 is a 15-item scale consisting of five dimensions (compulsion, distress,

excessiveness, reassurance, and mistrust of medical professional). The scale has no cut-off point, and higher scores indicate a higher level of cyberchondria. It is possible to obtain a score between 15 and 75 from the scale. The Cronbach's alpha value of the scale was found to be 0.88 in this study.

HAI: The short form of the HAI, developed to measure academicians' health anxiety, was created by Rode et al. (19) and is an 18-item self-report scale. The reliability and validity study of the scale for Turkish was done by Aydemir et al. (20). The first 14 items of the scale constitute the body dimension (questioning the mental state), and the other four items include additional dimensions related to the negative consequences of the disease (about how their mental state can be under the assumption of a severe illness). The scoring of the scale is between 0 and 3 for each item, and a high score indicates a high level of health anxiety. A maximum of 54 points can be obtained from the scale. The Cronbach's alpha value of the scale was found to be 0.76 in this study.

Statistical Analysis

The data were evaluated using the IBM SPSS.21 program with descriptive statistics, correlation analysis, binary logistic regression analysis, and independent sample t-test. ANOVA was used to create comparisons due to the normal distribution of the data. Binary logistic regression analysis was performed to determine the factors of cyberchondria and health anxiety levels in nursing. Statistical significance was defined as $p<0.05$. The effect estimates were provided as an odds ratio (OR) and a 95% CI. The degree to which nurses experienced health anxiety and cyberchondria was the dependent variable in this study; the independent variables were the potential predictor variables.

Ethical Considerations

The research received ethical approval before implementation from the İzmir Bakırçay University's Ethics Committee (date: 25.10.2022, no: 743). The hospital where the study was conducted granted institutional permission on November 1, 22. The nurses were given the opportunity to agree or decline participation in the research, along with the necessary information regarding the study, on an online form.

Results

A total of 388 nurses participated in the study. The mean age of the nurses was 41.2±5.15. Of the participating nurses, 68.3% (n=265) were female, 59% (n=229) had a bachelor's degree, 38.4% (n=149) had worked in the clinic for 6-10 years, and 30.6% (n=119) were working in the emergency department. Of the participants, 17.8% (n=69) had a chronic disease, 54.9% (n=213) had someone among their relatives with a chronic disease, and 35.6% (n=138) had a dependent person(s).

It was determined that the total score that the nurses obtained from the HAI was 26.34±2.66, while their score from the body dimension of the scale (hypersensitivity to somatic symptoms and anxiety dimension) was 21.48±2.13 and their score from the additional dimension (the dimension associated with adverse outcomes of the disease) was 4.95±1.63. The total mean score of the nurses from the cyberchondria severity scale was 34.92±3.77 (Table 1).

Comparison of gender and scale total score and sub-dimension scores showed a significant relationship between gender and the dimension of negative consequences of the disease ($t=-2.196$, $p=0.029$). A significant relationship was found between the total health anxiety mean score ($t=-2.313$, $p=0.021$) and total cyberchondria mean score ($t=-1.668$ $p=0.042$) It was identified that males had higher health anxiety and cyberchondria levels than females (Table 1).

A significant relationship was identified between the clinics where the nurses worked and their health anxiety total mean score ($F=3.896$, $p=0.047$) and cyberchondria total mean score ($F=3.953$, $p=0.009$). The health anxiety and cyberchondria levels of nurses working in ICUs were higher (Table 1).

With regard to the presence of dependents, a significant relationship was found between health anxiety total mean score ($t=3.478$, $p=0.03$) and cyberchondria total mean score ($t=4.106$ $p=0.017$), and nurses with dependents were found to have higher health anxiety and cyberchondria levels (Table 1).

With regard to the status of having a chronic disease, there was a significant relationship between health anxiety total mean score ($t=3.768$ $p=0.041$) and cyberchondria total mean score ($t=3.855$ $p=0.033$), and there was a significant relationship between health anxiety and cyberchondria levels of nurses with chronic disease (Table 1).

Pearson correlation analysis was performed between the health anxiety and cyberchondria scale total scores. A high level of positive correlation was found between cyberchondria and health anxiety ($\rho=0.986$; $p=0.018$). There was a moderate positive correlation between the dimension of negative consequences of the disease and cyberchondria ($\rho=0.659$; $p=0.044$). There was no significant relationship between hypersensitivity and physical symptoms and anxiety and cyberchondria ($\rho=0.357$; $p=0.165$) (Table 2).

The detailed results of the logistic regression analysis among potential predictors are presented in Table 3. According to the regression analyses, the following four independent predictive variables exerted an influence on cybercondria and health anxiety. Among them, gender (OR: 1.217, 95% CI: 0.986-1.763, $p<0.05$), unit (OR: 1.852, 95% CI: 1.214-2.176, $p<0.05$), having a depend (OR: 2.158, 95% CI: 1.220-3.816, $p<0.05$), and having a chronic disease (OR: 1.958, 95% CI: 1.231-2.721, $p<0.05$) showed a positive relationship with cybercondria.

Table 1.
Comparison of Nurses' Demographic Characteristics, Cyberchondria, and Health Anxiety Levels

Variable	Health anxiety body dimension (total score mean SD =21.48±2.13)		Health anxiety additional dimension (total score mean SD =4.95±1.63)		Health anxiety total score (total score mean SD =4.95±1.63)		Cyberchondria total score (total score mean SD =34.92±3.77)	
	Mean ± SD	**Test**	**Mean ± SD**	**Test**	**Mean ± SD**	**Test**	**Mean ± SD**	**Test**
Gender								
Female	4.89±1.78	t=0.935 p=0.350	21.16±4.20	t=-2.196 **p=0.029**	26.06±4.61	t=-2.313 **p=0.021**	34.65±4.68	t=-1.668 **p=0.042**
Male	5.08±1.93		22.15±3.88		27.23±4.49		35.52±4.94	
Level of education								
High school	4.96±2.11	F=1.032 p=0.357	22.04±4.16	F=1.050 p=0.350	27.01±4.93	F=0.885 p=0.416	35.55±4.56	F=1.369 p=0.215
University	4.86±1.75		21.35±4.03		26.22±4.57		34.60±4.68	
Master's degree	5.21±1.71		21.21±4.37		26.43±4.80		35.20±4.29	
Unit types								
Internal unit	4.75±1.85	F=2.249 p=0.082	20.94±4.02	F=3.292 **p=0.038**	26.06±4.98	F=3.896 **p=0.047**	34.85±4.60	F=3.953 **p=0.009**
Insentive or critical care	5.39±1.84		21.97±4.21		27.00±4.67		37.85±5.60	
Surgical unit	4.76±1.65		21.31±4.47		26.29±3.88		33.83±4.46	
Emergency departmant	5.03±1.93		21.53±3.58		26.33±5.0		35.75±4.42	
Having a chronic disease								
Yes	4.75±1.71	t=-1.000 p=0.318	21.76±4.16	t=1.634 **p=0.058**	26.52±3.88	t=3.768 **p=0.041**	35.21±4.25	t=3.855 **p=0.033**
No	4.99±1.89		21.42±4.12		27.23±4.49		34.86±4.71	
Having a dependent								
Yes	5.05±1.83	t=0.833 p=0.405	21.22±3.97	t=1.153 p=0.128	26.52±4.63	t=3.478 **p=0.03**	34.94±4.19	t=4.106 **p=0.017**
No	4.89±1.82		20.62±3.62		25.28±4.74		34.92±5.07	

SD=standard deviation

Table 2.
Significant Correlations Among Variables

Score correlation	Pearson's correlation	Sig.
Health anxiety total score and cyberchondria total score	0.986	**0.018**
Health anxiety body dimension and cyberchondria total score	0.357	0.165
Health anxiety additional dimension and cyberchondria total score	0.659	**0.044**

In addition, gender (OR: 2.751, 95% CI: 1.665- 4.546, p<0.05), unit (OR: 1.848, 95% CI: 1.568-2.265, p<0.05), having a depend (OR: 1.632, 95% CI: 1.294-2.876, p<0.05), and having a chronic disease (OR: 2.416, 95% CI: 1.753-23.241, p<0.05) showed a positive relationship with health anxiety. All four predictors showed significant statistical differences (Table 3).

Discussion

It is thought that the level of cyberchondria and health anxiety in nurses may affect nursing care (7,13). This study sought to explain the relationship between nurses' health anxiety and cyberchondria levels and the variables affecting them.

It is reported that the level of anxiety in nurses and other healthcare professionals is higher than that in other individuals (13). The studies examining nurses' health anxiety levels determined that their health anxiety scale mean scores were 51.43 (13), and 35.87±82 (21). This study determined that nurses' total health anxiety scale mean score was 26.34±2.66. Considering that the highest and the lowest points that can be obtained from the scale are 54 and 0, it can be argued that participating nurses' health anxiety mean scores were at a moderate level. In this study, it was determined that the health anxiety levels of nurses were lower than those obtained in other studies conducted with nurses. This difference can be explained by the fact that the studies whose findings were used in comparison were conducted during the Coronavirus disease-2019 pandemic.

Table 3.
The Results of Logistic Regression Analysis on the Effect of Demographic Characteristics on Nurses' Cyberchondria Severity Scale and Health Anxiety Inventory Scores

		Cyberchondria severity scale				Health anxiety inventory			
Predictors	**Variable**	**β**	**p**	**OR**	**95% CI**	**β**	**p**	**OR**	**95% CI**
Gender	Female (reference)								
	Male	0.867	**0.04**	1.217	0.986-1.763	1.012	0.034	2.751	1.665-4.546
Unit									
	Internal unit (references)								
	Insentive or critical care	0.945	**0.03**	1.852	1.214-2.176	1.165	0.002	1.848	1.568-2.265
	Surgical unit	0.095	0.525	1.100	0.820-1.475	1.029	0.120	1.671	1.346-2.761
	Emergency department	0.784	0.012	0.931	1.017-1.352	0.463	0.88	1.461	0.994-1.792
Having a dependent									
	Yes	0.769	0.008	2.158	1.220-3.816	0.837	0.024	1.632	1.294-2.876
	No (references)								
Having a chronic disease									
	Yes	0.915	0.021	1.958	1.231-2.721	1.117	0.027	2.416	1.753-23.241
	No (references)								

OR=odds ratio, CI=confidence interval

It is natural that nurses experienced high levels of health anxiety during the pandemic. It is thought that the decrease in the effect of the pandemic in Turkey during the data collection process and the stretching of the measures were essential factors in the moderate health anxiety levels of nurses.

Health anxiety is an important symptom, especially since it can cause changes in attitudes toward health, such as cyberchondria (22). This study determined that nurses' total cyberchondria mean score was 34.92±3.77. The average cyberchondria scores of the nurses participating in the research are at a medium level. The cyberchondria levels obtained in studies examining the levels of cyberchondria in different sample groups support our findings. The cyberchondria scale mean score was found to be 39.22±8.85 in a study conducted with academicians (23); 28.1±12.1 in patients who applied to the urology outpatient clinics (24). Because cyberchondria can provide misinformation and misguide individuals, it is essential that individuals have sufficient health information (25). lower levels of cyberchondria among nurses are related to the development of occupational health literacy.

When demographic variables were compared regarding the health anxiety and cyberchondria scale scores, it was determined that male nurses had higher mean scores on the health anxiety and cyberchondria scales. A study found that male academicians' health anxiety and cyberchondria scale mean scores were significantly higher (23). This study determined that gender, as an independent variable, was the most important predictor of health anxiety. There has been no comprehensive study on gender distribution in cyberchondria (26). This study suggests that male nurses conduct more online research on disease symptoms because of more significant health concerns.

Due to irregular and heavy work and shift conditions, insomnia, and caring for suffering and dying individuals, nurses have a high level of anxiety as a group. Nurses' constant communication with patients can increase their anxiety about their health (27). This study determined that the health anxiety mean scale scores and cyberchondria mean scale scores of nurses working in intensive care clinics were higher. Health anxiety is a critical factor that increases stress levels in intensive care nurses (28). Intensive care clinics are stressful units within health institutions where severely ill patients are present (29). It has been reported that nurses in intensive care units face more psychological burdens than other clinics and the general population (30). It is expected that nurses working in intensive care units have higher health anxiety.

The current study determined that nurses with chronic diseases had higher mean scores on the health anxiety scale and cyberchondria scale. A study determined that the health anxiety scale mean scores of academicians with chronic diseases were significantly higher (23). Similarly, a review of studies in the literature showed that individuals with chronic diseases have higher anxiety levels than those without chronic diseases (19). A study conducted with university students reported that students with health problems had higher levels of cyberchondria (31). Chronic diseases cause stressors in individuals' lives due to treatment, drug use, pain, and deterioration in family relationships and increase their anxiety levels (23). This study determined

that chronic disease, an independent variable, was the most critical predictor of cyberchondria. In this case, it is thought that having professional knowledge, knowing the disease symptoms, diagnosis, and treatment process is an essential factor in increasing nurses' levels of health anxiety and cyberchondria.

It was determined in this study that nurses' health anxiety scale and cyberchondria scale mean scores were higher when they had dependents. It is stated that anxiety increases as caregiver burden increases (32). The presence of a dependent may result in feelings of increased anxiety for both the dependent person and their own health status. The fact that they and their dependents make online health searches related to their complaints may be related to this situation.

For those who experience health anxiety, searching for health information online is crucial. It has been reported that the higher an individual's health anxiety, the more likely they will search for health-related information and the higher the distress they will experience after this search (33). The negative outcome sub-dimension of health anxiety and the cyberchondria scale were positively and significantly correlated. A major disease impacts one's mental state, which is related to the bad result sub-dimension (23).

This result may indicate that if nurses had a severe illness, their health-related research on the internet would increase. A study suggested that individuals' health anxiety levels after searching for health information online were higher than their health anxiety levels before they started searching, which worsened the health anxiety situation (5). It has been reported that people with moderate and high levels of health anxiety experienced more health-related complaints when they searched for information online (34). It was determined that approximately 40% of individuals who searched for health information online experienced increased health anxiety after their search (35). This study found a high level of positive correlation between cyberchondria and health anxiety. When evaluated considering the literature, it is expected that as the health anxiety of nurse increases, the level of cyberchondria increases.

Study Limitations

Examining the health anxiety and cyberchondria levels of nurses working in a public hospital based on some variables was the limitation of this study. The results of this study are not generalizable due to this limitation.

Conclusion

This study showed that nurses' health anxiety and cyberchondria severity were moderate, and there was a positive relationship between health anxiety and cyberchondria. It is thought that nurses' professional knowledge and awareness of diseases increase their health anxiety, and they conduct more research on health problems via the internet. Considering the prevalence of internet use today, it is recommended to plan in-service training on internet literacy for nurses. It was concluded that socio-demographic variables, gender, unit of work, and presence of chronic disease affected health anxiety and cyberchondria levels. It is recommended to consider these variables when planning future trainings.

Implications of Nursing and Health Policies

Due to the nature of their work, nurses are exposed to various stress factors, such as caring for critically ill patients, facing dying patients for long periods of time, and feeling a high level of responsibility. These events and the resulting devastating psychological and physiological effects can lead to negative consequences such as various diseases, decreased professional performance, and increased anxiety. It has been observed that cyberchondria and health anxiety are especially higher in nurses working in intensive care and those with chronic diseases. In addition, the presence of a dependent may result in feelings of increased anxiety for both the dependent person and their own health status. The fact that they and their dependents make online health searches related to their complaints may be related to this situation. Considering the prevalence of internet use today, it is recommended to plan in-service training on internet literacy for nurses. However, while planning these trainings, factors such as gender, clinic, chronic disease status, and caregiving burden should be considered. For this reason, it is recommended that nurse managers conduct individual interviews with nurses to determine and prevent cyberchondria and health anxiety. After individual interviews, we can suggest personally prepared training programs.

Ethics Committee Approval: The research received ethical approval before implementation from the İzmir Bakırçay University's Ethics Committee (date: 25.10.2022, no: 743).

Informed Consent: The researcher informed all nurses about the purpose of the study. Written consent was also obtained from the volunteer nurses.

Author Contributions: Surgical and Medical Practices – S.Ş.; Concept – S.Ş.; Design – S.Ş., E.D.K.; Data Collection and/or Processing – S.Ş., E.D.K.; Analysis and/or Interpretation – S.Ş.; Literature Review – S.Ş., E.D.K.; Writing – S.Ş., E.D.K.

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ORIGINAL ARTICLE

Investigating Conflict Management Styles and Emotional Intelligence of Unit Charge Nurses

Servis Sorumlu Hemşirelerinin Çatışma Yönetim Tarzları ve Duygusal Zeka Düzeylerinin İncelenmesi

Meltem Özduyan Kılıç[1], Sergül Duygulu[2]

[1]Department of Nursing, Ankara University Faculty of Nursing, Ankara, Turkey
[2]Department of Nursing Management, Hacettepe University Faculty of Nursing, Ankara, Turkey

Abstract

Objective: This study investigated the relationship between conflict management styles and emotional intelligence of unit charge nurses.

