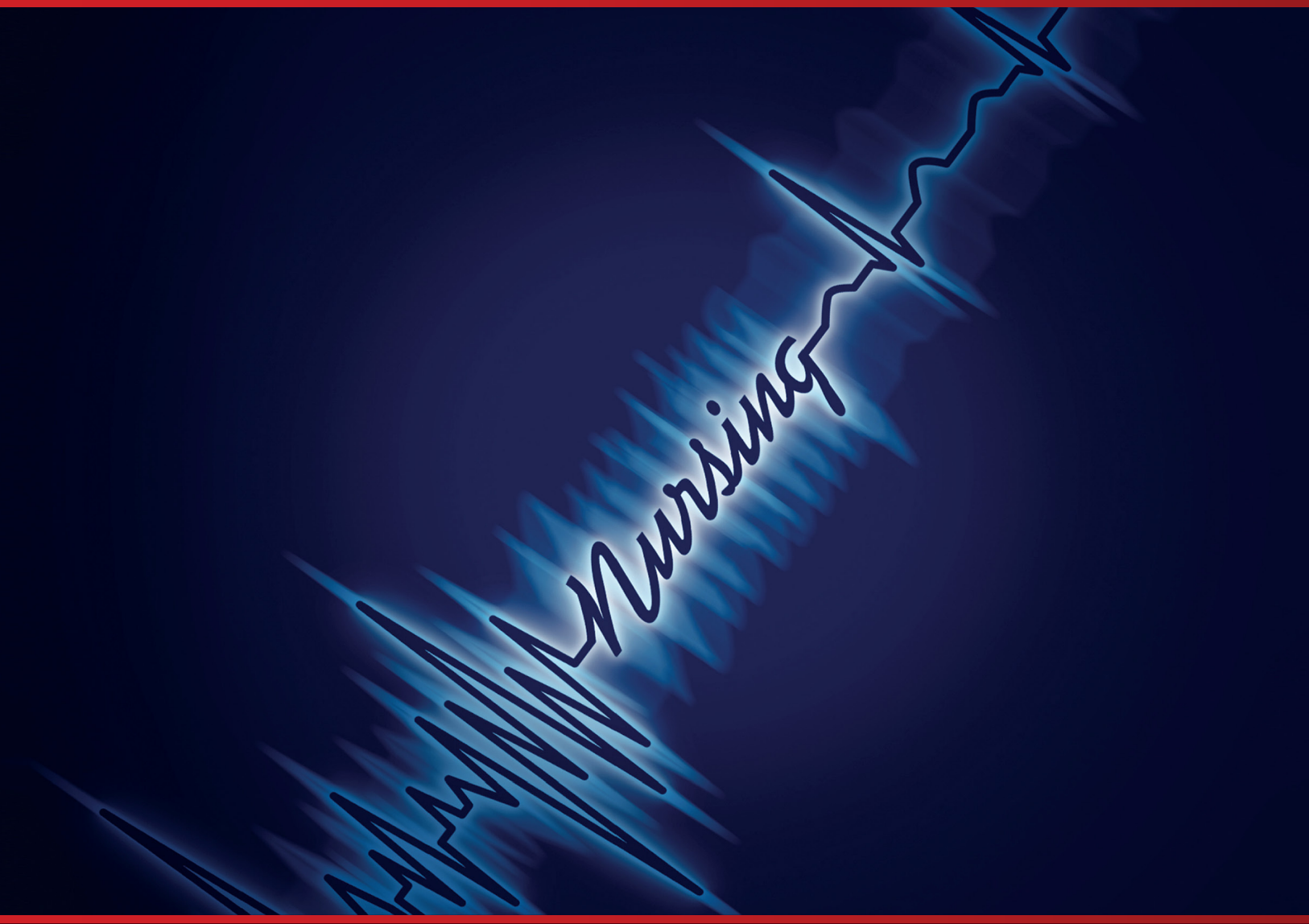
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Research Article / *Özgün Araştırma*

Development of Photolurking Motivations Scale

Photolurking Motivasyonları Ölçeğinin Geliştirilmesi

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ABSTRACT

Objective: Photolurking is a disorder defined as spending hours looking at photos online. There are many underlying causes for this disorder. This study aims to develop a scale to identify the factors influencing this behavior. For this purpose, we reached 384 individuals living in İstanbul.

Methods: The study employed a scale development process. A review of the literature on the subject was conducted, after which a draft scale was created. A process of gathering expert opinions was conducted, followed by the implementation of a pilot study.

Results: Subsequently, data were gathered from the sample group. The data were subjected to exploratory and confirmatory factor analysis. The exploratory factor analysis yielded a structure comprising five factors and 29 items. The factors were designated as follows: "preference, inability to resist, planned behavior, keeping informed, and admiration." The structure identified through exploratory factor analysis was subsequently confirmed through confirmatory factor analysis. The fit indices of resulting model are at statistically acceptable level (chi-square minimum discrepancy / degrees of freedom: 2.941, root mean square error of approximation: 0.071, standardized root mean square residual: 0.0642). The overall reliability (Cronbach alpha) coefficient of scale was calculated as 0.942.

Conclusion: A valid and reliable measurement tool that can be used to assess individuals' attitudes toward photolurking behavior has been introduced to the literature.

Keywords: Photolurking, scale development, digital disorder

ÖZ

Amaç: Photolurking, internet ortamında saatlerce fotoğraflara bakmak olarak tanımlanan bir rahatsızlıktır. Bu rahatsızlığın altında yatan birçok sebep bulunmaktadır. Bu çalışma kapsamında bu davranışı etkileyen faktörlere yönelik ölçek geliştirilmesi amaçlanmaktadır. Bu amaç doğrultusunda İstanbul ilinde yaşamını sürdüren 384 bireye ulaşılmıştır.

Yöntem: Çalışmada ölçek geliştirme süreci izlenmiştir. Konuya ilişkin literatür taraması yapılmış ve taslak bir ölçek oluşturulmuştur. Uzman görüşleri alınmış ve ardından pilot uygulama gerçekleştirilmiştir. Sonrasında örneklem grubundan veri toplanmıştır. Elde edilen veriler açımlayıcı ve doğrulayıcı faktör analizine tabi tutulmuştur.

Bulgular: Açımlayıcı faktör analizi sonucunda beş faktör ve 29 maddeden oluşan bir yapı ortaya çıkmıştır. Bu faktörler sırasıyla "tercih, karşı koyamama, planlı davranış, haberdar olma ve hayranlık" olarak adlandırılmıştır. Açımlayıcı faktör analizi ile belirlenen yapı, doğrulayıcı faktör analizi ile test edilmiş ve doğrulanmıştır. Ortaya çıkan modelin uyum indeksleri istatistiksel olarak kabul edilebilir düzeydedir (ki-kare değeri / serbestlik derecesi: 2,941, yaklaşım hatasının karekök ortalama karesi: 0,071, standartlaştırılmış kalanların karekök ortalama karesi: 0,0642). Ölçeğin genel güvenilirlik (Cronbach alfa) katsayısı 0,942 olarak hesaplanmıştır.

Sonuç: Bireylerin photolurking davranışına yönelik tutumlarını değerlendirmede kullanılabilecek geçerli ve güvenilir bir ölçme aracı literatüre kazandırılmıştır.

Anahtar kelimeler: Photolurking, ölçek geliştirme, dijital rahatsızlık

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INTRODUCTION

The process of digitalisation has had a profound and pervasive impact on virtually every aspect of human life. The advent of digitalisation has resulted in a reduction in the time required for completion of various tasks and processes, while the volume of these tasks and processes has increased. While digitalisation has brought numerous advantages when used in a positive manner, it has also introduced a number of disadvantages, including behavioral disorders and health issues, which affect human life. One such behavioral issue is photolurking. The term "photolurking" is derived from the English words "photo" meaning "photograph" and "lurking" which implies observing secretly. Photolurking is defined as the act of spending an extended period of time online viewing photographs [1-3]. Photolurking is a behavior that has particularly increased following the use of the social media app., Instagram. In addition to the constant posting on Instagram, users create stories that are deleted within 24 hours, and the artificial intelligence driven algorithm constantly displays photos in the app's., explore section, leading to photolurking. Symptoms of photolurking include headaches caused by prolonged screen time, losing track of time, assuming a different identity, emergence of some physiologically induced illnesses, and engaging in digitally violent behavior [2,3]. When individuals engage in photolurking behavior, they derive pleasure from this situation and experience a sense of satisfaction [3]. A review of the literature reveals that studies specifically addressing photolurking are limited. Relevant studies on photolurking in the literature are presented below.

The studies conducted by Kısaç and Şensoy [1], Khalid and Dix [4], Batu and Güler İplikçi [5], and Çiçek [6] have only provided a conceptual definition of photolurking, with an emphasis on how it can be identified as a behavioral disorder, discomfort, and / or illness. Furthermore, these studies identify the factors that may precipitate this condition and its potential consequences. In addition to conceptual studies, Olcay [2] employed qualitative research methods through semi-structured interviews with a sample of five Instagram users, while Koç [7] conducted a survey of 100 students, thereby extending the scope of photolurking research. As is clear from an examination of the literature, there is currently no psychometric measurement tool available for identifying the factors that influence photolurking behavior. This remains a relatively new and primarily conceptual topic [2,7]. The aim of this study is to contribute to literature a measurement tool that psychometrically measures photolurking motivations.

MATERIAL AND METHOD

Ethical Considerations of the Study

Before the data collection phase of this study, an application was submitted to the İstanbul Gedik University Ethics Committee. Ethical approval was granted with decision number: 2023/10, dated: 09.11.2023. In line with the principles of the Declaration of Helsinki, data were collected only after obtaining informed consent from all participants.

Population and Sample of the Study

The population under investigation comprises individuals aged 18 and over residing in the Pendik district of İstanbul. The sample comprised 384 individuals, who were reached through face-to-face methods. In the literature, there is a diversity of opinions regarding the optimal sample size for scale development studies. One perspective suggests that the sample size should be at least five times, and ideally ten times, the number of scale items [8-10]. Other studies consider the number of individuals required, rather than the number of items, with recommendations ranging from a minimum of 100 participants [11] to a minimum of 50 and a maximum of 200 participants [12]. In light of the aforementioned perspectives, it can be concluded that the sample size is representative of the population.

Data Collection Process

This study is an output of the TÜBİTAK 2209-A University Student Research Projects Support Program, supported under project number 1919B012318471. The project, led by the first author under the academic supervision of the second author, required ethical approval, which was obtained on 09.11.2023. The project acceptance date is 22.03.2024. Consequently, data for the sample were collected between 01.04.2024 and 30.08.2024. Participants who agreed to participate in the study were informed about concept of photolurking.

Statistical Analysis

IBM SPSS was used for exploratory factor analysis, and IBM AMOS was used for confirmatory factor analysis.

RESULTS

Content Validity and Pilot Study

In this phase, a draft scale consisting of 32 items was initially created. The items in draft scale were then submitted for expert review. The experts were academic staff from the Faculty of Educational Sciences, the Faculty of Health Sciences, and the Faculty of Economics and Administrative Sciences. Following the receipt of expert feedback, a pilot test was conducted with 25 participants to identify any ambiguities or issues in item comprehension. Following the expert review and pilot test, three items were removed from the draft scale, resulting in a final version of 29 items. Subsequently, the revised scale was administered to 36 participants over a three-week interval. To ascertain the consistency of responses between the two administrations, Pearson's correlation coefficient was calculated, yielding a correlation of 0.84 (84%). Subsequently, the finalised scale was administered to the study sample of 384 participants.

Results on Construct Validity

Factor analysis was conducted to determine the factor loadings of the items in the scale. The findings related to the factor analysis of the scale are presented in Table 1.

Table 1. Results of Explanatory Factor Analysis

Factor	Statements	Factor load	Explained variance (%)	Reliability coefficient (cronbach alpha)
Preference	PL2: I have little choice but to engage in photolurking.	0.611	17.066	0.899
	PL3: I spend my free time engaging in photolurking because I have nothing better to do.	0.703		
	PL4: I resort to photolurking as social media is my only means of socializing.	0.588		
	PL21: I engage in photolurking because I don't belong to any group.	0.553		
	PL22: I engage in photolurking because I don't have a social life in the real world.	0.614		
	PL23: Due to my personality, I'm not a social person, which leads me to photolurk.	0.633		
	PL24: Engaging in photolurking fulfills my need for social interaction.	0.682		
	PL29: I engage in photolurking to satisfy myself psychologically.	0.661		
	PL31: Few things bring me as much enjoyment as photolurking.	0.562		
	PL32: I lose myself in photos to keep my mind off stress.	0.522		
Inability to resist	PL10: I lose track of time when browsing photos on my social media accounts.	0.615	12.282	0.836
	PL11: Although I don't intend to get lost in photos for a long time, I can't stop myself.	0.592		
	PL12: Even if I plan to look at photos briefly, I struggle to follow through.	0.657		
	PL13: Over time, I've noticed I photolurk even on content that doesn't interest me.	0.450		
	PL14: I lose myself in the photos of people I feel close to.	0.590		
	PL15: I want to look at photos related to content that resonates with me.	0.661		
	PL16: I engage in photolurking on topics that catch my interest.	0.593		
Planned behavior	PL5: I set aside time to look at the photos of people I follow.	0.485	11.575	0.805
	PL7: I make free time during the day to review photos posted by those I follow.	0.635		
	PL8: I carve out time to view newly uploaded photos related to content I follow.	0.617		
	PL9: No matter how busy I am, I find time to view new photos on the topics I follow.	0.687		
	PL20: I constantly check my social media accounts to avoid missing newly uploaded photos.	0.597		
Keeping informed	PL25: I engage in photolurking to stay informed about various topics around the world.	0.748	8.998	0.761
	PL26: I engage in photolurking to keep myself updated on current events.	0.734		
	PL27: One of the main reasons I lose myself in photos is my interest in following celebrity news.	0.496		
	PL28: I engage in photolurking to keep up with the latest trends in areas that interest me.	0.621		
Admiration	PL18: I engage in photolurking because I'm curious about other people's lives.	0.682	8.741	0.789
	PL17: I lose myself in the photos of people living the life I dream of.	0.645		
	PL19: I engage in photolurking on content I feel I'll never attain.	0.540		

Evaluation criteria
Kaiser-Meyer-Olkin Measure of Sampling Adequacy: 0.941
Approx chi-square: 5500.464
Bartlett's test of sphericity: 0.000
Extraction method: Principal components rotation method: Varimax total variance explained: 58.662
Overall reliability coefficient: 0.942
PL: Photolurking

In scale development studies, factor loadings of items should be 0.30 or above [13,14]. In this study, the exploratory factor analysis revealed that the lowest factor loading for any item [photolurking (PL13)] was 0.450. As shown in Table 1, the Kaiser-Meyer-Olkin (KMO) value was found to be 0.941. Since this value falls within the range of $0.80 \leq \alpha < 1.00$, it is considered "excellent." This excellent KMO value indicates that the sample is suitable for factor analysis. Additionally, the Bartlett's test result was $p<0.05$, indicating that the data comes from a multivariate distribution and that there is a high level of correlation among the items.

The developed scale was found to consist of 29 items and 5 factors. The factors were named to best describe the items grouped under them. Explanations for the factor names are as follows:

Preference: This factor, titled "preference," includes items that address an individual's choice to engage in photolurking. The preference could be driven by necessity or personal reasons. This factor consists of 10 items and accounts for 17.066% of the variance.

Inability to Resist: Named "inability to resist," this factor includes 7 items reflecting the inability to control or resist the behavior, indicating it is performed involuntarily. The factor explains 12.282% of the variance.

Planned Behavior: This factor, called "planned behavior," includes items about individuals setting aside time to engage in photolurking, showing they wait eagerly for this time. It consists of 5 items and explains 11.575% of the variance.

Keeping Informed: Titled "Keeping Informed" this factor includes items about individuals who engage in photolurking to stay informed on both entertainment and current news. This factor has 4 items and explains 8.998% of the variance.

Admiration: Named "admiration," this factor includes items reflecting an individual's interest in the experiences of others that are not part of their own life, leading them to become absorbed in others' posts. This factor comprises 3 items and explains 8.741% of the variance.

The overall reliability coefficient of the 29-item scale was found to be 0.942, with a reliability coefficient of 0.836 for the "preference" factor and 0.805 for the "planned behavior" factor. These values indicate a high level of reliability as they fall within the range of $0.80 \leq \alpha < 1.00$. The reliability coefficient for the "Keeping informed" factor of the developed scale was calculated to be 0.761, and for the "admiration" factor it was 0.789. These values are also reliable as they fall within the range $0.60 \leq \alpha < 0.80$.

To confirm the structure identified by exploratory factor analysis, the data collected were subjected to confirmatory factor analysis using IBM AMOS software. Based on the perspective that exploratory and confirmatory factor analyses can be conducted on simultaneously collected data in scale development [15], data collection for this study was handled by a single source.

The fit diagram of the model generated by IBM AMOS is shown in Figure 1.

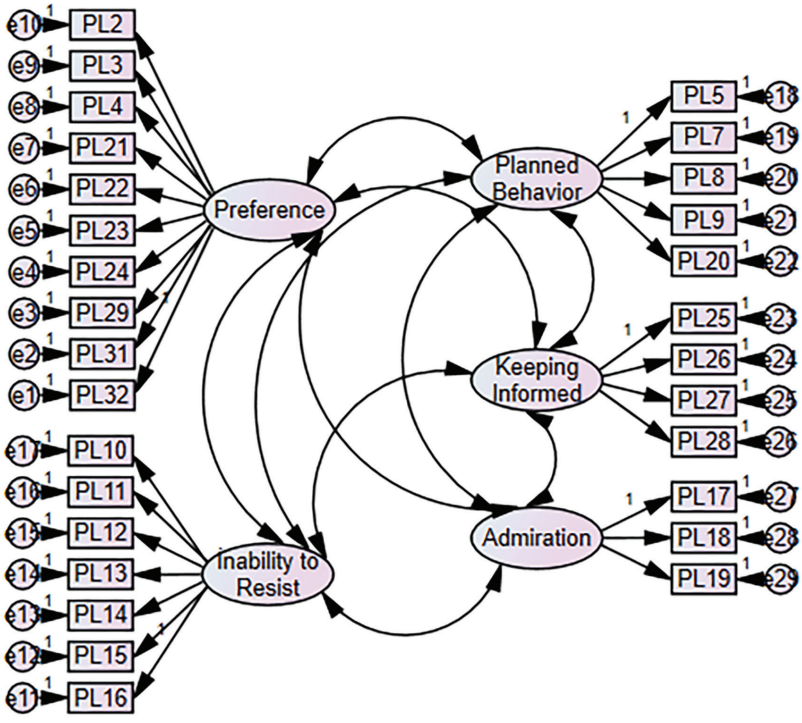


Figure 1. Measurement Model
PL: Photolurking

Model fit indices were assessed using chi-square minimum discrepancy divided by degrees of freedom (CMIN/df), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) values. Good model fit is indicated when CMIN/df <5, RMSEA <0.08 and SRMR <0.08, which are consistent with established standards [16-20]. In this study, the calculated values were CMIN/df=2.941, RMSEA=0.071 and SRMR=0.0642. Based on these fit indices, the model was considered to have an acceptable fit. The results of the confirmatory factor analysis for the measurement model specified in this research are presented in Table 2.

In Table 2, the "p" value calculated for all pairwise relationships is less than 0.001. This result indicates that the factor loadings of the items are significant, confirming that each item is appropriately assigned to the correct factor. In addition, the standardised regression coefficients for the items are found to be at least 0.595 (for PL8), indicating a high predictive power of the latent variables, i.e. strong factor loadings for the items. The analysis also shows that the Average variance extracted (AVE) values for each factor are above 0.50, except for the admiration factor (0.56), and the composite reliability (CR) values are at or above 0.60. According to Fornell and Larcker [21], even if the AVE is below 0.50, a CR value of 0.60 or higher indicates the validity of the model fit. Based on this criterion, the model is statistically validated for fit [21].

Table 2. Results of Confirmatory Factor Analysis for the Improved Measurement Model

Factor	Statements	Standardized value	Estimate	Standard error	t-value	p	AVE	CR
Preference	PL2	0.600	0.872	0.084	10.353	<0.01	0.47	0.86
	PL3	0.623	0.891	0.083	10.679	<0.01		
	PL4	0.666	1.005	0.089	11.293	<0.01		
	PL21	0.750	1.149	0.093	12.401	<0.01		
	PL22	0.743	1.115	0.091	12.310	<0.01		
	PL23	0.709	1.069	0.090	11.867	<0.01		
	PL24	0.752	1.100	0.089	12.425	<0.01		
	PL29	0.707	1.068	0.090	11.851	<0.01		
	PL31	0.670	1.013	0.089	11.343	<0.01		
	PL32	0.635	1.000					
Inability to resist	PL10	0.644	1.029	0.094	11.003	<0.01	0.42	0.78
	PL11	0.693	1.038	0.089	11.717	<0.01		
	PL12	0.647	1.011	0.092	11.051	<0.01		
	PL13	0.641	0.937	0.085	10.969	<0.01		
	PL14	0.652	1.013	0.091	11.132	<0.01		
	PL15	0.602	0.907	0.087	10.380	<0.01		
	PL16	0.668	1.000					
Planned behavior	PL5	0.644	1.000				0.45	0.74
	PL7	0.680	1.033	0.092	11.227	<0.01		
	PL8	0.595	0.890	0.089	10.044	<0.01		
	PL9	0.694	1.023	0.090	11.404	<0.01		
	PL20	0.746	1.135	0.094	12.058	<0.01		
Keeping informed	PL25	0.704	1.000				0.45	0.70
	PL26	0.662	0.967	0.089	10.916	<0.01		
	PL27	0.661	0.935	0.086	10.911	<0.01		
	PL28	0.640	0.901	0.085	10.613	<0.01		
Admiration	PL18	0.718	1.000				0.56	0.72
	PL17	0.765	1.148	0.085	13.512	<0.01		
	PL19	0.756	1.100	0.082	13.379	<0.01		

PL: Photolurking, AVE: Average variance extracted, CR: Composite reliability

DISCUSSION

The concept of photolurking, defined as browsing photos without being aware of the time spent, is considered in the literature as one of the negative effects of the digital age. As photolurking has only recently started to receive attention in the academic field, many studies [1,5-7] have mainly addressed it conceptually or only included a basic conceptual definition in the study. One of the few studies that goes beyond a purely conceptual analysis is the work of Olcay [2], which included a sample of five Instagram users and examined the reasons for engaging in photolurking behavior. By analysing participants' responses to semi-structured questions, the study found that participants typically access Instagram at regular intervals (e.g., every 10, 15, or 30 minutes), but may browse the app., for varying durations depending on the circumstances (ranging from 5 minutes to an uninterrupted hour). Although participants recognised that the time they spent on Instagram was excessive and unnecessary, they admitted that they could not prevent themselves from doing so. In the study contributed by Koç [7], the underlying reasons for photolurking behavior were investigated in a sample group of 100 university students. The results showed that the majority of the participants used social media accounts, with sharing photos and viewing posted images being the main motivations [7]. However, like Olcay's [2] study, Koç's [7] research did not explore the broader social context or the full implications of the concept of photolurking. Therefore, this study was conducted to address this gap [7]. This study differs from previous conceptual-only studies on photolurking [1,5-7], as well as Olcay's [2] and Koç's [7] studies, which reached relatively small sample sizes and did not directly focus on factors influencing individual photolurking behavior. The lack of a measurement tool specifically designed to assess factors influencing photolurking behavior highlights the unique contribution of this study, which aims to fill this gap in the literature.

This tool is expected to serve as a reference in the literature, providing researchers with a reliable measure of photolurking behavior. It is recommended that this measurement tool be used by researchers in social science fields such as sociology and psychology, as well as in health-related fields such as health management, public health and nursing.

As with any study, this research has limitations, which are explained below.

Study Limitations

In terms of sample availability, study was conducted in a specific region, which creates a geographical limitation. It is recommended that future studies on photolurking, conducted by different researchers, include a larger and more diverse sample group.

The fact that there are limited studies on the subject in literature and that existing studies are generally handled in terms of conceptual framework constitutes limitation in this regard.

CONCLUSION

In this study, a valid and reliable measurement tool was developed that includes all stages of the scale development process outlined in the literature. The scale consists of five factors and 29 items. It was concluded that the developed measurement tool is a valid and reliable instrument that can be used to identify the reasons behind individuals' engagement in photolurking behavior.

Appendix 1: https://d2v96fxpocvxx.cloudfront.net/beb8919b-f013-4ea1-b1c8-40332e840fe1/content-images/007d5cff-be26-41c4-a7b6-8c5631227458.pdf

Ethics

Ethics Committee Approval: Before the data collection phase of this study, an application was submitted to the İstanbul Gedik University Ethics Committee. Ethical approval was granted with decision number: 2023/10, dated: 09.11.2023.

