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CONTENTS

Research Articles

1- ***PHYSICIAN HEALTH AND WELLNESS – ASSESSMENT OF A PEER SUPPORT PROGRAM IN A WESTERN CANADIAN TERTIARY HOSPITAL PEDIATRIC DEPARTMENT***
McKenzie VAN EATON, Polya NINOVA, Sanjida NEWAZ,............................... 162-174

2- ***EFFECTS OF E-HEALTH LITERACY ON RATIONAL DRUG USE: THE MEDIATING ROLE OF HEALTH PERCEPTION***
Serkan DENİZ 175-182

3- ***EXAMINING THE RELATIONSHIP OF NURSING STUDENTS' ATTITUDES TOWARDS ELDERLY INDIVIDUALS AND THEIR LEVELS OF COMPASSION WITH THE FACTORS INFLUENTIAL ON THEM***
Havva Hande ÖZER, Altun BAKSİ, Esin ÇETİNKAYA USLUSOY 183-197

4- ***THE RELATIONSHIP BETWEEN WOMEN'S ATTITUDES TOWARD EARLY DIAGNOSIS OF CERVICAL CANCER AND HEALTH LITERACY LEVELS***
Birnur YEŞİLDAĞ, Ayşe YILMAZ... 198-206

5- ***NURSES' RETIREMENT PLANS: A CROSS-SECTIONAL AND COMPARATIVE STUDY WITH FINANCIAL, LIFESTYLE, PSYCHOSOCIAL AND HEALTH DIMENSIONS FROM TÜRKİYE***
Nurşah TATOĞLU, Serap ALTUNTAŞ 207-221

6- ***THE EFFECT OF VIOLENCE AGAINST 112 EMERGENCY HEALTHCARE PERSONNEL ON JOB SATISFACTION***
Serpil DİNÇLER,Nazli HOLUMEN,Emel Hulya YÜKSELOĞLU, Itır ERKAN.... 222-230

7- ***EVALUATION OF THE RELATIONSHIP BETWEEN SPIRITUAL WELL-BEING AND SURGICAL FEAR IN LIVER TRANSPLANT CANDIDATES***
Kübra KAYAOĞLU, Funda KAVAK BUDAK.. 231-239

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Research Article

PHYSICIAN HEALTH AND WELLNESS – ASSESSMENT OF A PEER SUPPORT PROGRAM IN A WESTERN CANADIAN TERTIARY HOSPITAL PEDIATRIC DEPARTMENT

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Abstract: *Peer support programs (PSP) have been used and found to be effective in mitigating burnout by utilizing the innate tendency to respond and empathize with shared difficulty. Such a program was established in the Pediatrics department of a tertiary care hospital in the Western Canadian city of Regina in January 2021. This study evaluates the effectiveness of the peer support program and its value in managing stress among physicians. Between January and March 2021, 14 Physicians were paired to have informal virtual meetings every two weeks for three months. A mixed-methods design was used to assess the program. Once peer support sessions concluded, physicians participated in a cross-sectional survey and were interviewed to assess their experiences and perceptions of the program. Descriptive statistics were computed from survey data. Interview data were analyzed qualitatively and coded for themes based on recurring issues. Workload, lack of support, administrative work, and high-intensity cases were mentioned as some stressors by the physicians contributing to burnout. Survey findings (response rate 64%) showed that 78% of participants perceived the workplace as stressful and chose a paired over group peer support, 56% found the program helped to alleviate stress and burnout and all respondents preferred support from co-physicians compared to other health care professionals, Physicians recommend the continuation, expansion, and advocacy for the program while providing a more formal structure with administrative support for schedule integration and protected time.*

***Keywords**: Peer Support, Burnout, Physician Peer Support, Physician Mental Health*

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1. Introduction

Burnout is a term that is often used within the medical community, referring to feelings of depletion and emotional exhaustion. It is unsurprising that this term is common as one in three physicians experience burnout [1]. The importance of addressing burnout is highlighted in the maladaptive coping outcomes that distressed physicians face: withdrawal, substance abuse, depersonalization, cynicism, and suicide [3, 4]. Secondary outcomes include riskier prescribing, less empathy, and increased medical errors [2, 3]. Meaning, that as the physician suffers, so too does the patient. Burnout has also been attributed to an increased cost to the healthcare system from physician turnover and early retirement [5]. The cost of burnout among Canadian physicians is estimated to be $213.1 million [5].