Method: This descriptive, cross-section, and correlational study was conducted between December 2016 and April 2017 with 197 unit-charge nurses. Data were collected using a demographic data sheet, the Rahim Organizational Conflic Inventory, and the Modified Schutte Emotional Intelligence Scale. Data were analyzed using power analysis, descriptive statistics, pearson correlation analysis, and multiple regression analysis.

Results: Of all unit charge nurses, 61.4% experienced conflict with staff nurses. When conflict occurs, they tend to use the integrating style (4.17±0.37) mostly. The unit charge nurses' emotional intelligence total mean scores were 88.46±7.74 (min: 22, max: 110). The results showed a positive, significant, and moderate correlation between total emotinal intelligence scores and integration style (r=0.432; p<0.01). Emotional intelligence explains approximately 23% of the total variance in the integrating style (ΔR^2=0.226).

Conclusion: The study results showed that unit charge nurses' emotional intelligence abilities can help them effectively manage conflicts with staff nurses. Therefore, healthcare organizations should focus on training programs on conflict management and emotional intelligence to improve effective conflict management.

Keywords: Conflict, conflict management, emotional intelligence, nursing

Öz

Amaç: Çalışmanın amacı, servis sorumlu hemşirelerinin çatışma yönetim tarzları ile duygusal zeka düzeyleri arasındaki ilişkiyi incelemektir.

Yöntem: Tanımlayıcı, kesitsel ve ilişkisel bu araştırma, Aralık 2016 ile Nisan 2017 tarihleri arasında 197 servis sorumlu hemşiresi ile yapılmıştır. Veriler, demografik sorular, Rahim Örgütsel Çatışma Envanteri ve Gözden Geçirilmiş Schutt Duygusal Zeka Ölçeği kullanılarak toplanmıştır. Veriler; güç analizi, tanımlayıcı istatistikler, pearson korelasyon analizi ve çoklu regresyon analizi ile analiz edilmiştir.

Bulgular: Servis sorumlu hemşirelerinin %61,4'ü birlikte çalıştıkları hemşirelerle çatışma yaşamaktadır. Çatışma ortaya çıktığında, servis sorumlu hemşireleri sıklıkla işbirliği tarzını (4,17±0,37) kullanma eğilimindedir. Servis sorumlu hemşirelerinin duygusal zeka toplam puan ortalamaları 88,46±7,74 (min: 22, maks: 110) idi. Bulgular, toplam duygusal zeka puanları ile işbirliği tarzı arasında pozitif, anlamlı ve orta düzeyde bir ilişki olduğunu göstermiştir (r=0,432; p<0,01). Duygusal zeka, işbirliği tarzındaki toplam varyansın yaklaşık %23'ünü açıklamaktadır (ΔR^2=0,226).

Sonuç: Çalışma sonuçları, servis sorumlu hemşirelerinin duygusal zeka yeteneklerinin, birlikte çalıştıkları hemşirelerle yaşadıkları çatışmaları etkili bir şekilde yönetmelerine yardımcı olabileceğini gösterdi. Bu nedenle, sağlık kuruluşları, etkili çatışma yönetimini geliştirmek için çatışma yönetimi ve duygusal zeka üzerine eğitim programlarına odaklanmalıdır.

Anahtar Kelimeler: Çatışma, çatışma yönetimi, duygusal zeka, hemşirelik

Corresponding Author:
Meltem Özduyan Kılıç, meltem.ozduyan17@gmail.com

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Introduction

Unit charge nurses (UCNs) are responsible for managing care to meet patient needs and play a key mediating role between staff nurses and senior managers. They endeavor to create a healthy working environment that facilitates smooth collaboration with staff nurses. However, conflicts may nevertheless occur because of their inevitable nature (1-3). Failure to manage conflicts may lead to negative outcomes, such as high intent to leave and turnover, low job engagement, low job satisfaction, low organizational commitment, increased adverse events and poor quality of care (4-7). Therefore, it is critical for UCNs to practice effective conflict management.

Conflict management can be defined as the "reduction of affective conflict, attainment and maintenance of a moderate amount of substantive conflict, and helping the organizational members learn the styles of handling conflict so that various conflict situations can be dealt with effectively" (8). Although there are many conflict management styles (CMS), the best known are avoiding, dominating, obliging, compromising, and integrating (8,9). UCNs can face conflicts daily, weekly, monthly, or annually (10). Therefore, there has been an increase in the literature on nurse managers' CMS. Two studies from Jordan revealed that nurse managers preferred to use the integrating style the most frequently (6,11). A study conducted in Iran with 423 nurses in non-management and in management positions identified that they used controlling (dominating), avoiding, and resolving styles (respectively) to manage conflicts in their workplace (12). A study from the Philippines, which included 68 nurse managers, stated that most participants utilized mixed CMS such as collaborating and competing, collaborating and accommodating (13). In Egypt, a study conducted with 30 nurse managers and 281 staff nurses showed that the most preferred style by nurse managers was compromise (14). Another study from Egypt stated that nurse managers used an accommodating style as a primary method to resolve conflict, followed by a compromise style (15). In Turkey, a study of 116 nurse managers suggested that integrating was the most preferred style (16). In another study from Turkey, the conflict management strategies used by nurse managers were integrating, avoiding, compromising, dominating, and obliging (17). The results of these studies show that nurse managers choose different CMSs, and their choice can vary depending on individual characteristics, contextual factors, organizational and socio-cultural contexts, and interpersonal conditions (8).

Main Points

- Conflict management and emotional intelligence (EI) are crucial due to their implications for healthcare organizations.
- More than half of unit charge nurses experienced conflict with staff nurses, and they mostly used the integrating style.
- The results showed a positive, significant, and moderate correlation between total EI scores and the integrating style; EI explains approximately one quarter of the total variance in the integrating style.

Emotional intelligence (EI) is defined as "the capacity for recognizing our own feelings and those of others, for motivating ourselves and for managing emotions well in ourselves and in our relationships" (18). Many studies have indicated that nurse managers' EI levels may differ (19-22). Considering the emotional nature of conflicts, EI can be a crucial factor in conflict management.

Several studies in the nursing literature have investigated the correlation between CMS and EI. However, different studies have reported different types of relationships (3,11,14,23). It is seen in the literature that studies evaluating the correlation between CMS and EI were conducted with nurses at all levels, such as nurses, head nurses, and supervisors. Currently, there are no studies that examine conflicts arising between UCNs and staff nurses and the correlation between UCNs' CMS and EI. This study makes a vital contribution to the literature in this regard and answers the following questions:

- Which CMS is used more often by UCNs?
- What are the EI levels among the UCNs?
- Is there a relationship between CMS and EI?

Material and Method

Design

This descriptive, cross-sectional, and correlational study examined the relationship between CMS and EI.

Setting and Sample

The study was conducted with UCNs working in five different hospitals with bed capacities of 500 or more in Ankara in Turkey. Three of these were training and research hospitals, and two were university hospitals. The inclusion criteria were as follows: (a) Employed as UCNs, (b) working in unit charge nurse positions for more than 6 months, and (c) voluntarily participating.

Power analysis was conducted to determine the number of participants to be included in the study. The power of the test was calculated using the G*Power 3.1 program. In a similar study in the literature (11), the effect size for the relationship between emotional intelligence and conflict resolution styles was calculated as 0.092. To exceed 95% in determining the power of the study, at least 144 participants should be reached at a 5% significance level and an effect size of 0.092 (df=142; F=3.908). Accordingly, 197 UCNs who agreed to participate in the study constituted the sample.

Data Collection Instruments

Data were collected using a personal information form, the Rahim Organizational Conflict Inventory (ROCI-II), and the Modified Schutte Emotional Intelligence Scale (MSEIS).

Personal Information Form

The researchers prepared a questionnaire consisting of 10 items (including hospital, age, nursing/professional experience, and management experience, etc).

ROCI-II

This inventory was developed by Rahim (8) to identify the five CMSs (24). It comprises 28 items and five subscales, namely, "integrating", "compromising', "dominating", "obliging" and "avoiding". Scores on this inventory were measured on a five-point Likert-type scale (1= totally disagree; 5= strongly agree). The highest subscale score obtained from the scale indicated which CMS was most frequently used when in conflict with subordinates.

The inventory uses self-reports to indicate the styles used by an organization member to handle interpersonal conflict between that member and their supervisor(s) (Form A), subordinates (Form B) and peers (Form C). Form B was used in this study. The Turkish validity and reliability of this inventory were analyzed, and Cronbach's alpha coefficient was 0.82 for Form B (25). The total Cronbach's alpha coefficient was found to be 0.77 in this study.

MSEIS

This scale was developed in 1998 on the basis of Mayer and Salovey's EI Model (26). Austin et al. (27) modified the scale, and the final scale consists of 41 items, 21 of which are positive and 20 negative, with three subscales, namely "optimism/mood regulation", "utilization of emotions" and "appraisal of emotions". The scores were measured on a five-point Likert-type scale (1= totally disagree; 5= strongly agree).

Tatar et al. (28) analyzed Turkish validity and reliability of this scale and found the total Cronbach's alpha coefficient to be 0.82. The MSEIS was conducted on UCNs without any changes, and the total Cronbach's alpha coefficient was found to be 0.43. Because of the low Cronbach's alpha coefficient value, the reliability and validity of the MSEIS were re-analyzed. Confirmatory factor analysis was performed using AMOS 22.0. According to the findings, the MSEIS was confirmed to be a reliable and valid scale comprising 22 items and 3 subscales, which included "optimism/mood regulation" (1,2,5,7,10,12,15,16,18,19), "appraisal of emotions" (3,6,11,13,14,17,20-22) and "utilization of emotions" (4,8,9). In this study, the total Cronbach's alpha coefficient for the final version of the MSEIS was 0.81. The maximum and minimum total scores on this scale were 110 and 22, respectively.

Data Collection

Data were collected between December 2016 and April 2017. The UCNs were informed of the study, and written consent was obtained. Data were collected during the day shift. The forms were distributed in an envelope, and the UCNs were asked to seal the envelope after filling it out. The forms were returned within 3-5 days after delivery. Filling the questionnaires took approximately 10-15 min.

Statistical Analysis

Statistical Package for the Social Sciences (SPSS) version 22 was used for statistical analysis. Descriptive statistics (percentages, means, standard deviations, etc.) were used to analyze personal information data. Pearson's correlation coefficient multiple regression analysis was used to identify correlations between EI and CMS of UCNs.

Ethical Considerations

Ethics committee approval was obtained from the relevant institutions of Hacettepe University (number: GO 16/695-14) on November 8, 2016. Hospital permission was obtained from the hospital management. ROCI-II, Form B was used with permission from the Center for Advanced Studies in Management, and payment was made to the relevant company. Approval permits were obtained from Austin for MSEIS through e-mail. Each participant signed a consent form before participating in the study.

Results

The mean age of the UCNs was 39.9±5.9 years. The mean years of professional experience was 18.8±7.3 years, whereas the mean years in a management position was 6.7±6.3 years. Of the UCNs, 64.5% had a bachelor's degree. Furthermore, 38.1% of them worked in surgical wards and 61.4% had experienced conflict with staff nurses (Table 1).

Table 2 shows the participants' ROCI-II and MSEIS scores. The integrating subscale score had the highest average score ($\bar{x}$ ± SD =4.17±0.37), whereas the lowest average score was in the avoiding subscale ($\bar{x}$ ± SD =2.64±0.56) (Table 2). The total score of the UCNs on the MSEIS was 88.46±7.74. The highest mean scores for the EI subscale were reported for "optimism/mood regulation" (4.20±0.36) and "appraisal of emotions" (4.09±0.45), whereas the lowest were reported for "utilization of emotions" (3.20±0.82) (Table 2).

The results showed a positive, significant, and moderate correlation between total EI scores and the integrating subscale ($r=0.432$; $p<0.01$). Furthermore, there was a positive and significant, but poor, relationship between the total EI scores and the compromising subscale ($r=0.178$; $p<0.05$). However, there was a negative and significant but poor correlation between the total EI score and the avoiding subscale ($r=-0.285$; $p<0.01$) (Table 3).

The results of the regression analysis showed that emotional intelligence affects the choice of conflict management style. Accordingly, the model describing the relationship between emotional intelligence and integrating style seems to be appropriate [$F_{(3;193)}=20.08$; $p<0.05$]. Emotional intelligence explains approximately 23% of the total variance in the integrating style ($\Delta R^2=0.226$). The model describing the relationship between emotional intelligence and obliging style seems to be appropriate [$F_{(3;193)}=5.92$; $p<0.05$]. Emotional intelligence explains approximately 7% of the total variance in the obliging style ($\Delta R^2=0.070$). The model describing the relationship between emotional intelligence and dominating style seems appropriate [$F_{(3;193)}=3.52$; $p<0.05$].

Table 1.
Characteristics of Unit-charge Nurses (n=197)

Characteristics	n	%	Mean ± SD
Age (years)			
≤30	11	5.6	39.9±5.9 Max: 59 Min: 27
31-40	105	53.3	
41≥	81	41.1	
Years of working experience			
<10	23	11.7	18.8±7.3 Max: 40 Min: 5
10-14	37	18.8	
15≥	137	69.5	
Years of working as a unit charge nurse			
<5	96	48.7	6.7±6.3 Max: 33 Min: 0.5
5-9	42	21.3	
10-14	32	16.3	
15≥	27	13.7	
Educational level			
Associate	48	24.3	
Bachelor	127	64.5	
Master/PHD	22	11.2	
Working unit			
Internal medicine	53	26.9	
Surgery	75	38.1	
Intensive care	38	19.3	
Emergency/other	31	15.7	
Conflict with staff nurses			
Yes	121	61.4	
No	76	38.6	
Frequency of conflict			
Often	10	5.1	
Sometimes	65	33	
Seldom	46	23.3	
Never	76	38.6	

SD=Standard deviation

Emotional intelligence explains approximately 4% of the total variance in the dominating style (ΔR^2=0.037). The model describing the relationship between emotional intelligence and avoiding style seems to be appropriate [$F_{(3;193)}$=6.42; p<0.05]. Emotional intelligence explains approximately 8% of the total variance in the avoidance style (ΔR^2=0.077). The model describing the relationship between emotional intelligence and compromising style seems to be appropriate [$F_{(3;193)}$=3.89; p<0.05]. Emotional intelligence explains approximately 4% of the total variance in the compromising style (ΔR^2=0.042) (Table 4).

Discussion

This study was conducted to examine the relationship between CMS and EI of UCNs. The results showed that most UCNs experienced conflicts with the staff nurses. This is consistent with the results of other studies (1-3). UCN-nurse conflicts can negatively affect the quality and safety of patient care; therefore, the causes of conflicts should be investigated in more detail.

The results suggest that the UCNs who participated in this study mostly used the integrating style to manage conflicts. These findings are consistent with those of other studies involving nurse managers (6,11,16,17). However, a study conducted in Iran showed that nurse managers preferred the dominant style (12). As there are five CMSs, each of which may be suitable depending on the situation, nurse managers may have answered the questionnaire according to their most recent conflict situation. In addition, the appropriate CMS may depend not only on the situation but also on the background of the parties involved, organizational structure, or cultural characteristics (8).