Informed Consent: In line with the principles of the Declaration of Helsinki, data were collected only after obtaining informed consent from all participants.

Footnotes

Author Contributions

Concept: GD; Design: YK; Data Collection or Processing: GD; Analysis or Interpretation: YaK; Literature Search: GD,YK; Writing: GD,YK.

Conflict of Interest: There is no conflict of interest between the authors.

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The Impact of Simulation-based Education on Nursing Students' Learning and Ethical Sensitivity: A Quasi-experimental Follow-up Study

Simülasyon Tabanlı Eğitimin Hemşirelik Öğrencilerinin Öğrenme ve Etik Duyarlılığı Üzerine Etkisi: Yarı Deneysel İzlem Çalışması

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ABSTRACT

Objective: Simulation technologies have become integral in healthcare education, enhancing nursing students' learning experiences by allowing them to engage in realistic scenarios without risking patient safety. This study was conducted to investigate the effects of simulation-based education on nursing students' learning outcomes and ethical sensitivity.

Methods: A quasi-experimental design was employed. Forty-five first-year nursing students participated in a three-week simulation program, which included vital sign assessment and medication administration scenarios. Data collection involved pre-tests, post-tests, and follow-up assessments made using the Evaluation of Learning through Simulation Scale and the Adapted Ethical Sensitivity Scale. Statistical analyses were performed on the SPSS, with significance set at $p<0.05$.

Results: Significant improvements were observed in simulation-based learning scores immediately after training and one month later ($p<0.05$). However, no significant differences were noted in ethical sensitivity scores across assessments ($p=0.85$).

Conclusion: While simulation-based education markedly improves learning outcomes, its impact on ethical sensitivity remains limited. Integration of ethical training with simulation practices is essential so that a comprehensive nursing education can be fostered and students can develop both technical competencies and ethical awareness.

Keywords: Simulation training, learning, ethic, nursing education

ÖZ

Amaç: Simülasyon teknolojileri, sağlık eğitiminin ayrılmaz bir parçası haline gelmiş ve hemşirelik öğrencilerinin öğrenme deneyimlerini, hasta güvenliğini riske atmadan gerçekçi senaryolarla zenginleştirmektedir. Bu çalışma, simülasyon tabanlı eğitimin hemşirelik öğrencilerinin öğrenme çıktıları ve etik duyarlılıkları üzerindeki etkilerini incelemek amacıyla yapılmıştır.

Yöntem: Yarı deneysel bir tasarım kullanılmıştır. Kırk beş birinci sınıf hemşirelik öğrencisi, yaşam bulgularının değerlendirilmesi ve ilaç uygulama senaryolarını içeren üç haftalık bir simülasyon programına katılmıştır. Veri toplama, Simülasyon Yoluyla Öğrenmeyi Değerlendirme Ölçeği ve Uyarlanmış Etik Duyarlılık Ölçeği kullanılarak ön-test, son-test ve takip değerlendirmeleri ile gerçekleştirilmiştir. İstatistiksel analizler SPSS programında yapılmış ve anlamlılık düzeyi $p<0,05$ olarak belirlenmiştir.

Bulgular: Eğitim sonrasında ve bir ay sonra yapılan değerlendirmelerde simülasyon tabanlı öğrenme puanlarında anlamlı artışlar gözlenmiştir ($p<0,05$). Ancak, değerlendirmeler arasında etik duyarlılık puanlarında anlamlı bir fark bulunmamıştır ($p=0,85$).

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Sonuç: Simülasyon tabanlı eğitim öğrenme çıktılarında belirgin bir iyileşme sağlarken, etik duyarlılık üzerindeki etkisi sınırlı kalmaktadır. Kapsamlı bir hemşirelik eğitimi sağlamak ve öğrencilerin hem teknik yeterlilik hem de etik farkındalık geliştirmelerini desteklemek için etik eğitimin simülasyon uygulamalarıyla entegre edilmesi gereklidir.

Anahtar kelimeler: Simülasyon eğitimi, öğrenme, etik, hemşirelik eğitimi

INTRODUCTION

Simulation technologies have been utilized in the education of healthcare professionals for a long time. These technologies are becoming increasingly important and widespread [1,2]. Simulation is a method in which real situations and activities are imitated to gain artificial or virtual experience without taking risks [3,4].

As an instructional strategy, simulation can be employed to train skilled and competent nursing professionals. Teaching through simulation allows for the repeated practice of technical and non-technical skills until students gain confidence [5]. Simulation-based education provides students with a realistic learning environment, where they can experience real-life situations, thereby developing the knowledge, skills, and attitudes necessary to provide high-quality and safe care [3,6,7].

Nursing students often find out about their profession for the first time in the fundamentals of nursing course. This course includes basic concepts, theories, principles, and methods related to the profession, with cognitive, affective, and psychomotor learning objectives, forming the foundation for other professional courses [8]. Therefore, the educational risks arising from the practices carried out by students who are experiencing the profession for the first time can be prevented through simulation-based instruction. This method provides a safe environment for integrating theory and practice without exposing patients to potential risks, thus enabling a secure treatment process that respects patient rights, and without the fear of harming individuals [9-11]. In this way, students can learn through experiencing their knowledge, skills, and mistakes in a risk-free environment. Additionally, the method has been reported to be highly beneficial in terms of working in accordance with ethical rules, providing safe and quality service, and gaining clinical judgment skills [12,13]. With this experience, the learning objectives are achieved, and the effectiveness of education is maximized. In this context, simulation-based education improves nursing students' clinical decision-making, self-efficacy, communication skills, and confidence levels while reducing their anxiety levels [2,14-16]. Our study aimed to evaluate the learning outcomes and ethical sensitivity of nursing students through simulation-based education.

Study Questions

What is the effect of simulation-based teaching of the fundamentals of nursing course on nursing students' learning outcomes?

Does simulation-based teaching of the fundamentals of nursing course affect nursing students' ethical sensitivity?

Hypotheses

Hypothesis 1

H_0: The simulation-based teaching of the fundamentals of nursing course does not have a positive effect on nursing students' learning outcomes.

H_1: The simulation-based teaching of the fundamentals of nursing course has a positive effect on nursing students' learning outcomes.

Hypothesis 2

H_0: The simulation-based teaching of the fundamentals of nursing course does not have a positive effect on nursing students' ethical sensitivity.

H_1: The simulation-based teaching of the fundamentals of nursing course has a positive effect on nursing students' ethical sensitivity.

MATERIAL AND METHOD

Study Design

This study was conducted using a single-group, quasi-experimental design, one of the quantitative research methods. The TREND statement checklist, which improves the reporting quality of non-randomized quasi-experimental studies, was used [17]. Scenario implementation is based on the criteria of the International Nursing Association for Clinical Simulation and Learning standards.

Population and Sample

The study population consisted of a total of 45 first-year students studying in the Nursing Department at Cappadocia University. The study aimed to reach the entire population and was completed with the participation of all 45 students.

Study Groups

Inclusion Criteria

- Being a first-year nursing student,
- Willingness to participate in the study, and
- Having no communication barriers.

Blinding

A blinding procedure was employed in this research to ensure objectivity and minimize bias throughout the simulation-based training and assessment process. Specifically, the instructor responsible for delivering the training was blinded to the post-test and follow-up outcomes to avoid influencing the results. Additionally, the two researchers who facilitated the scenario

implementations were blinded to the students' pre-test results to prevent any unconscious bias in their interactions. This blinding helped maintain consistency and neutrality in evaluating students' performance and learning outcomes during both the immediate and follow-up assessments.

In the debriefing sessions, all researchers were also blinded to previous test scores to ensure an objective evaluation of student progress. Moreover, students themselves were unaware of the specific focus of the assessments regarding their ethical sensitivity, thereby reducing response bias and ensuring genuine responses during scenario-based simulations. Implementation of blinding at multiple stages aimed to increase the reliability of the results, particularly concerning nursing students' learning and ethical sensitivity outcomes.

Data Collection Tools

Data were collected using an eight-item participant information form developed by the researcher based on a literature review [18,19], the Evaluation of Learning through Simulation Scale [20], and the Adapted Ethical Sensitivity Scale for Nursing Students [21]. Permission of the authors to use the relevant scales was obtained via email.

Statistical Analysis

Data were analyzed on the SPSS (Statistical Program for Social Sciences) version 25.0. The normality of data distribution was assessed using the Shapiro-Wilk test, and the Skewness and Kurtosis values were examined. As the data did not show a normal distribution, non-parametric tests were used. Descriptive data were analyzed using frequency, mean, and standard deviation values. Scale scores were evaluated through pre-test, post-test, and follow-up measurements. The comparison of repeated measures in the experimental group was made using the Wilcoxon test and Friedman test. Internal consistencies of the scales were determined with Cronbach's alpha coefficient. A p-value of <0.05 was considered statistically significant.

Procedure

The simulation-based training was conducted for three weeks between June 17, 2024 and July 5, 2024, and some scenarios for the assessment of vital signs and administration of patient treatment were applied. In the first week, the instructor provided information about the course content and the prepared training on the assessment of vital signs and administration of oral drug therapy and administered a pre-test to assess students' current skills and perceptions. In the second week, students participated in 10-minute-long scenarios according to a planned schedule. After the implementation of the scenarios, they participated in debriefing sessions according to the planned schedule. The test was administered immediately after the debriefing, and a follow-up test was administered one month later in August. To ensure objectivity in the study, a single researcher provided the training, two researchers actively participated in the execution of the scenarios, and all researchers participated in the debriefing sessions. The study design is shown in Figure 1.

The topics of the simulation-based instruction:

- Assessment of vital signs
- Treatment of the patient.

Ethical Consideration

Before the study was initiated, the approval of the Cappadocia University was obtained (approval no: 24.08, date: 08.05.2024). After receiving ethical approval, participants were informed about the research, and their informed consent was obtained on the data collection date.

RESULTS

Of the students who participated in the study, 77.8% were female, 91.1% came from a nuclear family, 77.8% had equal income and expenses, 68.9% lived in urban areas, 57.8% had chosen their department willingly, 51.1% had selected their department because they thought it was easier to find a job, and 46.7% were satisfied with their choice of the department (Table 1).

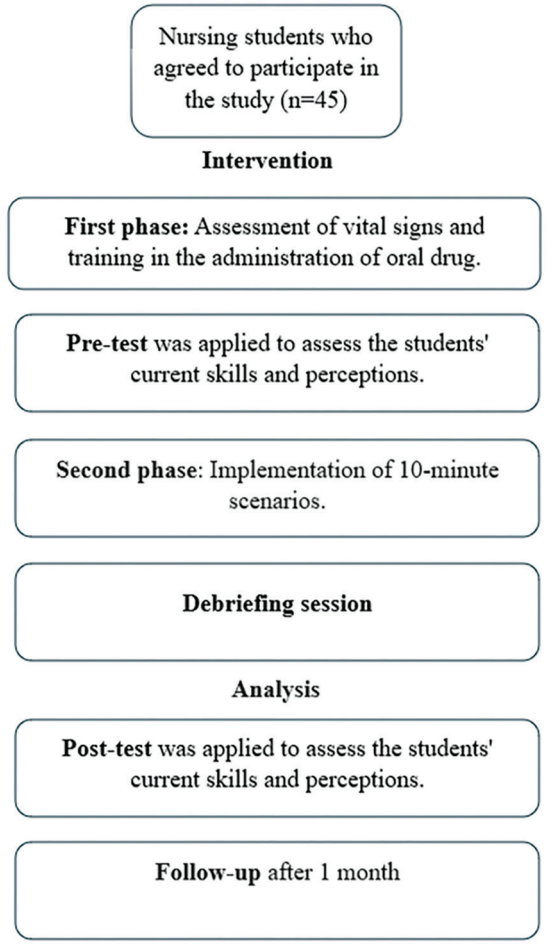


Figure 1. Flow diagram of the study

The intra-group comparison results of the total score rank averages of the experimental group students who received simulation-based training for simulation-based learning and ethical sensitivity are presented in Table 2. Accordingly, the simulation-based learning scores of the students differed statistically significantly between the before-the-training, immediately-after-the-training, and one-month-after-the-training measurements ($p<0.05$). However, the intra-group comparison of students' ethical sensitivity scores yielded no statistically significant difference between the before-the-training, immediately-after-the-training, and one-month-after-the-training measurements ($p=0.85$).

The significance results of the repeated measures of the simulation-based learning scores among the experimental group students are presented in Table 3. There was a significant difference between the pre-test measurements and the immediate-post-test measurements of the simulation-based learning scores ($p<0.02$), whereas no significant difference was found between the immediate-post-test and the one-month-follow-up measurements ($p=0.39$). The ethical sensitivity measurements of the students showed no significant difference between the pre-test and immediate-post-test measurements ($p=0.63$) as well as between the immediate-post-test and the one-month-follow-up measurement ($p=0.64$).

Table 1. Distribution of Students' Descriptive Data (n=45)

Descriptive data		Intervention group	
		n	%
Age (mean ± SD)		19.51±0.94	
Gender	Female	35	77.8
	Male	10	22.2
Family type	Family at the core	41	91.1
	Extended family	4	8.9
Income	Income more than expenditure	9	20.0
	Income matches expenditure	35	77.8
	Income less than expenditure	1	2.2
Place of live	Village	3	6.7
	District	11	24.4
	City	31	68.9
Coming to the department willingly	Yes	26	57.8
	No	19	42.2
Reason for choosing the department*	Being my dream profession	6	13.3
	Easy to find a job site	23	51.1
	I have enough points	18	40.0
	Willingness to help people	10	22.2
	Family-environment request	15	33.3
Satisfaction with choosing the nursing department	Satisfied	21	46.7
	Not satisfied	3	6.7
	Undecided	21	46.7

*: Students selected more than one item in this question, SD: Standard deviation

Table 2. Comparison of Repeated Measurements of Scores from the Evaluation of Learning Through Simulation Scale and the Adapted Ethical Sensitivity Scale for Nursing Students

Experimental group (n=45)	Pre-test mean rank	Post-test mean rank	Follow-up mean rank	X^2	p-value
Simulation-based learning	1.71	2.14	2.14	5.761	0.05
Ethical sensitivity	1.98	2.07	1.96	0.316	0.85

X^2: Friedman test value

Table 3. Distribution of Score Differences Between the Simulation-based Learning Evaluation Scale and the Adapted Ethical Sensitivity Scale for Nursing Students

Experimental group (n=45)	Pre-test to immediate post-test	Immediate post-test to follow-up
Simulation-based learning	Z: -2.288[b] p: 0.02	Z: -0.858[c] p: 0.39
Ethical sensitivity	Z: -0.479[b] p: 0.63	Z: 0.455[c] p: 0.64

Z: Test value, [b]: Pre-test to immediate post-test-Wilcoxon signed-rank test, [c]: Immediate post-test to follow-up-Wilcoxon signed-rank test

DISCUSSION

Developing affective aspects, instilling values, and fostering ethical sensitivity in nursing education are just as important as teaching technical skills. The fundamentals of nursing course is where nursing students learn the most critical skills related to their profession and, at the same time, begin to understand the values of the profession and develop ethical sensitivity.

Simulation-based education plays a significant role in nursing education, particularly in enhancing learning outcomes. As observed in our study, simulation-based education significantly improves nursing students' learning levels. Many studies in the literature have consistently supported the idea that simulation not only enhances students' technical skills but also improves their clinical decision-making competencies, self-confidence, and communication skills [15,22-24]. This educational approach provides students with a safe learning environment, thereby reducing the fear of making mistakes and allowing them to bridge the gap between theory and practice. The results observed in our study confirmed the effectiveness of simulation as a method in nursing education.

Although nursing students may gain skills-based experience in clinical or laboratory settings, they may not always encounter ethical dilemmas [25]. Ethical sensitivity is a fundamental component of a nurse's skill to make sound decisions when faced with a dilemma and represents the moral aspect of care [26]. In this context, the study focuses on the effects of simulation-based education on nursing students' learning outcomes and ethical sensitivity. Research utilizing some methods, such as discussion, case analysis, video-supported training, and traditional education, to enhance nursing students' ethical sensitivity has shown no significant differences in their ethical sensitivity [25,27]. Similarly, our study showed that simulation-based education did not produce the anticipated effect on ethical sensitivity. There was no statistically significant difference between the ethical sensitivity scores of the groups (p=0.85). This suggests that simulation-based education may not be enough to internalize ethical concepts. These findings indicate that simulation has limitations in improving students' skills to make appropriate decisions when confronted with ethical dilemmas. Therefore, while simulation is effective in enhancing technical skills, it is thought that additional strategies should be implemented to foster the development of emotional components such as ethical awareness.

This study underscores the pivotal role of simulation-based education in enhancing nursing students' learning outcomes, particularly in developing technical skills, clinical decision-making, and confidence. For nursing education, the findings emphasize the need to integrate ethical training into simulation curricula to address the observed limitations in fostering ethical sensitivity. Educators should design scenarios that include ethical dilemmas and use debriefing sessions to reflect on ethical principles, ensuring a comprehensive learning experience.

In clinical practice, the results highlight the potential of simulation to prepare students for real-world challenges by providing a safe and controlled environment for skill development. Incorporating simulation into routine training programs for healthcare professionals could further enhance patient safety and care quality.

From a policy perspective, these findings advocate for the inclusion of simulation-based learning as a standard component of nursing curricula and licensing requirements. Policymakers should prioritize funding and resources for advanced simulation technologies and encourage collaboration between educational institutions and healthcare organizations to align training with professional standards. This integrated approach can bridge the gap between theoretical knowledge and practical application, ensuring the preparation of ethically aware and technically competent nursing professionals.

Study Limitations

This study benefits from a robust quasi-experimental design, employing validated measurement tools and a structured approach to data collection, which enhances the reliability of its findings. The integration of blinding procedures at various stages minimizes bias, and the inclusion of both technical skill improvement and ethical sensitivity provides a comprehensive perspective on simulation-based education. However, the study's single-institution context and small sample size limit the generalizability of the results. Additionally, the one-month follow-up period may not fully capture long-term changes, and the lack of a control group hinders the ability to attribute outcomes solely to the intervention. While the study addresses ethical sensitivity, the selected scenarios may not sufficiently represent the complexity of real-world ethical dilemmas, suggesting the need for more nuanced approaches in future research.

Conclusion

Simulation-based education emerges as an effective method for improving learning outcomes in nursing education. However, it is crucial to strengthen ethical education by utilizing simulation practices to foster ethical sensitivity. Nursing education institutions should focus on integrating these two areas to enhance both technical skills and ethical sensitivity. This approach will not only ensure high-quality and safe patient care in nursing practice but also support the professional identity development of students.

Ethics

Ethics Committee Approval: Before the study was initiated, the approval of the Cappadocia University was obtained (approval no: 24.08, date: 08.05.2024).

Informed Consent: After receiving ethical approval, participants were informed about the research, and their informed consent was obtained on the data collection date.

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Footnotes

Author Contributions

Concept: AYİ, SS; Design: AYİ, SS; Data Collection or Processing: AYİ, SS; Analysis or Interpretation: AYİ, SS, MB, RY; Literature Search: AYİ, SS, MB, RY; Writing: AYİ, SS, MB, RY.

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

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The Role of Self-efficacy, Supportive Systems, and Motivation in Breast Cancer Prevention Behaviours: A Cross-sectional Study

Meme Kanseri Önleme Davranışlarında Öz-yeterlik, Destekleyici Sistemler ve Motivasyonun Rolü: Kesitsel Bir Çalışma

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ABSTRACT

Objective: This study was conducted to identify the socio-demographic, psychosocial, and health-related factors that influence women's breast cancer prevention behaviours.

Methods: Data for this descriptive and cross-sectional study were collected online from 308 women between December 2023 and August 2024. The data were obtained using the "Socio-demographic Information Form" and the "Assessment of Factors Affecting Women's Breast Cancer Prevention Behaviours Scale (ASSISTS)". Descriptive statistics, t-test, ANOVA, Mann-Whitney U, Kruskal-Wallis, and correlation analyses were used, with statistical significance set at $p<0.05$.

Results: The findings indicated that nearly half of the participants (48.38%) were aged 45 years or older. Only a small proportion (13.31%) regularly performed breast self-examination, while 51.30% had a history of mammography and 53.25% had never undergone a clinical breast examination. The mean ASSISTS score was 103.21±21.10, with a Cronbach's alpha coefficient of 0.916. Strong positive correlations were observed between motivation and self-efficacy ($r=0.733$) and between support and self-efficacy ($r=0.712$). Women aged 45 years and older had higher support scores, whereas married and widowed women demonstrated significantly higher levels of motivation and self-efficacy. Awareness and self-care behaviours varied significantly according to education and income levels.

Conclusion: The findings indicate that strengthening awareness, self-efficacy, motivation, and supportive systems is important for improving early detection and preventive behaviours.

Keywords: Awareness, nursing, self-efficacy, women's health, breast neoplasms

ÖZ

Amaç: Bu çalışma, kadınların meme kanserini önleme davranışlarını etkileyen sosyo-demografik, psikososyal ve sağlıkla ilgili faktörleri belirlemek amacıyla yapılmıştır.

Yöntem: Tanımlayıcı ve kesitsel tasarıma sahip araştırmanın verileri Aralık 2023-Ağustos 2024 arasında çevrimiçi olarak 308 kadından toplanmıştır. Veriler, "Sosyo-demografik Bilgi Formu" ve "Kadınların Meme Kanseri Önleme Davranışlarını Etkileyen Faktörleri Belirleme Ölçeği (ASSISTS)" kullanılarak elde edilmiştir. Analizlerde tanımlayıcı istatistikler, t-testi, ANOVA, Mann-Whitney U, Kruskal-Wallis ve korelasyon testleri kullanılmış; anlamlılık $p<0,05$ olarak belirlenmiştir.

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Bulgular: Bulgular, katılımcıların yaklaşık yarısının (%48,38) 45 yaş ve üzerinde olduğunu göstermektedir. Katılımcıların yalnızca %13,31'i düzenli olarak kendi kendine meme muayenesi yapmakta, %51,30'unun mamografi geçmişi bulunmakta ve %53,25'i hiç klinik meme muayenesi yaptırmamıştır. ASSISTS ölçeğinin toplam puan ortalaması 103,21±21,10 olup Cronbach alfa katsayısı 0,916'dır. Motivasyon ile öz-yeterlik (r=0,733) ve destek ile öz-yeterlik (r=0,712) arasında güçlü pozitif ilişkiler saptanmıştır. Ayrıca 45 yaş ve üzerindeki kadınların destek puanlarının daha yüksek olduğu; evli ve dul kadınların motivasyon ve öz-yeterlik düzeylerinin anlamlı olarak daha yüksek olduğu belirlenmiştir. Farkındalık ve öz bakım davranışlarının eğitim ve gelir düzeyine göre anlamlı farklılık gösterdiği bulunmuştur.

Sonuç: Bulgular, farkındalık, öz-yeterlik, motivasyon ve destekleyici sistemlerinin güçlendirilmesinin erken tanı ve önleme davranışlarını geliştirmede önemli olduğunu göstermektedir.

Anahtar kelimeler: Farkındalık, hemşirelik, öz-yeterlik, kadın sağlığı, meme neoplazileri

INTRODUCTION

Women's health is an important area at both individual and societal levels and is influenced by biological, psychological, and sociocultural factors. Women's healthy lifestyle behaviors, awareness of breast cancer, and regular health checkups are critical factors determining both individual quality of life and the overall health of society. Therefore, women's awareness of breast cancer, the frequency of regular breast self-examinations, and their participation in early diagnosis methods such as mammography are considered important indicators for improving health [1-3].

Breast cancer arises from cellular changes in breast tissue and is among the most common malignancies affecting women. Globally, breast cancer ranks as the leading malignancy affecting women, accounting for an estimated 670.000 deaths in 2022 across both high-income and low and middle-income countries [1,3]. These high incidence and mortality rates make breast cancer a significant global public health problem. Breast cancer can profoundly affect not only physical health but also women's psychosocial well-being, body image, and quality of life [4-7]. Increasing women's awareness of breast cancer and general health issues is one of the key factors influencing timely early detection and treatment. In addition, health behaviours and awareness levels may vary according to socio-demographic characteristics and lifestyle factors such as age, marital status, education level, income, and number of children [8-11].