Under normal circumstances, physicians suffer from higher levels of stress and burnout than the general population [6]. The stress and declining mental health continued to rise [8] due to the devastating impacts COVID-19 has had from March 2020 to May 2023 [7]. Healthcare professionals involved in

the care of COVID-19 patients had significantly higher negative mental health outcomes including depression and anxiety [9]. Given the devastating outcomes that occur when physicians experience burnout, prevention is important to explore, both in and outside of the pandemic [5].

The American Medical Association articulates six strategies to reduce physician burnout and improve well-being namely, investing in research, creating positive work environments, reducing administrative burdens, creating positive learning environments, enabling technology solutions, and providing support to clinicians and learners [10]. Most of the burnout management and prevention actions require organizational, system, and institutional involvement [11], therefore relevant policy development and process implementation must be in place. Such actions would take significant time and effort, at times requiring extensive review and approval processes from relevant authorities, whereas, through the Peer Support Programs (PSP) physicians can help each other. According to the British Columbia First Responder's Mental Health Committee in Canada, "*co-workers who have had similar experiences can provide support and referral assistance through peer support, improving the lives of their peers and helping them towards recovery, empowerment, and hope*" [12]. Thus, by implementing a pilot PSP, it would become possible to identify and address physician wellness needs [8]. Examples of PSP in healthcare settings in North America include Indiana, USA [13]; Ontario, Canada [14]. The purpose of this study is to explore how, and to what degree, Peer Support (PS) works, the benefits it offers, and the specific aspects that may require further development and improvement in the Western Canadian context.

2. Materials and Methods

The study method included two stages: The establishment of PSP at a tertiary care hospital and PSP evaluation through interviews, surveys, and data analysis.

2.1. PSP Establishment

Step 1: In January 2021, a PSP was established in the Pediatrics Department of Regina General Hospital (RGH) located in Regina, Saskatchewan, Canada. Physicians (staff and residents) from the department were recruited to participate in the PSP based on self-interest. Participants (n = 14) ranked potential partners and were paired by common ranking and similarity in practices. Table 1 provides an overview of the participant characteristics.

Table 1. Participant Characteristics

Participant Category	Participant Number	Specialty	Experience
Staff Physicians	N = 10	Pediatrician, Neonatologist	1 to 15 years
Resident Physicians	N = 4	Pediatrics	Years 1 and 2

Step 2: Participants were asked to meet with their partners every two weeks for three months. 6 meetings per pair were held as part of peer support. Each pair was provided with a guideline of potential topics (e.g., any negative feelings in the weeks, overall work duties, dealing with unpleasant experiences, accomplishments, and work objectives until next meeting) to discuss but encouraged to welcome all other conversations. Given the COVID-19 pandemic restrictions, meetings were held virtually from January to March of 2021, and the number of meetings was decided by the pairs. Physician support resources were shared with the participants.

2.2. PSP Evaluation

Following the PSP program, a mixed-method study design was employed to evaluate how the PSP was perceived and its value in helping with stress management. Both qualitative and quantitative data were collected through interviews and surveys for evaluation of the program.

Step 1: All physicians were invited to participate in virtual one-on-one interviews (n = 8) between July to November 2021. Eligibility criteria were based on the physicians who were partnered and participated in the program. There were no restrictions to interview participation based on the number of times the partners successfully met. Interview questions were developed to fulfill the study's specific objectives, and to understand participants' experience in, and perception of, Peer Support. Questions also addressed ideas related to Physician wellness, stress, and burnout. All interviews were audio recorded and transcribed verbatim.

Step 2: Following the virtual one-on-one interviews, a cross-sectional survey consisting of open and closed-ended questions was employed to evaluate the overall experience and feedback of participating physicians (n = 9). Specific questions about whether they would prefer group or paired peer support and recommend the program to other colleagues were asked.

Step 3: Interview data were analyzed using NVivo 12 qualitative software. Data were analyzed qualitatively following the Braun & Clarke (2006) linear, six-phased thematic analysis method [15]. Inductive codes were developed and grouped into themes. Subthemes were assigned while reviewing, defining, and naming the themes. Once member checking was completed, interview transcripts were returned to the participants to check for accuracy. Two researchers analyzed the interview data simultaneously. Survey data were analyzed statistically using IBM SPSS Statistics 22 software to compute descriptive statistics.