In this study, the total EI of UCNs was above average. However, the scores were not remarkably high. This result is consistent with that of other studies (20-22,29). EI is critical for maintaining interpersonal relationships and can be improved through educational programs (31). However, it has been observed that the EI of nurses who are eventually

Table 2.
Unit Charge Nurses' Rahim Organizational Conflict Inventory (ROCII-II) and Modified Schutte Emotional Intelligence Scale (MSEIS) Scores

Inventory	Subscale	± SD	Minimum	Maximum
ROCI-II	Integrating	4.17±0.37	3.00	5.00
	Compromising	3.88±0.47	2.25	5.00
	Dominating	2.98±0.69	1.00	5.00
	Obliging	2.81±0.53	1.33	4.17
	Avoiding	2.64±0.56	1.50	5.00
MSEIS	Optimism/mood regulation	4.20±0.36	3.50	5.00
	Appraisal of emotions	4.09±0.45	2.78	5.00
	Utilization of emotions	3.20±0.82	1.55	5.00
	Total EI	88.46±7.74	72	106

=Mean, SD=standard deviation, EI=emotional intelligence

Table 3.
Correlation Between Rahim Organizational Conflict Inventory (ROCI-II) and Modified Schutte Emotional Intelligence Scale (MSEIS)

Variables		Emotional intelligence			
		Optimism/mood regulation	**Appraisal of emotions**	**Utilization of emotions**	**Total EI**
Conflict management	Integrating	r=0.487(**) p=0.000	r=0.319(**) p=0.000	r=0.131 p=0.067	r=0.432(**) p=0.000
	Obliging	r=0.027 p=0.708	r=-0.152(*) p=0.033	r=-0.178(*)p=0.012	r=-0.123 p=086
	Dominating	r=0.005 p=0.943	r=-0.165(*) p=0.021	r=-0.083 p=0.244	r=-0.114 p=0.110
	Avoiding	r=0.199(**) p=0.005	r=-0.248(**) p=0.000	r=-0.203(**) p=0.004	r=-0.285(**) p=0.000
	Compromising	r=0.232(**) p=0.001	r=0.141(*) p=0.049	r=-0.008 p=0.912	r=0.178(*) p=0.013

*r=Pearson correlation test, *=p≤0.05, **=p≤0.01, EI=emotional intelligence*

Table 4.
Regression Analysis Results of the Effect of Emotional Intelligence on Conflict Management Styles

	Independent variable	**B**	**SH_B**	**ß**	**T**	**p**
Integrating	Constant	1.996	0.286		6.987	0.000
	Optimism/mood regulation	0.504	0.088	0.478	5.708	0.000
	Appraisal of emotions	0.002	0.070	0.003	0.031	0.975
	Utilization of emotions	0.016	0.030	0.035	0.552	0.581
$R=0.488\ R^2=0.238\ \Delta R^2=0.226\ F_{(3;193)}=20.08\ p=0.000$						
Obliging	Constant	3.041	0.444		6.854	0.000
	Optimism/mood regulation	0.379	0.137	0.254	2.765	0.006
	Appraisal of emotions	-0.348	0.109	-0.291	-3.202	0.002
	Utilization of emotions	-0.122	0.046	-0.187	-2.662	0.008
$R=0.290\ R^2=0.084\ \Delta R^2=0.070\ F_{(3;193)}=5.920\ p=0.001$						
Dominating	Constant	3.411	0.591		5.768	0.000
	Optimism/mood regulation	0.378	0.183	0.193	2.069	0.040
	Appraisal of emotions	-0.438	0.145	-0.279	-3.020	0.003
	Utilization of emotions	-0.070	0.061	-0.082	-1.152	0.251
$R=0.228\ R^2=0.052\ \Delta R^2=0.037\ F_{(3;193)}=3.520\ p=0.016$						
Avoiding	Constant	4.290	0.467		9.186	0.000
	Optimism/mood regulation	-0.054	0.144	-0.034	-0.375	0.708
	Appraisal of emotions	-0.255	0.114	-0.202	-2.230	0.027
	Utilization of emotions	-0.115	0.048	-0.167	-2.388	0.018
$R=0.301\ R^2=0.091\ \Delta R^2=0.077\ F_{(3;193)}=6.418\ p=0.000$						
Compromising	Constant	2.638	0.401		6.572	0.000
	Optimism/mood regulation	0.339	0.124	0.254	2.733	0.007
	Appraisal of emotions	-0.018	0.098	-0.017	-0.187	0.851
	Utilization of emotions	-0.033	0.041	-0.056	-0.786	0.433
$R=0.239\ R^2=0.057\ \Delta R^2=0.042\ F_{(3;193)}=3.893\ p=0.010$						

promoted to UCN positions in hospitals is generally not considered, and training for UCNs on how to handle emotions in the workplace is lacking.

The results of this study suggest a significant relationship between CMS and EI. The total EI score of the UCNs was significantly and positively correlated with the mean score of integrating style and compromising style, whereas it

was significantly and negatively correlated with avoiding style. Moreover, emotional intelligence has the greatest effect on integrating style. These results are similar to those reported in other studies (3,11,14,23). Accordingly, improving the EI of UCNs can enable conflicts to be resolved in a way that benefits both sides. Thus, the safety and quality of patient care can be improved by creating healthy working environments.

Study Limitations

This study has several limitations. Self-assessment questionnaires were administered and were not combined with a 360-degree data collection process that included peers, subordinates, and supervisors. Therefore, the findings were limited to the UCNs' personal perspectives. Furthermore, UCNs are usually exposed to high stress levels and heavy workloads in their efforts to achieve various organizational goals, provide quality and safe patient care, and create a healthy work environment. Consequently, they may have responded randomly to the questionnaire.

Conclusion

This study contributes to the relevant literature by investigating UCN nurses' conflict, CMS, and emotional intelligence. The results of this study demonstrate that UCNs had conflicts with staff nurses. In addition, they tended to mostly use the integrating style when conflict occurred. The EI level of UCNs was above the average. In addition, the total EI score of the UCNs was significantly and positively correlated with the mean score of integrating style and compromising style. However, there was a negative and significant but poor correlation between the total EI score and the avoidance style. According to the study results, improving the UCNs' EI would enable the use of a more constructive CMS.

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ORIGINAL ARTICLE

Work Stress, Burnout Levels, and Affecting Factors in Nurses in Neonatal Intensive Care Units

Yenidoğan Yoğun Bakım Ünitesinde Çalışan Hemşirelerin İş Stresi, Tükenmişlik Düzeyleri ve Etkileyen Faktörler

Fatma Bozdağ, Duygu Kemer, Hülya Karataş, Mehmet Emin Düken

Department of Child Health and Diseasess Nursing, Harran University Faculty of Health Sciences, Şanlıurfa, Turkey

Abstract

Objective: The aim of this study was to investigate the work stress and burnout levels of neonatal intensive care nurses and the factors affecting them.

Method: This descriptive study was conducted with 270 (73%) of 372 neonatal intensive care nurses who were working in neonatal intensive care units in Şanlıurfa province. Data were collected electronically with Google Form using the descriptive characteristics form, Maslach burnout inventory, and general work stress scale. The linear regression (enter) method was used to evaluate the data.

Results: It was found that nurses working in the neonatal intensive care unit experienced work stress slightly above medium level and emotional burnout at a level close to medium. It was also found that the sense of personal accomplishment was low along with depersonalization. A strong positive correlation was found between the scores of nurses on the general work stress scale and their scores on the Maslach burnout inventory subscales. It was also found that emotional burnout, depersonalisation and sense of personal accomplishment experienced by nurses explained 70.3% of their general work stress.

Conclusion: Burnout and work stress levels of neonatal intensive care nurses were affected by many factors such as gender, marital status, previous education, shift system, and length of service. It is recommended that regular meetings should be held with nurses, prioritised problems should be considered and psychological support should be provided to nurses working in specialized units such as neonatal intensive care.

Keywords: Nurse, work stress, burnout, neonatal, intensive care

Öz

Amaç: Bu çalışmanın amacı yenidoğan yoğun bakım hemşirelerinin iş stresi, tükenmişlik düzeyleri ve etkileyen faktörlerin incelenmesidir.

Yöntem: Tanımlayıcı tipte yürütülen çalışma, Şanlıurfa ilinde yenidoğan yoğun bakım ünitesinde çalışan 372 yenidoğan yoğun bakım hemşiresinden 270'i (%73) ile yürütülmüştür. Veriler tanıtıcı özellikler formu, Maslach tükenmişlik ölçeği ve iş stresi ölçeği kullanılarak elektronik ortamda Google form ile toplanılmıştır. Verilerin değerlendirilmesinde lineer regresyon (enter) yöntemi kullanılmıştır.

Bulgular: Yenidoğan yoğun bakım ünitesinde çalışan hemşirelerin orta seviyenin biraz üzerinde iş stresi ve orta seviyeye yakın düzeyde duygusal tükenmişlik yaşadıkları belirlenmiştir. Aynı zamanda duyarsızlaşma ile beraber kişisel başarı duygusunun da düşük olduğu bulunmuştur. Hemşirelerin genel iş stresi ölçeğinden aldıkları puanları ile Maslach tükenmişlik ölçeği alt boyutlarından aldıkları puanlar arasında pozitif yönde güçlü bir ilişki olduğu saptanmıştır. Aynı zamanda hemşirelerin yaşadıkları duygusal tükenmişlik, duyarsızlaşma ve kişisel başarı duygusu, genel iş streslerinin %70,3'ünü açıkladığı saptanmıştır.

Sonuç: Yenidoğan yoğun bakım hemşirelerinin tükenmişlik ve iş streslerinin cinsiyet, medeni durum, daha önce eğitim alma, vardiya sistemi ve çalışma süresi vb. birçok etmenden etkilendiği saptanmıştır. Hemşireler ile düzenli toplantılar yapılması, öncelikli sorunların dikkate alınması ve yenidoğan yoğun bakım gibi özellikli olan birimlerde çalışan hemşirelere psikolojik destek sağlanması önerilmektedir.

Anahtar Kelimeler: Hemşire, iş stresi, tükenmişlik, yenidoğan, yoğun bakım

Corresponding Author:
Fatma Bozdağ, fatosbozdag42@gmail.com

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Introduction

Neonatal intensive care units (NICU) are units where patients and premature infants who need special care and who require the highest level of attention, patient safety, and environmental safety receive care (1). It is a known fact that neonatal nurses who care for critically ill patients are exposed to higher levels of work stress than other health professionals (1-3). Studies have reported that factors such as monitoring suffering infants in NICUs and providing adequate care, working with dying infants, not being able to reach the physician in emergencies, difficult working conditions, insufficient number of staff, lack of regular staff meetings, not having enough time to discuss critical cases, not being able to provide adequate psychological support for staff and families, and lack of communication within the team cause nurses to experience work stress (1,4-6).

It has been found that unmanaged work stress in nurses leads to decreased performance, productivity and quality of care, decreased sleep quality and compassion, absenteeism, turnover, and serious psychological problems such as depression and burnout (2,3,7-11). Burnout is defined as a psychological response to work stress presenting with emotional exhaustion, fatigue, low sense of personal accomplishment, and depersonalization resulting from prolonged high levels of stress (12,13).

Studies have shown that neonatal nurses experiencing high levels of burnout and work intensity in the NICU, changing technology and guidelines, difficulties in dealing with critical patients and their families, fatigue, and having worked for five years or more have been found to be associated with high burnout rates in nurses (14-18). Similar to work stress, burnout causes undesirable consequences on health care quality, patient satisfaction, and patient safety, leading nurses to leave their jobs (19,20).

Considering the undesirable consequences of burnout and work stress experienced by neonatal nurses, who have key roles in patient care, it is very important to determine the work stress and burnout levels of nurses and the factors affecting them to improve the health of nurses and patients. This study was conducted to determine the work stress and burnout levels of neonatal nurses and the factors affecting them.

Research Questions:

- What is the work stress and burnout levels of neonatal nurses?
- Is there a difference between the mean work stress and burnout scores of neonatal nurses according to socio-demographic variables?
- What type of relationship exists between work stress scores and burnout scores of neonatal nurses?
- To what extent do the burnout scores of neonatal nurses affect their work stress scores?

Main Points

- It was determined that neonatal nurses experienced moderate levels of work stress and emotional burnout.
- Nurses' depersonalization and sense of personal success were found to be low.
- There is a strong positive relationship between work stress levels and burnout levels of neonatal nurses.
- Emotional exhaustion, depersonalization, and a sense of personal success experienced by nurses explain 70.3% of their overall work stress.

Material and Method

Research type: This study was conducted with a descriptive design.

Population and sample: The study population consisted of 372 neonatal nurses working in the NICUs of all state hospitals (six hospital) in Şanlıurfa province. Purposive sampling design was used in the study, aiming to reach all nurses working in NICUs, and 270 (73%) neonatal nurses who agreed to participate in the study constituted the sample of the study.

Inclusion criteria: Nurses who worked in NICUs in Şanlıurfa province and who volunteered to participate in the study were included. Nurses who did not meet the inclusion criteria were excluded from the study.

Data collection instruments: Data of the study were obtained using the descriptive characteristics form, Maslach burnout inventory, and general work stress scale.

Descriptive characteristics form: It consists of 12 open-ended and multiple-choice questions including questions such as nurses' age, gender, marital status, number of children, educational status, position, institution, unit, mode of working, and length of service.

Maslach burnout inventory: This scale was developed by Maslach and Jackson (21) to determine the burnout levels of individuals toward their job. The scale was adapted into Turkish by Ergin (22). The 5-Likert scale includes 22 items. The scale has three subscales: Depersonalization, personal accomplishment, and emotional exhaustion. Possible scores vary between 0 and 4. Scoring is linear for depersonalization and emotional exhaustion subscales and reversed for the personal accomplishment subscale. High scores on the emotional exhaustion and depersonalization subscales and low scores on the personal accomplishment subscale indicate high levels of burnout. In the reliability analysis of the scale, Cronbach's alpha values were found to be 0.83 for the emotional exhaustion subscale, 0.65 for the depersonalization subscale, and 0.72 for the personal accomplishment subscale [Ergin (22)]. In this study, Cronbach's alpha values were found to be 0.90 for the emotional exhaustion subscale, 0.77 for the personal accomplishment subscale, and 0.79 for the depersonalization subscale.

General work stress scale: The scale was developed by De Bruin (23). A Turkish validity and reliability study was conducted by Teles (24). The scale is a five-point Likert-type scale consisting of one factor and nine items. The scale items are scored between 1 and 5. An increase in the score obtained from the scale indicates a high level of work stress. The score obtained from this scale shows the level of work stress experienced or felt by the individual according to his/her own evaluations. Cronbach's alpha value of the whole scale is 0.91 and Spearman-Brown reliability coefficient is 0.89 [Teles (24)]. In this study, Cronbach's alpha value was found to be 0.911.

Data collection: Data of the study were collected from nurses working in NICUs in Şanlıurfa province via a Google form in an electronic environment.

Statistical Analysis

The data were analyzed using SPSS 22 (SPSS) statistical package program. Kurtosis and skewness values were used to evaluate the suitability of the data for normal distribution. The relationships between the variables were analyzed using the Pearson correlation coefficient when the data fit a normal distribution. Comparison of the means in the three groups was conducted using the One-Way ANOVA test when the data fit a normal distribution. Sample t-test was used for the comparison of paired groups. The enter method, a linear regression method, was used to determine the percentage of general work stress of nurses and $p<0.05$ was considered statistically significant.

Results

Table 1 shows the distribution of the demographic characteristics of nurses. The mean age of the nurses in the study was found to be 25.53±3.26 years. The majority of nurses were female, single, with no children, and had a bachelor's degree. Similarly, it was found that most nurses worked in a state hospital, were working under contract, had been working with a shift system (day/night) for 3-6 years, had been working in the NICU for 1-3 years, and had received training for the NICU (Table 1).

Table 2 shows the mean scores of the nurses from the scales. The mean scores of nurses were found to be 23.62±8.28 in the general work stress scale, 17.24±8.49 in the emotional burnout subscale, 4.18±4.25 in the depersonalisation subscale, and 7.73±5.7 in the personal accomplishment subscale (Table 2). It can be seen that the nurses who worked in the NICU experienced work stress slightly above the medium level and emotional burnout at a level close to the medium level. While low mean scores in the depersonalization subscale indicate that nurses have low levels of burnout in this area, low mean scores in the personal accomplishment subscale indicate that nurses have high levels of burnout in this area.