Adopting a healthy lifestyle is considered a fundamental strategy for cancer prevention. Avoiding smoking, staying fit through regular activity, moderating alcohol use, and maintaining a nutritious diet are effective strategies for minimising cancer and chronic disease risk. However, tobacco use, high body mass index, physical inactivity, excessive alcohol consumption, and unhealthy eating habits are among the primary risk factors for cancer development. Current scientific evidence suggests that behavioral changes, particularly those targeting modifiable lifestyle factors, can contribute to the prevention of numerous cancers. Indeed, studies have revealed significant associations between dietary habits and certain types of cancer, such as breast, stomach, and colorectal cancers [12-16]. This study aimed to examine the relationships among participants' socio-demographic characteristics, health behaviors, and breast cancer awareness. Specifically, the relationships between women's breast cancer awareness, health behaviors (e.g., smoking, alcohol consumption, regular physical activity), and frequency of attending various health checkups were evaluated. Furthermore, the relationships between participants' menstrual health characteristics, pregnancy history, and knowledge about breast examinations were examined, as well as psychosocial factors such as self-efficacy, support systems, and stress management.

This study may help demonstrate that women's health behaviours and awareness levels vary by age, marital status, education level, and income. These insights may support the development of more effective early screening strategies and health education policies tailored to specific population groups. In addition, the study explores whether knowledge of breast cancer screening methods is associated with participants' self-care practices, stress management skills, and general health attitudes. Therefore, the findings are expected to contribute to evidence-informed policies and interventions for women's health, to improve the effectiveness of screening programmes, and to increase public awareness.

MATERIAL AND METHOD

Research Design and Sample

This study was designed as a cross-sectional and descriptive research. Data collection was conducted online, and the questionnaire developed by the researchers was distributed through a digital platform. The study data were collected from women reached via social media platforms between December 2023 and August 2024.

The required sample size was estimated through G*Power 3.1.9.7 software [17]. Based on an effect size of 0.20, a type I error rate of 5%, and a statistical power of 95%, the minimum required sample size was determined to be 272 participants. The statistical method used in the calculation was the means: difference from a constant (one-sample case) approach. Following data collection, a post-hoc analysis was carried out with the responses of 308 participants. According to Cohen's (1988) criteria, with an effect size of d=0.5, α=0.05, and power (1-β)=1.00, the achieved statistical power was found to be 1.00, indicating that the sample size was adequate. The inclusion criteria for participation were as follows:

- Participants aged 18 years and above,
- Having no prior diagnosis of breast cancer,
- Voluntarily agreeing to participate in the study,

• Having no physical or mental condition that would prevent understanding or responding to the research questions,

• Having no alcohol or substance dependence, and

• Having access to an internet-enabled device (for instance, a mobile phone, a tablet device, or a personal computer).

Individuals who met these criteria and provided informed consent to participate were included in the research sample.

Ethical Considerations

The study received ethical approval from Pamukkale University's Non-Interventional Clinical Research Ethics Committee (approval no: 20, date: 12.12.2023). Data collection was carried out between December 2023 and August 2024 in alignment with the ethical rules stated in the Declaration of Helsinki. Before starting the online questionnaire, all participants were informed about the purpose, content, and estimated duration of the study. Only individuals who voluntarily agreed to participate and provided electronic informed consent were able to proceed with the survey. Participation was entirely voluntary, and all responses were collected anonymously to ensure confidentiality and data security.

Data Collection Instruments

Socio-demographic Information Form

A researcher-developed questionnaire was designed after reviewing previous studies and related sources. The form collected basic demographic and contextual information, including participants' age, employment status, income group, and residential setting.

Assessment of Breast Cancer Preventive Behaviors Scale (ASSISTS)

To measure psychosocial and behavioral aspects related to breast cancer prevention, the ASSISTS was administered. Originally developed by Khazaee-Pool et al. [18] and consists of seven subscales: attitude, motivation, self-efficacy, support systems, information seeking, self-care, and stress management. It is a five-point Likert-type scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always) comprising 33 items in total, distributed as follows: attitude (8 items), motivation (4 items), self-efficacy (4 items), support systems (4 items), information seeking (4 items), self-care (6 items), and stress management (3 items) [18]. The scale was adapted into Turkish by Turan and Yiğit [19]. The Cronbach's alpha coefficient for the total scale was reported as 0.76, with subscale reliability coefficients ranging from 0.70 to 0.77. Permission to use the scale was obtained via email communication with the scale author (Zeliha Turan) prior to data collection.

Data Collection

Data were obtained through an online questionnaire administered to individuals who satisfied the study's eligibility requirements. Participants were only able to complete the survey after providing informed consent. The average survey completion time was approximately five minutes. To ensure data security, responses were collected via an email account protected by a unique password and two-factor authentication, accessible only to the researcher. Only the researchers were authorized to access and edit the online survey. Participant responses were collected anonymously, and no personally identifiable information, such as IP addresses, was recorded. Before addressing the research questions, participants were provided with an informational text explaining the purpose, scope, and ethical principles of the study. After data collection, the online survey was closed to further responses.

Statistical Analysis

Statistical analyses were carried out using SPSS software, version 21.0 (SPSS Inc., Chicago, IL, USA). Categorical variables were summarized as frequencies and percentages. When comparing independent groups, the Independent samples t-test was used when parametric assumptions were met, and when not, the Mann-Whitney U test was used. In cases involving more than two groups, the One-Way ANOVA or Kruskal-Wallis H test was employed. Associations between continuous variables were examined using Pearson or Spearman correlation tests. Logistic regression analysis was performed to identify risk factors, but since significant results were not obtained, the results are not reported. Cronbach's alpha coefficients were calculated for all scales used in the study. A post-hoc power analysis was computed via G*Power v3.1.9.2 software. All results were evaluated at a 95% confidence interval, and statistical significance was accepted at $p<0.05$.

RESULTS

The majority of the 308 women included in the study were aged 45 years and older (48.38%). Among the participants, 78.90% were married, 17.53% were single, and 3.57% were divorced or widowed. Regarding education level, the largest group consisted of bachelor's degree holders (45.13%), followed by high school graduates (27.27%) and those with a postgraduate (12.34%). In addition, 8.44% of the participants were primary school graduates, and 5.84% had completed secondary school. In terms of employment status, the highest proportion of participants were employed in the public sector (37.34%), followed by housewives (35.39%). Participants working in the private sector accounted for 8.77%, while 18.51% were employed in other occupations. With respect to place of residence, 54.87% of participants lived in urban areas, 36.04% in towns, and 9.09% in villages. Regarding income level, 73.70% of participants had a moderate income, 22.40% a low-income, and only 3.90% a high income. Concerning the number of children, 66.23% of participants had one or two children, 17.21% had three or four children, and 3.90% had five or more children (Table 1).

Table 2 presents the menstrual characteristics and health behaviors of the participants. The mean age at menarche was 13.27±1.44 years. Examination of menstrual cycle regularity showed that 60.71% of participants had a regular cycle, 11.36% had an irregular cycle, and 27.92% were in menopause. The majority of participants (86.69%) had experienced pregnancy,

while 13.31% had not. Among those with a history of pregnancy, 29.22% reported having experienced a miscarriage. Regarding breast cancer awareness, 64.94% of participants reported having knowledge about breast cancer, whereas 35.06% stated they did not. In terms of breast self-examination practices, 13.31% performed it once a month, 60.39% performed it occasionally, and 26.30% had never performed it. More than half of the participants (51.30%) had previously undergone mammography. Concerning clinical breast examination, 53.25% had never been examined, 16.88% reported having an examination at least once a year, and 29.87% had irregular examinations. With respect to health behaviors, 23.38% of participants were smokers, 9.42% consumed alcohol, and 39.0% engaged in regular exercise. The majority (75%) reported having healthy eating habits, while 25%

Table 1. The Participants' Socio-demographic Characteristics

Socio-demographic characteristic	Mean		SD
Weight (kg)	68.78		12.14
Height (cm)	162.07		6.25
BMI	26.23		4.68
	Category	**Number**	**Percentage**
Age (years)	30-34	76	24.68
	35-39	54	17.53
	40-44	29	9.42
	45 and above	149	48.38
Marital status	Married	243	78.90
	Single	54	17.53
	Divorced/ widowed	11	3.57
Education level	Literate	3	0.97
	Primary school	26	8.44
	Secondary school	18	5.84
	Highschool	84	27.27
	Bachelor's degree	139	45.13
	Postgraduate	38	12.34
Employment status	Housewife	109	35.39
	Private sector employee	27	8.77
	Public sector employee	115	37.34
	Other	57	18.51
Place of residence	City	169	54.87
	Town	111	36.04
	Village	28	9.09
Income level	Low	69	22.40
	Middle	227	73.70
	High	12	3.90
Number of children	0	39	12.66
	1-2	204	66.23
	3-4	53	17.21
	5 and above	12	3.90
Total		308	100

BMI: Body mass index, SD: Standard deviation

Table 2. The Participant' Menstrual Characteristic and Health Behaviors

Socio-demographic characteristic	Mean		SD
Menarche age	13.27		1.44
	Category	**Number**	**Percentage**
Menstrual cycle	Regular cycle	187	60.71
	Irregular cycle	35	11.36
	Menopause	86	27.92
Pregnancy	Yes	267	86.69
	No	41	13.31
Miscarriage	Yes	90	29.22
	No	218	70.78
Breast self-examination knowledge	Yes	200	64.94
	No	108	35.06
Breast self-examination	Once a month	41	13.31
	Sometimes	186	60.39
	Never	81	26.30
Previous mammography	Yes	158	51.3
	No	150	48.7
Clinical breast examination	Never	164	53.25
	At least once a year	52	16.88
	Irregularly	92	29.87
Smoking	Yes	72	23.38
	No	236	76.62
Alcohol use	Yes	29	9.42
	No	279	90.58
Exercise habit	Yes	120	39.0
	No	188	61.0
Healthy nutrition	Yes	231	75
	No	77	25
Presence of chronic disease	Yes	106	34.4
	No	202	65.6
Regular medication use	Yes	99	32.14
	No	209	67.86
Total		308	100

SD: Standard deviation

did not. Additionally, 34.4% of the participants had a chronic disease, and 32.14% reported using regular medication. The remaining 65.6% had no chronic disease history, and 67.86% did not use regular medication.

Table 3 presents the descriptive statistics and reliability analysis of the ASSISTS scale. The mean score of the attitude subscale was 16.91±5.99, while the supportive systems subscale had a mean of 14.36±4.56, and the self-efficacy subscale averaged 14.41±3.79. The self-care subscale showed a mean score of 18.47±5.57, and the motivation subscale had a mean of 14.80±4.21. The information seeking subscale had a mean score of 13.93±4.08, and the stress management subscale had a mean of 10.30±3.05. The overall total score was 103.21±21.10. Cronbach's alpha values indicated high internal consistency for the self-care (0.877) and stress management (0.866) subscales. The overall reliability of the scale was excellent (α=0.916), suggesting that the ASSISTS scale demonstrated strong internal consistency in this sample.

Table 4 presents the correlation coefficients among the subscales of the ASSISTS and the total score. Weak negative correlations were generally observed between attitude and the other variables, ranging from -0.058 to-0.022, indicating that attitude had an inverse but weak relationship with the other factors. Positive and significant correlations were found between motivation and the other subscales, particularly with self-efficacy (r=0.733) and supportive systems (r=0.632), suggesting a strong association. Self-efficacy demonstrated strong and significant positive relationships with all other subscales, especially with supportive systems (r=0.712) and information seeking (r=0.622). Similarly, support showed positive and significant correlations with information (r=0.715), self-care (r=0.587), and stress management (r=0.505). The total score was positively and significantly correlated with all subscales, indicating that higher scores in any sub-dimension were associated with higher overall ASSISTS scores. Strong correlations were particularly observed with motivation (r=0.737), self-efficacy (r=0.809), and supportive systems (r=0.820), highlighting their substantial contribution to the overall scale score.

Table 5 presents the comparison of socio-demographic characteristics with the ASSISTS total and subdimension scores. A significant difference was observed among the age groups in the supportive systems subdimension, where participants aged 45 years and above had significantly higher scores compared to younger groups (F=2.68, p=0.047). When marital status was examined, married and divorced/widowed participants scored higher in the motivation and self-efficacy subdimensions compared to single participants. Notably, divorced/widowed participants had significantly higher motivation and self-efficacy scores than the other groups (F=3.25, p=0.040; F=4.85, p=0.008). Regarding educational level, participants who graduated from primary school obtained higher scores in the Information seeking and self-care subdimensions (F=3.39, p=0.040).

A comparison based on income level revealed significant

Table 3. ASSISTS Descriptive Statistics and Reliability

Subscales	Min-max	Mean ± SD	Median (IQR)	Cronbach's alpha
Attitude	8-40	16.91±5.99	16 (12-21)	0.703
Supportive systems	4-20	14.36±4.56	15 (11-18)	0.785
Self-efficacy	4-20	14.41±3.79	15 (12-18)	0.767
Self-care	6-30	18.47±5.57	18 (14-22.5)	0.877
Motivation	4-20	14.80±4.21	15 (12-19)	0.814
Information seeking	4-20	13.93±4.08	14 (11-17)	0.727
Stress management	3-15	10.30±3.05	11 (8-13)	0.866
Total score	36-153	103.21±21.10	106 (90-119)	0.916

ASSISTS: Assessment of Factors Affecting Women's Breast Cancer Prevention Behaviours Scale, SD: Standard deviation, IQR: Interquartile range

Table 4. Correlation Analysis of ASSISTS Subscales and Total Scores

Variables	1	2	3	4	5	6	7	8
1. Attitude	1							
2. Motivation	-0.052	1						
3. Self-efficacy	-0.022	0.733	1					
4. Supportive systems	-0.058	0.632**	0.712**	1				
5. Information seeking	-0.057	0.524**	0.622**	0.715**	1			
6. Self-care	-0.057	0.465**	0.558**	0.587**	0.679**	1		
7. Stress management	-0.036	0.411**	0.464*	0.505**	0.585**	0.636**	1	
8. Total	0.226**	0.737	0.809**	0.820**	0.813**	0.791**	0.690**	1

*: p<0.05, **: p<0.01, positive correlations indicate a direct relationship, whereas negative correlations indicate an inverse relationship between variables

Table 5. Comparison of Socio-demographic Characteristics and ASSISTS Total and Subdimensions Total Scores								
	Attitude	**Motivation**	**Self-efficacy**	**Self-care**	**Supportive systems**	**Information seeking**	**Stress management**	**Total ASSISTS**
Age category								
30-34	18.35±5.70	14.38±4.24	17.52±5.56	17.53±5.56	13.39±4.68	13.53±3.92	18.36±5.70	100.97±19.18
35-39	16.33±6.12	14.55±3.80	18.35±5.53	18.35±5.53	14.43±4.70	14.11±4.30	16.33±6.12	102.92±21.30
40-44	17.65±6.29	14.44±4.42	18.27±5.45	18.28±5.45	13.38±4.58	13.24±3.45	17.66±6.29	101.51±20.05
45 and above	16.24±5.94	15.18±4.30	19.04±5.59	19.05±5.59	15.03±4.37	14.22±4.21	16.24±4.94	104.79±22.20
	F=2.44 p=0.06	F=0.80 p=0.49	F=0.99 p=0.39	F=1.28 p=0.28	F=2.68 **p=0.047***	F=0.80 p=0.49	F=2.44 p=0.06	F=0.63 p=0.59
Marital status								
Married	16.67±5.76	14.95±4.10	14.68±3.71	18.55±5.34	14.60±4.55	14.07±4.07	16.68±5.76	103.86±20.31
Single	17.33±6.85	13.72±4.70	13.41±4.10	17.89±6.66	13.17±4.71	13.31±4.37	17.33±6.86	98.51±24.73
Divorced/widowed	20±5.94	16.81±2.85	15.36±2.06	19.73±4.75	15.09±3.27	14.00±2.68	20.00±5.95	112±15.23
	F=1.79 p=0.16	F=3.25 **p=0.040***	F=4.85 **p=0.008***	F=0.59 p=0.55	F=2.32 p=0.09	F=0.76 p=0.46	F=1.78 p=0.16	F=2.43 p=0.09
Education level								
Literate	16.33±7.09	16.33±3.78	14.67±2.30	20.00±3.00	13.67±2.08	12.67±1.52	16.33±7.09	104.33±8.62
Primary school	18.65±6.89	15.46±3.61	14.58±3.01	20.27±5.08	15.54±3.15	14.77±2.97	18.65±6.89	109.77±18.16
Secondary school	17.22±5.61	14.11±4.68	14.28±4.28	15.11±4.84	13.33±4.94	11.78±4.12	17.22±5.61	95.72±21.47
Highschool	17.70±6.42	14.38±4.31	13.37±3.88	17.55±5.63	13.55±4.69	13.50±3.95	17.70±6.42	99.77±21.68
Bachelor's degree	15.78±5.41	15.01±3.73	14.98±3.75	19.36±5.55	15.01±4.44	14.68±4.12	15.78±5.41	105.63±23.31
Postgraduate	18.00±6.07	14.76±3.73	14.61±3.73	17.55±5.37	13.53±5.15	12.74±4.42	18.00±6.07	100.97±23.31
	F=2.01 p=0.07	F=0.53 p=0.74	F=1.95 p=0.08	F=3.39 **p=0.040***	F=1.92 p=0.09	F=3.15 **p=0.009***	F=2.01 p=0.07	F=1.88 p=0.09
Employment status								
Housewife	17.58±6.55	14.49±4.18	14.06±3.83	18.52±5.61	14.05±4.58	13.64±4.02	17.58±6.55	102.59±21.51
Private sector	16.89±4.84	14.96±4.44	13.70±3.84	16.59±5.73	14.63±3.86	14.04±2.88	16.89±4.84	100.15±21.41
Public sector	16.44±5.84	15.21±4.15	15.01±3.51	18.91±5.44	14.69±4.54	14.40±4.15	16.44±5.84	105.18±19.48
Other	16.60±5.66	14.54±4.30	14.25±4.15	18.40±5.61	14.19±4.94	13.53±4.54	16.60±5.66	101.91±23.41
	F=0.73 p=0.53	F=0.64 p=0.58	F=1.63 p=0.18	F=1.27 p=0.28	F=0.42 p=0.73	F=0.87 p=0.45	F=0.73 p=0.53	F=0.62 p=0.59
Place of residence								
City	16.82±5.85	14.72±4.29	14.28±3.77	18.71±5.66	14.11±4.69	13.64±4.22	16.82±5.85	102.47±21.46
Town	16.46±6.01	14.60±4.29	14.38±3.85	17.90±5.33	14.52±4.38	14.15±4.03	16.46±6.01	102.35±21.07
Village	19.25±5.99	16.18±3.10	15.39±3.67	19.36±5.93	15.29±4.52	14.86±3.33	19.29±6.38	111.14±14.79
	F=2.49 p=0.08	F=1.66 p=0.19	F=1.04 p=0.35	F=1.09 p=0.33	F=0.90 p=0.40	F=1.29 p=0.27	F=2.49 p=0.08	F=2.18 p=0.11
Income level								
Low	16.25±5.65	15.06±4.26	15.09±4.01	19.43±5.88	14.91±4.76	14.38±4.31	16.25±5.65	105.70±21.78
Middle	16.82±5.75	14.85±4.23	14.25±3.77	18.30±5.54	14.17±4.58	13.38±4.09	16.82±5.75	102.48±21.23
High	22.50±9.33	12.50±3.00	13.67±2.34	16.42±2.93	14.83±2.62	13.42±2.42	22.50±9.36	102.83±13.67
	F=5.85 **p=0.003***	F=1.94 p=0.14	F=1.53 p=0.14	F=1.97 p=0.14	F=0.76 p=0.46	F=0.56 p=0.56	F=5.85 **p=0.003***	F=0.61 p=0.54
Number of children								
0	17.79±6.21	13.82±4.24	13.10±3.85	17.05±5.39	12.15±4.51	12.72±3.91	17.79±6.21	96.60±21.95
1-2	16.54±5.85	14.90±4.36	14.56±3.81	18.89±5.74	14.87±4.49	14.25±4.13	16.54±5.85	104.36±21.32
3-4	17.40±6.45	15.43±3.59	14.92±3.53	18.62±4.76	14.26±4.28	13.91±3.97	17.40±6.45	105.08±18.48
5 and above	18.17±5.60	13.67±3.72	14.00±3.86	15.42±5.36	13.42±5.48	12.83±3.83	18.17±5.60	96.17±21.10
	F=0.82 p=0.47	F=1.43 p=0.23	F=2.04 p=0.10	F=2.48 p=0.06	F=4.17 **p=0.006***	F=1.84 p=0.13	F=0.82 p=0.47	F=1.76 p=0.11

*: One-Way Analysis of Variance, groups with significant differences ($p<0.05$) are shown in bold in the table. This indicates the cases where differences between groups within each subdimension are statistically significant

differences in the attitude and stress management subdimensions, where participants with low-income scored significantly differently compared to those with middle and high-income (F=5.85, p=0.003; F=5.85, p=0.003). According to the number of children, participants with no children and those with four or more children had lower scores in the supportive systems subdimension (F=4.17, p=0.006). No statistically significant differences were found in the other subdimensions (p>0.05) (Table 5).

Table 6 presents the comparison of obstetric history and ASSISTS total and subdimension scores. When the differences between pregnant and non-pregnant participants were examined, significant differences were found between pregnancy status and the subdimensions of self-efficacy, supportive systems, information seeking, and total ASSISTS scores. Pregnant participants had higher scores in self-efficacy (t=2.86, p=0.004), supportive systems (t=2.93, p=0.004), information seeking (t=2.45, p=0.014), and total ASSISTS (t=2.15, p=0.032) compared to non-pregnant participants. A significant difference was found in the attitude (t=-3.71, p<0.001) subdimension between participants who had and had not experienced miscarriage. Participants who had experienced miscarriage had lower attitude scores than those who had not. Participants who had knowledge about breast self-examination scored significantly higher in the self-care (t=3.50, p=0.001), information seeking (t=2.36, p=0.019), and stress management (t=2.55, p=0.011) subdimensions. In addition, participants with breast self-examination knowledge had significantly higher total ASSISTS scores (t=2.68, p=0.008).

Significant differences were observed among participants who performed, sometimes performed, and never performed breast self-examination in the subdimensions of attitude, motivation, self-care, supportive systems, information seeking, and stress management. In particular, participants who performed regular breast self-examination had significantly higher scores in self-care (F=9.01, p<0.001) and information seeking (F=5.17, p=0.006) compared to other groups. Similarly, the total scale scores also showed a statistically significant difference (F=4.21, p=0.016). Participants who had knowledge about mammography had higher scores in attitude (t=-2.37, p=0.018), motivation (t=2.09, p=0.037), self-efficacy (t=2.93, p=0.004), self-care (t=2.94, p=0.003), and supportive systems (t=2.40, p=0.017) subdimensions. A significant difference was also found in total ASSISTS scores (t=2.29, p=0.022). Participants who had previously undergone mammography showed significant differences in almost all subdimensions except for two, with higher scores across most of them. Regarding clinical breast examination status, significant differences were found in the subdimensions of attitude (F=4.06, p=0.018), self-care (F=5.43, p=0.005), supportive systems (F=6.34, p=0.002), and stress management (F=4.06, p=0.018) (Table 6).

DISCUSSION

The findings of this study demonstrate the significant relationships between women's socio-demographic characteristics, health behaviors, awareness levels, and participation in early diagnosis methods. The results should be carefully evaluated for the planning and implementation of health promotion strategies at both the individual and societal levels.

This study found that more than half of the participants had breast cancer awareness, one in ten women performed monthly breast self-examinations, more than half had a history of mammography, and had not had a clinical breast examination. These rates are consistent with studies conducted in Türkiye and similar cultural contexts. For example, the study "Attitudes and Health Beliefs Associated with Breast Cancer Screening Behaviors Among Turkish Women" reported that only 10.1% of participants performed monthly breast self-examinations and 15% had mammograms [20]. These findings suggest that early diagnosis behaviors remain low in Türkiye. Low participation in early diagnosis methods is associated with psychosocial factors such as awareness, perceived self-efficacy, perceived barriers, and motivation, as well as awareness levels. For example, it has been determined that as women's confidence in self-examination increases, their likelihood of engaging in this behavior also increases [20]. The high correlation between the self-efficacy subscale and the other subscales (r=0.809) in our study is consistent with these findings.

This study also demonstrated the significant impact of socio-demographic variables. Participants aged 45 and over scored higher on the support systems subscale, while married and divorced/widowed participants had statistically significantly higher motivation and self-efficacy levels than single participants. Comparisons by educational background revealed that primary school graduates scored higher on the information and self-care subscales, while comparisons by income level revealed significant differences among low-income participants on the attitude and stress management subscales. These findings are consistent with studies in the literature demonstrating that socio-demographic characteristics are important factors influencing screening behaviors [11,20,21]. For example, a study conducted in rural Ankara reported that women who were only literate were approximately 1.9 times more likely to not undergo mammography [21]. Based on these findings, targeted strategies should be developed to increase participation in screening programs for low-income or less educated women.