Ethics approval was obtained from the Research Ethics Board, Saskatchewan Health Authority. (Approval date: October 07, 2020; SHA File # REB-20-88)

3. Interview Findings

The interview findings are presented in four categories, as presented in Table 2, and described in detail below.

Table 2. Summary of Interview Findings

Categories	Themes	Subthemes
Factors related to physician burnout	Personal factors	Work-life balance
		Expectations
	Organizational factors	Administrative work
		Lack of resources and support system
		Workload
		Compartmentalization
	Patient population factors	High intense cases
		Psychological energy
		Second victim
Barriers related to the PSP	Organizational barriers	Work Schedule
		Department size and physician availability
		Geographical locations
	Social barriers	Covid-19 pandemic
		Stigma
		Working connection
	Personal barriers	Commitment and willingness to seek help

Table 2. Continued

Categories	Themes	Subthemes
Perceived benefits from the PSP	Psychological benefits	Breaking stigma Stress release and sharing burden Normalization
	Building relationships	Commonality and community Program implementation and continuation
Strategies for engagement	Structure of the PSP	Formal and protected time Pair-oriented and group support In-person meetings
	Previous connections and work familiarity	Pre-existing relationships Matched sub-specialty

3.1. Factors Related to Burnout and/or Stressors

The factors and stressors related to burnout were described by physicians in three major themes: personal factors, organizational factors, and patient population. The personal factors were focused on meeting family and social needs while working long hours while the organizational factors included administrative burden, lack of resources and support system as well as increased workload due to physicians' shortage and the COVID-19 pandemic. The patient population theme included high-intensity cases (i.e., neonates in ICU), the need for high psychological energy, and adverse outcomes of the high-intensity cases – all of which contribute to the higher stress level.

3.1.1 Personal Factors

a. Work-life balance: A recurring theme that was present in all physician interviews was work-life balance. Work-life balance was described as a major personal stressor that is consistently present and remains a challenge for physicians to maintain personal (family and friends) relationships outside of work. As most physicians were not in group practice, finding time for family or self-care remained difficult as work was often brought home or into time off. There is also an expectation to take care of one's mental health and well-being. Physicians found that in the past this expectation could be met with the ability to have time off. However, with the increased workload physicians have struggled with meaningful time off, which is equivalent to the emotional and psychological energy that is personally expended.

"I remember the first week I took off, early in the winter…. I think the first three days I was hours on the phone every day" (SP1)

b. Expectations: The expectations that physicians face in their defined role can act as a major stressor. Given the shortage of pediatricians in the department, staff are faced with working more hours. On top of the increased hours, staff also face expectations of long hours and intense patient cases without the support of the Pediatric Intensive Care Unit (PICU), which is in another city of the province.

"I think the hours are stressful just in terms of the call we have to do with short pediatricians here. So, some of us do more than in a perfect world we would want to be doing" (SP2)

3.1.2 Organizational Factors

a. Administrative work: Paperwork is a common stressor associated with administrative responsibilities. Physicians have noticed an increase in the amount of paperwork that has become up to half of their workday. This decreases the amount of time to see patients and continues to add an element of stress. In addition to the paperwork, physicians feel that the amount of clerical work is not recognized

by the administration and lacks appropriate compensation. There has been an urge for a change in contracts to reflect this in practice.

"We have spent a lot of time on, in the last two years trying to rewrite our contract in a way that's a bit more appropriate for our area and how we work" (SP1)

b. Lack of resources and support system: Lack of resources has been expressed in both terms of the number of pediatricians working and the administrative resources available to them. The location of the PICU being in another city leaves high-intensity cases to on-call physicians; resulting in a smaller team (due to physician shortage) with fewer resources to deal with high-burden cases.

"*It's the part that's a lot about resources relationships, structures. Those are the ones that often create more stress in the sense of stress where it's a burden."* (SP2)

The organization of individual practice can be found to be isolated. There is often one physician in the ward at a time compared to other specialties which indicates a lack of collaboration. This carries over into peer support as working alone removes the natural tendency to not only collaborate on cases but debrief stressful and emotionally tolling cases. Likewise, physicians found that there were not many initiatives in place by the department to support them both in their workload and time off but also in their mental health. There was a lack of prioritizing mental health or the time it takes to achieve mental health.

"You know, convince the department that it's worth exploring the concept that people have internal unmet needs" (SP1).