Table 3 shows the comparison of mean scale scores according to the demographic characteristics of the nurses. The mean emotional burnout scores of female nurses were significantly higher (p=0.019). It was also found that nurses who were married had significantly higher mean scores on the general work stress and personal accomplishment subscale (p=0.003, p=0.012, respectively). It was found that the mean scores of married nurses in the general work stress scale and personal accomplishment subscale of burnout were significantly higher (p=0.003, p=0.012, respectively). When the general work stress and burnout of the nurses were analyzed according to the position of the

Table 1.
Demographic Characteristics of Nurses (n=270)

	Mean ± SD	**Median (min-max)**
Age	25.53±3.26	25 (20-38)
Demographics features	**n**	**%**
Gender		
Female	170	63
Male	100	37
Marital status		
Married	91	34
Single	179	66
Having a child		
No	224	82
1	26	10
2	15	6
3 and above	5	2
Educational status		
High school	107	39.6
Associate degree	40	14.8
License	118	43.7
Postgraduate	5	1.9
Position		
Permanent staff	72	27
Contractual staff	198	73
Institution		
Public hospital	245	91
University hospital	25	9
Have neonatal training		
Yes	173	64
No	97	36
Working year		
Less than 1 year	36	13
1-3 year	89	33
3-6 year	91	34
6 years and above	54	20
Working time in the NICU		
Less than 1 year	48	18
1-3 year	111	41
3-6 year	83	31
6 years and above	28	10
Working system		
Shift (day/night)	238	88
Daytime	32	12
Total	**270**	**100**

SD=standard deviation, NICU=neonatal intensive care units

Table 2.
Nurses' General Work Stresses and Burnout Subscale Score Averages (n=270)

Scales	Mean ± SD	Median (min-max)
General work stress scale	23.62±8.28	23 (9-45)
Maslach burnout scale		
Emotional exhaustion sub-dimension	17.24±8.49	17 (0-36)
Depersonalization sub-dimension	4.18±4.25	3 (0-20)
Personal success sub-dimension	7.73±5.7	7 (0-32)

SD=standard deviation

Table 3.
Comparison of Scale Score Averages According to Some Demographic Characteristics of Nurses (n=270)

Demographics features	General work stress scale total	Personal success sub-dimension	Emotional exhaustion sub-dimension	Depersonalization sub-dimension
Gender				
Female	24.11±8.31	7.50±5.20	18.17±8.23	4.35±4.41
Male	22.79±8.22	8.11±6.48	15.66±8.74	3.89±3.98
Test value	1.267	-0.848	2.365	0.863
p*	0.206	0.397	**0.019**	0.389
Marital status				
Married	25.60±7.19	8.95±5.67	17.75±7.93	4.22±3.92
Single	22.61±8.64	7.11±5.64	16.98±8.78	4.16±4.42
Test value	3.014	2.525	0.721	0.110
p*	**0.003**	**0.012**	0.471	0.913
Position				
Permanent staff	27.04±6.50	8.99±5.21	20.31±7.82	5.32±4.63
Contractual staff	22.38±8.53	7.27±5.82	16.13±8.47	3.77±4.04
Test value	4.215	2.205	3.656	2.681
p*	**0.000**	**0.028**	**0.000**	**0.008**
Institution				
Public hospital	23.72±8.35	7.75±5.68	17.49±8.47	4.17±4.28
University hospital	22.64±7.68	7.48±6.03	14.80±8.49	4.32±4.03
Test value	0.622	0.226	1.512	-0.171
p*	0.535	0.821	0.132	0.865
Have neonatal training				
Yes	24.24±8.02	7.76±5.80	18.01±8.59	4.56±4.31
No	22.52±8.66	7.66±5.56	15.88±8.19	3.51±4.09
Test value	1.614	0.144	2.014	1.997
p*	0.108	0.886	**0.045**	**0.047**
Working system				
Shift (day/night)	23.27±8.49	7.37±5.70	16.99±8.55	4.16±4.28
Daytime	26.15±6.14	10.27±5.10	19.06±7.98	4.30±4.10
Test value	-2.394	-3.016	-1.386	-0.181
p*	**0.020**	**0.004**	0.173	0.857
Having a child				
No	23.0±8.65	7.4±5.76	16.8±8.75	4.1±4.35
1	28.5±4.24	10.2±5.71	19.7±7.31	4.6±3.85
2	25.1±6.15	8.5±4.47	19.0±6.87	3.7±3.83
3 and above	23.6±3.51	7.2±3.63	17.8±5.02	6.2±3.56
F	3.803	2.065	1.123	0.536
p**	**p<0.050**	0.105	0.340	0.658

Table 3.
Continued

Demographics features	General work stress scale total	Personal success sub-dimension	Emotional exhaustion sub-dimension	Depersonalization sub-dimension
Educational status				
High school	19.60±7.51	6.99±5.90	13.62±7.85	3.37±3.60
Associate degree	22.58±6.38	7.35±6.67	15.23±6.39	2.73±3.50
license	27.52±7.80	8.63±5.05	21.08±8.01	5.30±4.55
Postgraduate	26.20±6.50	5.20±6.26	20.20±10.26	6.80±7.95
F	21.473	1.981	18.528	6.569
p**	**p<0.001**	0.117	**p<0.001**	**p<0.001**
Working year				
Less than 1 year	22.33±8.25	7.11±4.82	16.5±8.05	3.36±3.69
1-3 year	20.97±8.71	6.91±5.68	15.45±8.50	3.74±4.24
3-6 year	24.59±8.53	7.97±5.97	18.59±9.15	4.48±4.58
6 years and above	27.22±5.11	9.07±5.69	18.41±7.15	4.94±3.98
F	7.689	1.823	2.563	1.504
p**	**p<0.001**	0.143	0.055	0.214
Working time in the NICU				
Less than 1 year	22.33±8.25	7.11±4.82	16.5±8.05	3.36±3.69
1-3 year	20.97±8.71	6.91±5.68	15.45±8.5	3.74±4.24
3-6 year	24.59±8.53	7.97±5.97	18.59±9.15	4.48±4.58
6 years and above	27.22±5.11	9.07±5.69	18.41±7.15	4.94±3.98
F	7.689	1.823	2.563	1.504
p**	**p<0.001**	0.143	0.055	0.214

**=sample t-test, **=One-Way ANOVA*

nurses, it was found that the mean scores of nurses working on permanent staff in general work stress and all subscales of burnout (personal achievement, emotional exhaustion and depersonalisation) were significantly higher (p=0.000, p=0.028, p=0.000, p=0.000, p=0.008, respectively). The mean emotional burnout and depersonalization subscale scores of nurses who had received training previously were found to be significantly higher (p=0.045, p=0.047, respectively). The mean scores of general work stress and personal accomplishment subscale of burnout were found to be significantly higher in nurses who worked night shifts (p=0.020, p=0.004, respectively). The mean scores of the nurses who had only one child were significantly higher (p<0.050). While the mean general work stress and emotional exhaustion subscale scores of nurses with undergraduate degrees were significantly higher, mean depersonalisation subscale scores of nurses with postgraduate degrees were significantly higher (p<0.001). Considering the total length of service and the length of service in the NICU, the mean scores of nurses who worked for 6 years or more were significantly higher (p<0.001, p<0.050, respectively) (Table 3).

The regression model created to determine the general work stress of nurses is shown in Table 4 and was found to be statistically significant (F: 213,513; p<0.001). It was found that the emotional burnout, depersonalisation and personal accomplishment subscales of nurses explained 70.3% of their general work stress. Emotional exhaustion was the most effective factor affecting the general work stress experienced by the nurses in the hospital (B: 0.803; p<0.001). A strong positive correlation was found between nurses' scores on the general work stress scale and their scores on the subscales of the Maslach burnout inventory (r=0.827, r=0.580, r=0.301, respectively) (Table 4).

Discussion

This study was conducted to determine the work stress and burnout levels of neonatal nurses and the factors affecting them. While there is a serious shortage of nurses that affects every field of nursing all over the world, this shortage has increased even more with the Coronavirus disease-2019 pandemic. Many nurses have quit or plan to quit their jobs due to work stress and burnout caused by the pandemic (25,26). At the time of the study, the epidemic had just started in our country, but it is thought that the stress and burnout levels of nurses who were on the front lines in natural disasters such as earthquakes, floods, and fires after the pandemic may have increased even more. In a meta-analysis study examining the effect of burnout on patient safety, it was found that high burnout levels of nurses affected patient safety negatively (20). Work stress and burnout levels experienced by nurses should be minimized and patient safety should be improved, especially in NICUs, which require more knowledge, experience and attention (27).

Table 4.
Regression Model Created for Nurses' General Work Stress (Enter) (n=270)

	B (95%)	Beta	t	p	Zero-order	Partial
(Constant)	8.466 (7.066-9.865)		11.911	0.000		
Emotional exhaustion sub-dimension	0.783 (0.697-0.87)	0.803	17.805	0.000	0.827	0.737
Depersonalization sub-dimension	-0.013 (-0.19-0.164)	-0.007	-0.145	0.885	0.580	-0.009
Personal success sub-dimension	0.22 (0.121-0.319)	0.152	4.384	0.000	0.301	0.260

B (95%)=unstandardized coefficients, Beta=standardized coefficients, adj R^2:0.703, F=213.513, p<0.001, S.E=2.703

It was found that emotional burnout, depersonalization, and a sense of personal accomplishment experienced by nurses explained 70.3% of their overall work stress, and there was a strong positive relationship between work stress and burnout (Table 4). This is a strong indication that work stress can be significantly reduced only by reducing burnout. In previous studies, the relationship between burnout levels of neonatal nurses and resilience, turnover, and nosocomial infections were examined (25,28,29). Examination of the relationship between burnout and work stress in our study brought a new finding to the literature. Being married and having only one child were among the factors that increased work stress (Table 3). It is thought that work stress may have increased because of the increased responsibility of being a parent for the first time and marriage. At the same time, it was found that nurses who worked at night, those who worked in intensive care, or those who worked for more than 6 years in total experienced higher work stress (Table 3). Similarly, in a different study conducted in Turkey, it was reported that neonatal nurses working over 40 h per week experienced more stress (1). In another study conducted in the USA, it was found that neonatal nurses working in the night shift had higher work stress than those working in the day shift, which supported our findings (30).

Studies have reported that burnout levels of neonatal nurses are affected by workload, interpersonal relationships, rest taken, nutrition, technical skills, and one's own personality traits (anger control, anxiety, shame, insecurity) (25,31-33). Studies conducted in intensive care units in Turkey reported that the increase in length of service and the shift system being always night or night/day decreased nurses' sense of personal accomplishment, increased emotional exhaustion, decreased job satisfaction, and caused them to consider changing their profession (34,35). In another study conducted in the USA, burnout was found to be higher in nurses who had been working in the NICU for more than five years (18). As a result, senior nurses experience more work stress and burnout. It is thought that their awareness due to experience may be high, which may have affected this situation, and their high professional fatigue may have affected it as expected. In a study conducted in Argentina, it was found that gender did not affect the feeling of burnout in nurses, whereas in our study, emotional exhaustion was found to be higher in female nurses and personal accomplishment was found to be higher in married nurses (Table 3) (36). This may have been caused by the fact that female nurses caring for infants with maternal instinct may have caused emotional exhaustion, whereas the better caregiving experience of married nurses may have caused a higher sense of personal accomplishment. In addition, emotional exhaustion and depersonalization were found to be high in nurses who received training for new-borns (Table 3). Since it is thought that the training may have increased the awareness of nurses, it may have triggered them to evaluate themselves as inadequate in infant care and follow-up.

Study Limitations

The fact that the research was conducted only in the Şanlıurfa province is among the limitations of the study.

Conclusion

In this study, it was found that nurses working in the NICU experienced work stress slightly above the medium level and emotional burnout close to the medium-level. A strong positive relationship was found between work stress and burnout in neonatal nurses. In addition, when the factors affecting burnout and work stress are taken into consideration, the work plans of nurses working in the NICU should be organized by considering their working time in the NICU, total working time, shift systems, gender, marital status, number of children and previous education. It is recommended that regular meetings should be held with nurses, prioritized problems should be considered and psychological support should be provided to nurses working in special units such as neonatal intensive care.

Acknowledgment: We thank all neonatal nurses who supported the study.

Ethics Committee Approval: Ethical approval was obtained from the Clinical Research Ethics Committee of a Harran University on 29.03.2021 with the decision number HRU/21.07.19, and institutional permission was obtained from the provincial health directorate. This study was conducted in accordance with the principles of the Declaration of Helsinki.

Informed Consent: Consents were obtained electronically from the nurses who agreed to participate in the study. An informed consent page was presented on the home page of the Google form, and the nurses who agreed to complete the online questionnaire completed the form after selecting

the option that they voluntarily agreed to participate in the study.

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ORIGINAL ARTICLE

Mindful Awareness and Perceived Stress in Nursing Students

Hemşirelik Öğrencilerinde Bilinçli Farkındalık ve Algılanan Stres

Duygu Kurt[1], Eylem Paslı Gündoğan[2], Burcu Uslu[2]

[1]Department of Nursing, Trakya University Keşan Hakkı Yörük School of Health, Edirne, Turkey
[2]Department of Nursing, Trakya University Faculty of Health Sciences, Edirne, Turkey

Abstract

Objective: The aim of this study was to determine the relationship between mindfulness and perceived stress levels of nursing students and the relationship between them.

Method: This descriptive study was conducted in the health college of a state university. Students studying in the department of nursing and going into clinical practice were included in the study (n=410). Data were collected using a questionnaire form, the perceived stress scale for nursing students, and the mindful attention awareness scale.

Results: The mean age of the participants was 20.73±1.45 years, 26.6% were in their third year, and 69.9% were female. 76.1% of the students stated that they willingly preferred the nursing department. The mean scale scores were 98.81±9.76 for the perceived stress scale for nursing students and 58.97±11.29 for the mindful attention awareness scale. A negative correlation was found between the total mean scores of the scales (p<0.05). It was found that the mindful awareness scores of the students who willingly preferred the nursing department were high (p<0.05). It was determined that the perceived stress scores of the fourth grade, female students, and students who did not willingly choose the nursing department were higher (p<0.05).

Conclusion: The mindful awareness of the students was slightly above the middle level, and their perceived stress was high. It is recommended that the participants' mindful awareness levels should be increased with cognitive and behavioral therapies to reduce their perceived stress.

Keywords: Mindful awareness, nursing student, stress

Öz

Amaç: Araştırmanın amacı hemşirelik öğrencilerinin bilinçli farkındalıkları ile algıladıkları stres düzeyinin ve aralarındaki ilişkinin belirlenmesidir.

Yöntem: Bir devlet üniversitesine ait sağlık yüksekokulunda gerçekleştirilen araştırma tanımlayıcı tiptedir. Araştırmaya hemşirelik bölümünde eğitim gören ve klinik uygulamaya çıkan öğrenciler dahil edildi (n=410). Veriler; anket formu, hemşirelik öğrencileri için algılanan stres ölçeği ve bilinçli farkındalık ölçeği ile toplandı.

Bulgular: Katılımcıların yaş ortalaması 20,73±1,45 yıl, %26,6'sı üçüncü sınıf ve %69,9'u kadındı. Öğrencilerin %76,1'i hemşirelik bölümünü isteyerek tercih ettiğini belirtti. Ölçek puan ortalamaları hemşirelik öğrencileri için algılanan stres ölçeğinin 98,81±9,76 ve bilinçli farkındalık ölçeğinin 58,97±11,29 olarak bulundu. Ölçeklerin toplam puan ortalamaları arasında negatif yönde ilişki olduğu saptandı (p<0,05). Hemşirelik bölümünü isteyerek tercih etmiş olan öğrencilerin bilinçli farkındalık puanlarının yüksek olduğu bulundu (p<0,05). Dördüncü sınıf, kadın ve hemşirelik bölümünü isteyerek tercih etmemiş olan öğrencilerin algıladıkları stres puanlarının yüksek olduğu bulundu (p<0,05).

Sonuç: Öğrencilerin bilinçli farkındalıkları orta düzeyin biraz üzerinde, algıladıkları stresleri ise yüksektir. Katılımcıların bilinçli farkındalık düzeylerinin bilişsel ve davranışçı terapiler ile yükseltilerek algıladıkları stresin azaltılması önerilmektedir.

Anahtar Kelimeler: Bilinçli farkındalık, hemşirelik öğrencisi, stres

Corresponding Author:
Duygu Kurt, duygukurt1988@hotmail.com

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Introduction

Mindful awareness is a concept rooted in the Buddhist philosophy of mindful and purposeful attention to the present (1). It refers to an internal perception that allows the individual not to be distracted and to focus on the present and their surroundings (2). This focus is realized in a non-judgmental, accepting way (1). Mindful awareness is not seen as a trait that needs to be acquired through learning, but as an inner resource that is already present and waiting to be awakened (3).

People with mindful awareness strive to sustain their lives by being aware of themselves and the world around them and contributing to the world (2,4). High levels of mindful awareness enhance physical and mental health, ensure success in interpersonal relationships, increase self-esteem, life satisfaction, and quality of life, cultivate focus and optimism, and enable effective stress management (1,5).

In recent years, studies on mindful awareness among nurses, patients, caregivers, and nursing students have increased, and mindful awareness -based practices in healthcare have found their place in the literature (2,6,7). Mindful awareness in nursing students is found to increase their overall well-being, positively impact their academic and clinical performance, and reduce their stress and anxiety caused by nursing education (2,8,9).

Stress emerges as a reaction to threatening situations that the body faces and is a serious problem experienced by nurses and brings physiological and psychological problems (10,11). Stress in nursing can occur during nursing education, and nursing students may experience clinical or academic stress (10). In the literature, it has been reported that the situations that cause clinical stress in students are first hospital experience, encountering emergencies in the clinic, insufficient development of skills related to nursing practices, negative attitudes of the clinical team, and communication problems with both patients and clinical team. Situations that increase academic stress include fear of failure, lack of free time, exams, and homework (7,8,10).

In nursing education, students gain professional knowledge, skills, and attitudes related to nursing. To achieve success in these gains, nursing students should be able to control their stress (12). Considering how indispensable the nursing profession is for humanity, it is thought that the intense stress experienced by nursing students may increase the need for nurses by preventing the preference of the profession and the completion of nursing education, and thus may bring problems such as increased workload and decreased quality of care (11).