In terms of health behaviors, this study found that smoking was one in four women, alcohol use was one in ten, regular exercise was four in ten, and healthy eating habits were three in four. These data suggest that overall healthy lifestyle behaviors vary among women and may have an indirect relationship with participation in early diagnosis. The literature reports that women who adopt healthy lifestyle behaviors are more likely to attend health checkups [11,21,22]. Therefore, considering both women's lifestyle behaviors and screening habits together is crucial for developing effective intervention programs.

Strong correlations were found between the subscales of the scale used in this study, such as motivation-self-efficacy (r=0.733) and support-self-efficacy (r=0.712). These findings demonstrate

Table 6. Comparison of Obstetric History and ASSISTS Total and Subdimensions Total Scores

	Attitude	Motivation	Self-efficacy	Self-care	Supportive systems	Information seeking	Stress management	Total ASSISTS
Pregnancy								
Yes	16.79±5.96	14.96±4.20	14.66±3.71	18.71±5.58	14.66±4.54	14.16±4.06	10.29±3.05	104.23±20.97
No	17.68±6.17	13.86±4.21	12.85±3.96	16.95±5.28	12.44±4.30	12.49±4.03	10.39±3.04	96.63±21.05
	t=-0.88	t=1.60	t=2.86	t=1.89	t=2.93	t=2.45	t=-0.19	t=2.15
	p=0.37	p=0.11	**p=0.004****	p=0.06	**p=0.004****	**p=0.014****	p=0.84	**p=0.032****
Miscarriage								
Yes	14.98±5.00	14.79±4.13	14.39±3.79	18.36±5.32	14.16±4.64	14.13±4.26	9.98±3.07	100.78±21.06
No	17.71±6.19	14.82±3.79	14.43±3.79	18.53±5.68	14.45±4.54	13.86±4.02	10.44±3.03	104.22±21.09
	t=-3.71	t=-0.052	t=-0.07	t=-0.24	t=-0.51	t=0.53	t=-1.19	t=-1.30
	p=0.000**	p=0.95	p=0.93	p=0.86	p=0.60	p=0.60	p=0.23	p=0.19
Breast self-examination knowledge								
Yes	16.77±5.97	15.13±4.28	14.71±3.84	19.28±5.32	14.73±4.45	14.34±3.98	10.63±3.04	105.57±20.83
No	17.19±6.03	14.22±4.04	13.87±3.65	16.99±5.73	13.69±4.71	13.19±4.19	9.70±2.99	98.86±21.00
	t=-0.58	t=1.80	t=1.86	t=3.50	t=1.89	t=2.36	t=2.55	t=2.68
	p=0.55	p=0.07	p=0.06	**p=0.001****	p=0.05	**p=0.019****	**p=0.011****	**p=0.008****
Breast self-examination								
Once a month	14.80±5.11	15.27±4.78	15.22±4.24	21.10±5.88	15.68±3.65	15.15±4.50	14.80±5.11	108.02±21.48
Sometimes	17.07±5.93	15.19±4.02	14.64±3.56	18.66±5.25	14.62±4.52	14.02±3.99	17.07±5.93	104.53±20.95
Never	17.62±6.35	13.70±4.19	13.49±3.93	16.74±5.60	13.11±4.84	13.14±3.96	17.62±6.35	97.77±20.43
	F=3.20	F=3.85	F=3.70	F=9.01	F=5.17	F=3.44	F=3.20	F=4.21
	p=0.042*	**p=0.022***	**p=0.026***	**p=0.000***	**p=0.006***	**p=0.033***	**p=0.042***	**p=0.016***
Mammography awareness								
Yes	16.21±6.10	15.25±4.26	14.97±3.72	19.29±5.42	15.14±4.27	14.34±4.13	10.44±3.04	105.63±20.51
No	17.83±5.74	14.24±4.08	13.70±4.75	17.43±5.60	13.36±4.75	13.42±3.98	10.12±3.05	100.09±21.52
	t=-2.37	t=2.09	t=2.93	t=2.94	t=3.44	t=1.96	t=0.92	t=2.29
	p=0.018**	**p=0.037****	**p=0.004****	**p=0.003****	**p=0.001****	p=0.05	p=0.35	**p=0.022****
Previous mammography								
Yes	17.97±6.04	14.45±3.96	13.97±3.64	17.43±5.36	13.60±4.63	13.60±3.89	10.19±3.02	101.23±20.10
No	15.37±4.73	15.48±4.57	15.30±3.69	20.02±5.76	16.22±3.68	15.02±4.01	10.89±3.05	108.29±18.01
	t=3.05	t=-1.64	t=-2.41	t=-3.13	t=-3.98	t=-2.40	t=-1.52	t=-2.41
	p=0.003**	p=0.10	**p=0.017****	**p=0.002****	**p=0.000****	**p=0.017****	p=0.12	**p=0.017****
Clinical breast examination								
Never	17.73±5.92	14.48±3.92	14.07±3.58	17.59±5.41	13.51±4.61	13.61±3.98	17.73±5.92	101.09±20.30
At least once a year	15.19±5.53	14.62±4.86	14.31±4.51	20.27±6.28	15.48±4.23	15.02±4.06	15.19±5.53	105.50±22.55
Irregularly	16.42±5.16	15.49±4.29	15.09±3.65	19.05±5.14	15.25±4.40	13.91±4.22	16.42±6.16	105.72±21.50
	F=4.06	F=1.79	F=2.14	F=5.43	F=6.34	F=2.36	F=4.06	F=1.79
	p=0.018*	p=0.16	p=0.11	**p=0.005***	**p=0.002***	p=0.09	**p=0.018***	p=0.16

*: One-Way Analysis of Variance, groups with significant differences (p<0.05) are shown in bold in the table. This indicates the cases where differences between groups within each subdimension are statistically significant

**: Independent sample t-test, groups with significant differences (p<0.05) are shown in bold in the table. This indicates the cases where differences between groups within each subdimension are statistically significant

a strong relationship between women's awareness-raising, utilization of support systems, and self-care practices. There is also strong evidence in the literature that education and intervention programs are effective in improving women's screening behaviors. For example, specialized interventions for women with low socio-economic status have been shown to significantly increase rates of self-examination, clinical examination, and mammography [11,23]. Therefore, the findings of this study support management strategies focused on education and awareness-raising.

Study Limitations

Several limitations should be acknowledged. First, because the data were collected using a cross-sectional design, it is not possible to directly demonstrate cause-and-effect relationships between variables. Furthermore, because the data were based on participants' self-reports, recall bias or a tendency to provide socially desirable responses may have influenced the results. However, the study also has strengths. It is one of the few to assess women's breast cancer prevention behaviors multidimensionally using the ASSISTS scale. The combined consideration of socio-demographic variables, health behaviors, and awareness levels contributed to a more holistic understanding of the psychosocial factors influencing early diagnosis behaviors. Moreover, the scale's high internal consistency coefficient supports the reliability of the data.

CONCLUSION

The findings highlight the main variables affecting women's preventive actions against breast cancer. The research results indicate that age, education, marital status, and income level have significant effects on women's attitudes and health behaviors toward breast cancer prevention. Women aged 45 and older, in particular, were observed to exhibit more positive behaviors in the subscales of attitude, motivation, self-efficacy, and self-care. Despite the global emphasis on breast cancer screening, participation rates in early diagnosis methods remain below the desired level. Our study found that only a limited number of women regularly perform breast self-examination, have clinical breast examinations, and undergo mammography. This finding clearly demonstrates the need to increase access to screening programs and raise awareness, particularly among women with lower education and income levels. The high level of internal consistency of the ASSISTS scale used in this study demonstrates that it is a reliable tool for assessing factors influencing breast cancer prevention behaviors. Furthermore, the high correlations between the motivation, supportive systems, and self-efficacy subscales demonstrate that behavior change is a multidimensional process requiring both individual and environmental support mechanisms.

Ethics

Ethics Committee Approval: The study received ethical approval from Pamukkale University's Non-Interventional Clinical Research Ethics Committee (approval no: 20, date: 12.12.2023).

Informed Consent: Before starting the online questionnaire, all participants were informed about the purpose, content, and estimated duration of the study. Only individuals who voluntarily agreed to participate and provided electronic informed consent were able to proceed with the survey.

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Footnotes

Author Contributions

Concept: HB, ÇG; Design: HB, ÇG; Data Collection or Processing: HB, ÇG; Analysis or Interpretation: HB, ÇG; Literature Search: HB, ÇG; Writing: HB, ÇG.

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The Effect of Psychodrama on the Tendency to Violence and Social Adaptation in Adolescents whose Families are Involved in Crime

Aileleri Suça Bulaşan Ergenlerde Psikodramanın Şiddet Eğilimi ve Sosyal Uyuma Etkisi

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ABSTRACT

Objective: The purpose of this study is to investigate how psychodrama affects adolescents with criminal families' propensity for violence and social adaptation.

Methods: A pre-test-post-test quasi-experimental design was used to conduct the study. Sixteen teenagers between the ages of twelve and fourteen who were enrolled at the Public Education Center made up the study group. Data was gathered using the Social Adaptation Self-evaluation Scale (SASS) and the Aggression Scale (AS). The study assessed how a 10-week psychodrama course about aggression affected the intervention group's ability to adapt socially.

Results: The physical aggression, anger, and indirect aggression sub-dimensions of the AS showed a significant difference between the control and intervention groups following the psychodrama sessions. After psychodrama, there was a significant difference in the SASS between the two groups.

Conclusion: Psychodrama has been found to reduce the propensity to violence in adolescents with family histories of criminality and to enhance their social adjustment skills.

Keywords: Adolescence, tendency to violence, psychodrama, social adaptation

ÖZ

Amaç: Psikodramanın aileleri suça bulaşan ergenlerde şiddet eğilimi ve sosyal uyum üzerine etkisini incelemektir.

Yöntem: Ön-test-son-test yarı deneysel desende gerçekleştirilen çalışmanın örneklemini 12-14 yaş aralığında Halk Eğitim Merkezi'ne başvurusu olan 16 ergen oluşturdu. Sosyal Uyum Kendini Değerlendirme Ölçeği (SUKDÖ) ve Saldırganlık Ölçeği (SÖ) veri toplama aracı olarak kullanıldı. Çalışmada 10 hafta süresince uygulanan psikodramanın ergenlerin saldırganlık ve sosyal uyum düzeylerine etkisi değerlendirildi.

Bulgular: Psikodrama çalışması sonrasında SÖ alt boyutlarından; fiziksel saldırganlık, öfke ve dolaylı saldırganlık alt boyutlarında iki grup arasında anlamlı fark olduğu görüldü. Psikodrama sonrası deney ve kontrol grubu arasında SUKDÖ'den alınan puanlar değerlendirildiğinde ileri derece anlamlı fark olduğu görüldü.

Sonuç: Ailesi suça bulaşan ergenlerde psikodramanın sosyal uyum becerilerinde artış sağladığı ve şiddet eğilimini azaltıcı etkisi olduğu görüldü.

Anahtar kelimeler: Ergenlik, şiddet eğilimi, psikodrama, sosyal uyum

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INTRODUCTION

The World Health Organization defines adolescence as a period of critical transition in human growth and development occurring after childhood and before adulthood [1]. During these critical periods, adolescents learn to adapt to the societies they live in. In this process, they develop positive or negative attitudes, thoughts, and behavior patterns [2,3]. The socio-economic conditions of the family, the presence of an individual in the family who has previously committed a crime in the family, and various hereditary and psychological factors affect the likelihood of juvenile delinquency. The characteristics of the family in which the child or adolescent grows up, as well as any conflicts or deterioration in family dynamics may cause the child or adolescent to turn to crime [4]. According to the literature, delinquent children may have bad relations with their families, and ineffective communication between the family may also be a factor that drives the child to delinquency [2,3,5]. The existence of a criminal individual in the family, which is the structure that plays the most significant role in the child's socialization, leaves the child at risk of committing a crime. Parents' behavioral patterns may not cause children to adopt the patterns.

Psychodrama, which is a model based on activity, is grounded on the participants' creativity and spontaneity. Psychodrama is used both as a stand-alone method and in an eclectic way by various therapy schools. In this regard it is a suitable method to be used with children and adolescents [6]. When working with children and adolescents, the approaches and the techniques selectedare essential for the success of group therapy. It is essential to develop a form of integrated therapy that can meet the therapeutic needs of children and adolescents. Psychodrama is a powerful technique for treating behavioral issues in children and teenagers, such as post-traumatic stress disorder, adjustment difficulties, eating disorders, drug misuse, grief resolution, and identity confusion [7]. Psychodrama, which is an important tool in terms of helping adolescents to express themselves better, aims to increase adolescents' sense of social belonging and reduce their tendency to violence.

Studies aimed at protecting children's mental health are important in terms of reducing children's propensity for violence and enabling their social integration into society.

MATERIAL AND METHOD

Purpose and Type of the Research

This study aimed to examine the effect of psychodrama on the tendency to violence and social adaptation in adolescents whose families were involved in crime. The study was carried out with a quasi-experimental design and a pre-test-post-test control group. Psychodrama sessions were carried out by the researcher who successfully graduated from the educational institution that is a member of the European Federation of Psychodrama Training Institution.

Research Setting and Implementation

The research was conducted in the training hall of the Gaziosmanpaşa Public Education Directorate between March and May 2019. During the psychodrama sessions, the therapy techniques were applied in the training hall, chairs were placed so that group members could sit in a circle, and all other necessary materials (i.e, fabrics, objects, colored papers) were provided. Since psychodrama is a voluntary method, those who wanted to participate in psychodrama formed the intervention group, while those who did not want to participate formed the control group. The research lasted for a total of 10 weeks, with each session lasting for two hours once a week. The research was completed with a total of 16 adolescents, 8 in the intervention group and 8 in the control group. The flowchart of the implementation process of the research is given below.

Population and Sample

The population of the research consisted of 20 adolescents between the ages of 12 and 14 whose families were involved in crime and who were directed to the Public Education Center by the Guidance Research Centers of their schools due to their social adaptation problems. The entire population formed the sample.

Inclusion Criteria:

- Being between 12-14 years old,
- Being literate.

Exclusion Criteria:

- Not attending a group session two weeks in a row.

Research Hypotheses:

Hypothesis 1: After psychodrama intervention or group therapy sessions, the aggression scores of the intervention group will decrease.

Hypothesis 2: After psychodrama, there will be a significant difference between the aggression scores of the intervention and control groups in favor of the intervention group.

Hypothesis 3: After psychodrama, the social cohesion scores of the intervention group will significanlty or statistically increase.

Hypothesis 4: After psychodrama, there will be a significant difference between the social adjustment scores of the intervention and control in favor of the intervention group.

Data Collection Tools

An Sociodemographic Information Form, the Aggression Scale (AS) and the Social Adaptation Self-evaluation Scale (SASS) were used.

Information Form

This was composed of four questions about age, gender, family type and economic status.

AS

The AS created by Buss and Perry in 1992 and was updated by Buss and Warren in 2000. The scale was adapted into Turkish in by Can [8]. The scale consists of 34 items with a five-point Likert-type score. It has five sub-dimensions: physical aggression (eight items), verbal aggression (five items), anger (eight items), hostility (seven items) and indirect aggression (six items). The lowest score that can be obtained from the scale is 34 and the highest score is 170. In the Turkish adaptation of the scale, the Cronbach alpha internal consistency coefficient was 0.91 for the total measurement. For the subdimensions, physical aggression was 0.83, verbal aggression was 0.59, anger was 0.72, hostility was 0.74, and indirect aggression was 0.53 [8]. In this study, the Cronbach alpha coefficient was found to be 0.88 in total, while it was 0.84 for physical aggression, 0.52 for verbal aggression, 0.44 for anger, 0.79 for hostility, and 0.37 for indirect aggression.

SASS

SASS developed by Bosc (1997) and the Turkish adaptation and validity and reliability of it was carried out by Akkaya [9]. The scale is a 21-item self-evaluation scale with a four-point Likert-type score. It questions four main areas of social functioning (work, leisure, family, and the ability to regulate and cope with the environment). The total value is obtained by adding up the scores of all items. In the reliability analysis, the Cronbach alpha value of the scale between 0.87 and 0.90 [9]. The Cronbach alpha value for the current study was 0.88.

Strengths of the Research

This was the first semi-experimental psychodrama study with disadvantaged family groups. In the literature, there is no relevant studies the use of psychodrama method in adolescents whose families are involved in crime were found. In this context, the results of the research are compared to the relevant literature.

Statistical Analysis

The analysis of research data was performed using SPSS 25.0 (IBM Statistical Package for Social Sciences 25 software Armonk, NY: IBM Corp.). In the statistical analysis, the appropriate test was determined according to the conformity of the data to the normal distribution. The Shapiro-Wilk test was used to examine the conformity to normal distribution.

Ethical Aspect of Research

Ethical approval was obtained from the Clinical Research Ethics Committee of the University of Health Sciences Türkiye, Taksim Training and Research Hospital (approval no: 66, date: 13.06.2018). Institutional permission was obtained by applying to the Gaziosmanpaşa Public Education Directorate. Written consent was obtained from the adolescents and their families.

RESULTS

This section presents the results about the socio-demographic characteristics of adolescents.

When the demographic characteristics of the intervention and control groups were examined, it was found that the mean age of the participants in the intervention group was 13±0.76. Half of them were male, 50% had a nuclear family, and 87.5% had a medium income. In the control group, it was determined that the mean age of the participants was 13±0.76. 62.5% were male, 62.5% lived in a nuclear family, and 75% had a medium income. The intervention and control groups were homogeneous in terms of individual characteristics (Table 1).

When the changes before and after psychodrama were examined, while there was a statistically significant decrease in the intervention group, there was no significantly differencein the control group. The differences obtained from the scores acquired before and after psychodrama were found to differ statistically between the two groups ($p<0.05$). It was observed that the difference in scores in the intervention group was significantly higher than in the control group.

In the verbal aggression subscale, when the changes after the psychodrama were examined, it was found that there was a statistically significant decrease in the intervention group ($p<0.05$). This change was not observed in the control group. It was determined that the differences in the scores before and after psychodrama did not show a statistically significant difference between the two groups.

In the anger subscale scores, while there was a statistically significant decrease in the intervention group, there was no significant change in the control group. The differences obtained from the scores acquired before and after psychodrama were found to differ statistically between the two groups ($p<0.05$). It was observed that the difference in scores in the intervention group was significantly higher than in the control group. Psychodrama had a positive effect in favor of the intervention group by reducing the anger scores.

In the hostility subscale a statistically significant decrease was found in both intervention and control groups ($p<0.05$). It was determined that the differences obtained from the scores acquired before and after psychodrama did not show a statistically significant difference between the two groups.

In the indirect aggression subscale, when the changes after the psychodrama were examined, a statistically significant decrease was found in the interventiongroup; however, there was no significant change in the control group. The differences in the scores acquired before and after psychodrama were found to differ statistically between the two groups ($p<0.05$). It was found that the difference in scores in the intervention group was significantly higher than in the control group. Psychodrama had an effect in favor of the intervention group by decreasing the indirect aggression scores.

In the total AS scoresthere was a statistically significant decrease in the intervention group, while there was no significant change in the control group. It was determined that the difference in scores in the intervention group was significantly higher than in

the control group. Psychodrama decreased the total aggression scores in favor of the intervention group (Table 2).

Examining the scores obtained from SASS, while there was a statistically significant increase in the intervention group, there was no significant change in the control group. The changes in the scores acquired before and after the psychodrama did not differ statistically between the two groups. However, the difference between the pre-psychodrama and SASS arithmetic mean scores of the intervention group was 11, while this difference was 2.88 in the control group. These results revealed that psychodrama was effective in increasing the social adjustment of adolescents in the intervention group (Table 3).

DISCUSSION

This study was conducted with a quasi-experimental design in order to examine the effects of psychodrama on aggression and social adaptation in adolescents whose families were involved in crime.

There is a limited number of experimental studies investigating the effect of psychodrama with adolescents on aggression and social adjustment. In the current study, when the results related to the AS were evaluated it was determined that after the psychodrama, the scores for physical aggression, verbal aggression, anger, hostility, indirect aggression, and total aggression decreased in favor of the intervention group.

Examining the studies on the effects of psychodrama on violent behavior and conflict resolution in the literature, Mojahed et al. [10] found that psychodrama reduced aggression in children. Sudha [11] determined that psychodrama reduces aggression and increases assertiveness in adolescents. Ashouri and Roudbary [12] observed that psychodrama can be used as an effective intervention in reducing violence and aggression, while in the study by Maya et al., [13] it was found that adolescents' aggression levels decreased during psychodramatic family therapy. Bilge and Keskin [14] stated that psychodrama increased the effectiveness of an anger management program, Gezait et al. [15] stated that psychodrama was an appropriate intervention in reducing the level of school violence in adolescents, and Rayshan and Al-Athari [16] stated that psychodrama was effective in reducing anger in adolescents. Karataş [17] reported that psychodrama had an effect on physical and indirect aggression, anger, and hostility scores, but not on verbal aggression scores. Karataş [17] stated that psychodrama improved conflict resolution skills. In the psychodrama study by Karataş and Gökçakan [18], it was found that psychodrama reduced levels of aggression; Reis et al. [19] stated that psychodrama reduces anger; Amatruda [20] stated that as a result of psychodrama students' negative behaviors decreased. Fong [21] noted positive results in terms of developing skills to cope with violent situations. In Wathney's [22] study, it was stated that psychodrama decreased the tendency to violence by improving communication and empathy in adolescents involved in crime. The literature thus shows that psychodrama is an appropriate method to use, among various others, in order to reduce violent behavior. In the study by Sung-Hee [23] in which the effect of psychodrama was revealed to help victims of domestic violence increase their motivation for change, it was stated that psychodrama improved individuals' readiness to change, the importance they placed on making changes, and their confidence in their ability to do this. The study showed that psychodrama had a significant effect on victims of domestic violence, especially when those individuals wanted to eliminate negative emotions or behavioral patterns. In the current study, the negative attitudes reflected in the behaviors of adolescents, and which arose from their negative emotions, were improved by psychodrama, which supports the results of similar studies. Psychodrama, which is action-based, is an effective method that can provide insight and catharsis by reenacting the individual's reality through dramatization, thereby facilitating integration and change.