"In Regina, we don't have that proximity. It's more in the sense that if you're in the hospital, usually you're the only one in the hospital and most people work outside. So, you don't get those opportunities to sort of sit down and talk about challenges that are happening with everyone's practice." (SP7)

c. Workload: Since the beginning of the pandemic, physicians have been experiencing many challenges, one of which is an increased workload due to isolated practices and a lack of physicians to support. Physicians have also been challenged to reduce their leave to meet current demands, which encompass interrelationships between the pandemic, physician shortage, and clerical work.

"You know you're not working with other pediatricians in the same setting or other physicians on the same day on the same patient. Compared to the team of nurses, who are all working together on the ward. So, I think it's more of an isolated experience." (SP3)

"So, for me, I'd say timing and scheduling is a big stressor and not having lots of free time. Because often spend longer of hours at the hospital and I need a lot of sleep." (SP4)

d. Compartmentalization: Physicians find that the workload and case burden can often not be left at work. There is a psychological toll that often follows them home, compounded by a physical amount of work that cannot be completed during office hours. Physicians find themselves bringing work home with them or on vacation. The responsibilities that come with the profession mean working outside of clinic hours, whether this be patient consultations, self-directed learning, case studies, or paperwork.

"There are definitely patients that keep you awake at night because you feel like you just know you haven't figured it out yet and you're worried. And I think always have to take that home. So sometimes I wonder if you know I would be happy as a preschool teacher because I feel like I, you know, similar patient population but I would have to take less home in terms of that burden of care I guess that is always there. I am always checking my EMR. I am always checking my email. And there always seems to be patient stuff coming at me even if I'm on holiday" (SP2).

3.1.3 Patient Population

a. High-intensity cases: The pediatric practice has unique stressors attached to the patients that are being taken care of, such as neonates in intensive care units. Where there is a role to not only take care of the patient and their best interest but also the families. The adverse outcome of these high-intensity cases also leaves.

“The babies come with some added psychological flavor to it. A bit more extreme on both sides, the good and the scary parts.” (SP1)

b. Psychological energy: With both acutely ill and terminally ill cases, physicians find there are innate emotions and investments within their cases. Often these emotions come home with them and create emotional stress. Especially when cases cannot be diagnosed or end in poor outcomes.

“I think in pediatrics there’s a huge stressor getting invested in cases and having things that are emotionally draining. Seeing trauma and seeing sad cases that affect kids can be a huge stressor” (SP5)

c. Second victim: There is an added stressor with adverse outcomes and high-intensity cases that can leave physicians feeling at fault. Leaving physicians feeling uneasy and distressed with high-intensity cases.

“And I think there is a lot of pressure to be perfect and get the right diagnosis and right answer and not always having the ability to do that can be a stressor. And sort of something you carry outside of work with you at the end of the day.” (SP3)

3.2. Barriers to Engaging PSP

Barriers to engaging PSP were grouped into three themes: organizational, social, and personal. Busy work schedules, a number of available physicians, and their geographical locations are some organizational barriers mentioned by the physicians in providing and seeking peer support. Certain social factors such as the pandemic, stigma, and lack of prior working relationships contributed to the challenges in engaging in the program. Finally, lack of engagement from one or both parties was mentioned as a barrier that contributed to a sense of “forced wellness”. Each theme is described in detail below.

3.2.1 Organizational Barriers

a. Work schedule: Physicians are experiencing an increased workload that includes patient interactions and clerical work. The intent to engage in the PSP was present, however, the ability to balance workload, personal life, and the pandemic left limited time. Almost all physicians expressed the need for protected time supported by the department.

"I think by definition everyone, at least all my pediatrician colleagues, are busy with not just work but their personal lives. I think peer support is extremely important, it's just like my physical exercise, you have to prioritize it and schedule it." (SP8)

b. Department size and physician availability: The size of the department limited the participant pool and the number of available partners. There were 17 physicians and 4 residents working at the hospital during the study period. However, the relatively small size of the department also provided familiarity, which was described as a strength for some.

"I think it's hard in a smaller program because when you know everyone so well, is going to be a lot less formal.” (SP3)

c. Geographical locations: Although virtual platforms aided in the ability to connect in different cities, geographical location remained a barrier. Partners who were not consistently in the same location felt the ability to make natural connections was inhibited. This barrier overlaps with the barriers of COVID-19.

“We couldn't even have spontaneous bumping into each other in the hospital or anything like that where we could have like a quick chat. Because we work hardly ever in the same city. So limited in that sense." (SP5).