Main Points

- High mindful awareness enables nursing students to acquire professional nursing characteristics.
- Nursing students should learn to manage stress while they are still students.
- With mindful awareness, the stress experienced by nursing students can be eliminated.

In addition to pharmacological treatments, alternative treatment options are available to relieve stress. Alternative treatment options include mindful awareness interventions, resilience development, individualized clinical support, and exercise (13). Mindful awareness interventions improve students' mindfulness capacity, reduce stress and anxiety, increase academic achievement, quality of life, empathy, and well-being levels, and enable them to control their emotions (7,14). Stress that will be reduced through mindful awareness can enable nursing students to cope effectively with the challenges of their professional education (13). Therefore, this study aimed to determine the level of mindfulness and perceived stress of nursing students and the relationship between them.

Material and Method

Design

This study is of descriptive design.

Participants

In June 2022, all nursing students studying at the health college of a state university and who were engaged in clinical practice constituted the population of the study (n=505). No sample calculation was made, and it was aimed at reaching all students constituting the population. The study was completed with 410 students who voluntarily participated in the research and completed the questionnaires and scales completely (n=410). However, 18.9% of the students were not reached.

Data Collection

A questionnaire form (3,5,7) consisting of questions to determine the socio-demographic (age, grade, gender) and academic achievement status of nursing students prepared by the researchers, perceived stress scale for nursing students, and mindful awareness scale were used to collect the data.

The mindful attention awareness scale: Developed in 2003 by Brown and Ryan (15). Its Turkish validity and reliability was assessed by Özyeşil et al. (16). The scale contains 15 items and is a six-point Likert scale. The six-point rating ranges from 6=seldom to 1=almost always. Scores between 15 and 90 can be obtained from the scale, and higher scores indicate higher levels of mindful awareness. Özyeşil et al. (16) found the Cronbach's alpha of the scale to be 0.82. In this study, it was 0.86.

Perceived stress scale for nursing students: This scale was developed in 2002 by Sheu et al (17). The Turkish validity and reliability of the scale was assessed by Karaca et al. (18). The scale contains 29 items and has six sub-dimensions. The five-point scale ranges from 4=very stressful to 0=not stressful. Scores between 0 and 116 can be obtained from the scale, and higher scores indicate higher stress levels.

Karaca et al. (18) found the Cronbach's alpha of the scale to be 0.96. In this study, the Cronbach's alpha value was found to be 0.89.

Data Collection Process

The data of the study were collected in June 2022 using the online method through Google forms. A link to the form was sent to students via their official student e-mail addresses. The form had two parts. In the first part, it was explained that participation in the research was voluntary, that the data collected in the research would only be used in the research, and that the information belonging to the individuals would not be shared with other individuals and institutions. In this section, participants were asked a question that they could answer yes or no to confirm that they voluntarily participated in the research. Students who answered yes and agreed to participate in the study accessed the questionnaire form and scales and completed the online form.

Statistical Analysis

The data of the study were analyzed using the IBM Statistical Package for the Social Sciences (version 21.0). Numbers and percentages were used to analyze categorical variables. The mean and standard deviation were used to analyze continuous variables. The compatibility of the variables with normal distribution was evaluated by Kolmogrov-Smirnov test, and normal distribution was determined ($p>0.05$). Therefore, independent samples t-test and One-Way ANOVA tests were used to compare continuous data between independent groups. Pearson correlation analysis was used to evaluate the relationship between the scores of the scales. Statistical significance value was set as $p<0.05$.

Ethical Consideration

Ethics Committee approval and necessary institutional permissions were obtained from the Faculty of Medicine Scientific Research Ethics Committee of a Trakya University (TÜTF-BAEK 30.05.2022 date, 2022/237 protocol code) to conduct the research. Necessary permissions were obtained to use the scales used in this study. The Declaration of Helsinki was complied with. The principles of research and publication ethics were followed.

Results

The mean age of the nursing students was 20.73±1.45 years, 26.6% of them were studying in the third year and 69.9% of them were female. 76.1% of the participants stated that they preferred the nursing department willingly, and all of them stated that they did not receive any training to increase mindful awareness (Table 1).

The mean total scale scores of nursing students were 58.97±11.29 on the mindful attention awareness scale and 98.81±9.76 on the perceived stress scale for nursing students (Table 2).

A very weak negative correlation was found between the mean total scores of the mindful attention awareness scale, the mean total scores of the perceived stress scale for nursing students, and the mean scores of the sub-dimensions of stress caused by lack of professional knowledge and skills and stress experienced while caring for a patient ($p<0.05$) (Table 3).

It was found that the mean total scores of the mindful attention awareness scale for students who preferred the nursing department willingly were higher than those for students who preferred the nursing department reluctantly ($p<0.05$) (Table 4).

The mean total scores of the perceived stress scale for nursing students were statistically higher in fourth grade

Table 1.
Socio-demographic and Academic Characteristics of Nursing Students (n=410)

Variables	**Minimum-maximum**	**X ± Standard deviation**
Age (year)	18-27	20.73±1.45
	n	**%**
Grade		
First year	108	26.3
Second year	103	25.1
Third year	109	26.6
Four year	90	22
Gender		
Female	286	69.9
Male	124	30.1
Choosing the nursing department willingly		
Yes	312	76.1
No	98	23.9
Receiving training on mindful awareness		
Yes	0	0
No	410	100

students than in first and second grade students ($p<0.05$), in female students than in male students ($p<0.001$), and in students who chose the nursing department involuntarily than in students who chose it willingly ($p<0.05$) (Table 4).

Discussion

Nursing education includes intensive knowledge and skill teaching, and the problems encountered in the clinical field cause stress in students. It is important that nursing students, who have obligations such as protecting the health of individuals in the future and taking responsibility for their care and treatment, are biopsychosocially healthy (10,19). It is important that nursing students, who should have responsibilities such as protecting the health of the individual, family, and society in the future and taking responsibility for their care and treatment, are biopsychosocially healthy. Strategies to reduce students' stress in nursing education, such as mindful awareness, which can improve their well-being, have recently gained importance (10,12).

In our study, students' mindfulness levels were slightly above average. In similar studies, the level of mindfulness of nursing students is at a medium level (7,9,12,20). In the literature, it has been reported that mindful awareness has positive effects on nursing students' ethical decision-making, communication with patients, and empathy skills (21,22). It has been stated that, thanks to mindful awareness, nursing students feel more comfortable, calm, and focused in the classroom environment at the university (23). Mindful awareness is a feature that students should have because of all the benefits it provides to nursing students. Because high mindful awareness will enable nursing students to acquire both professional nursing characteristics and receive a quality education, it is thought that the mindful awareness

Table 2.
Nursing Students' Mean Scores on the Mindful Attention Awareness Scale and Perceived Stress Scale for Nursing Students

Scales and subscales	Scale range	Participant range	X ± Standard devitation
Mindful attention awareness scale total score	15-90	24-90	58.97±11.29
Perceived stress scale for nursing students total score	29-116	61-116	98.81±9.76
Stress caused by a lack of professional knowledge and skills	0-12	6-12	10.22±1.34
Stress experienced while caring for a patient	0-32	16-32	27.44±2.88
Stress caused by homework and workload	0-20	10-20	16.99±2.00
Stress caused by instructors and nurses	0-24	12-24	20.30±2.44
Environmental stress	0-12	6-12	10.12±1.46
Stress from peers and daily life	0-16	8-16	13.55±1.68

Table 3.
Relationship Between Nursing Students' Mindful Attention Awareness Scale and Perceived Stress Scales for Nursing Students and Its Subscales

Scales and subscales	Test statistic	Mindful attention awareness scale total score
Perceived stress scale for nursing students	r p	-0.104 **0.035**
Stress caused by a lack of professional knowledge and skills	r p	-0.115 **0.020**
Stress experienced while caring for a patient	r p	-0.108 **0.028**
Stress caused by homework and workload	r p	-0.019 0.067
Stress caused by instructors and nurses	r p	-0.091 0.065
Environmental stress	r p	0.034 0.497
Stress from peers and daily life	r p	-0.080 0.106

r=Pearson's correlation analysis

Table 4.
Comparison of Socio-demographic and Academic Characteristics of Nursing Students and Mean Scores of the Mindful Attention Awareness Scale and Perceived Stress Scale for Nursing Students

Variables	Mindful attention awareness scale total score	Perceived stress scale for nursing students total score
Grade		
First year (1)	57.97±11.14	97.08±10.49
Second year (2)	58.36±10.99	97.19±10.56
Third year (3)	59.18±11.37	100.42±8.69
Fourt year (4)	60.61±11.71	100.81±8.52
F	1.024	4.420
p	0.382	**0.004**
		4>1,2
Gender		
Female	58.95±11.14	100.31±8.96
Male	59.01±11.70	98.37±10.66
t	-0.051	4.830
p	0.960	**0.000**
Choosing the nursingdepartment willingly		
Yes	59.93±11.69	98.16±10.00
No	55.89±9.31	100.89±8.71
t	3.511	-2.432
p	**0.001**	**0.015**

t=independent samples t-test, F=One-Way ANOVA test

of nursing students participating in our study should be increased. High conscious awareness enables nursing students to acquire professional nursing characteristics.

Nursing education provides students with the knowledge, attitudes, and skills necessary for the roles of professional nursing. During this training, nursing students may experience stress (19). Clinical workload, academic performance concerns, lack of instructor/nurse support in clinical practice areas, worry about making mistakes, not feeling ready to provide care, difficulty in communicating and interacting with the healthcare team, and witnessing the death and suffering of patients are considered risk factors that cause stress in nursing students (7,8,19). Nursing students who cannot effectively cope with these risk factors may experience high levels of stress (7). In accordance with the literature, it was determined that students perceived high levels of stress in our study (24,25).

In nursing education, students try to cope with stress while attempting to achieve academic and clinical success (13). If nursing students can learn how to cope with their stress during their education, they can perform nursing more professionally in the future and provide better quality nursing care to their patients (19). If nursing students can learn how to manage their stress during their education, they can perform nursing more professionally in the future and provide better quality nursing care to their patients (3).

In this study, a very weak negative relationship was found between nursing students' mindful awareness and perceived stress. As students' mindful awareness increases, their perceived stress level decreases. In the literature, mindful awareness-based interventions are stated to be effective in significantly reducing stress in nursing students (1,6,7,18). Mindful awareness-based interventions such as breathing techniques, meditation, and yoga are recognized as ideal methods to reduce stress and manage the well-being of future healthcare providers (8,12). Increased awareness is associated with improved psychological functions and has a positive effect on stress (3). Stress may not only cause health problems in nursing students but may also negatively affect their future professional lives. Because mindful awareness interventions significantly reduce the stress of students, these interventions should be included more in nursing education (1). Although exposure to academic and clinical stressors is inevitable in nursing education, this problem can be eliminated with mindful awareness interventions targeting stress management (8).

In this study, it was found that as students' mindful awareness increased, the stress caused by lack of knowledge and skills and the stress they experienced while providing nursing care decreased. For nursing students not to have professional knowledge and skill deficiencies, to cope with future work stresses, and not to be under stress in managing the care of their future patients, it is necessary to target their ability to cope with stress during their undergraduate education (11). Having mindful awareness is considered a promising way to achieve this goal (11). Nurses and nursing students can provide patient-centered, humane care in line with their professional knowledge and skills by recognizing the present moment with mindful awareness and accepting it without judgment and without experiencing stress (11,26).

In our study, students who willingly preferred the nursing department had higher mindful awareness and lower perceived stress than those who reluctantly preferred the nursing department. In the study of Cantekin et al. (27), in which they examined the stress perceived by students of the nursing department in clinical practice, it was determined that the stress perceived by students who willingly preferred the nursing department was significantly lower than the stress perceived by students who did not willingly prefer the nursing department. It has been reported that choosing the nursing department willingly provides the development of professional self-concept, which leads to less stress perception and higher awareness (28). In our study, it was determined that the stress perceived by fourth-year students was higher than that perceived by first- and second-year students. Yıldırım Hamurcu and Terzioglu (19) also reported that the stress perceived by fourth-grade students was significantly higher than that perceived by other grades. As the grade level increases, students' responsibilities and expectations from students increase, while the level of stress increases with the anxiety of finding a job and entering the profession (19). The fourth-grade students included in our study are intern nurses who continue their education by practicing in the clinical environment. Clinical practice for nursing students is seen as a factor that causes stress because of the responsibilities they assume in nursing care (9,29). In one study, it was reported that high stress decreases clinical performance, and in another study, it was stated that mindful awareness -based interventions are an effective method to reduce stress (30,31).

Study Limitations

The limitation of the study is that the research was carried out only with the students of the nursing department in a college.

Conclusion

It was found that the mindful awareness of students was slightly above the average and the perceived stress was high. As students' mindful awareness levels increases, the level of stress they perceive decreases. Considering the negative effects of stress on students, it is important to structure nursing education in a way that provides students with mindful awareness. Therefore, it is recommended that courses to increase mindful awareness should be included in nursing education curricula and seminars, conferences, and courses should be organized for students.

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Ethics Committee Approval: Ethics Committee approval and necessary institutional permissions were obtained from the Faculty of Medicine Scientific Research Ethics Committee of a Trakya University (TÜTF-BAEK 30.05.2022 date, 2022/237 protocol code) to conduct the research.

Informed Consent: The students were informed that participation was voluntary, their personal information and confidentiality would be protected, and an informed consent page was presented.

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ORIGINAL ARTICLE

"An Unchangeable Reason for inequality" A Qualitative Study on Nursing Students' Experiences and Perceptions of Menstruation and Menstrual Poverty

"Eşitsizliğin Değişmez Bir Nedeni" Hemşirelik Öğrencilerinin Menstrüasyon Algıları ve Menstrüasyon Yoksulluğu Deneyimleri Üzerine Nitel Bir Çalışma

İlknur Atasever[1], Merve Mert Karadaş[2], Fatma Uslu Şahan[2], Gülten Koç[2]

[1]Department of Obstetrics and Gynecology Nursing, Süleyman Demirel University Faculty of Nursing, Isparta, Turkey
[2]Department of Obstetrics and Gynecology Nursing, Hacettepe University Faculty of Nursing, Ankara, Turkey

Abstract

Objective: Menstrual poverty is a significant issue in Turkey and worldwide and is influenced by various factors. It is crucial for nursing students to understand how to eliminate gender inequality caused by menstrual poverty. The study aims to explore student nurses' experiences and perceptions of menstruation and menstrual poverty.

Method: The study utilized a phenomenological qualitative method and analyzed the data using descriptive analysis.

Results: Based on the data gathered, five primary themes were identified: Thoughts on menstruation, experiences on menstruation, stereotypes about menstruation, management of the menstrual process, and things to be done to improve menstrual poverty.

Conclusion: By educating individuals about menstruation, we can enhance their awareness and contribute to the elimination of menstrual poverty. Therefore, it is essential to implement interventions aimed at reducing menstrual poverty.

Keywords: Nursing students, menstrual experiences, menstrual health, menstrual poverty

Öz

Amaç: Menstrüal yoksulluk Türkiye'de ve dünyada önemli bir sorundur ve çeşitli faktörlerden etkilenmektedir. Hemşirelik öğrencilerinin menstrüel yoksulluğun neden olduğu cinsiyet eşitsizliğinin nasıl ortadan kaldırılacağını anlamaları çok önemlidir. Çalışma, öğrenci hemşirelerin menstrüasyon ve menstrüasyon yoksulluğuna ilişkin deneyimlerini ve algılarını araştırmayı amaçlamaktadır.

Yöntem: Araştırmada fenomenolojik nitel yöntem kullanılmış ve veriler betimsel analiz kullanılarak analiz edilmiştir.

Bulgular: Toplanan verilere dayanarak beş ana tema belirlendi: Menstrüasyon ile ilgili düşünceler menstrüasyon ile ilgili deneyimler, menstrüasyonla ilgili kalıp yargılar, menstrüasyon sürecinin yönetimi ve menstrüal yoksulluğun iyileştirilmesi için yapılması gerekenler.

Sonuç: Bireylere menstrüasyon konusunda eğitim vererek farkındalıklarını artırabilir ve menstrüal yoksulluğun ortadan kaldırılmasına katkıda bulunabiliriz. Bu nedenle, menstrüal yoksulluğun azaltılmasına yönelik müdahalelerin uygulanması esastır.