When the scores obtained from SASS in this study were examined, it was concluded that psychodrama was effective in increasing the social adaptation of the adolescents in the intervention group. The literature supports this research result. In the study conducted by Şahin Yoluk et al., [24] it was found that psychodrama positively affected social adaptation by increasing social skills in disadvantaged adolescents. In the study

Table 1. Comparison of the Sociodemographic Characteristics of Adolescents in the Intervention and Control Groups (n=16)

		Experiment (n=8) n (%)		Control (n=8) n (%)		p-value
Age	**X ± SD**	13±0.76		13±0.76		1 (t=0.000)
	Median (min-max)	13 (12-14)		13 (12-14)		
Gender	Female	4	50	3	37.5	0.614 (cs=0.254
	Male	4	50	5	62.5	
Family type	Nuclear family	4	50	5	62.5	0.473 (cs=1.498)
	Extended family	1	12.5	0	0	
	Fragmented family	3	37.5	3	37.5	
Family's economic status	Moderate	7	87.5	6	75	0.481 (cs=1.463)
	Good	0	0	1	12.5	
	Very good	1	12.5	1	12.5	

t: Independent samples t-test, cs: Pearson chi-square test

Table 2. Comparison of the Scores of the Intervention and Control Groups for the Aggression Scale (n=16)					
	Intervention group (n=8)		Control group (n=8)		
AS	**X ± SD**	**Median (min-max)**	**X ± SD**	**Median (min-max)**	**Between groups**
Physical aggression before psychodrama	27.25±6.86	29.5 (12-34)	19.25±6.18	20.5 (9-27)	0.028* (t=2.45)
Physical aggression after psychodrama	11.13±1.73	11.5 (9-14)	14.88±6.33	14 (8-25)	0.145 (t=-1.615)
In-group p-value	**0.0001** (t=6.822)**		**0.158 (t=1.579)**		
Difference in physical aggression between two groups	**16.13±6.69**	**17.5 (1-22)**	**4.38±7.84**	**4.5 (-8-13)**	**0.006* (t=3.226)**
Verbal aggression before psychodrama	14.75±4.56	14.5 (10-24)	11.38±4.24	12.5 (6-19)	0.148 (t=1.533)
Verbal aggression after psychodrama	9.63±2.56	9.5 (6-14)	10.5±3.46	10 (5-17)	0.575 (t=-0.575)
In-group p-value	**0.008* (t=3.676)**		**0.695 (t=0.409)**		
Difference in verbal aggression between two groups	**5.13±3.94**	**4.5 (1-12)**	**0.88±6.06**	**2.5 (-11-8)**	**0.119 (t=1.663)**
Anger before psychodrama	26±2.93	25.5 (22-32)	21.63±5.58	22.5 (13-32)	0.07 (t=1.964)
Anger after psychodrama	15.88±2.53	16 (13-20)	18.25±4.53	19.5 (12-25)	0.216 (t=-1.295)
In-group p-value	**0.0001** (t=10.42)**		**0.164 (t=1.555)**		
Difference in anger between two groups	**10.13±2.75**	**10 (5-14)**	**3.38±6.14**	**5 (-7-10)**	**0.018* (t=2.838)**
Hostility before psychodrama	21.75±7.17	21.5 (12-34)	21±6.52	19.5 (12-34)	0.83 (t=0.219)
Hostility after psychodrama	15.75±3.24	15.5 (11-21)	15.88±5.14	16 (7-25)	0.954 (t=-0.058)
In-group p-value	**0.005* (t=4.032)**		**0.016* (t=3.143)**		
Difference in hostility between two groups	**6±4.21**	**5.5 (1-13)**	**5.13±4.61**	**4 (-1-13)**	**0.698 (t=0.396)**
Indirect aggression before psychodrama	19.63±2.13	20 (15-22)	14±4.04	14 (7-19)	0.004* (t=3.485)
Indirect aggression after psychodrama	10.75±2.66	10.5 (8-16)	13±4.21	14.5 (6-17)	0.222 (t=-1.278)
In-group p-value	**0.0001** (t=7.675)**		0.631 (t=0.502)		
Difference in indirect aggression between two groups	**8.88±3.27**	**9.5 (4-13)**	**1±5.63**	**2.5 (-10-7)**	**0.004* (t=3.42)**
Total aggression before psychodrama	109.38±17.9	109 (82-144)	87.25±20.5	89 (52-119)	0.037* (t=2.299)
Total aggression after psychodrama	63.13±9.67	64.5 (51-81)	72.5±17.57	73.5 (38-91)	0.207 (t=-1.322)
In-group p-value	0.0001** (t=9.55)		0.109 (t=1.837)		
Difference intotal aggression between two groups	**46.25±13.7**	**50 (16-63)**	**14.75±22.71**	**19 (-25-45)**	**0.005* (t=3.36)**

*: p<0.05 statistically significant difference; for intergroup comparisons t: independent samples t-test; for intra-group comparisons t: paired samples t-test
**: p<0.001, AS: Aggression Scale, SD: Standard deviation

Table 3. Comparison of the Scores of the Intervention and Control Groups from the Social Adjustment Scale (n=16)					
	Intervention group (n=8)		Control group (n=8)		
SASS	**X ± SD**	**Median (min-max)**	**X ± SD**	**Median (min-max)**	**Between groups p-value**
Before psychodrama	30.25±4.65	31.5 (23-37)	22.25±5.82	22 (12-32)	0.009* (t=3.035)
After psychodrama	41.25±5.2	39.5 (34-49)	25.13±4.29	25.5 (18-32)	0.0001** (t=6.763)
In-group p-value	**0.002*** (t=-4.602)		0.425 (t=-0.847)		
Difference between two groups	**-11±6.76**	**-8.5 (-23--2)**	**-2.88±9.6**	**-3 (-20-14)**	**0.071 (t=-1.957)**

*: p<0.05 statistically significant difference; t for intergroup comparisons: independent groups t-test; for intergroup comparisons t: independent samples t-test; for intra-group comparisons t: paired samples t-test
**: p<0.001, SAAS: Social Adaptation Self-evaluation Scale, SD: Standard deviation

by Nejad and Khodabakhshi [25], it was found that social skills increased and aggression decreased in Afghani adolescents with the use of psychodrama. Li et al. [26] stated that psychodrama intervention was a reliable method to improve social skills. Bulut [27], in a study using psychodrama, interaction and control groups with adolescents in a girls' orphanage, stated that more positive results for social adaptation skillswere obtained with the members in the psychodrama group. Carpenter and Sandberg [28] stated that psychodrama was effective in improving ego strength and socialization skills in a small group of delinquent adolescents. The basis of psychodrama is the belief that an individual is able toreshape theirold, negative experiences into new, healing emotional experiences [29]. According to Altınay [30]. It is thus possible to create changes in individuals through by using psychodrama to allow them to repeattheir previous experiences in a new way. Dökmen [31] similarly emphasized that individuals can develop new behaviors and gaininsight through psychodrama. Psychodrama acts as a bridge to the subconscious to change negative patterns and enables the individual to examine and integrate positive features of their experience that they are not previously aware of [32].

Psychodrama is an effective method for developing positive behaviors that will increase social adaptation in adolescents. Various studies have shown that psychodrama develops positive behavior patterns. In the literature, it has been found that psychodrama increases communication skills [33,34]; contributes to self-awareness [35,36] helps individuals to develop an assertive attitude and increases empathy [36-40]; reduces anxiety in students [41,42]; improves problem-solving skills [43]; has an effect on conflict resolution [44,45]; improves symptoms of social anxiety disorder [46-48]; increases empathy [49]; and increases assertiveness [50].The results obtained in the current research findings are thus compatible with the literature and show that psychodrama is effective in reducing adolescents' tendency to violence and improving their social adaptation and sense of belonging. Psychodrama is a successful approach in the field of child and adolescent psychotherapy due to its broad flexibility and expansions in the direction of development, growth, and emotional learning, according to the findings of controlled studies conducted by therapists who have received recent training in this area.

Study Limitations

The study was conducted in a single center and the sample was small; these constitute the limitations of the research.

CONCLUSION

Psychodrama was found to be effective intervention to reduce the tendency to violence in adolescents whose families were involved in crime; it also significanlty increased their social adaptation skills. It is recommended that new studies be conducted in different centers with larger sample numbers, and that preventive mental health services be provided in order to prevent violence and increase social adaptation in disadvantaged adolescent groups and their families.

Ethics

Ethics Committee Approval: Ethical approval was obtained from the Clinical Research Ethics Committee of the University of Health Sciences Türkiye, Taksim Training and Research Hospital (approval no: 66, date: 13.06.2018).

Informed Consent: Written consent was obtained from the adolescents and their families.

Footnotes

This study is derived from the first author's doctoral dissertation entitled "The Effect of Psychodrama on Violence Tendency and Social Adaptation in Adolescents from Families Involved in Crime," completed under the supervision of the second and third authors at Istanbul University-Cerrahpaşa, Institute of Graduate Studies, Department of Mental Health and Psychiatric Nursing in 2020, and was presented as an oral presentation at the 10th International Congress of Psychiatric Nursing held on October 20-23, 2021.

https://avesis.iuc.edu.tr/yonetilen-tez/c5b5cb12-aa4f-4876-ba08-2bbaf596a1dd/aileleri-suca-bulasan-ergenlerde-psikodramanin-siddet-egilimi-ve-sosyal-uyuma-etkisi

Author Contributions

Surgical and Medical Practises: ÇŞ, LK; Concept: ÇŞ, LK, EAY; Design: ÇŞ, LK, EAY; Data Collection or Processing: ÇŞ, LK; Analysis or Interpretation: ÇŞ, LK; Literature Search: ÇŞ, LK, Writing: ÇŞ, LK, EAY.

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What is the Nursing Philosophy of Nurses? A Qualitative Study

Hemşirelerin Hemşirelik Felsefesi Nasıl? Nitel Bir Çalışma

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ABSTRACT

Objective: This study aims to deeply examine the perceptions of nurses towards nursing philosophy. The study is a qualitative study conducted in phenomenological design.

Methods: The study group consists of 9 nurses. Data were collected face to face using a semi-structured interview form and analyzed with the content analysis technique. Three main themes and fifteen sub-themes emerged as a result of the content analysis.

Results: Content analysis revealed three main themes and fifteen sub-themes. The themes are: Nature of the profession (Belonging, Competence, Professionalism), Echo of time (Development, Motivation, Experience), Ripple effect (Helping, Caring), World of values (Human dignity, Providing benefit, Non-maleficence, Honesty, Justice, Privacy, Conscience).

Conclusion: The findings of this study can help nurses, nurse managers and nursing academics in increasing the quality of the nursing service to be provided. It is recommended that further studies be carried out on the nursing philosophy of current nursing students, who will be the nurses of the future, focusing on the process through which the nursing profession is first experienced.

Keywords: Nurse, philosophy, qualitative

ÖZ

Amaç: Bu çalışma, hemşirelerin hemşirelik felsefesine yönelik algılarını derinlemesine incelemeyi amaçlamaktadır.

Yöntem: Çalışma, fenomenolojik desende yürütülen nitel bir çalışmadır. Çalışma grubu 9 hemşireden oluşmaktadır. Veriler yarı yapılandırılmış görüşme formu kullanılarak yüz yüze toplanmış ve içerik analizi tekniği ile analiz edilmiştir.

Bulgular: İçerik analizi sonucunda üç ana tema ve on beş alt tema ortaya çıkmıştır. Temalar: Mesleğin Doğası (Aidiyet, Yetkinlik, Profesyonellik), Zamanın Yankısı (Gelişim, Motivasyon, Deneyim), Dalgalanma Etkisi (Yardım Etme, Önemseme), Değerler Dünyası (İnsan Onuru, Fayda Sağlama, Zarar Vermeme, Dürüstlük, Adalet, Mahremiyet, Vicdan).

Sonuç: Bu çalışmanın bulguları hemşirelere, hemşire yöneticilerine ve hemşirelik akademisyenlerine sunulacak hemşirelik hizmetinin kalitesini artırmada yardımcı olabilir. Geleceğin hemşireleri olacak olan şimdiki hemşirelik öğrencilerinin hemşirelik felsefesi üzerine, hemşirelik mesleğinin ilk deneyimlendiği sürece odaklanan daha fazla çalışma yapılması önerilmektedir.

Anahtar kelimeler: Hemşire, felsefe, nitel

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INTRODUCTION

Nursing is in constant development, not only as a profession or discipline but also as a science [1]. Nurses are expected to have the most up-to-date knowledge and clinical skills to ensure that patients receive the best care in every region of the world. Equipping nurses with nursing knowledge is very important but not enough on its own [2]. Nurses are responsible for integrating the science and art of nursing into patient care to achieve optimal patient outcomes [3]. The most fundamental way to accomplish this is to allow nursing philosophies to be reflected in patient care. Nursing philosophy serves as a foundational guide that shapes nurses' professional values, ethical principles, and approaches to individuals. This philosophy enables nurses to adopt a holistic care approach by considering not only physical care but also psychological, social, and emotional needs. As a result, the centrality of nursing philosophy in practicing the profession is vital for enhancing the quality of patient care and strengthening the trust between the patient and the healthcare team.

Since nursing involves direct interactions with people, in addition to nursing knowledge, it is valuable to gain and adopt competence in the fields of professional values, legal and ethical responsibilities, and nursing philosophy. Nursing has become a scientific discipline based on understanding the basic principles and philosophy that shape it [4]. It represents a whole consisting of abstract structures based on values, goals, and decisions that guide professional behaviors and practices [5]. The development of nursing philosophy is an abstract effort and includes the development and assessment of the affective domain [6]. The affective domain involves individuals' emotional responses, values, attitudes, and motivations, and development in this area requires a long process. Professional philosophy is extremely important for a practice-based discipline such as nursing and is a basic tool that shapes the professional identity and practice of nursing [7].

A developed nursing philosophy not only contributes to nurses' clinical practices but also plays a significant role in areas such as clinical management, education, and research, which, in turn, directly affects the quality of patient care [8]. In this context, the critical role that nursing philosophy plays in nurses' individual and professional development has a profound effect on nursing practice. Although there were various review studies in the literature on the necessity to address nursing philosophy in a broader context, there was only one study on the examination of nursing philosophy in depth [8-12]. There was no study on the investigation of nursing philosophy in depth in our country. This deficiency makes it difficult to understand how nursing philosophy is shaped as part of nurses' professional identities and how the purpose of the existence of nursing is perceived.

Addressing nurses' perceptions of nursing philosophy allows gaining some insights into how philosophical values that form the basis of nursing practice are effective in clinical decision-making and patient care [5]. Nurses' perceptions of nursing philosophy are also noteworthy in terms of showing how ethical and professional values that shape nursing practices are internalized. In addition, an in-depth examination of nurses' perceptions of nursing philosophy will provide information that will guide nurses' professional development and contribute to intervention studies aimed at improving their knowledge and skills in this area. Therefore, addressing the nursing philosophies of nurses will provide a profound understanding of the nursing profession and strengthen professional practices. Accordingly, this study aimed to examine nurses' perceptions of nursing philosophy in depth and provide the necessary theoretical foundations to improve nursing practice.

MATERIAL AND METHOD

Research Design

This research was conducted using a phenomenological research design to comprehensively understand and interpret nurses' perceptions of nursing philosophy. Phenomenology, based on the philosophical studies of Edmund Husserl, is a qualitative research approach that aims to discover the essence of the phenomena experienced by individuals and their subjective perceptions of these phenomena [13]. This study was designed in accordance with the guidelines of the Consolidated Criteria Guide (COREQ) checklist, which is used to report qualitative research clearly and comprehensively [14].

Study Group

The study was conducted with nurses working in a public hospital in a province in the Central Anatolia Region of Türkiye. The maximum variation sampling method, one of the purposive sampling types, was employed to determine the subjects of the study. This sampling method aims to reflect the diversity of individuals evaluated regarding the problem in question to the maximum extent [15]. In this context, the year of the study and the department studied were considered as maximum diversity criteria for inclusion in the sample group.

As reported by Creswell[16], the number of participants in phenomenological studies is recommended to be between 5 and 25 by Polkinghorne and between 3 and 10 by Dukes. It is also stated that in qualitative studies, the number of participants can be determined in a way that meets the objectives of the study, can provide detailed data, is consistent with the research question(s) and analytical framework, and provides data saturation, instead of large groups [16]. In this context, as a result of the data obtained from in-depth interviews with nurses, the data saturation was evaluated, and the data collection process was completed with nine participants. None of the nurses quit the study during data collection.

Nurses who had an undergraduate nursing degree, volunteered to participate in the study, and actively worked in the clinic were included in the study. Nurses who graduated from a health vocational high school were not included in case they affected the results of the study.

Research Instruments and Processes

The study was conducted in a public hospital operating in a province in the Central Anatolia Region of Türkiye. Participants were determined using purposive sampling. After the nurses working in the hospital where the study was conducted were evaluated according to the inclusion criteria, they were informed about the study by the third author, and then written and verbal consent was obtained from those who agreed to participate in the study.

Semi-structured Interview Form: The data of the study were collected face to face using the semi-structured interview technique. During the interviews, the researchers used a semi-structured interview form created following a review of the literature to examine nurses' perceptions of nursing philosophy in depth [1,7,17,18]. After the interview form was prepared, five faculty members in the field of nursing were consulted for its evaluation in terms of content, scope, language, and qualitative research method. The interview form was revised in line with the feedback from the experts. In addition, a pilot application that included a nurse was conducted. The data obtained in the pilot application were not included in the analysis. After this application, the semi-structured interview form was finalized. The form comprised 11 questions, including two used for introduction, three main, and seven probing items. The questions on the semi-structured interview form are listed below.

1. Talk about yourself, please? (age, marital status, and education level)

2. Talk about your professional life, please?

2.1. Why did you want to become a nurse?

2.2. What do you think was the most important thing that led you to this profession?

2.3. What personal interest do you think led you to this profession?

2.4. What does being a nurse mean to you?

2.5. How does being a nurse, as a practitioner of this profession, make you feel?

3. How would you define your own nursing philosophy as a practitioner of this profession?

3.1. How do you think you affect individuals, families, and society while practicing your profession?

3.2. How do you think your values shape your professional practices?

4. Is there anything else you would like to say about being a nurse?

The study data were collected between March and April 2024 by the third author of the study. There was no direct relationship between the researcher and the nurses. To ensure the privacy of the nurses and to enable them to express themselves better, the interviews were conducted in a room in the department where the nurses worked. The room was bright enough, there was no noise or complexity, and there was nothing to hinder communication. The interviews were recorded using a voice recorder with the permission of the nurses, and additionally, some notes were taken. The nurses were informed about the purpose and details of the study. Written consent was obtained from the nurses who agreed to participate in the study, and then their verbal consent was recorded. The interviews took about 28-42 minutes.

Statistical Analysis

The audio recordings obtained in the study were transcribed, and a 52-page-long raw data document was obtained on Microsoft Word. The data were analyzed using the content analysis technique, which is one of the most widely used methodologies to examine a phenomenon in qualitative research and is frequently used in nursing research. In the study, first, all the transcriptions were read in depth and line by line, and important expressions or sentences referring to the phenomenon under study were identified. Then the codes were categorized and reported according to their similarities and differences to establish the main idea in the data.

Ethic

The research was conducted following the Declaration of Helsinki. Ethics committee approval was obtained from the Ethics Committee of Nevşehir Hacı Bektaş Veli University Non-Interventional Clinical Research (number: 2023.12.16, date: 14.12.2023). Institutional permission was obtained from the hospital board where the research was conducted (approval number: 16, date: 14.12.2023). Written and verbal consent was obtained from the participants before the research was initiated. Informed consent forms were obtained from the nurses. Participants' identities were kept confidential, and their information was anonymized. The documents, files, records, and raw data used during the research process were stored in a password-protected computer, accessible only by the researchers.

RESULTS

Almost all of the participants were female (n=8). The average age was 35.66±8.01 years, and the average work experience was 11.77±8.07 years. Participants' characteristics are presented in Table 1.

Four main themes and sixteen subthemes emerged about the participants' nursing philosophies. The themes and subthemes obtained in the study are presented in Table 2.

Theme 1: The Nature of the Profession

Three-quarters of the nurses defined their nursing philosophy in terms of their sense of belonging to the nursing profession. Almost half of the nurses stated that they practiced their profession based on professional competence, while a small number stated that they practiced the profession based on professionalism. The theme of the nature of the profession was evaluated with three subthemes: belonging, competence, and professionalism.

Table 1. Participant Attributes				
Code	Attributes			
	Age	Gender	Department	Total work experience (year)
P1	Male	25	Neurosurgery department	3
P2	Female	37	The department of pediatrics	14
P3	Female	37	Operating room	14
P4	Female	50	Psychiatry department	27
P5	Male	28	Emergency department	4
P6	Female	29	Chest department	4
P7	Female	35	Intensive care unit	12
P8	Female	35	Gynecology department	8
P9	Female	45	Dialysis unit	20

Table 2. Themes Emerging from the Interviews	
Subthemes	Main themes
Belonging Competence Professionalism	The nature of the profession
Development Motivation Experience	Echo of time
Helping Caring	Ripple effect
Human dignity Providing benefit Non-maleficence Honesty Justice Privacy Conscience	World of values

Sub-theme 1: Belonging

"As I gained professional experience and progressed in the profession, I felt that I belonged to my profession and understood it better." (P1-Neurosurgery Department)

"First of all, I feel privileged compared to other professions because I do something that not everyone can do. I do something that is acquired beyond learning by reading books. I use the knowledge, skills, and experience specific to care that I have internalized. That is why I feel privileged." (P7-Intensive Care Unit)

Sub-theme 2: Competence

"Being a nurse is possible by having competence to perform appropriate interventions on patients and having field-related knowledge and skills." (P6-Chest Department)

"Actually, I know my limits; I am aware of what I can and cannot do." (P6-Chest Department)

Sub-theme 3: Professionalism

"I think that the nursing profession should be performed from a professional perspective. The concept of professionalism includes being fair to patients, providing the care they deserve, preventing harm to the patient, having enough knowledge and skills, working with a lifelong learning philosophy, protecting professional identity, and ensuring professional unity. All of these concepts constitute my professional understanding and professional philosophy. I look at it within this framework and consider these approaches while working." (P7-Intensive Care Unit)

"I think individual values should not affect the profession. It is clear how a nurse should behave and give responses in the face of events. Individual values should be effective in our social life. This is how I think and what being professional is… I think my professional practice is based on professionalism." (P9-Dialysis Unit)

Theme 2: Echo of Time

A small number of nurses stated that their nursing philosophy included self-development, the feedback they received after providing care to the patient motivated them, and that this constituted their nursing philosophy. Some of the nurses defined the professional experience they had gained over the years as their philosophy. The theme of the echo of time was evaluated with three sub-themes: development, motivation, and experience.

Sub-theme 1: Development

"My nursing philosophy is self-development. How can I become a better nurse? How can I equip myself more? What can I do for the benefit of my patient? Thinking about how I can do things better in my job constitutes the philosophy of my profession." (P5-Emergency Department)

"The nursing profession places a great responsibility on you. It has many responsibilities, and I try my best to fulfill them. In this regard, I thought I had to improve myself from the moment I started the profession, and I have been trying to do so since." (P7-Intensive Care Unit)

Sub-theme 2: Motivation

"When you provide a patient with care, you get incredible satisfaction… The people you provide care for are human, and you can get good or bad responses from them. Positive responses increase our motivation. We get very happy when patients pray, say positive things, express that they are happy with us, and leave satisfied." (P5-Emergency Department)

"In the nursing profession, you can see the outcomes of all the interventions you apply to the patient and get feedback about your work. In other words, you understand this either by observation, verbal expressions, or parameters. This outcome is something noticeable, and it affects me a lot. It motivates me in this regard, that is, it encourages me to do my job." (P1-Neurosurgery Department)

Sub-theme 3: Experience

"I can easily say that I am competent in my field of work. I think I have improved myself in many areas since the first day. Being in the same service for four years has given me self-confidence. The learning process does not end with undergraduate education; it continues through experience in the service." (P5-Emergency Department)

"In cases of pregnant women who have experienced violence, pregnant adolescents, and pregnant women who have had a miscarriage, it is necessary to be very careful, make good observations, and have the right approach. In the first years of my career, I had a hard time with these issues, and there were days when I cried a lot and could not sleep at night. Over time, I can see that I have become more experienced, have gained a healthier and more accepting approach, and have come to a point where I can work without hurting myself emotionally." (P8-Obstetrics and Gynaecology Department)

Theme 3: Ripple Effect

Almost all of the nurses expressed their nursing philosophy as helping and providing care for those in need. The theme of the ripple effect was evaluated with two sub-themes: helping and caring.

Sub-theme 1: Helping

"Nursing is already a profession based on providing care. Helping is the basis of nursing. So I have to be able to help and want to help. I have to make this help meaningful." (P2-Pediatrics Department)

"Being a nurse means helping patients when they need it; whatever need it is, physical or psychological." (P8-Gynecology Department)

Sub-theme 2: Caring

"Being a nurse means knowing people in all aspects, being able to evaluate patients holistically and determine their needs, and providing nursing care for them according to their needs." (P7-Intensive Care Unit)

"I think being a nurse primarily means being aware of people. It means recognizing and meeting the needs of patients who cannot support themselves." (P5-Emergency Department)

"It is very important for us that a mother's pregnancy ends healthily, she holds her baby in her arms healthily, and that she raises her baby healthily. If both the baby and the mother are healthy, society will be healthy as well. Just as when you throw a stone into water, ripples form and spread around, the same thing happens with the interventions we make. I can say that the care we provide spreads in ripples and affects the entire society." (P8-Gynecology Department)

Theme 4: World of Values

While a small number of nurses stated that the meaning they attributed to nursing was respecting human dignity, according to nearly a third of the nurses, providing benefits and giving no harm constituted their philosophy in their profession. Some of the nurses also defined their nursing philosophy as honesty, justice, privacy, and conscience. The theme of the world of values was evaluated with seven sub-themes: human dignity, providing benefit, non-maleficence, honesty, justice, privacy, and conscience.