3.2.2 Social Barriers

a. COVID-19 pandemic: The pandemic offered unique challenges to PSP. Physicians found that the virtual format did not offer the same natural connection as meeting in person. Some physicians emphasized this was compounded by virtual burnout.

"I think the timing was a bit unfortunate. Well, yes and no. I think when this started we all needed a lot of support because it was the middle of COVID but at the same time I think we were a bit burnt out in terms of virtual meetings and virtual connections and we wanted real connections." (SP2)

b. Stigma: Physicians found a hard time balancing the need to be well with the idea of being told to be well, especially within a time frame. In order to efficiently practice wellness, it was felt that stigma needed to be addressed by both participants and the department.

"It's kind of an interesting balance of like if you're getting tired and burnt out and you're not taking time for yourself, that's almost like another job. You come home and your checklist is I have to study, but I also have to go for a run and be well. It sort of all adds up." (SP3)

c. Working connection: Physicians who had a prior working relationship with their colleagues were able to connect faster and understand the needs and expectations of their partners. Familiarity increases the ability to have a positive outcome. Partners who had not had the same prior connection or level of comfort noticed this was a barrier to communicating.

"The two most important things are the connection and the time. Once those are established, they just have to think about it as a living relationship on the go." (SP1)

3.2.3 Personal Barriers

Personal barriers such as commitment and willingness to seek help contributed to the challenges in engaging in the program. Most of the physicians identified their personal need for peer support. However, one physician perceived it as "forced wellness” and the lack of personal investment in both parties was a barrier to sharing their experiences freely. Physicians whose partners were equally invested were able to harbor a deeper connection. And those without the perception of forced wellness were more likely to make time for their partner.

"Once the more sort of global kind of a human feeling and interaction goes, then people have to do a bit of like I said an introspection. As in, is there something that I might need more help with more specifically? I mean nobody can help anybody that doesn't feel like he or she should be helped." (SP1)

3.3. Perceived Benefits from the PSP

The benefits of this PSP were identified into two broad themes – psychological benefits and building relationships. The program helped physicians break the stigma, release stress, share burdens, and normalize. Physicians were able to develop a sense of commonality and community by fostering trust, building connections, and resiliency.

3.3.1 Psychological Benefits

a. Breaking stigma: The ability to talk and relate openly with partners allowed physicians to break down walls and address stigma by reciprocal sharing of their perceptions of health and wellness. This helped to eliminate the stigma around innate resilience.

“Once you have more time spent talking with your peers about the struggles, the barriers, the difficulties, then the more open you are with sharing things with your colleagues and the easier it is to build resiliency skills as a team." (SP5).

b. Stress release and sharing burden: Physicians found that the ability to talk to peers who had similar experiences helped to relieve stress.

"Recognizing that we are human and that our internals have to work in a reasonably balanced way. Sometimes, if we take too much stuff on then we just need to give some to somebody else." (SP1)

c. Normalization: The participants found that internal PSP, versus external, helped normalize the idea of wellness through in-depth conversations with colleagues. Internally the program was perceived as a "scheduled reminder," and integrated wellness into their work environment. These conversations were found to extend beyond the PSP meetings.

"I think that we can provide as much education as possible to physicians in general about wellness, about ways of building resiliency, about trying to normalize wellness, normalize the process of building resiliency as much as possible, and if we can educate a few physicians every year. Then eventually they will educate more physicians and it will be a snowball effect." (SP5).

3.3.2 Building Relationships

a. Commonality and community: Participants found that PSP allowed them to relate and feel understood. They developed a sense of commonality and community between colleagues. Despite the limitations on the number of times met (pair dependent), physicians found PSP to be an outlet for stress. The ability to engage with colleagues was met with support and relation through shared experiences. The ability to have a deeper connection fostered trust and understanding while building resiliency. For these reasons, physicians felt that peer support was valuable in highlighting the importance of physician health and wellness in the department.

"This is something that is certainly good, there is no doubt, that there is enough data to show. That if we acknowledge it or not, that having at least one person where we don't sort of internally limit the sharing and things like that, is a very useful thing." (SP1)

b. Program implementation and continuation: Peer support was well received by physicians. One of the more prevalent outcomes was the hope physicians had for the project to be continued and implemented in their department. Physicians saw the project as advocacy within their department towards mental health and are hopeful that this will ignite changes.

"I like to look forward to that this might be implemented into more departments and might be a staple." (SP3)

Physicians advocated for the importance of wellness, which, as a matter of fact, should be considered as part of medicine. They reiterated the need for protected time and that the administration should do more to ensure this.