Anahtar Kelimeler: Hemşirelik öğrencileri, menstrüasyon deneyimleri, menstrüal sağlık, menstrüal yoksulluk

Corresponding Author:
İlknur Atasever, ilknuratasever@sdu.edu.tr

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Introduction

Menstruation affects 1.8 billion individuals worldwide and encompasses changes starting from adolescence to menopause (1). Menstrual health, as defined by the Terminology Action Group of the Global Menstrual Collective in 2019, is a comprehensive state of physical, mental, and social well-being beyond the mere absence of disease or infirmity in connection with the menstrual cycle (2). Proper menstrual health practices are essential for women's and adolescent girls' overall well-being and empowerment (3,4). However, worldwide, around 500 million individuals face menstrual poverty due to inadequate facilities and limited access to menstrual products (5).

Menstrual poverty, a term encompassing the lack of access to adequate menstrual products, hygiene facilities, health services related to menstruation, proper waste management, and essential health education, affects millions of women worldwide (6,7). It's not solely about the quantity of pads used but also the quality and accessibility of menstrual products (8). For example, over 80% of women and adolescent girls in Bangladesh resort to inadequate materials like old clothes due to the inability to access hygienic products like pads or tampons (9). Menstrual poverty profoundly affects not only women in low- and middle-income countries but also low-income women in high-income countries (10). In St. Louis, 64% of low-income women struggle to afford menstrual products, leading one-third to use alternatives like rags or toilet paper (11). Poor sanitation in schools and workplaces exacerbates this issue, as seen in Ghana, where approximately 11.5 million women lack proper sanitation and hygiene facilities (12). Access to clean water is also crucial for menstrual hygiene management, as it directly impacts sanitation during menstruation. Thus, deprived women facing challenges in accessing these basic necessities can be considered to be experiencing menstrual poverty.

Women and girls have reported negative impacts on their physical and psychological health, education, employment, and social participation due to menstrual-related experiences (2). Poor hygiene practices, inadequate waste management, and sanitation issues during menstruation can lead to grave health concerns like urinary tract infections (13), skin irritation/rashes, or burning in the pelvic area (2). Women often feel immense pressure due to the taboos, stereotypes, and misconceptions surrounding menstruation, which can lead to shame, fear, anxiety, and depression (6). Moreover, the unavailability of menstrual hygiene products can prevent some women and adolescent girls from attending school or work, leading to social isolation. A study found that nearly 91% of adolescent girls have difficulty managing menstrual hygiene, leading to 18.4% missing school (2). The lack of knowledge and insufficient policies on menstrual hygiene management exacerbate menstrual poverty (4).

Menstrual health is a fundamental human right and essential for achieving the Sustainable Development Goals by 2030. Improving menstrual hygiene management contributes to Goals 4, 5, and 6 of the United Nations (11). Nurses should promote sustainable development goals, protect women's and adolescent girls' health, and eliminate menstrual poverty's gender inequality (14,15). Understanding the impact of menstrual poverty on nursing students who will become future nurses is crucial. Menstrual poverty is a significant issue in Turkey and worldwide, caused by traditional structures, incorrect beliefs, economic difficulties (16), and poor sanitation (14,17). However, studies on menstrual poverty are limited in the literature, and to the best of our knowledge, no study has been conducted on nursing students' experiences of menstrual poverty. The study aims to explore student nurses' experiences and perceptions of menstruation and menstrual poverty.

Main Points

- Women and girls have reported negative impacts on their physical and psychological health, education, employment, and social participation due to menstrual-related experiences.
- Awareness-raising campaigns are needed to encourage attitude change, and girls should be educated on managing menstruation.
- Nurses should promote sustainable development goals, protect women's and adolescent girls' health, and eliminate menstrual poverty's gender inequality.

Material and Method

Study Design and Settings

The study explored student nurses' experiences and perceptions of menstruation and menstrual poverty using phenomenological qualitative research (18). The research team had a doctoral degree in obstetric nursing and experience in gender equality and qualitative research. The study was conducted with nursing faculty students in Ankara, providing an ideal research environment with students from diverse socio-cultural backgrounds.

Data Collection Tools

"Descriptive characteristics form" and "interview form" were used in the study. The descriptive characteristics form, which the researchers prepared by reviewing the literature (7,19-21), included questions about the age, years of study, income level, and financial difficulties in buying menstrual products.

The interview form, which the researchers created by reviewing the literature (7,19-22), included questions aimed at exploring the participants' perceptions of menstruation and menstrual poverty experiences (Table 1). Three expert opinions were obtained to determine the usability and applicability of the form, and no changes were made to the form after the expert opinions. In addition, pilot interviews are recommended in the literature to increase the confirmability of the research (23). Two participants who met the inclusion criteria were interviewed as part of a pilot study to assess the ınterview form's applicability. Since the research questions were not changed, the participants in the pilot study were included in the sample.

Participants and Data Collection

In this type of study, data collection ends when data saturation is reached and data begin to repeat; commonly, qualitative interviews can be conducted with 5 to 25 people who have experienced the phenomenon (24). This study was based on the data saturation principle, and the interviews were ended after the 20th in-depth interviews. The study was completed with 20 nursing students selected using convenience sampling method. Through WhatsApp, the students were recruited to participate in the study by using the flyer that described the purpose and methodology of the study. The following were the inclusion criteria for the study: (a) Being nursing students; and (b) students who volunteered to participate in the research. Students interested in the study provided written informed consent and participated in in-depth interviews. The interviews were conducted on Zoom at a time that was convenient for both the participants and the researcher. In the in-depth individual interviews, the questions in the interview form were directed to the participants by the researcher and audio recordings were taken. The in-depth interviews lasted approximately 30 minutes for each participant.

Data collection during the qualitative application was stopped when no new information or opinions were obtained and all research questions were answered (24).

Statistical Analysis

Descriptive analysis is a qualitative data analysis that involves summarizing and interpreting the data obtained through various data collection techniques according to predetermined themes. In this type of analysis, the researcher can often include direct quotations to reflect the views of the individuals interviewed or observed strikingly. The aim is to present the findings in a summarized and interpreted form (25). Descriptive analysis was conducted in five stages:

In Phase I, the researcher created a framework for data analysis based on the research questions, the conceptual framework of the research, and the dimensions of the interviews and observations. Accordingly, the main themes were named "thoughts on menstruation", "experiences on menstruation", "stereotypes about menstruation", "management of the menstrual process" and "things to be done to improve menstrual poverty" (Figure 1).

In Phase II, the interviews recorded on the voice recorder were converted into written text (transcription) by the researchers with the help of the Microsoft Word program on a computer. Researchers read the text several times to prevent the loss of expressions and compared it with the voice recorder. The interviews were coded consecutively from 1 to 20 to conceal the participants' identities. For example, the first participant was named "participant 1" and coded as "P1"; the 20th participant was named "participant 20" and coded as "P20" (Table 2).

In Phase III, The researchers organized the data according to their pre-established thematic framework, and subthemes were derived from interview responses (Figure 1).

In Phase IV, the organized data were described and supported with direct quotations.

In Phase V, the findings were explained, related, and interpreted.

Trustworthiness of Findings

In terms of the reliability of the study, the "long-term interaction" and "participant consent" criteria reported by Creswell and Miller (26) were met. In-depth interviews were preferred for long-term interaction, and each participant was interviewed for an average of 30 minutes. The convience sampling method was used for transferability (applicability), and homogeneity was considered. To ensure the consistency of the research, the same interview form and the exact recording device were used in the interviews, and the same researcher participated in each interview. The investigator (MMK) conducting the interviews was a doctor of philosophy and a research assistant at a university in the department of obstetrics and gynecology nursing. The researchers collaborated and achieved a consensus

Table 1.
The Interview Form

What does menstruation mean to you?
If yes, what are the positive/negative things?
Could you tell us about your first menstrual experience?
How did you learn about menstruation?
Do you think menstruation is taboo (something people don't talk about or are embarrassed to do)?
How do you think menstruation affects your daily life?
What are the products/supplies you usually use?
What do you think about the safety of these products/supplies?
What happens when you need to change the products/supplies you use?
What do you think about the prices of menstrual products?
Does the product's affordability affect your choice of menstrual products/materials? What do you think?
How do you access menstrual products?
What do you think needs to change to improve the health of menstruating women?
If you would like to share something about menstruation, could you share it with me?

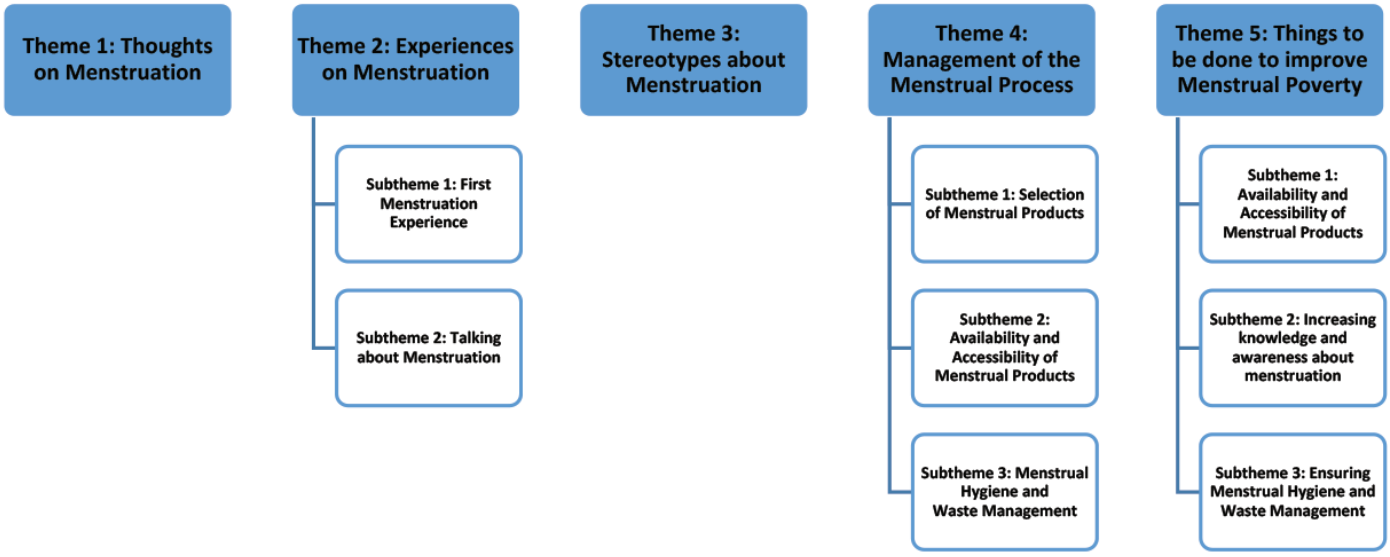

Figure 1.
Themes and Subthemes

Table 2.
Descriptive Characteristics of Participants (n=20)

Participants	Age	School year	Perceived economic situation	Financial difficulties in buying menstrual products	
				Last 12 months	Every month
Participant 1	19	1	Equal	Yes	No
Participant 2	21	2	Less	Yes	Yes
Participant 3	23	4	Less	Yes	No
Participant 4	20	2	Equal	Yes	Yes
Participant 5	19	1	Less	Yes	Yes
Participant 6	22	3	Equal	Yes	No
Participant 7	21	2	Less	Yes	Yes
Participant 8	22	3	Equal	Yes	Yes
Participant 9	24	3	Less	Yes	Yes
Participant 10	22	3	Less	Yes	Yes
Participant 11	20	2	Equal	No	No
Participant 12	23	4	Equal	Yes	Yes
Participant 13	23	4	Equal	Yes	Yes
Participant 14	23	4	Equal	Yes	Yes
Participant 15	19	1	Equal	No	No
Participant 16	21	2	Equal	Yes	Yes
Participant 17	20	1	Equal	No	No
Participant 18	22	3	Equal	Yes	Yes
Participant 19	23	4	Equal	No	No
Participant 20	22	3	Equal	Yes	Yes

on the study's thematic framework. After the interviews, each researcher read the transcriptions independently and identified subthemes. Following the interviews, each researcher individually read the transcriptions and identified subthemes. A pilot study was conducted to verify the interview form's verifiability, and expert opinion was obtained. The data were presented without bias or interpretation and were further supported with direct quotations in the discussion section.

Ethical Considerations

The proposal was approved, and ethical approval was obtained from the Hacettepe University's Ethics Committee (decision number: 16969557-1344, date no: 2022/12-08). Informed written consent was obtained from students willing to participate in the study. This study complied with the principles of the Declaration of Helsinki. In order to maintain confidentiality, the names of the participants were anonymized for this study. This study used the consolidated criteria for reporting qualitative research as a guide (27).

Results

The descriptive characteristics of the 20 participants are summarized in Table 1. After data analysis, eight sub-themes and five main themes were extracted. The sub-themes and main themes are given in Figure 1.

The main themes are as follows: "Thoughts on menstruation", "experiences on menstruation", "stereotypes on menstruation", "management of menstrual process", and "things to be done to improve menstrual poverty".

Theme 1. Thoughts on Menstruation

This theme focused on the participants' positive and negative thoughts about menstruation. Participants expressed that menstruation is not only a physical event but also has social, cultural, and personal dimensions. Some students associated menstruation with health, fertility, and femininity.

"I feel like menstruation expresses fertility and femininity.." (Participant 12)

"It is a natural cycle and an indicator of being healthy.." (Participant 13)

Some participants associated menstruation with pain and discomfort and drew attention to the difficulties women experience during menstruation. Some participants emphasized that menstruation negatively affected them physically, mentally, and socially.

"I always pray that I will menstruate when I am not busy or at the weekend. The pain affects me a lot. At least I can lie at home and rest.." (Participant 11)

"I spend the first or second day of menstruation in bed or sitting, I restrict my movements... I am a social person. I like doing sports, but I avoid doing them." (Participant 2)

A few participants stated that menstruation is a disadvantageous situation for women and is an unchangeable cause of inequality.

"*Menstruation is a burden on women; I think if we include the psychological effects, it demoralizes them in their work and school life and affects their motivation. Men do not know what it means..." (Participant 12)*

"Sometimes we talk to girls in a friend environment about how comfortable men are. Men do not have such problems every month; I think this is an unchangeable reason for inequality.." (Participant 13)

"We are disadvantaged because we are psychologically and physically affected." (Participant 10)

Theme 2. Experiences on Menstruation

This theme consisted of two subthemes: "First menstruation experience" and "talking about menstruation".

Subtheme 1. First Menstruation Experience

The experience of first menstruation left a deep mark on the lives of many participants. For many participants, the experience was physically and emotionally transformative, accompanied by fear and shame due to lack of information.

"I was afraid and embarrassed to tell them because no one had ever told me anything about it before. I thought they would react differently when I told my family because it was unusual for me..." (Participant 2)

"I was at home. I noticed blood in the toilet. I told my mom. I think I overreacted a bit, but my mom calmed me down. In some schools, there is pad training or something like that. We were never given any. When my mother gave me a pad, I didn't know how to do it. It felt like I would stick the sticky part on my body." (Participant 6)

The first experiences of the participants with prior knowledge about menstruation were more positive than the others. This information guided me on how to make sense of the process and how to cope with the state of uncertainty and change.

"...I felt very ready for menstruation because my mother had talked to me before. There will be differences in your body like this. Therefore, I was very comfortable." (Participant 20)

"I was surprised at first; I was 13 years old when I suddenly went to the toilet and encountered such a thing. But then I adapted immediately because I knew..." (Participant 3)

Subtheme 2. Talking About Menstruation

Individuals' experiences illustrate how society's and family's ideas about menstruation affect participants. Some participants felt sharing such a private topic with their fathers or brothers was rude except in exceptional cases such as illness or emergencies.

"I do not talk about such a subject with my father or brother except in cases of necessity...if my pain is too much, if I need to go to the hospital, then they know..." (Participant 1)

"I can never talk to my father. For him, these topics are shameful...(menstruation). We can talk about it in a mother-daughter relationship. However, it is a shame for him to talk about it in front of someone else. Because my mother says this is a private subject for you." (Participant 6)

Some participants reported that their families created an environment of utterly open communication about menstruation.

"I was able to tell most of the people around me, be it my father, my brother... I had to ask my father for a pad once. My brother even makes me hot water bags to relieve my abdominal pain." (Participant 20)

Theme 3. Stereotypes About Menstruation

The findings showed that menstruation is still perceived as a taboo subject by society and that factors such as sexual, cultural, and association of menstruation with femininity contribute to this perception.

"I think menstruation is a taboo subject. I can still see people looking at me strangely when I buy ready-made pads in the market sometimes... If a man is next to me at that moment, he can walk away from me while buying pads." (Participant 1)

"Even now, when they buy pads, they put them in a black bag...So, it is still taboo. I think the vagina is where menstrual blood flows...that's why I think they are embarrassed. I mean, they wouldn't be embarrassed if the same blood flowed from the palm of their hand." (Participant 6)

Some participants stated that the perception of menstruation as a taboo is shaped by society's values, norms, and myths and that individuals learn and internalize this situation through social interaction.