Sub-theme 1: Human Dignity

"I respect my patients and I want to be respected by them. Respect is important to me. This is important for seeing and giving value." (P4-Psychiatry Department)

"When approaching a patient, we should not forget that they are human. We need to be professional… One of the things we should be careful about is not to personalize situations. We, nurses, are the ones who monitor the patient 24 hours a day, and we are the ones who intervene and notify when a problem occurs. We should not forget that the target of these practices is a human being. (P5-Emergency Department)

Sub-theme 2: Providing Benefit

"I think that my nursing philosophy is to benefit people I don't know and to ensure that they become healthy." (P1-Neurosurgery Department)

"Actually, my perspective is that I definitely want to do whatever is in the best interest of the patient. Sometimes, there may be statements (from our colleagues) that say it is not in our job description. I think that nurses can do anything that will benefit the patient." (P6-Chest Department)

Sub-theme 3: Non-maleficence

"First of all, my nursing philosophy is non-maleficence… non-maleficence; doing the right thing, and doing it at the right time. This is my clearest philosophy: non-maleficence. Let's first prevent maleficence. Of course, doing the right thing, as it should be, is also important. If people care about this, they will prevent mistakes and harm when they do their job properly. Of course, we are human and there is always a possibility of making mistakes, but being a nurse also places a different burden on people because nurses are members of a professional group. Our profession does not accept mistakes because we work with human beings." (P2-Pediatrics Department)

"Maybe our interventions directly affect the individual. Perhaps the most important issue in the operating room is to prevent harm to the patient." (P3-Operating Room)

Sub-theme 4: Honesty

"I am for honesty, both with myself and the people around me. Honesty is an important value for me because many things are under the control of the nurse in the nursing profession. Sometimes only you know what you have or what you haven't done… Here, you need to be honest with both yourself and the patient. For example, the tip of the nasal cannula touches the ground, or the syringe touches something. You can't ignore the contamination and use it. You can't continue as if nothing happened. You would be neglecting that patient." (P5-Emergency Department)

"I am always for honesty. No matter what happens, I am in favor of telling the patient the truth… Therefore, as a nurse, I attach great importance to providing accurate information." (P3-Operating Room)

Sub-theme 5: Justice

"For example, sometimes we need to intervene in very private areas of patients. I never discriminate between genders or in terms of other characteristics. For me, the person in front of me is a human being, and I meet whatever the person needs at that moment. I do not discriminate against my patients in any way." (P6-Chest Department)

"Since justice is very important to me, I can say that I pay attention to justice in my profession as well. This affects all areas from working hours to materials used in the service, time allocated to patients, and communication. Everyone should be given their rights. Patients should receive the nursing care they deserve in the hospital. I am the one who will provide this care, and if I cannot do it as required, how can I assume the responsibility for this?" (P8-Obstetrics and Gynaecology Department)

Sub-theme 6: Privacy

"Another important issue for me is privacy. I value privacy in my daily life, too. We witness many special moments of patients, and we keep this information confidential. I follow this principle in my daily life, too, but I am more sensitive when I am in the hospital." (P6-Chest Department)

Sub-theme 7: Conscience

"If I were to come back to this world a second time, I would like to be a nurse again because I do it with great pleasure. I get a lot of satisfaction, and I tell myself this after every shift and every procedure. I question myself in my conscience. I think there is no one better than me if my conscience is clear, if I am satisfied, and if I am happy and peaceful…" (P2-Pediatrics Department)

"My conscience needs to be clear when I leave the hospital. You have to be conscientious if you are a nurse." (P4-Psychiatry Department)

"Spirituality and conscience are very important here. The nurse is alone with the patient and his/her conscience on many issues." (P8-Obstetrics and Gynaecology Department)

DISCUSSION

Nursing philosophy refers to the ethical values that shape the choices a nurse makes at work, beliefs, and motivation to be a part of the profession and emphasizes an orientation that determines the nature of the work to be accomplished [18,19]. In this qualitative study, nurses' perceptions of nursing philosophy were examined in depth.

In our study, nurses stated that their perceptions of belonging, competence, and professionalism shaped their nursing philosophy. Professional belonging is defined as the interest in the profession, identification with the profession, and effort to continue it, while belonging in nursing is expressed as the perception of acceptance in the profession, trust, and respect [20-23]. It is stated that belonging is a strong source of motivation [24]. Considering the human interaction nature of the nursing profession, feeling belonging is indispensable for the development and sustainability of the nursing profession and the importance of belonging to the profession. It has also been emphasized by international nursing organisations [25]. According to the literature, a negative sense of belonging leads to inadequate performance in the profession and failure, while a positive sense of professional belonging increases work motivation and work efficiency, leads to motivation for learning and development, and develops confidence and self-esteem [20,24,26,27]. In addition, it has been stated in the literature that competent nurses have an important role in providing safe care for patients, which emphasizes the importance of competence for the nursing profession [28]. Competence is the knowledge, skills, abilities, behaviors, or capacity that individuals must have to perform their duties appropriately and skillfully [29]. It is known that professional belonging and competence affect the professional approach [30]. Accordingly, it is possible to say that the sense of belonging, competence, and professionalism are the characteristics that nurses must have to continue their profession due to the nature of the nursing profession. In this study, it was observed that although the nurses explained their nursing philosophy using the concepts of competence and professionalism, they did not emphasize all the competence areas of nursing. This result shows that the competencies determined for nursing should be developed in pre- and post-graduate nursing education. However, nurses need to be competent to provide effective, reliable, and high-quality care [31]. When these competencies have been developed, the autonomy of the nursing profession can be strengthened, and the quality of patient care is positively affected. In addition, it is recommended that nurses' ability to act professionally be supported so that competence can develop positively.

In this study, nurses stated that development, motivation, and experience structured their nursing philosophy as their working lives progressed over the years. They added that they achieved these gains with the echo effect of time in terms of development, motivation, and experience. This situation showed that they felt trusted, valued, and accepted in the professional sense [27].

Accordingly, it is possible to say that the experience that nurses gained over the years provided awareness about their professional development and that the positive feedback they received from patients shaped their perspectives on their profession as a source of motivation. Considering that patient feedback supports the professional development of nurses and shapes their experience and motivation, it is recommended that patient-nurse interactions be supported with feedback.

Nursing is a profession that deals with humans and is based on nursing care [32]. Nursing science aims to improve people's health, relieve suffering, and provide the care and assistance needed for human health and well-being [33]. The aim of nursing care is to systematically meet patients' needs [34]. Providing care and assistance are nurses' independent functions in which they use their professional knowledge, skills, and abilities [35]. In our study, nurses expressed their nursing philosophy as helping and providing care. The fact that nurses defined their professional philosophy as providing care and helping showed that the essence of nursing was understood by nurses. In addition, nurses' statements about nursing philosophy as knowing people in all aspects, being able to evaluate the patient holistically, being able to determine the needs of the patient, and providing nursing care to patients according to their needs emphasized the necessity of providing nursing care through the nursing process. This emphasis also revealed that nursing could not be done haphazardly and was a scientific discipline. Accordingly, when the effect of this understanding of care and helping on all humanity, from the individual to society, is considered, the quality of the care that nurses will provide becomes important once again.

In our study, nurses stated that they provided nursing care in line with the ethical and moral values of nursing, including human dignity, providing benefit, giving no harm, honesty, justice, privacy, and conscience. Nursing care is the essence of the nursing profession, which includes ethics, morality, values, efficacy, competence, respect, and trust [36]. While providing nursing care, the nurse should accept that the individual is a whole with his/her values, beliefs, attitudes, actions, and behaviors and should believe that the individual has the right to receive high-level nursing services [12,37]. Nursing services provided with ethical principles and professional values positively affect the quality of the art of nursing care. Therefore, nurses should know professional ethical principles and implement nursing care with a positive ethical understanding [38]. Nursing services provided by nurses with a positive ethical understanding will ensure patient and employee satisfaction and patient safety, and increase the quality of nursing care [39]. Nursing care provided by nurses, considering professional ethics and moral values, is quite valuable in terms of strengthening their professional autonomy and increasing their professional satisfaction.

Study Limitations

This study has several limitations. First, the results are representative of the individuals in the study group and cannot be generalized. Second, the data were collected through semi-structured interviews; therefore, their reliability is limited by the accuracy of the information provided by the participants.

CONCLUSION

This is one of the rare studies that examine nurses' perceptions of nursing philosophy in depth. The findings of the current study are significant as they represent the first qualitative research conducted in our country to reveal nurses' professional philosophy. It is recommended that further studies be carried out on the nursing philosophy of current nursing students, who will be the nurses of the future, focusing on the process through which the nursing profession is first experienced.

Ethics

Ethics Committee Approval: Ethics committee approval was obtained from the Ethics Committee of Nevşehir Hacı Bektaş Veli University Non-Interventional Clinical Research (number: 2023.12.16, date: 14.12.2023).

Informed Consent: Written consent was obtained from the nurses who agreed to participate in the study, and then their verbal consent was recorded.

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Footnotes

Author Contributions

Design: RY, ŞDS, AYİ; Data Collection or Processing: AYİ; Analysis or Interpretation: RY, ŞDS, Literature Search: RY, ŞDS, AYİ; Writing: RY, ŞDS, AYİ.

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Deprem Yaşantısının Kadınlarda Durumluk ve Sürekli Kaygı ile Cinsel Fonksiyonlar Üzerindeki Etkisinin İncelenmesi

Investigation of the Impact of Earthquake Experience on State and Trait Anxiety and Sexual Functions in Women

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ÖZ

Amaç: Bu çalışmanın amacı, deprem travması yaşamış kadınların durumluk ve sürekli kaygı düzeyleri ile cinsel fonksiyonları arasındaki ilişkiyi incelemektir. Araştırma, afet sonrası kadın sağlığını etkileyen psikolojik ve cinsel sağlık göstergeleri üzerine odaklanmakta ve kaygının belirleyici rolünü ortaya koymayı hedeflemektedir.

Yöntem: Araştırma, deprem deneyimi yaşamış kadın katılımcılarla yürütülmüştür. Katılımcıların demografik özellikleri, sağlık durumları, kaygı düzeyleri ve cinsel sağlıkla ilgili verileri değerlendirilmiştir. Kaygı düzeyleri Durumluk-Sürekli Kaygı Envanteri ile cinsel sağlık ise memnuniyet, ilişki sıklığı ve orgazm gibi göstergeler üzerinden ölçülmüştür.

Bulgular: Çalışmada, cinsel memnuniyet ile kaygı düzeyleri arasında anlamlı ve ters yönlü bir ilişki olduğu bulunmuştur. Eğitim düzeyinin kaygıyı azaltıcı etkisi olduğu, kronik hastalık ve adet düzensizliğinin ise kaygıyı artırdığı belirlenmiştir. Bulgular, cinsel ve psikolojik sağlık göstergelerinin birbiriyle ilişkili olduğunu göstermektedir.

Sonuç: Deprem travmasının, kadınların psikolojik durumu ve cinsel sağlığı üzerinde belirgin etkileri olduğu görülmüştür. Eğitim düzeyinin kaygı üzerindeki koruyucu rolü ve cinsel memnuniyetin kaygı düzeyleriyle olan ilişkisi, afet sonrası kadınlara yönelik müdahalelerde dikkate alınması gereken önemli faktörlerdir. Bu sonuçlar, afet sonrası sağlık hizmetlerinde psikolojik ve cinsel sağlık göstergelerinin bütüncül bir yaklaşımla ele alınması gerektiğini ortaya koymaktadır.

Anahtar kelimeler: Afet, cinsel fonksiyonlar, deprem, kadın, kaygı

ABSTRACT

Objective: This study aims to examine the relationship between state and trait anxiety levels and sexual functioning in women who have experienced earthquake-related trauma. The research focuses on psychological and sexual health indicators affecting women's well-being after disasters and seeks to highlight the determining role of anxiety.

Methods: The study was conducted with female participants who had experienced an earthquake. Data were collected on participants' demographic characteristics, health status, anxiety levels, and sexual health indicators. Anxiety was measured using the State-Trait Anxiety Inventory, while sexual health was assessed through variables such as satisfaction, frequency of sexual intercourse, and orgasm frequency.

Results: The study found a significant negative relationship between sexual satisfaction and anxiety levels. Higher education levels were associated with lower anxiety, whereas the presence of chronic illness and menstrual irregularities were linked to higher anxiety levels. These findings suggest a strong association between psychological and sexual health indicators.

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ÖZ

Conclusion: Earthquake trauma has notable effects on women's psychological well-being and sexual health. The protective effect of education on anxiety, along with the link between sexual satisfaction and anxiety, should be taken into account in post-disaster interventions for women. These results underscore the importance of an integrated approach that addresses both psychological and sexual health in post-disaster healthcare services.

Keywords: Disaster, sexual function, earthquake, women, anxiety

GİRİŞ

Deprem ve Psikolojik Etkileri

Doğal afetler, özellikle depremler, bireylerin fiziksel ve psikolojik bütünlüğünü tehdit eden ciddi travmalar yaratmaktadır. Depremler, toplumsal düzeyde yaygın ruhsal sorunlara yol açarak bireylerin yaşam kalitesini, işlevselliğini ve genel sağlık durumunu olumsuz yönde etkileyebilmektedir. Kadınlar, erkeklere kıyasla travmatik yaşantılara karşı daha duyarlı olup psikolojik etkileri daha yoğun yaşamaktadır; bu durum, afet sonrası sağlık süreçlerini de etkilemektedir [1].

Literatürde, depreme maruz kalan kadınlarda travma sonrası stres bozukluğu, depresyon ve anksiyete gibi psikiyatrik bozuklukların daha sık görüldüğü bildirilmektedir [2]. Özellikle 2023 Kahramanmaraş Depremi sonrasında yapılan araştırmalar, kadınların kaygı düzeylerinin erkeklere göre anlamlı derecede daha yüksek olduğunu ortaya koymaktadır [3]. Bu ruhsal etkilerin, biyolojik yatkınlıkların yanı sıra sosyo-kültürel rollerin bir sonucu olarak da daha belirgin hale geldiği düşünülmektedir. Aile içi sorumluluklar, bakım rolleri ve toplumsal cinsiyet normları, kadınların afet sonrası travmalara karşı daha kırılgan hale gelmesine neden olabilmektedir [2].

Cinsel Fonksiyonlar ve Kadın Sağlığı

Kadın cinsel sağlığı; fiziksel, duygusal ve psikolojik bileşenlerin etkileşimiyle şekillenen karmaşık bir yapıdır. Cinsel fonksiyon bozuklukları, cinsel istek, uyarılma, lubrikasyon, orgazm ve genel cinsel tatmin gibi alanlarda yaşanan bozulmaları ifade eder [4]. Bu bozuklukların yalnızca fizyolojik değil, aynı zamanda psikolojik faktörlerle de yakından ilişkili olduğu gösterilmiştir [5]. Depresyon, anksiyete ve kronik stres gibi psikolojik durumlar, kadınların cinsel isteğini azaltabilmekte; orgazm güçlüğü ve vajinal ağrı gibi semptomları tetikleyebilmektedir [6].

Deprem ve Cinsel Fonksiyonlar Arasındaki İlişki

Travmatik olaylar, bireylerin hem bedensel hem de ruhsal sağlıklarını etkileyerek cinsel yaşam üzerinde de doğrudan etkiler oluşturabilir. Depremler, özellikle kadınların cinsel fonksiyonlarında bozulmalara yol açabilmektedir. Literatürde, depreme maruz kalan kadınlarda cinsel memnuniyetsizlik, cinsel arzu eksikliği, orgazm güçlüğü ve vajinal ağrı gibi sorunların sıklığının arttığı bildirilmektedir [3,7]. 2023 Kahramanmaraş Depremi sonrasında yapılan çalışmalar, artan kaygı düzeylerinin kadınların cinsel fonksiyonlarını olumsuz etkilediğini ortaya koymuştur [8]. Benzer şekilde, afet ve deprem sonrası yapılan çalışmalarda kadınlarda artan kaygı, travma sonrası stres belirtileri ve depresif semptomların psikososyal işlevsellik ve yaşam kalitesi üzerinde olumsuz etkiler oluşturduğu bildirilmektedir [2].

Deprem sonrası ortaya çıkan psikolojik stres, kadınların psikolojik iyilik hallerini ve cinsel sağlıklarını uzun süreli olarak etkileyebilmektedir. Artan kaygı düzeylerinin, özellikle cinsel isteksizlik ve orgazm güçlüğü gibi cinsel işlev bozukluklarıyla ilişkili olduğu bildirilmektedir [4].

Bu çalışma, deprem travmasına maruz kalan kadınların durumluk ve sürekli kaygı düzeyleri ile cinsel fonksiyonları arasındaki ilişkiyi incelemeyi amaçlamaktadır. Elde edilecek bulguların, afet sonrası kadın sağlığı hizmetlerinin planlanmasında ruhsal ve cinsel sağlık etkileşimine dikkat çekerek katkı sunması hedeflenmektedir.

GEREÇ VE YÖNTEM

Araştırmanın Türü

Bu çalışma, 2023 yılında Kahramanmaraş ve çevre illerde meydana gelen deprem sonrası depremi doğrudan deneyimleyen kadınların kaygı düzeyleri ile cinsel fonksiyonları arasındaki ilişkiyi incelemek amacıyla yürütülen kesitsel bir saha araştırmasıdır.

Evren ve Örneklem

Araştırmanın evrenini, 2023 Kahramanmaraş Depremi'ni doğrudan yaşayan ve afet sonrası sağlık hizmetlerine başvuran kadınlar oluşturmuştur. Çalışmaya katılım gönüllülük esasına dayalı olarak sağlanmıştır. Dahil edilme kriterleri şunlardır: 18 yaş ve üzeri olmak, depremi doğrudan deneyimlemek, ciddi psikiyatrik tanı öyküsünün bulunmaması ve bilgilendirilmiş onamın alınmış olması. Araştırma örneklemini bu kriterlere uyan 127 kadın oluşturmuştur.

Çalışmaya yalnızca kadınların dahil edilmesinin nedeni, literatürde kadınların afet sonrası travmatik stres tepkilerini erkeklere göre daha yoğun yaşadığının gösterilmiş olması ve özellikle cinsel sağlık alanında kadınlarda daha kompleks sorunların gelişebilmesidir [1,2].

Veri Toplama Araçları ve Yolları

Veri toplama amacıyla aşağıdaki ölçme araçları kullanılmıştır:

Demografik Bilgi Formu: Katılımcıların yaş, eğitim düzeyi, medeni durumu, gelir düzeyi ve genel sağlık durumu gibi demografik verilerini içeren yapılandırılmış bir formdur.

Durumluk-Sürekli Kaygı Envanteri, Spielberger ve ark. tarafından geliştirilmiş; Türkçeye Öner ve Le Compte [9] tarafından uyarlanmıştır. Durumluk Kaygı Alt Ölçeği (STAI-S) bireyin belirli bir andaki kaygı düzeyini, Sürekli Kaygı Alt Ölçeği (STAI-T) ise genel kaygı eğilimini değerlendirmektedir. Türkçe formunun Cronbach alfa güvenirlik katsayısı 0,94 ile 0,96 arasında raporlanmıştır [9].

Durumluk Kaygı Kaygı Alt Ölçeği (STAI-S): Katılımcıların belirli bir anda hissettikleri kaygı düzeyini ölçmek amacıyla kullanılan bir ölçek olup, 1 (çok az) ile 4 (çok fazla) arasında derecelendirilmiştir. Ortalamada durumluk kaygı puanı 2,28±0,56 olarak bulunmuştur.

Sürekli Kaygı Alt Ölçeği (STAI-T): Katılımcıların genel kaygı düzeyini değerlendiren, yine 4 dereceli Likert tipi bir ölçekle puanlanan bir araçtır. Ortalama sürekli kaygı puanı 2,41±0,42 olarak belirlenmiştir.

Cinsel Fonksiyon Anketi: Cinsel sağlık durumunu değerlendiren bu anket; cinsel memnuniyet, ilişki sıklığı, orgazm sıklığı ve vajinal ağrı gibi parametreleri içermektedir. Ayrıca, doğum kontrol yöntemleri kullanımı ve cinsel ilişki sıklığı da bu ankette değerlendirilmiştir.

Veriler, depremin ardından ilk altı ay içerisinde saha çalışmaları yöntemiyle yüz yüze görüşmeler yapılarak toplanmıştır. Katılımcılara bilgilendirilmiş onam formu sunulmuş ve tüm görüşmeler gönüllülük esasına dayanarak gerçekleştirilmiştir. Anketler, gizlilik ilkesine uygun şekilde anonim olarak toplanmış ve değerlendirilmiştir.

Verilerin depremin ardından ilk altı ay içerisinde toplanmasının nedeni, travma sonrası ortaya çıkan akut stres tepkilerinin bu dönemde en belirgin şekilde gözlemlenebilmesi ve henüz uzun vadeli psikolojik uyum süreçlerinin tamamlanmamış olmasıdır. Bu nedenle ilk altı aylık dönem, deprem travmasının doğrudan ve erken etkilerini değerlendirmek açısından klinik ve psikolojik açıdan kritik bir zaman aralığı olarak kabul edilmektedir.

Araştırma Sorunları

Bu araştırmada aşağıdaki temel sorulara yanıt aranmıştır:

1. 2023 Kahramanmaraş Depremi'ni doğrudan deneyimleyen kadınların durumluk kaygı düzeyleri ile cinsel fonksiyonları arasında bir ilişki var mıdır?
2. Deprem sonrası kadınlarda sürekli kaygı düzeylerinin cinsel sağlıkları üzerindeki etkisi nedir?
3. Deprem sonrası yaşanan travmanın kadınların cinsel memnuniyet ve cinsel sağlıkla olan ilişkisi nasıl şekillenmiştir?
4. Yaş, eğitim seviyesi, medeni durum gibi demografik değişkenlerin kaygı düzeyleri ve cinsel fonksiyonlar üzerindeki etkileri nelerdir?

Araştırma Sınırlılıkları

Araştırmanın bazı sınırlılıkları bulunmaktadır:

Örneklem Sınırlılığı: Araştırma yalnızca Kahramanmaraş ve çevre illerde depremi doğrudan deneyimleyen ve afet sonrası sağlık hizmetlerine başvuran kadınlarla gerçekleştirilmiştir. Bu nedenle bulgular yalnızca bu belirli coğrafi bölgedeki kadınları yansıtmaktadır ve genellenebilirlik sınırlıdır.

Kesitsel Tasarım: Araştırma kesitsel bir tasarıma sahip olduğundan, sebep-sonuç ilişkileri net bir şekilde belirlenememiştir. Çalışma, yalnızca ilişkileri gözlemlemekte ve belirli bir zaman dilimindeki durumu değerlendirmektedir.

Gönüllülük Esasına Dayalı Katılım: Katılımcılar gönüllülük esasına dayalı olarak seçildiği için araştırmaya katılanların psikolojik olarak daha güçlü olabileceği, bu durumun kaygı düzeylerinin değerlendirilmesinde etkili olabileceği düşünülmektedir.

Kendi Raporlamasına Dayalı Veri Toplama: Veriler, katılımcıların kendi raporlarına dayanarak toplanmıştır. Bu nedenle yanıtlar, katılımcıların subjektif değerlendirmelerine ve doğru bilgi verme yetilerine bağlıdır.

Kısa Süreli İzlem: Veriler, deprem sonrası ilk altı ay içinde toplanmıştır. Bu kısa izleme süresi, uzun vadeli etkilerin değerlendirilmesi açısından sınırlıdır.

Araştırmanın Etik Boyutu

Bu araştırma, Sağlık Bilimleri Üniversitesi, Balıkesir Atatürk Şehir Hastanesi Bilimsel Araştırmalar Etik Kurulu tarafından onaylanmıştır (karar no.: 2024701/2, tarih: 29.02.2024). Katılımcılardan yazılı bilgilendirilmiş onam alınmış ve çalışma süresince etik ilkeler doğrultusunda gizlilik ve gönüllülük esaslarına titizlikle uyulmuştur.

İstatistiksel Analiz

Veri analizi, SPSS 25.0 paket programı kullanılarak yapılmıştır. Sürekli değişkenler için ortalama ve standart sapma değerleri, kategorik değişkenler için ise frekans ve yüzde dağılımları hesaplanmıştır. Durumluk ve sürekli kaygı puanları ile cinsel fonksiyonlar arasındaki ilişkiler Pearson korelasyon analizi ile değerlendirilmiştir. Cinsel memnuniyet ile kaygı düzeyleri arasındaki ilişkiyi incelemek için ise regresyon analizi kullanılmıştır. Tüm istatistiksel analizlerde anlamlılık düzeyi $p<0,05$ olarak kabul edilmiştir.

BULGULAR

Demografik Özellikler

Katılımcıların yaş ortalaması 35,46±6,84 (23-56 yaş aralığı) olup, en yoğun yaş grubu 30-39 yaştır (%59,06). Çoğunluğu evlidir (%90,55) ve il merkezinde (%85,83) ikamet etmektedir. Kamu sektöründe çalışanların oranı %73,23'tür. Eğitim düzeyi yüksek olup, %56,69'u lisans, %22,83'ü lisansüstü mezunudur. Gelir durumu açısından, katılımcıların %40,16'sı gelir ve giderlerinin eşit olduğunu, %34,65'i gelirinin giderinden fazla olduğunu, %25,20'si ise gelirinin giderinden az olduğunu belirtmiştir (Tablo 1).

Sağlık Durumu ve Alışkanlıklar

Katılımcıların %33,07'si kronik hastalık, %36,22'si düzenli ilaç kullanımı bildirmiştir. Sigara kullanım oranı %27,56, alkol kullanımı %9,45'tir. Hiçbir katılımcı madde kullanımı bildirmemiştir (Tablo 2).

Menstrüel Özellikler

Katılımcıların %96,85'i adet görmekte olup, %74,80'i düzenli döngüye sahiptir. En yaygın adet sıklığı 28 gün (%53,54), süresi ise 5-6 gün (%70,87) olarak bildirilmiştir.

Kaygı Düzeyleri

Durumluk kaygı puanı ortalaması 2,28±0,56, sürekli kaygı puanı ortalaması ise 2,41±0,42 olarak bulunmuştur. Durumluk kaygı düzeylerinin dağılımı %32,28 düşük, %60,63 orta ve %7,09 yüksek

düzeydeyken; sürekli kaygı düzeyleri %16,54 düşük, %69,29 orta ve %14,17 yüksek düzeydedir.

İki kaygı türü arasında pozitif ve güçlü bir korelasyon (r=0,6520, p<0,001) saptanmıştır. Bu bulgu, bireylerin sürekli kaygı düzeylerinin, anlık durumluk kaygılarını anlamlı şekilde etkileyebileceğini göstermektedir.

Cinsel Sağlık Bulguları

Katılımcıların %29,92'si kondom/prezervatif, %22,05'i rahim içi araç/spiral, %8,67'si geri çekme yöntemi ve %7,87'si hormonal yöntem kullandığını belirtmiştir. Buna karşılık, %31,49'u herhangi bir doğum kontrol yöntemi kullanmadığını ifade etmiştir.

Cinsel ilişki sıklığı açısından, katılımcıların %73,23'ü haftada 1-3 kez, %20,47'si ayda 1-2 kez cinsel ilişkide bulunduğunu; %6,30'u ise hiç ilişki yaşamadığını veya sıklığın değişken olduğunu bildirmiştir.

Tablo 1. Katılımcıların Demografik Özellikleri

Demografik özellik	Alt kategori	Kişi sayısı	Yüzde (%)
Yaş grupları	20-29 yaş	20	15,75
	30-39 yaş	75	59,06
	40-49 yaş	28	22,05
	50+ yaş	4	3,15
	Evli	115	90,55
Medeni durum	Bekar	8	6,30
	Belirtilmemiş	4	3,15
	Lisans	72	56,69
Eğitim durumu	Lisansüstü	29	22,83
	Ön lisans	18	14,17
	Ortaöğretim	8	6,30
	İl	109	85,83
Yaşanılan yer	İlçe	16	12,60
	Köy	2	1,57
	Memur	93	73,23
	Ev hanımı	8	6,30
Meslek	Öğrenci	10	7,88
	Serbest meslek	6	4,72
	Diğer	10	7,87

Tablo 2. Katılımcıların Sağlık Durumu, Sigara, Alkol ve Madde Kullanım Durumu

Sağlık durumu	Kategori	Kişi sayısı	Yüzde (%)
Kronik hastalık	Hayır	85	66,93
	Evet	42	33,07
İlaç kullanımı	Hayır	81	63,78
	Evet	46	36,22
Sigara kullanımı	Hayır	92	72,44
	Evet	35	27,56
Alkol kullanımı	Hayır	115	90,55
	Evet	12	9,45
Madde kullanımı	Hayır	127	100,00

Cinsel memnuniyet düzeyine göre, %29,92'si cinsel yaşamını çok tatminkar, %29,13'ü genellikle tatminkar, %16,54'ü kısmen tatminkar, %7,87'si genellikle tatminkar değil ve %5,51'i hiç tatminkar değil olarak değerlendirmiştir. Ayrıca %11,02'si hiç cinsel aktivite yaşamadığını belirtmiştir.

Orgazm deneyimi açısından, katılımcıların %38,59'u sıklıkla, %33,86'sı ara sıra, %16,54'ü ise nadiren orgazm yaşadığını ifade etmiştir. Vajinal ağrı ile ilgili olarak, %43,31'i neredeyse hiç ağrı yaşamadığını, %34,64'ü ara sıra, %11,02'si ise sık sık veya her zaman ağrı deneyimlediğini bildirmiştir.

Cinsel ilişki sırasında uyarılma düzeyi incelendiğinde, %32,29'u sıklıkla, %44,88'i birkaç kez uyarıldığını, %15,75'i ise hemen hemen hiç uyarılmadığını belirtmiştir.

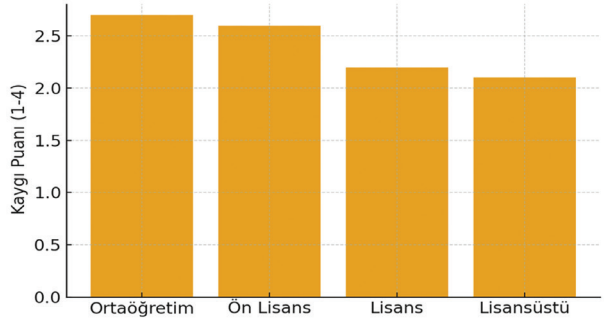
Değişkenler Arası İlişkiler

Yaş Grupları ile Kaygı Düzeyleri Arasındaki İlişki: Elli yaş üstü katılımcılar, kaygı puanı ortalaması 3,10 ile en yüksek kaygı düzeyine sahiptir. Diğer yaş grupları arasında ise kaygı düzeyi açısından anlamlı bir fark bulunmamıştır (p>0,05).

Eğitim Durumu ile Kaygı Düzeyleri Arasındaki İlişki: Eğitim düzeyi arttıkça kaygı düzeyinde azalma gözlemlenmiştir. Ortaöğretim ve ön lisans mezunlarının kaygı puanları, lisans ve lisansüstü mezunlara kıyasla anlamlı derecede yüksektir (p<0,05) (Şekil 1).

Cinsel Memnuniyet ile Kaygı Düzeyleri Arasındaki İlişki: Cinsel memnuniyet düzeyi arttıkça kaygı düzeyinde anlamlı bir azalma tespit edilmiştir (r=-0,584, p<0,001). Özellikle "çok tatminkar" grubundaki katılımcıların kaygı puanları anlamlı derecede daha düşüktür (Şekil 2).

Cinsel memnuniyetin kaygı düzeyini yordama gücünü belirlemek amacıyla yapılan basit doğrusal regresyon analizine göre model anlamlı bulunmuştur [F(1,125)=54,93, p<0,001]. Model, kaygı düzeylerindeki varyansın %34,1'ini açıklamaktadır (R^2=0,341; Düzeltilmiş R^2=0,336), bu da modelin güvenilir açıklayıcılığa sahip olduğunu göstermektedir. Cinsel memnuniyet değişkeninin katsayısı negatif yöndedir (β=-0,58, p<0,001), bu da cinsel memnuniyet arttıkça kaygı düzeyinin anlamlı şekilde azaldığını göstermektedir (Tablo 3).



Şekil 1. Eğitim Düzeyi ve Kaygı Puanı İlişkisi

Kronik Hastalık Durumu ile Kaygı Düzeyleri Arasındaki İlişki: Kronik hastalığı bulunan bireylerin kaygı puanları (2,48), hastalığı olmayanlara (2,18) göre anlamlı derecede daha yüksektir (p=0,005) (Şekil 3).

Menstrual Döngü Düzenliliği ile Kaygı Düzeyleri Arasındaki İlişki: Düzensiz adet gören katılımcıların kaygı puanları (2,42), düzenli adet görenlere (2,23) kıyasla anlamlı derecede daha yüksektir (p=0,038) (Tablo 4).

Durumluk ve Sürekli Kaygı Ölçekleri Analizi

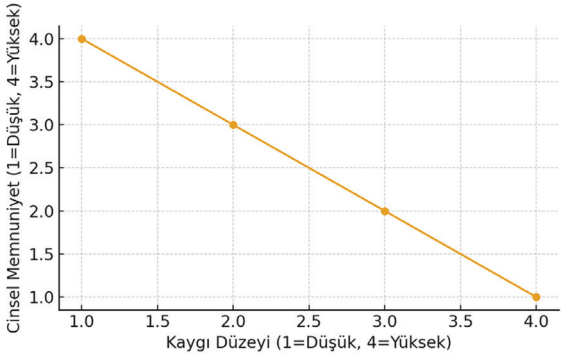
Durumluk ve Sürekli Kaygı Ölçekleri puanları 1 ile 4 arasında değişmekte olup; 1,00-1,99 düşük kaygı, 2,00-2,99 orta kaygı ve 3,00-4,00 yüksek kaygı düzeyini göstermektedir. Yapılan bu çalışmada sürekli kaygı puanı ortalaması (2,41), durumluk kaygı puanı ortalamasından (2,28) biraz daha yüksektir. Yüksek sürekli kaygı düzeyine sahip katılımcı oranı (%14,17), yüksek durumluk kaygı oranından (%7,09) fazladır. Durumluk kaygı puanlarının standart sapması (0,56), sürekli kaygı puanının standart sapmasından (0,42) daha yüksek olup, bu durum kaygı düzeylerinin daha geniş bir dağılıma sahip olduğunu göstermektedir. Ayrıca, iki kaygı türü arasında güçlü ve pozitif bir korelasyon (r=0,6520, p<0,001) bulunmuş; bu da sürekli kaygı düzeyinin bireylerin anlık kaygı durumlarını etkileyebileceğine işaret etmektedir (Şekil 4).

TARTIŞMA

Demografik Özellikler ve Kaygı

Bu çalışmada, kadınların kaygı düzeyleri ile demografik özellikleri arasındaki ilişkiler incelenmiştir. Bulgular, kaygı düzeylerinin cinsel memnuniyetle ters orantılı olduğunu ve birçok faktörün kaygıyı etkileyebileceğini göstermektedir. Eğitim düzeyinin yükselmesiyle kaygı düzeylerinde azalma gözlemlenmiştir. Bu bulgu, literatürdeki diğer çalışmalarla uyumludur. Eğitim düzeyinin, bireylerin stresle başa çıkma becerilerini ve algılanan kontrol düzeyini artırarak kaygı düzeylerini azaltabileceği bildirilmektedir [10]. Benzer şekilde, Uğrak ve ark. [11], eğitim seviyesi ile kaygı düzeyleri arasında ters bir ilişki olduğunu vurgulamışlardır.

Yaş grupları arasında kaygı düzeylerinde anlamlı farklılıklar gözlemlenmiş olsa da 50 yaş üstü grubunun küçük örneklem büyüklüğü nedeniyle bu bulguların genellenebilirliği sınırlıdır. Elli yaş ve üzerindeki katılımcıların kaygı düzeyleri diğer gruplara göre dikkat çekici derecede yüksektir, ancak bu grubun örneklem büyüklüğü yalnızca 4 kişidir. Yirmi ile kırk dokuz yaş arasındaki gruplar ise benzer kaygı düzeylerine sahip bulunmuştur. Bununla birlikte, 50 yaş ve üzeri yaş grubunda yer alan katılımcı sayısının oldukça düşük olması bu bulgunun yorumlanmasını belirgin şekilde kısıtlamaktadır. Bu nedenle bu yaş grubunda saptanan yüksek kaygı düzeyleri yalnızca ön gözlem niteliğindedir ve genellenebilir sonuçlar olarak değerlendirilmemelidir. Bu ilişkinin daha güvenilir bir şekilde ortaya konulabilmesi için ilerleyen çalışmalarda 50 yaş ve üzeri kadınlardan oluşan daha geniş bir örneklemle benzer analizlerin tekrarlanması gerekmektedir.

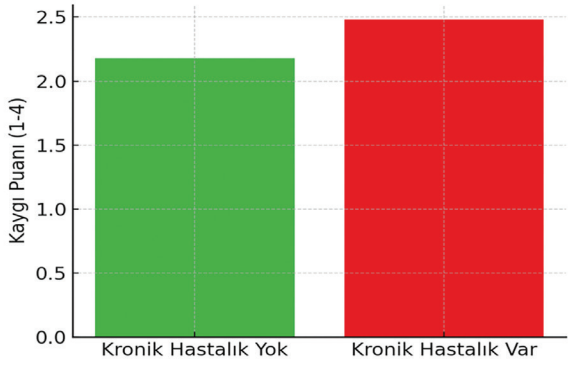


Şekil 2. Kaygı Düzeyi ile Cinsel Memnuniyet Arasındaki İlişki

Tablo 3. Cinsel Memnuniyetin Kaygı Düzeyini Yordama Gücüne İlişkin Regresyon Analizi Sonuçları

Değişken	B	Std. Hata	β	t	p
Sabit	3,12	0,18	-	17,33	<0,001
Cinsel memnuniyet	-0,37	0,05	-0,58	-7,41	<0,001

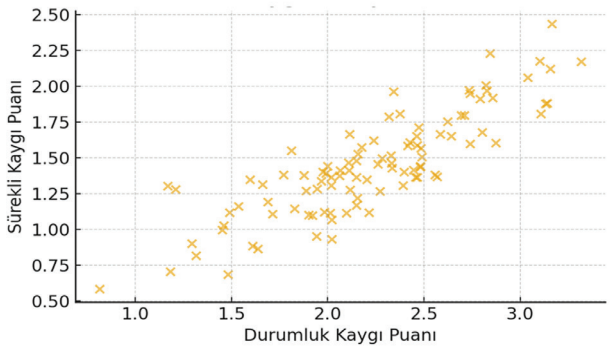
*Model istatistikleri: R=0,584, R^2=0,341, Düzeltilmiş R^2=0,336, F(1,125)=54,93, p<0,00.



Şekil 3. Kronik Hastalık Varlığı ve Kaygı Puanı İlişkisi

Tablo 4. Menstrual Döngü Düzenliliği ve Kaygı Düzeyleri Arasındaki İlişki

Menstrual özellik	Kategori	Kişi sayısı	Yüzde (%)
Adet görme durumu	Evet	123	96,85
	Hayır	4	3,15
	28 gün	68	53,54
Adet sıklığı	Ayda bir	34	26,77
	21 gün	18	14,17
	Diğer/belirtilmemiş	7	5,52
Adet süresi	5-6 gün	90	70,87
	3-4 gün	34	26,77
	Adet olmuyor	3	2,36
Adet düzeni	Düzenli	95	74,80
	Düzensiz	29	22,83
	Adet olmuyor	3	2,36



Şekil 4. Durumluk ve Sürekli Kaygı Düzeyleri Arasındaki Korelasyon

Eğitim düzeyinin kaygı üzerindeki etkisi, kadınlara yönelik ruh sağlığı programlarının planlanmasında sosyo-ekonomik farklılıkların dikkate alınması gerektiğini göstermektedir. Özellikle düşük eğitim seviyesine sahip bireyler için psikoeğitim ve stresle başa çıkma becerilerini geliştiren programlara öncelik verilmelidir.

Kaygı ve Cinsel Sağlık İlişkisi

Çalışmamızda, cinsel memnuniyet ile kaygı düzeyleri arasında negatif yönde anlamlı bir ilişki bulunmuştur. Bu bulgu, literatürdeki pek çok çalışmayla paralellik göstermektedir. Literatürde, cinsel memnuniyetsizliğin psikolojik sıkıntı ve kaygı düzeylerinde artışla ilişkili olduğu bildirilmektedir [12]. Ayrıca, afet niteliğindeki Koronavirüs hastalığı-2019 pandemisi sonrası yapılan çalışmalarda, kadınlarda artan anksiyete, depresyon, olumsuz benlik algısı ve sosyal görünüş kaygısı ile birlikte cinsel işlev bozukluğunun yaygınlaştığı ve bu durumun kaygı düzeyini anlamlı şekilde etkilediği gösterilmiştir [13-16]. Bu çalışmanın bulguları, cinsel memnuniyeti düşük olan katılımcıların kaygı düzeylerinin daha yüksek olduğunu göstermektedir, bu da cinsel sağlık ile psikolojik iyi oluş arasındaki güçlü ilişkiyi bir kez daha ortaya koymaktadır.

Cinsel işlevle ilgili olarak, sık orgazm yaşayanların oranı (%38,59), sık uyarılma yaşayanların oranından (%32,29) daha yüksek bulunmuştur. Orgazm hiç yaşamayanların oranı (%16,54), hiç uyarılma yaşamayanların oranına (%15,75) yakın olup, bazı katılımcılar uyarılma yaşarken orgazma ulaşamamaktadır. Bu, cinsel uyarılma ve orgazma deneyimlerinin farklı faktörlerden etkilenebileceğini göstermektedir.

Cinsel memnuniyet ile kaygı arasındaki güçlü ilişki, kadın sağlığı hizmetlerinde cinsel işlev değerlendirmelerinin ruhsal değerlendirmelerle birlikte ele alınmasının önemini göstermektedir. Cinsel sağlıkla ilgili şikayetler sadece fiziksel düzeyde değil, psikolojik düzeyde de ele alınmalı; kadınlara yönelik bütüncül danışmanlık hizmetleri yaygınlaştırılmalıdır.

Bu çalışmada, cinsel memnuniyet ile kaygı arasındaki ilişki yalnızca korelasyon katsayısı ile değil, ayrıca regresyon analizi ile de incelenmiştir. Ancak regresyon modeli, cinsel memnuniyetin kaygı puanlarını anlamlı biçimde yordadığını göstermesine rağmen, açıklayıcılık düzeyinin orta seviyede olduğu görülmektedir. Regresyon katsayılarının ve model istatistiklerinin ilerleyen çalışmalarda daha kapsamlı şekilde değerlendirilmesi, özellikle çok değişkenli modellerin kullanılması, ilişkiyi daha net ortaya koyacaktır. Cinsel memnuniyetin kaygıyı hangi boyutlarıyla etkilediğinin anlaşılabilmesi için standardize edilmiş ölçüm araçları ve geniş örneklemlerle yapılacak çalışmalar önem taşımaktadır.

Vajinal ağrı, cinsel işlev bozukluğunun önemli bir göstergesidir ve katılımcılar arasında yaygın bir sorun olarak görülmektedir. Katılımcıların yaklaşık %45'i değişen derecelerde vajinal ağrı deneyimlediklerini bildirmiştir. Özellikle sürekli veya sık ağrı yaşayan grup (%11,02) için sağlık uzmanlarına danışma ihtiyacı vardır. Ağrı, fiziksel veya psikolojik faktörlerden kaynaklanabilir ve uygun tanı ve tedavi yaklaşımları, cinsel yaşam kalitesini önemli ölçüde artırabilir.

Vajinal ağrının yüksek oranda bildirilmesi, kadınların bu tür şikayetleriyle ilgili sağlık kuruluşlarına başvurmasının önündeki engellerin (utanç, damgalanma vb.) azaltılması gerektiğini ortaya koymaktadır. Bu bağlamda, birinci basamak sağlık hizmetlerinde cinsel sağlık eğitimi ve ağrı yönetimi konusunda hem hastalara hem de sağlık personeline yönelik farkındalık çalışmaları yapılmalıdır.

Bu çalışmada cinsel fonksiyon ve memnuniyet, katılımcıların öz bildirimlerine dayalı olarak değerlendirilmiş olup, memnuniyet, ilişki sıklığı ve orgazm deneyimi gibi parametreler üzerinden ölçülmüştür. Ancak kullanılan ölçüm araçları, cinsel disfonksiyonun daha kapsamlı değerlendirilmesini sağlayan uluslararası düzeyde standardize edilmiş ölçeklere kıyasla sınırlı kalmaktadır. Bu nedenle, elde edilen bulgular cinsel işlev bozukluğunun tüm boyutlarını tam olarak yansıtmayabilir. Gelecek araştırmalarda, Kadın Cinsel İşlev İndeksi gibi geçerliliği ve güvenilirliği yüksek ölçüm araçlarının kullanılması, hem cinsel fonksiyonun daha ayrıntılı değerlendirilmesine hem de sonuçların uluslararası literatürle karşılaştırılabilirliğine önemli katkı sağlayacaktır.

Sağlık Durumu ve Kaygı

Kronik hastalık varlığı ile kaygı düzeyleri arasında anlamlı bir ilişki olduğu bildirilmektedir. Kronik hastalığı olan bireylerde stresle başa çıkma kapasitesinin azalmasının, kaygı düzeylerinde artışa yol açabileceği belirtilmiştir [17]. Çalışmamızda, kronik hastalığı olan katılımcıların kaygı düzeylerinin, hastalığı olmayanlara kıyasla anlamlı derecede daha yüksek olduğu bulunmuştur. Bu, sağlık durumunun psikolojik iyilik hali üzerindeki önemli etkisini bir kez daha göstermektedir.

Kronik hastalığı olan bireylerde artan kaygı düzeyi, tedavi süreçlerinde ruh sağlığı desteğinin entegre edilmesini gerekli kılmaktadır. Multidisipliner sağlık yaklaşımlarında psikolojik değerlendirme ve destek hizmetleri, özellikle kronik hastalık tanısı alan kadınlara rutin olarak sunulmalıdır.

Menstrüel Döngü ve Kaygı İlişkisi

Adet düzensizliği ile kaygı düzeyleri arasındaki ilişki, çalışmamızda da önemli bir bulgu oluşturmuştur. Çeşitli çalışmalar, menstrüel düzensizliklerin, özellikle stres, depresyon ve kaygı gibi ruhsal sağlık sorunlarıyla ilişkili olduğunu göstermektedir. Örneğin, Koreli kadınlar üzerinde yapılan bir çalışmada, menstrüel düzensizliklerin depresyon, stres ve uyku bozukluklarıyla bağlantılı olduğu

bulunmuş, başka bir araştırma ise Polikistik Over Sendromu gibi hormonel bozuklukların, kadınlarda anksiyete ve depresyon riskini artırdığını ortaya koymuştur. Ayrıca, Premenstrüel Disforik Bozukluk gibi durumlar, menstrüel döngüyle ilişkili ruh hali bozuklukları ve depresyon semptomlarını şiddetlendirebilmektedir [18-21]. Hormonal değişimlerin ve adet döngüsü boyunca görülen dalgalanmaların kadınlarda kaygı ve stres düzeylerini artırabileceği bildirilmiştir [22]. Hormonal değişimlerin ve adet döngüsündeki dalgalanmaların kadınların ruh hallerini etkileyerek kaygı ve stres düzeylerini artırdığı gösterilmiştir [23]. Bu bulgu, çalışmamızda elde edilen sonuçlarla uyumlu olup, menstrüel döngüdeki değişimlerin kaygı ve stres düzeylerini artırabileceğini desteklemektedir.

Menstrüel düzensizlik ve kaygı arasındaki ilişki, jinekolojik muayenelerde psikolojik değerlendirmelerin de yapılmasını gerektirmektedir. Bu tür bütüncül bir yaklaşım, hormon düzeylerindeki değişimlerin psikolojik etkilerini erken tespit etmeye ve gerekli yönlendirmeleri yapmaya katkı sağlayacaktır.

Elde edilen bulgular, afet sonrası dönemde kadınların hem psikolojik hem de cinsel sağlık açısından kapsamlı değerlendirilmesi gerektiğini göstermektedir. Ruh sağlığı hizmetlerinin afet sonrası müdahale planlarına entegre edilmesi, toplum temelli destek programlarının yaygınlaştırılması ve kadınlara yönelik cinsel sağlık eğitimi bu süreçte öncelikli olarak ele alınmalıdır.

Çalışmanın Sınırlılıkları ve Gelecek Araştırmalar

Çalışmamızda bazı sınırlamalar bulunmaktadır. Örneklem grubunun yalnızca belirli bir şehirdeki kadınlarla sınırlı olması, bulguların tüm Türkiye veya global düzeyde genellenmesini zorlaştırmaktadır. Gelecekteki çalışmaların farklı coğrafi bölgelerdeki kadınları kapsayacak şekilde genişletilmesi, daha kapsamlı sonuçlar elde edilmesine olanak sağlayabilir. Ayrıca, bu çalışma kesitsel bir tasarıma sahip olup, neden sonuç ilişkilerini belirlemek mümkün değildir. Bu nedenle, uzunlamasına çalışmalara ihtiyaç duyulmaktadır. Gelecek araştırmalar, hormonal değişikliklerin, cinsel sağlık memnuniyetinin ve sağlık durumunun kaygı düzeylerine olan etkilerini daha ayrıntılı bir şekilde inceleyebilir.

SONUÇ VE ÖNERİLER

Bu çalışma, kadınların kaygı düzeyleri ile cinsel sağlıkları arasında güçlü ve negatif bir ilişki olduğunu ortaya koymuştur. Bulgular, psikolojik sağlık ile cinsel sağlığın birbirini etkilediğini ve cinsel memnuniyetin artırılmasının kaygı düzeylerini azaltmaya yardımcı olabileceğini göstermektedir. Bu nedenle, kadınların cinsel ve psikolojik sağlıkları arasındaki ilişkiye daha fazla önem verilmelidir. Sağlık profesyonellerinin, kadınların cinsel sağlığını değerlendirirken psikolojik durumlarını da dikkate alması, bireylerin hem fiziksel hem psikolojik iyilik halini desteklemede önemli bir adımdır.