"I think it is related to culture ... Such things are shameful, and men should not hear it. No matter how normal it is, this is how we saw it from our elders." (Participant 17)

"... My mother used to say that I shouldn't talk about it with anyone except her. She said it was a sin. Still, when I talk about this issue with someone, I think that there is a sin somewhere inside me." (Participant 9)

The participants' statements reveal that the menstrual cycle is equated with being a woman and that society evaluates menstruating women in terms of reaching marriageable age, reproduction, and sexuality.

"In society, it is thought that before menstruation you are a girl, after menstruation you are a woman, etc. ... Now that you have menstruated, you are of puberty, you are aware of everything, you have grown up, etc. ... My family had a perception that you need to be careful about your actions after menstruation; you are no longer a child." (Participant 5)

"I think it is related to the feminine characteristics. People think that a woman who can menstruate can now reproduce, get married, is ready for sexual intercourse, can give birth to children..." (Participant 7)

Theme 4. Management of the Menstrual Process

This theme consisted of three subthemes: "Selection of menstrual products", "availability and accessibility of menstruation products", and "menstrual hygiene and waste management".

Subtheme 1. Selection of Menstrual Products

Participants stated that they commonly use pads during menstruation. The participants preferred pads because they were practical and easily accessible. Some participants needed to learn aboutstrual products other than pads and their use.

"I know about menstrual cups, tampons, washable pads... The menstrual cup does not feel safe, like a prejudice. I don't know how to use it. Tampons don't feel reliable either..." (Participant 5)

"I've heard of tampons and menstrual cups, and honestly, I don't know anyone around me who uses them. I see them on the internet or in some videos...I don't have any information on how they are used... I feel like it will bother me. I think the pad would be more comfortable." (Participant 6)

Subtheme 2. Availability and Accessibility of Menstruation Products

Many participants reported experiences of improvised product use in unexpected situations when there were no pads in the home or without access to pads. Participants often described these experiences as uncomfortable, ineffective, and lacking comfort.

"...I wore a napkin when I was unprepared, and once I used a thin towel. It was uncomfortable because the texture was harder than the pad. I was worried if it would leak." (Participant 3)

"I used diapers for a while. Our house was very far from the market. It felt bad not being able to reach."(Participant 14)

The problem of leakage was stated as a situation frequently encountered by the participants. Some of the participants emphasized that the use of cheap products due to economic difficulties causes leakage. Leaks, especially during sleeping hours, negatively affected the participants' perception of personal comfort and hygiene. At the same time, the use of cheap products that could lead to leakage affected the participants' social relationships and daily routines, creating psychological pressure and anxiety.

"... it affects my sleep pattern... I sleep nervously for fear of leakage. Or if it leaked, I have to get up and clean up. It makes you feel bad...." (Participant 13)

"For example, there was a product I didn't like at all; it was leaking; I bought it just because of its price." (Participant 13)

"I used a cheap product; it was plastic, irritating, smelly. I felt uncomfortable; I got rashes on my skin. For this reason, it took a long time for it to go away for me. It negatively affected my daily life." (Participant 20)

The fact that the leaks occurred publicly caused shame among participants.

"... This situation creates tension. It embarrasses me when an outsider sees my stain and knows that I am menstruating." (Participant 9)

"I am terrified that it will come out...it can be shameful because the blood comes out of the genitals..." (Participant 11)

Some participants said they had to throw away their underwear due to leaks. The routine occurrence of this situation caused financial hardship for some participants.

"I had to throw underwear away. We are students; after all, it inevitably forces us financially." (Participant 13)

"I think I threw away a lot of my underwear. This situation forced me financially. I wash them, but I have to throw them away because they leave stains." (Participant 20)

Subtheme 3. Menstrual Hygiene and Waste Management

Most participants stated that changing menstrual products occurred in the toilets. Factors such as the hygienic conditions of toilets in public areas, the lack of trash bins to dispose of menstrual waste in these areas, and waiting in long queues due to crowding caused participants to delay changing their products or feel uncomfortable.

"The schools are also terrible. I don't even want to enter the restroom because it is dirty. I wait until I come home to change my pad." (Participant 15)

"Some school toilets have trash, some don't. When it is not available, I cannot change because there is no napkin, no soap, nothing. And when you pick it up, you come in contact with blood." (Participant 20)

Theme 5. Things to be Done to Improve Menstrual Poverty

This theme consisted of three subthemes: "Availability and accessibility of menstrual products", "ıncreasing knowledge and awareness about menstruation", and "ensuring menstrual hygiene and waste management".

Subtheme 1. Availability and Accessibility of Menstrual Products

All participants stated that accessibility and affordability of menstrual products are prerequisites for addressing gender inequality. Participants emphasized that menstrual products are a basic necessity for women and that these products should be distributed free of charge.

"There are people who cannot afford pads, so financial support should be provided... Pad prices should be accessible for everyone. I know people who change pads once a day...." (Participant 5)

"Prices should be reduced, and every woman should have access to quality pads. It should be free of charge because this is a basic need." (Participant 10)

"The prices are too high, especially for a student to have to buy those packages every month is very sad... just like bread is a basic need, pads are a basic need" (Participant 16)

Subtheme 2. Increasing Knowledge and Awareness About Menstruation

Most participants stated that individuals and parents should be educated about menstruation to raise social awareness and break taboos about menstruation. Some participants emphasized that raising men's awareness about menstruation could be an essential step in the fight against gender inequality.

"The first place where a girl child receives education is her family. Therefore, family education is critical. Training should also be increased in schools...." (Participant 8)

"Men should also be trained at a very early age. ... Family training should also be organized...." (Participant 11)

"There can be posters and catalogs about menstruation being a normal process so that it is no longer taboo." (Participant 14)

Subtheme 3. Ensuring Menstrual Hygiene and Waste Management

Some participants suggested that specific points should be set up in public spaces for easy changing during

menstruation, and separate bins should be set up to collect and manage pad waste.

"There should be certain points, such as clean, hygienic toilets, pad changing points... women can go and change their pads there." (Participant 9)

"I have seen separate trash bins for pads in some places. Special trash bins can be placed in toilets to dispose of pads...." (Participant 13)

Discussion

Women's menstrual needs are increasingly recognized as an important problem for their health, education, employment, and well-being (3,21,28). The present study examined nursing students' perceptions and experiences of menstrual poverty.

In this study, participants had negative perceptions of menstruation. Barrington et al. (4) stated that women perceive menstruation as negative because they feel it is inappropriate and uncomfortable. The study emphasized that menstruation is a disadvantageous situation and causes inequality. In the literature, menstrual poverty is also recognized as an issue of gender inequality (3,29). Mason et al. (29) noted that cultural taboos in India around menstruation have worsened gender inequality, by imposing restrictions on menstruating women. The study results show that there is a need for interventions to evaluate the situations that may cause negative menstrual perception and transform this perception into a positive one.

In the present study, the participants' first menstruation experience significantly impacted their lives due to lack of information, shame, and fear. Similar to our study, McMahon et al. (30) stated that shame was the most common emotion that girls described against menstruation. Similar results are also observed in studies conducted in different cultures (4,31,32). Feelings of shame surround the menstrual period and can affect how a young girl sees herself and relates to her body (30). Sommer (28) found that girls who felt shame, guilt, and confusion about menstruation were less likely to talk to their mothers about it due to lack of information. Belayneh and Mekuriaw (33) found that many adolescent girls lack menstrual and hygiene information, often unprepared for menarche, particularly in rural areas. Information and awareness-raising campaigns for girls before menarche are recommended to change the negative perception of menstruation.

Menstruation is a normal physiological process of women of reproductive age. However, it is surrounded by social taboos and supernatural beliefs (33). The study's findings showed that menstruation is still taboo and that social, cultural, and familial attitudes affect the perception of menstruation. In addition, the participants stated that they were afraid of conversations about menstruation. The literature supports our research results (4,28-30,33). McMahon et al. (30) reported that girls hesitate to discuss menstruation with their parents, teachers, and friends due to cultural and family attitudes. Sommer (28) emphasized that girls worldwide experience menstruation as a social indicator of transition to womanhood. The research results draw attention to raising awareness among society and families about menstruation (28).

In the study, it was stated that some problems were encountered in managing the menstruation process. Participants stated the pad as the most frequently used method; they emphasized that they lacked information about other methods. In the literature, it is emphasized that women lack knowledge about the variety of menstruation products (3,4,29) and accordingly resist the use of products other than commonly used products, such as pads (3). Studies state the acceptability of reusable pads and menstruation cups (29,34). Raising women's awareness about menstruation products and promoting reusable products such as menstrual cups, especially for low-income women, can provide long-term benefits for both the individual and society.

The current study's findings show that quality products are not used for economic reasons, which may affect women's quality of life. Similar to our research findings, the systematic review of Barrington et al. (4) reported that resource limitations increased negative experiences related to menstruation. Excessive exposure to menstrual items is associated with discomfort and friction, as well as leakage and spotting, and may increase feelings of fear and shame in women during this period (2,4,28,30). Evidence suggests that unhygienic materials may increase the risk of genitourinary infection (12,32). In the UK, steps have been taken to tackle period poverty by abolishing the "tampon tax" and providing free products to students. Countries such as Australia and Canada have also abolished the tampon tax. However, in Turkey, menstruating women pay an 18% value-added tax (VAT) on menstrual products as menstruation products are not considered basic needs. To ensure comparability, we can state that the tax rate on condoms is 8% VAT (35). The research results are expected to guide the country's politicians and activists to increase the affordability of menstrual products, especially for vulnerable groups.

The study found issues with menstrual hygiene and waste management. Menstrual product change was delayed due to reasons like lack of hygiene, overcrowding of standard toilets, and inadequate disposal facilities for menstrual waste. Elledge et al. (36) highlighted that menstrual waste is often ignored in communal toilet design, leading to inappropriate disposal in low and middle-income countries. The study results demonstrate the need for toilet facilities designed to comply with menstrual hygiene practices and to encourage the safe use and disposal of used products.

In this study, participants suggested strategies to reduce menstrual poverty. The most striking suggestions are that

menstrual products should be accessible and affordable, education about menstruation should be increased, and awareness should be raised. Regulations should be made in public spaces for menstrual hygiene and waste management. Our research results contribute to the literature's recommendations for reducing menstrual poverty (3,32). Similarly, Boyers et al. (3) emphasized that women's better access to menstrual products may positively impact them. Dasgupta and Sarkar (32) emphasized the importance of encouraging all mothers to talk to their daughters about menstruation well before menarche. Findings from the study revealed the need for investments at the policy level, including information, education, and sensitization, to achieve a successful outcome in reducing menstrual poverty (32).

Study Limitations

This study was conducted with women studying in the nursing department of a university, and the results should not be generalized to all women. The convience sampling method was used in the study. This may have prevented participants with different socio-economic and cultural backgrounds from participating in the study.

Conclusion

The research found that menstruation is still seen as taboo due to social and cultural factors, leading to negative perceptions and related myths. Women face issues with affordability and waste management of menstrual products. To tackle this, steps must be taken to make these products accessible to all, especially those with financial hardship. Awareness-raising campaigns are needed to encourage attitude change, and girls should be educated on managing menstruation. Longitudinal studies are recommended, particularly among disadvantaged groups.

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ORIGINAL ARTICLE

Determining Intern Nurses Levels in Ethical Sensitivity and Empathy

İntörn Hemşirelerin Etik Duyarlılık ve Empati Düzeylerinin Belirlenmesi

Seda Cevheroğlu

Department of Nursing, Eastern Mediterranean University Health Sciences Faculty, Via Mersin 10, Famagusta, North Cyprus, Turkey

Abstract

Objective: This descriptive study was designed to determine the ethical sensitivity and empathy levels of intern nurses.

Method: The sample of this descriptive and cross-sectional study consisted of 100 fourth-year students enrolled in the nursing department of a foundation university. Data were collected using a descriptive information form, the modified moral sensitivity questionnaire for student nurses (MMSQSN), and the basic empathy scale (BES).

Results: It was determined that 68.0% of the intern nurses participating in the research were women, 79.0% chose the profession willingly, 91.0% found the profession suitable, 13.0% experienced ethical problems frequently during their internship, and 62.0% experienced ethical problems from time to time. The MMSQSN and BES scores were 5.29±0.69, and 71.06±13.38, respectively. A statistically significant difference was found between age, perception of a good fit, belief in the suitability of the profession, and experience of ethical problems during the internship and MMSQSN. There was also a statistically significant difference in empathy levels, gender, and experience with ethical problems during the internship and BES.

Conclusion: Intern nurses had significantly high levels of ethical sensitivity and above-average levels of empathy. Ethical sensitivity levels were higher among students who were 23 years old and older, believed that nursing was a good fit for them, and experienced ethical problems during their internship. On the other hand, empathy levels were higher among female intern nurses who experienced ethical problems during their internship. Therefore, to enhance students' ethical sensitivity and empathy skills, educational methods such as scenario-based learning, psychodrama, and role play are recommended.

Keywords: Ethical sensitivity, empathy, nursing, intern nurse, ethic

Öz

Amaç: Bu çalışmanın amacı, intörn hemşirelerin etik duyarlılık ve empati düzeylerini belirlemektir.

Yöntem: Tanımlayıcı tasarım türünde planlanan araştırmanın örneklemini, bir vakıf üniversitesinin hemşirelik bölümü 4. sınıfında öğrenim gören 100 intörn öğrenci oluşturdu. Verilerin toplanmasında; intörn öğrencilere yönelik bilgileri içeren sosyo-demografik özellikler bilgi formu, modifiye edilmiş etik duyarlılık ölçeği (MEEDÖ) ve temel empati öllçeği (TEÖ) kullanıldı.

Bulgular: Araştırmaya katılan intörn hemşirelerin %68,0'ının kadın olduğu, %79,0'unun mesleği isteyerek tercih ettiği, %91,0'ının mesleği kendine uygun bulduğu, %13,0'ının stajda etik sorunu çok yaşadığı ve %62,0'ının ise ara ara yaşadığı belirlendi. İntörn hemşireler MEEDÖ genelinden 5,29±0,69, TEÖ genelinden ise 71,06±13,38 puan aldı. Ayrıca yaş, mesleği kendine uygun bulma ve stajda etik sorun yaşama durumu ile MEEDÖ arasında; cinsiyet ve stajda etik sorun yaşama durumu ile de TEÖ arasında pozitif yönlü anlamlı farkların olduğu belirlendi.

Sonuç: İntörn hemşirelerin etik duyarlılıkları önemli düzeyde yüksek, empati düzeyleri de ortalamanın üstünde bulundu. Yirmi üç yaş ve üstü, mesleği kendine uygun bulan ve stajda etik sorun deneyimleyen öğrencilerin etik duyarlılıklarında artış olduğu; kadın cinsiyet ve stajda etik sorun yaşama durumununda da empati düzeyini artırdığı belirlendi. Senaryo temelli olgu örneklemeleri, psikodrama, rol play gibi eğitim yöntemleri ile öğrencilerin etik duyarlılık ve empati becerilerinin artırılması önerilir.

Anahtar Kelimeler: Etik duyarlılık, empati, hemşirelik, intörn hemşire, etik

Corresponding Author:
Seda Cevheroğlu, seda.cevheroglu@emu.edu.tr

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Introduction

In today's rapidly developing healthcare industry, ethical dilemmas are becoming increasingly prevalent. Nurses, who are dedicated to healing people, must approach these dilemmas with ethical sensitivity, which forms the foundation of the patient-nurse relationship and empathy (1). Ethical sensitivity involves identifying ethical values and problems, as well as recognizing individuals' roles and responsibilities in conflicting situations (2,3). Empathy, on the other hand, is the capacity to understand and share the patient's feelings and thoughts by establishing healthy communication with them and seeing the world from their perspective (4,5). According to Lilja and Osbecks (6), empathy is essential for ethical sensitivity, and an individual's ability to understand others' perspectives is related to ethical sensitivity. Nurses must make complex decisions in their professional practice and take responsibility for these decisions (3). To recognize ethical problems and make appropriate resolutions, nurses require a high level of empathy and ethical sensitivity, which can be defined as the ability to distinguish ethical problems (2,3). Nurses with high ethical sensitivity and empathy skills are caregivers with a high level of awareness who interpret the verbal and non-verbal behaviors of patients, identify their physical and emotional needs, and include these needs in the caregiving process (5). Nursing care provided by caregivers can increase patient satisfaction, facilitate early discharge, and positively affect patients' overall health status (7). A low level of ethical sensitivity and empathy, on the other hand, can reduce the quality of patient care, trust in nursing services, and job satisfaction (8). Therefore, it is crucial for nurses to improve their ethical sensitivity and empathy skills through education (9).