Çalışma bulguları doğrultusunda şu öneriler sunulmaktadır:

- Kadınlara yönelik cinsel sağlık ve kaygı yönetimi eğitimleri yaygınlaştırılmalıdır.
- Kaygı düzeyi yüksek kadınlar için psikolojik destek programları ve stres yönetimi yöntemleri uygulanmalıdır.
- Hormonal düzensizliklerin kaygı üzerindeki etkileri dikkate alınarak, medikal ve endokrinolojik değerlendirmeler yapılmalıdır.
- Çok disiplinli yaklaşımlar benimsenerek hem fiziksel hem psikolojik sağlık kapsamlı biçimde ele alınmalıdır.
- Gelecekte uzun süreli araştırmalarla, bu ilişkinin dinamikleri daha ayrıntılı incelenmelidir.

Etik

Etik Kurul Onayı: Bu araştırma, Sağlık Bilimleri Üniversitesi, Balıkesir Atatürk Şehir Hastanesi Bilimsel Araştırmalar Etik Kurulu tarafından onaylanmıştır (karar no.: 2024701/2, tarih: 29.02.2024).

Hasta Onamı: Katılımcılardan yazılı bilgilendirilmiş onam alınmış ve çalışma süresince etik ilkeler doğrultusunda gizlilik ve gönüllülük esaslarına titizlikle uyulmuştur.

Dipnot

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Konsept: FB; Dizayn: FB; Veri Toplama veya İşleme: CI; Analiz veya Yorumlama: CI; Literatür Arama: ŞÖ; Yazan: ŞÖ, FB.

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The Relationship Between Various Stress Factors and Social Media Addiction Among Nurses

Hemşirelerde Çeşitli Stres Faktörleri ile Sosyal Medya Bağımlılığı Arasındaki İlişki

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ABSTRACT

Objective: This study utilized the conservation of resources theory and self-perception theory to assess the relationship between two stress factors, parental status (having children) and working in stressful nursing working units (intensive care unit and emergency unit), and their relationship with virtual communication, virtual tolerance, and perceived social media addiction. The study was based on the conservation of resources theory and self-perception theory.

Methods: A cross-sectional research design was used. Data were analyzed using structural equation modeling to examine the relation among stress factors, virtual communication, virtual tolerance, and perceived social media addiction.

Results: Parental status and working in an intensive care unit were significantly associated with higher virtual communication scores, which in turn were related to higher levels of virtual tolerance and perceived social media addiction. Years of professional experience were significantly and negatively associated with virtual communication, virtual tolerance, and perceived addiction. However, working in an emergency unit was not found to be a significant predictor. The model explained more than half of the variance in virtual tolerance, nearly half of the variance in perceived social media addiction, and approximately one-fourth of the variance in virtual communication.

Conclusion: The findings highlight the importance of examining the relationship between occupational stress factors and social media use among nurses. Further research is needed to explore additional stress factors and develop strategies to manage stress and reduce problematic social media use in nursing populations.

Keywords: Virtual tolerance, virtual communication, perceived addiction, stress, nursing

ÖZ

Amaç: Bu çalışma, kaynakların korunması kuramı ve öz-algı kuramı temelinde, ebeveynlik durumu (çocuk sahibi olma) ve stresli hemşirelik birimlerinde çalışma (yoğun bakım ve acil servis) gibi iki stres faktörünün sanal iletişim, sanal tolerans ve algılanan sosyal medya bağımlılığı ile ilişkisini incelemeyi amaçlamaktadır.

Yöntem: Araştırmada kesitsel araştırma tasarımı kullanılmıştır. Değişkenler arasındaki ilişkiyi incelemek amacıyla yapısal eşitlik modellemesi kullanılmıştır.

Bulgular: Ebeveynlik durumu ve yoğun bakım ünitesinde çalışma, sanal iletişim puanları ile ilişkili bulunmuştur. Sanal iletişim ise sanal tolerans ve algılanan sosyal medya bağımlılığı puanları ile ilişkili bulunmuştur. Meslekte geçirilen yıl sayısı, sanal iletişim, sanal tolerans ve algılanan bağımlılıkla anlamlı fakat negatif yönde ilişkili bulunmuştur. Ayrıca, acil serviste çalışmanın anlamlı bir yordayıcı olmadığı saptanmıştır. Model; sanal toleranstaki varyansın yarısından fazlasını, algılanan sosyal medya bağımlılığındaki varyansın yaklaşık yarısını ve sanal iletişimdeki varyansın dörtte birini açıklamıştır.

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Sonuç: Hemşirelerde iş stresi faktörleri ile sosyal medya kullanımı arasındaki ilişkinin incelenmesinin önemini ortaya koymaktadır. Gelecekteki araştırmalarda stres faktörlerinin sosyal medya kullanımı ile ilişkisi incelenmeli ve hemşirelerin stresle başa çıkmalarını destekleyecek stratejiler geliştirilmelidir.

Anahtar kelimeler: Sanal tolerans, sanal iletişim, bağımlılık algısı, stres, hemşirelik

INTRODUCTION

It can be argued that one of the most influential technological factors shaping social life in the 21st century is internet-based technology, which enables interpersonal interaction to occur independently of time and space. Social media applications, which have become widespread over the last fifteen years, have acted as a catalyst in this process by accelerating both individual-individual and individual-technology interactions. In the social sciences, the relationship between society, the individual, and technology, as well as their mutual influence, has been the subject of numerous studies and scholars. Manuel Castells [1] addressed this relationship by introducing the concept of the "network society" in his book The Rise of the Network Society, published in 2000. According to Castells [1], the development of the internet and the widespread adoption of social media have significantly transformed the ways in which individuals communicate and interact. The field of healthcare can also be considered a significant sphere of social interaction, particularly in terms of professional practice and communication. As part of social life, healthcare personnel are likewise increasingly involved in the use of social media platforms.

Healthcare personnel have first-hand contact with patients, so they must be able to communicate with patients and build rapport [2]. However, stress experienced in the workplace can hinder performance [2] and is to be related to turnover intentions [3]. To overcome stress, nurses can turn to different forms of support. Social media has been found to be either a stressor, a resource, and/or a tool for coping with stress [4]. Social media has been at the forefront of much research due to its widespread use and ease of access across the world [5]. However, despite social media "rapidly bleeding into the workplace" [6], most of the research in this area is conducted on college students. The current study hypothesized that nurses who experience various stress factors turn to social media, which is then related to their addiction and perception of addiction. For this model, both the conservation of resources (COR) [7] and self-perception theory [8] were utilized. The rest of the introduction is structured to discuss the stress factors examined, social media, and the theories used for evaluating the interplay of factors.

Stress is described as a person's sense of external demands that exceed their perception of their ability to handle such expectations [2]. Nursing can lead to high levels of occupational stress, and this stress has a detrimental effect on both physical and mental health [9]. "Stress from patients and their families, workload stress, stress from conflicts with supervisors, and stress from conflicts with peers" explained 40% of the turnover intentions of nurses [2]. Due to nursing being a stressful job [9], the researchers hypothesized that more years on the job could be viewed as a stress factor.

From the existing research that focuses on specific nursing working units, the critical care (intensive care) working unit was found to be related to increased levels of stress [10]. Similarly [11], refers to how cross-sectional research has demonstrated that the work stress levels of emergency department nurses are very high. Although nursing units have previously been researched, the majority of this work focuses on burnout levels and how it relates to things like care quality or employment outcomes [12], their perceptions of their work environment [13], and their working conditions [12,14]. The current study included both intensive care unit and emergency unit nurses and examined their social media addiction and perception [10,11].

Moreover, as referred to by [15], interpersonal problems influence the stress levels of nurses [16], talk about the challenges that doctors experience while attempting to manage and balance their job and families. Childcare is a major source of stress for nurses [17,18]. Having children in a household has been associated with stress [19]. Therefore, the current study examined the relationship between having children and social media addiction and perception.

Social media addiction can be defined in various ways. One way to define social media addiction is to divide it into two types: virtual tolerance and virtual communication. Tolerance relates to one's tolerance for screen time. Communication relates to the need to develop close bonds with others [20]. Prior studies on nursing students found that they scored higher in virtual communication compared to virtual tolerance [21,22]. As reported by [22], prior research on virtual tolerance and communication has tended to focus on either technical domains [23], "or students from [the] Faculty of Education [24], and [students from] mass communication" [25]. As outlined by [26], virtual communication scores have increased during coronavirus disease-2019. The current study advances previous research by focusing on practicing nurses rather than students [3], refer to [27] and note the dearth of research on nurses' views toward social media. It is crucial to investigate the relationship between nurses and factors that may be related to their use of technology, smartphones, and in particular, social media. Among the limited existing research, several researchers have looked at the impact of social media addiction on job engagement and perceived work overload [28]. Nevertheless, neither research examined if factors that can lead to stress (working unit differences, number of years on the job, and children) are related to social media addiction and perception.

Furthermore, although there are studies that focus on social media addiction, albeit limited, to date, there exists no study that examines the perception of nurses about social media addiction. Perceived social media addiction (PSMA) has in general been studied in limited areas [2,5], therefore one of the aims of the study was to examine both social media addiction and perceived addiction.

The variations that one might anticipate based on stress may be explained using the COR theory [7]. An imbalance between an individual's situation and environmental needs can be used to explain stress [29]. Due to nursing being a very stressful job, often nurses feel a loss of resources or a lack of gain in resources in their work environment. This can direct the nurses to search for other outlets to gain new resources to deal with a stressful environment. Resource investment, which entails investing in resources to guard against resource loss and increase stress tolerance, is one aspect of resource conservation. One resource that individuals use to boost their resources and deal with stress is social media; it can be easily accessed through a smartphone anytime. It provides an opportunity for people to connect with their loved ones, exchange information, and stimulate one another [30]. Thus, it is a way to energize one's self; however, as research indicates, there are detrimental aspects of social media due to its addictive nature [31]. The current study defined stress as working in intensive care or emergency units, having children, and the number of years on the job. Although the theory of COR has been utilized in organizations, these studies focus on organizational roles and behaviors [32]. This is the first study to utilize this theory to examine social media addiction and perception.

Self-perception theory asserts that individuals examine their own behavior to form their perceptions and attitudes [8]. Therefore, the excessive use of social media (communication and tolerance) is expected to later have a relationship with perception of addiction. In other words, the perception or attitude would follow the behavior of participating in social media in a problematic or addictive manner.

Specifically, the following questions were formulated as seen in Figure 1:

Hypothesis 1: Stress factors (working in intensive care or emergency units, parental status, number of years on the job) predict virtual communication scores.

Hypothesis 2: Virtual communication predict both virtual tolerance and PSMA.

Hypothesis 3: Virtual tolerance predict PSMA.

Hypothesis 4: Is PSMA indirectly predicted by the various stress factors (working in intensive care or emergency units, parental status, number of years on the job).

Hypothesis 5: Is virtual tolerance indirectly predicted by the various stress factors (working in intensive care or emergency units, parental status, number of years on the job).

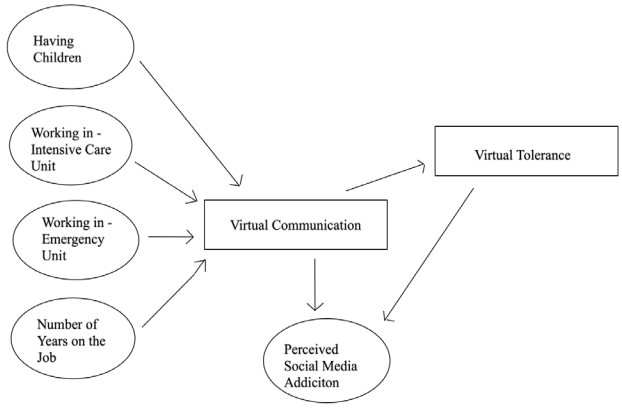


Figure 1. Model that encompasses stress factors and social media

MATERIAL AND METHOD

Participants

Surveys were filled in person by intensive care and emergency unit nurses who volunteered to participate in the study and had at least one year of experience at the institution. According to the Daniel Soper sample size calculator, to exceed 95% for the power of the study with a 5% significance level and an effect size of 0.3, the recommended minimum sample size is 288. For this study, from a total of 450 potentially eligible intensive care unit nurses, 400 agreed to participate. Due to missing information, 100 out of the 400 surveys were removed, resulting in a 75% response rate. The age of the participants ranged from 21 to 54 with more females (≈75%) compared to males.

Procedures

The study was approved by an Institutional Review Board Committee by the university [1]. Data was collected in the City Hospital of Ankara during the year 2025 between the months August and September. The head nurse was contacted and provided with the surveys. Four weeks were provided to complete the survey. The head nurses collected the surveys and brought them to the researchers. The selected measures specifically examined current situations, thus preventing recall bias. Publication bias was avoided since the hypotheses were derived from theory. Ethical approval for the study was obtained from the Lokman Hekim University Non-Interventional Clinical Research Ethics Committee (approval no: 2025/201, date: 29.08.2025). Written informed consent was obtained from all participants before data collection. Participation was voluntary, and participants were informed about the purpose of the study. Confidentiality and anonymity were ensured throughout the study.

Examined Variables

This study examined the following variables: having children (yes/no), working unit (emergency unit/intensive care unit), number of years on the job, virtual tolerance, virtual communication, and PSMA. A description of each and how it was measured is described in the next section.

Measures

The study distributed the Demographic Information Form and the Social Media Addiction Scale: Adult Form.

Demographic Information

This form asked nurses whether they have children, the number of years on the job, and their specific working unit.

PSMA [4]

This is a single question on a numerical scale scored between 0-100 adjusted by [5], utilizing [33]'s five-point Likert scale question to increase variability in responses. "To what extent do you feel addicted to social media?" It was initially asked by [33] and referred to as "Self-declared Social Media Addiction". Previous research has examined the relationship between PSMA and the Social Media Disorder Scale. In one research, the sum of scores on the SMD scale were calculated and the convergent validity with PSMA/self-declared social media addiction were determined to be medium to large [33]. Similarly, another study examined the specific items on the SMD-9 scale and found two of the items to be predictive of PSMA. Perception of addiction was related to withdrawal and persistence. The question on withdrawal was, "often felt bad when you could not use social media (yes/no)", and the question on persistence was, "tried to spend less time on social media but failed (yes/no)" [5].

Social Media Addiction Scale - Adult Form

This is a measure developed by Şahin [31], it examines the two factors of virtual tolerance and virtual communication. The survey utilizes a five-point Likert scale, with a total of 20 items. Test-retest reliability for the measure as a whole was 0.93, with 0.90 for virtual communication, and 0.91 for virtual tolerance. Internal consistency of the measure is high with 0.91 for virtual communication and 0.92 for virtual tolerance [34]. While tolerance examines the tolerance towards time spent on screen, communication refers to the need to form intimate relationships [20].

RESULTS

Descriptive Statistics

Fifty-seven percent of the participants had children. Around 81.8% of the nurses worked in the intensive care unit while 18.2% worked in the emergency unit. The average number of years on the job was eleven. The average age was 33.5 with 7% of the participants with a vocational degree, 10.3% of the participants with an associate degree, 74% of the participants with a bachelor's degree, 5.3% with a masters degree, and 3.3% with a doctorate degree.

Measurement Model

Outliers were checked using the Mahalanobis distance. Two responses were removed for being above the critical value. Collinearity was checked using the variance inflation factor and tolerance levels and homoscedasticity was checked using the Loess line. Moreover, the assumption of positive definitiveness was met because the determinant was not zero and the Kaiser-Meyer-Olkin measure of sampling adequacy (0.94) was greater than 0.5. The Cronbach alpha for the Social Media Addiction Scale-Adult Form [34] measure was 0.92, virtual tolerance was 0.80, virtual communication was 0.91. The composite reliability for virtual tolerance (0.99) and virtual communication (0.99) were both above 0.70. The construct validity for virtual tolerance and virtual communication was 0.85 and 0.90, respectively.

Confirmatory factor analysis of the Social Media Addiction Scale-Adult Form [34] was conducted by testing the measurement model. The comparative fit index (CFI), Tucker Lewis index (TLI), and the root mean squared error of approximation (RMSEA) were examined to determine model fit (CFI=0.9, TLI=0.9, RMSEA=0.8).

Structural Equation Model (SEM)

This was followed by calculating the SEM, with the data supporting the hypothesized model. The model showed a good fit and was therefore retained; (χ^2/df=0.33, RMSEA=0.02, normed fit index=0.99, CFI=1.00, relative fit index=0.97, TLI=1.00). The squared multiple correlations demonstrated that the model explained 64.7% of the variance in virtual tolerance, 47.2% of the variance in PSMA, and 20.8% of the variance in virtual communication.

Having children, working in the intensive care unit, and the number of years on the job were all significantly related to virtual communication scores, as seen in Table 1. Number of years on the job was the most related to virtual communication scores, followed by working in an intensive care unit and having children. The number of years on the job was negatively

Table 1. Hypothesis Testing

Relationships			Standardized	t-values	p-values	Hypothesis results
Kids	→	Virtual communication	0.18	2.42	*	Supported
Intensive care unit	→	Virtual communication	0.18	2.94	**	Supported
Emergency unit	→	Virtual communication	0.08	1.35	0.18	Rejected
Years on the job	→	Virtual communication	-0.21	-2.88	**	Supported
Virtual communication	→	Virtual tolerance	0.80	22.96	***	Supported
Virtual tolerance	→	Perceived addiction	0.30	4.09	***	Supported
Virtual communication	→	Perceived addiction	0.43	5.93	***	Supported

*: Significant at 0.05, **: Significant at 0.01, ***: Significant at 0.001

related to virtual communication scores, indicating that as the number of years on the job increased, the usage of social media for communication purposes decreased. Working in the emergency unit was not significantly related to virtual communication scores.

Virtual communication scores which could be a maximum of 45 points decreased by 1.69 points with each additional 8.90 years on the job. With each increase in virtual communication scores, virtual tolerance scores of which the maximum score could be 55 points increased by 6.16 points. With each standard deviation increase in virtual tolerance scores PSMA increased by 6.77%. With each standard deviation increase in virtual communication scores there was a 9.81% increase in PSMA.

The significance of the indirect effects was determined using a bootstrapping method with a 95% confidence interval. The standardized indirect effect of the number of years on the job on virtual tolerance (-0.277, -0.062) and PSMA (-0.234, -0.051) was significant. The standardized indirect effect of working in an intensive care unit on virtual tolerance (0.033, 0.239) and PSMA (0.028, 0.195) was significant. The standardized indirect effect of kids on virtual tolerance (0.004, 0.278) and PSMA (0.003, 0.229) was significant. The standardized indirect effect of virtual communication on PSMA (0.096, 0.360) was significant. The standardized indirect effect of working in the emergency working unit was not significant for virtual tolerance and PSMA.

DISCUSSION

Stress has become a major concern within the field of nursing [35]. The intensive care and emergency working units were examined in the current study since previous research has found both working units to be related to high levels of stress [10,15]. This study hypothesized that working in stressful working units would result in a need to increase resources by communicating excessively with others on social media with the aim of with standing stress. Results supported this hypothesis.

In this study, working in an intensive care unit was directly related to virtual communication scores and indirectly related to virtual tolerance and PSMA. These results support previous findings of nursing students scoring high in both virtual communication and virtual tolerance, with higher scores in virtual communication [21]. The need to develop close bonds [20] may occur before one's tolerance increases for screen time. The scores of virtual communications were high, which was in turn related to increased tolerance scores.

Working in an emergency unit was not related to virtual communication scores, virtual tolerance scores, or PSMA scores. One of the primary factors contributing to stress is related to the working conditions provided by the hospitals and the insufficient number of nurses working in emergency units [35]. It is possible that the hospital the data was collected from offered better working conditions or had a sufficient number of nurses working in the emergency unit. Another explanation could be that nurses working in emergency units may be busier and have less time to turn to social media as a resource. The working dynamics of emergency departments may differ from those of intensive care units. Emergency departments are clinical environments characterized by high job demands due to unpredictable patient volumes, exposure to traumatic cases, and the risk of workplace violence. In addition, emergency departments involve a rapid and continuous workflow, requiring nurses to remain constantly engaged in patient care and decision-making processes. In contrast, intensive care units generally involve prolonged patient monitoring processes, which may occasionally provide more opportunities for communication through digital platforms. These differences in workflow and work organization may partially explain why working in an intensive care unit was associated with higher virtual communication scores, whereas working in an emergency unit did not show such an association [35].

The theory of self-perception was supported in the study. When virtual communication and virtual tolerance scores were high (i.e., intensive care unit), PSMA was found to be significant. However, when virtual communication and virtual tolerance scores were low, PSMA was not significant. The nurses' specific behaviors served as indicators, leading them to either perceive themselves as addicted or not addicted.

The burden of childcare has been associated with high level of stress for parents [17,18]. Therefore, the study hypothesized that having children would increase the stress levels of the nurses and could thus lead to a social media addiction. The current study confirmed a significant relationship.

The number of years on the job was significantly but negatively related to virtual communication scores, and indirectly to virtual tolerance and PSMA scores. The strongest relationship was with virtual communication scores, indicating a decreased need to communicate with others excessively through social media. One possible explanation provided by [36] is that the initial years may be more stressful for nurses, however, with experience, the later stages of employment may lead to a decreasing trend in stress levels.

In addition, generational differences may also help explain this finding. Younger nurses who are more proficient in using digital technologies may tend to use social media more intensively as part of their daily communication and stress-coping processes. In contrast, nurses with longer professional experience may rely more on interpersonal communication methods and professional coping skills that they have developed throughout their clinical practice. Moreover, increasing professional experience may contribute to the development of stress-management skills through professional maturation and professionalization. Therefore, the need to use social media as a coping mechanism may decrease [36].

Overall, the model explained over half of the variance in virtual tolerance, close to half of the variance in PSMA, and around one-fourth of the variance in virtual communication. It is important

to note that this study took place in the capital city of Türkiye. Results may be similar or different in more rural areas [18] refer to the importance of examining different samples and comparing rural community centers with metropolitan cities. Higher levels of stress have been noted in urban settings [37].

A closer examination of how nurses handle stress and their selected outlets for resource and support is warranted. It is conceivable that the nurses working in emergency working units employ distinct coping strategies with the aim of increasing their resources and enhancing their ability to handle stress in the workplace. Since social media can either be a stressor, a resource, and/or a tool for coping with stress [3], future studies can aim to distinguish how nurses utilize social media and follow the implications of such decisions. Moreover, previous studies have examined the relationship between social media addiction and the alexithymia scores of nursing students [38]. Alexithymia, which includes symptoms such as indifference towards others and difficulty articulating emotions, can seriously hinder the support that a nurse can provide his/her patients. Examining these variables with regard to working nurses and determining if stress is a mediator between these two variables can be valuable.

Study Limitations

It is difficult to generalize the findings of the study due to the limited existing literature on the topic and the small sample size. Moreover, since the current study collected data from the capital city, the results may vary depending on location. Results should be compared in the future with other cities and rural areas. Additionally, since the study only asked whether the nurses did or did not have children, the information provided was limited. In the future, the researchers can ask participants the number of children they have to determine if it changes the results. For instance, do people who have one child have similar or different results from people who have three children?

CONCLUSION

The current study used the theory of COR and the theory of self-perception theory to examine stress factors (having children, working in intensive care units or emergency units, and the number of years on the job) and their relationship with social media (virtual communication and virtual tolerance) and PSMA. Due to nursing being a very stressful job, often nurses feel a loss of resources or a lack of gain in resources in their work environment. This can direct the nurses to search for other outlets to gain new resources to deal with a stressful environment. Results showed that having children was significantly related to virtual communication. Having children was further indirectly related to virtual tolerance and PSMA. Similarly, working in an intensive care unit was directly related to virtual communication and indirectly related to virtual tolerance and PSMA. However, working in an emergency unit was not significantly related to social media use or perception of addiction. Reasoning behind this and comparing perceived stress levels and its relationship with social media use and perception of addiction is warranted. The number of years on the job was significantly but negatively related to virtual communication and indirectly to virtual tolerance and PSMA. Further examination is necessary to determine various stress factors and their relationship with social media use and perception of addiction.

Ethics

Ethics Committee Approval: Ethical approval for the study was obtained from the Lokman Hekim University Non-Interventional Clinical Research Ethics Committee (approval no: 2025/201, date: 29.08.2025).

Informed Consent: Written informed consent was obtained from all participants before data collection. Participation was voluntary, and participants were informed about the purpose of the study. Confidentiality and anonymity were ensured throughout the study.

Footnotes

Authorship Contributions

Concept: NB; Design: NB; Data Collection or Processing: NB; Analysis or Interpretation: NB; Literature Search: NB; Writing: NB, BD.

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

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