Previous studies have reported varying levels of ethical sensitivity among nurses, ranging from low to high (8,10-12). Additionally, previous studies have shown that nurses possess moderate levels of empathy (7,13). To improve both ethical sensitivity and empathy skills among nurses, education has been identified as a crucial factor (5,14,15). Therefore, it is essential to provide nursing education training that enhances empathic skills and ethical sensitivity. Additionally, the literature has associated the level of ethical sensitivity and empathy with certain socio-demographic factors (5,16-18). In this context, this study aimed to determine intern nurses' levels of ethical sensitivity and empathy.

Main Points

- Nurses must make complex decisions in their professional practice and take responsibility for them.
- To recognize ethical problems and make the right decisions about their resolution, nurses require a high level of empathy and ethical sensitivity, which can be defined as the ability to distinguish ethical problems.
- It is of great importance for nurses to develop ethical sensitivity and empathy skills throughout their education.

The research questions include the following:

- What are the ethical sensitivity levels of intern nurses?
- What empathy skills do intern nurses possess?
- Is there a significant difference between the socio-demographic characteristics and ethical sensitivity levels of intern nurses?
- Is there a significant difference between the socio-demographic characteristics and basic empathy levels of intern nurses?

Material and Method

Aim and Research Design

This study employed a descriptive design to investigate intern nurses and their levels of ethical sensitivity and empathy.

Population and Sampling

The study population consisted of 110 intern nurses who were enrolled in the 4th grade of the nursing department at a foundation university in The Turkish Republic of Northern Cyprus (TRNC) during the fall semester of the 2023-2024 academic year. No sampling was performed. The sample included 100 students who met the inclusion criteria and voluntarily agreed to participate in the study. The response rate was 91%.

Data Collection Tools

Descriptive information forms, the modified moral sensitivity questionnaire for student nurses (MMSQSN), and the basic empathy scale (BES) were used for data collection.

Descriptive Information Form

The form was developed by the researchers in line with the relevant literature and included six questions: Age, gender, willingness to become a nurse, suitability for nursing, completion of ethics courses, and experience with ethical dilemmas during internship (5,13).

Modified Moral Sensitivity Questionnaire for Student Nurses (MMSQSN)

The MMSQSN was originally developed by Lützén et al. (19) to measure the moral sensitivity of student nurses, modified by Comrie and adapted into Turkish by Yilmaz Sahin et al. (20). The instrument consists of a 7-point Likert scale with 30 items and six subdimension. Total scores ranged from 30 to 210, with higher scores indicating higher ethical sensitivity. The scale score averages were evaluated as very important (7-5.9), important (5.8-5), neutral (4.9-3.1), and unimportant (less than 3.1). The Cronbach's alpha of the Turkish version of MMSQSN was 0.73 (20).

Basic Empathy Scale (BES)

The BES was developed by Jolliffe and Farrington to measure empathy levels based on four basic emotions: Fear, sadness, anger, and happiness (21). It was adapted into Turkish by Topçu et al. (22). The 20-item scale had two dimensions: Cognitive and affective empathy. Items were scored on a five-point Likert scale, ranging from 20 to 100, with higher scores indicating higher levels of empathy. The Cronbach's alpha coefficients of the cognitive and affective empathy dimensions in the Turkish version of the BES were 0.76 and 0.80, respectively (22).

Data Collection Process

Data were collected in the classroom after obtaining permission from the course instructor and determining the appropriate time for data collection. Students were informed of the study purpose and were asked to complete the informed consent form and data collection instruments. The instruments took approximately 10 minutes to complete.

Ethical Considerations

We obtained institutional and ethical approval for the study from the Eastern Mediterranean University Ethics Committee (ETK00-2023-0172/28.09.2023) and the department of nursing, respectively. Additionally, written informed consent was obtained from all participants in accordance with the principles of the Helsinki Declaration.

Statistical Analysis

SPSS (Statistical Package for the Social Sciences) version 26.0 (IBM Corp., Armonk, NY, USA) was used for statistical analysis. Socio-demographic characteristics and scores obtained from the MMSQSN and BES were presented as descriptive statistics. Non-parametric tests, specifically Mann-Whitney U and Kruskal-Wallis H tests, were used to compare socio-demographic characteristics with scores obtained from the MMSQSN and BES because the data did not meet normal distribution as indicated by the Kolmogorov-Smirnov and Shapiro-Wilk tests. The Cronbach's alpha values of MMSQSN and BES were 0.83 and 0.85, respectively. Statistical significance was set at $p<0.05$.

Results

Table 1 presents the socio-demographic characteristics of the participants. Accordingly, 51.0% were 23 years of age or older, 68.0% were female, 79.0% deliberately chose to become a nurse, 91.0% felt nursing was a good fit for them, 100.0% took an ethics course, 13.0% experienced ethical problems frequently, 62.0% experienced them occasionally, and 25.0% never experienced ethical problems.

Table 2 presents the scores obtained by MMSQSN and BES. The mean scores obtained from the MMSQSN and its subdimension of interpersonal orientation, experiencing the ethical dilemma, beneficence, creating ethical meaning, modified autonomy, and getting expert opinion were 5.29±0.69, 6.09±0.81, 4.09±1.74, 5.38±1.02, 5.38±0.63, 5.38±1.14, and 5.44±1.00, respectively. The mean scores of the BES and its affective and cognitive subscales were 71.06±13.38, 37.77±7.46 and 33.29±7.52, respectively.

There was a statistically significant difference between the age of the participants and the score obtained from the modified autonomy subdimension of the MMSQSN ($p<0.05$). Participants aged 23 years and older had higher scores on the modified autonomy subdimension than those aged 22

Table 1.
Socio-demographic Characteristics (n=100)

	n	%
Age		
22 and below 23 and above	49 51	49 51
Gender		
Female	68	68
Male	32	32
Willingness to become a nurse		
Yes	79	79
No	21	21
Believes that nursing is a good fit for him/her		
Yes	91	91
No	9	9
Have taken a course on ethics		
Yes	100	100
Experienced ethical problems during internship		
Often	13	13
Sometimes	62	62
Never	25	25

Table 2.
MMSQSN and BES Scores

	$\overline{X}$ ± SD	Min-max
Interpersonal orientation	6.09±0.81	1.00-7.00
Experiencing the ethical dilemma	4.09±1.74	1.00-7.00
Beneficence	5.38±1.02	1.00-7.00
Creating ethical meaning	5.38±0.63	3.00-6.83
Modified autonomy	5.38±1.14	1.00-7.00
Getting expert opinion	5.44±1.00	3.00-7.00
MMSQSN	5.29±0.69	1.67-6.34
Affective	37.77±7.46	17.00-54.00
Cognitive	33.29±7.52	15.00-45.00
BES	71.06±13.38	39.00-99.00

MMSQSN=modified moral sensitivity questionnaire for student nurses, BES=basic empathy scale, SD=standard deviation

Table 3.
Comparison of the MMSQSN Scores Based on Socio-economic Characteristics

	Interpersonal orientation	Experiencing the ethical dilemma	Beneficence	Creating ethical meaning	Modified autonomy	Getting expert opinion	MMSQSN
Variables	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
Age							
≤22	6.09±0.63	3.80±1.52	5.33±0.76	5.41±0.64	5.16±0.94	5.52±1.01	5.22±0.51
≥23	6.08±0.95	4.37±1.90	5.43±1.23	5.34±0.62	5.60±1.28	5.35±1.00	5.36±0.84
Test[a]/p-value	-0.400/0.689	-1.458/0.145	-0.673/0.501	-0.173/0.863	**-2.687/0.007***	-1.025/0.305	-1.810/0.070
Gender							
Female	6.15±0.85	4.00±1.80	5.40±1.07	5.44±0.63	5.35±1.22	5.49±1.02	5.30±0.75
Male	5.95±0.72	4.28±1.62	5.34±0.91	5.24±0.60	5.46±0.98	5.33±0.97	5.27±0.56
Test[a]/p-value	-1.723/0.085	-0.796/0.426	-0.718/0.473	-1.688/0.091	-0.037/0.970	-0.894/0.372	-0.706/0.480
Willingness to become a nurse							
Yes	6.04±0.85	4.11±1.71	5.40±1.00	5.40±0.64	5.39±1.13	5.50±1.00	5.31±0.69
No	6.27±0.60	4.02±1.90	5.29±1.13	5.29±058	5.37±1.23	5.21±0.99	5.24±0.73
Test[a]/p-value	-0.893/0.372	-0.254/0.799	-0.560/0.576	-0.667/0.505	-0.233/0.815	-1.360/0.174	-0.110/0.997
Believes that nursing is a good fit							
No	6.05±0.80	4.06±4.75	5.34±1.03	5.39±0.64	5,37±1.12	5.43±1.02	5.27±0.71
Yes	6.50±0.78	4.37±1.74	5.83±0.80	5.20±0.51	5,51±1.40	5.52±0.78	5.49±0.55
Test[a]/p-value	**-2.097/0.036**	-0.579/0.562	-1.339/0.180	-1.064/0.287	-0.683/0.495	-0.073/0.942	-0.934/0.351
Experienced ethical problems during internship							
Often	6.54±0.71	5.85±1.37	6.31±0.75	4.92±0.27	6.29±0.79	4.87±0.73	5.80±0.53
Sometimes	6.00±0.86	4.25±1.57	5.39±1.00	5.35±0.66	5.32±1.18	5.48±0.95	5.30±0.70
Never	6.07±0.64	2.77±1.31	4.87±0.86	5.67±0.54	5.07±0.98	5.63±1.18	5.01±0.62
Test[b]/p-value difference	**7.669/0.022* 1-2, 1-3**	**28.171/0.000* 1-2,1-3,2-3**	**18.981/0.000* 1-2,1-3,2-3**	**16.816/0.000* 1-2,1-3,2-3**	**12.988/0.002* 1-2,1-3**	5.384/0.068	**13.007/0.001* 1-2,1-3,2-3**

**=p<0.05, [a]=Mann-Whitney U test, [b]=Kruskal-Wallis H test, MMSQSN=modified moral sensitivity questionnaire for student nurses, SD=standard deviation*

years and younger. There was also a statistically significant difference between the belief that nursing was a good fit and the scores obtained from the interpersonal orientation subdimension of the MMSQSN (p<0.05). Finally, the participants who often experienced ethical problems during internship received significantly higher scores from the MMSQSN and its subdimension of interpersonal orientation, experiencing the ethical dilemma, beneficence, and modified autonomy, while their scores obtained from the subdimension of creating ethical meaning were significantly lower than those of the other participants (Table 3).

There was a statistically significant difference between gender and BES scores (p<0.05). Female participants obtained significantly higher scores on the BES and its affective and cognitive empathy subscales. There was also a statistically significant difference between experiencing an ethical problem during the internship and the scores for the BES and its cognitive empathy subscale (p<0.05). Participants who had never experienced ethical problems during their internship obtained significantly higher scores on the BES and its cognitive empathy subscale (Table 4).

Discussion

This study determined the ethical sensitivity and empathy levels of intern nurses. The results revealed that the participants had high levels of ethical sensitivity but only moderate empathy. The study found a significant difference in the MMSQSN scores with age, perception of professional suitability, and experiencing ethical problems during internship. Similarly, the BES scores showed a positive

Table 4.
Comparison of the BES Scores Based on Socio-economic Characteristics

Affective		**Cognitive**	**BES**
Variables	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
Age			
≤22	38.39±7.08	32.76±8.00	71.14±14.04
≥23	37.18±7.84	33.80±7.06	70.98±12.85
Test[a]/p-value	-0.722/0.470	-0.045/0.964	-0.373/0.709
Gender			
Female	39.34±7.40	34.25±7.85	73.59±14.32
Male	34.44±6.53	31.25±6.39	65.69±9.21
Test[a]/p-value	**-2.647/0.008***	**-2.458/0.014***	**-3.036/0.002***
Willingness to become a nurse			
Yes	37.84±6.72	33.62±7.16	71.46±12.48
No	37.52±9.98	32.05±8.81	69.57±16.60
Test[a]/p-value	-0.004/0.997	-0.411/0.681	-0.504/0.614
Believes that nursing is a good fit			
No	37.63±7.44	33.44±7.49	71.07±13.29
Yes	39.22±8.01	31.78±8.11	71.00±15.07
Test[a]/p-value	-0.555/0.579	-0.664/0.507	-0.295/0.768
Experienced ethical problems during internship			
Often Sometimes Never	36.31±4.97 36.90±7.30 40.68±8.37	31.08±7.92 32.65±6.88 36.04±8.35	67.38±10.62 69.55±12.58 76.72±15.26
Test[b]/p-value **difference**	4.158/0.125	**8.619/0.013*** **1-3,2-3**	**7.350/0.025*** **1-3,2-3**

**=p<0.05, [a]=Mann-Whitney U test, [b]=Kruskal-Wallis H test, BES=basic empathy scale, SD=standard deviation*

significant difference in gender and ethical problems experienced during internship.

Ethical sensitivity develops through education and can be maintained by maintaining professional competence and exhibiting behaviors in accordance with the ethical codes of the profession (23). The study found that intern nurses had a significantly higher level of ethical sensitivity. This is consistent with the findings of Yanti and Krisnawati (24) and Hançerlioğlu et al. (25) who also reported a high level of ethical sensitivity among nursing students (24,25). On the other hand, Hakbilen et al. (26), Şahiner et al. (27), Akça et al. (28), Borhani et al. (14) and Kızılırmak and Calpbinici (29) reported moderate levels of ethical sensitivity among nursing students (3). The variation in the level of ethical sensitivity in these studies and ours can be attributed to differences in the characteristics of nursing students as well as their family and cultural backgrounds. Therefore, nursing curricula should incorporate ethical principles, professional codes, and values to enhance students' ethical sensitivity. This will enable them to make informed decisions when faced with ethical dilemmas or problems in their professional lives.

Various factors, such as age, gender, willingness to become a nurse, and taking ethics courses during nursing education, can affect the level of ethical sensitivity among nurses (5,30). Parallel to the literature, we found a positive significant difference between age, perceived suitability for the profession, ethical problems experienced during internship, and MMSQSN scores. Specifically, intern nurses aged 23 years and older obtained higher scores in the modified autonomy subdimension of the MMSQSN. Participants who believed that nursing was a good fit for them obtained higher scores in the interpersonal orientation subdimension. Additionally, students who experienced ethical problems during their internship obtained higher scores from the MMSQSN and its interpersonal orientation, experiencing ethical dilemma, beneficence, and modified autonomy subdimension, but their scores in the creating ethical meaning subdimension were significantly lower. Therefore, intern nurses who willingly become nurses and believe that nursing is a good fit for them are more likely to adopt professional ethical values and become aware of ethical problems they encounter.

The participants' mean scores on the BES and its affective and cognitive empathy subscales were 71.06±13.38,

37.77±7.46, and 33.29±7.52, respectively, indicating above-average empathy skill levels. Previous studies by Guven Ozdemir and Sendir (13), Arifoğlu and Sala Razı (31) and Turan et al. (32), and reported moderate levels of empathy among nursing students. Although Çakan and Çiftçi (33) found that nursing students had above-average levels of empathy, Üstündağ et al. (34) also reported high levels of empathy as well. Differences in empathy levels among the participating intern nurses may be explained with reference to their socio-economic characteristics and courses they took. The study also found a statistically significant difference in gender, experiencing ethical problems during the internship, and BES scores. Female nursing students scored higher on the BES and its affective and cognitive empathy subscales. Additionally, participants who experienced ethical problems during their internships scored higher on the BES and its cognitive empathy subscale. Previous research has also found that female nursing students tend to have higher levels of empathy (13,35,36). This may be due to the larger number of female nurses in the profession and the physiological and psychological differences. On the other hand, higher levels of empathy among nursing students who experienced ethical problems during internships may be explained by a higher level of awareness among these students.

Study Limitations

This study's findings are limited to senior students at a single university, and because of the limited sample size, cannot be generalized to other populations. Further studies with larger populations are required.

Conclusion

The study found that intern nurses had a significantly high level of ethical sensitivity and an above-average level of empathy. Ethical sensitivity levels were higher among students who were 23 years old and older, believed that nursing was a good fit for them, and experienced ethical problems during their internship. On the other hand, empathy levels were higher among female intern nurses who experienced ethical problems during their internship. Based on these findings, ethical sensitivity and empathic skills should be emphasized in all nursing courses. Educational methods such as scenario-based learning, psychodrama, and role play are recommended to enhance students' ethical sensitivity and empathy.

Ethics Committee Approval: We obtained institutional and ethical approval for the study from the Eastern Mediterranean University Ethics Committee (ETK00-2023-0172/28.09.2023) and the department of nursing, respectively.

Informed Consent: Written informed consent was obtained from all participants in accordance with the principles of the Helsinki Declaration.

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