"I do think that there still needs to be a culture to say wellness is important, it's part of medicine. It's still unfortunate some people push back against the idea of wellness. And so I think that needs to shift." (SP5)

3.4. Strategies for Engagement

Strategies for engagement in the PSP were described by physicians in two major themes: PSP structure and previous connections. The physicians recommended the PSP to be formal, pair-oriented, and in-person setting. Pre-existing working relationships and familiarity in types of practice are some factors to be considered while developing a PSP.

3.4.1 Structure of the PSP

a. Formal structure and protected time: When asked what participants thought of a formal peer support program, the responses were mixed. Some physicians mentioned a formal training program would be an added barrier due to time restraints. Where a lack of time already presents as one of the primary stressors, physicians are worried that a formal training program may add, rather than reduce, stress. Some participants saw the benefits of formal training to give or receive support to be beneficial but again saw time as a major restraint. However, some participants proposed that formal training may benefit in the long run as it may make communication more effective and efficient in the future.

Although formal training was not seen as necessary, a more formal structure for guidance was suggested by most participants. Formalities such as reminders, set aside time, and strategies for efficient and meaningful engagement were recommended. The idea of a more structured program was brought up by almost all participants with suggestions that the program should include more guidance into expectations and practice.

Each participant found the most limiting factor to participating in peer support to be time restraints. Time restraints included both personal and professional time.

"So, if we had more strategies with maybe like an introductory, introduction to peer support and tips and tricks that would help. As well as having protected time to hold peer support meetings." (SP5).

*"And I think the reality is that there's a ton of things we all know we can do for wellness and sometimes it just comes down to not having the time to do them."(*SP3)

b. Pair-oriented and group support: Individuals found the formatting of support in pairs to be valuable. Participants thought the idea of a group setting could be an adjunct on top of the paired support. Practicing with partners allowed participants to form a relationship that they were comfortable in sharing. However, the perceived downfall to peer support for one participant was that the lack of investment by the partner was a barrier that may not have been present in a group setting.

"I think I would do it more of like group-based. It was nice to get to know one one-on-one, but I think even if you did it group-based, I think each time you would have a different smattering of people that would come. So, you would be able to get to know different people depending on ya, who were able to attend that particular event. So, I think that would be a good addition or tweak. Even if you were paired and then had some group opportunities maybe. "(SP2)

"And who knows, it might evolve into a multi-person instead of pairs. Where people might point out well four is better actually. "(SP1)

c. In-person meetings: Virtual meetings, as a result of COVID-19, aided individuals to meet safely but limited the ability of a natural meeting. Most participants found an in-person meeting would have aided with the depth and frequency of meetings.

3.4.2 Previous Connections and Work Familiarity

a. Pre-existing relationships: Given the short duration of the pilot project, pairs with a pre-existing relationship were able to meet more naturally and engage in deeper conversations more quickly. Given the small size of the department, participants were familiar with their partners, which was found to aid in initial conversations.

"I think we; we are naturally close in uh wavelength and it's been uh a quite pleasant interaction. I think that we both felt that we could easily just talk about things that there wouldn't be that many people to talk with. So, it worked out good, I think." (SP1)

b. Matched sub-specialty: Physicians found their connection to be more natural when their types of practices, and years of experience, matched. For example, pairs who were specialists were able to relate easily with patient characteristics and practice strains.

3.5. Survey Findings

Figure 1 summarizes the survey findings. The total responses were nine out of fourteen participants. Among them, 78% of participants perceive the workplace as 'quite a bit' to 'somewhat' stressful. 100% preferred peer support among physicians compared to support inclusive of other health care professionals. 78% of respondents prefer paired over group support. 56% found the program helped alleviate stress and burnout. Most agreed that they would recommend the PSP to another colleague or a health professional. Some major stressors related to physician's work were long hours, administrative work, lack of resources (including staff or physician shortages), high-pressure situations, and the recent pandemic. The respondents emphasized the benefit of in-person meetings over virtual ones.

4. Discussion

In this study, we examined the utility of a PSP and its use in mitigating burnout. The most cited barrier by physicians was time constraint, which is consistent with PSPs cited in the literature. Physicians report that lack of free time to utilize PSPs was a significant barrier and deterred them from utilizing programs to their full potential [16, 17, 18]. Similarly, studies found that participation rates decreased with a lack of protected time [18,19]. Our participants discussed that protected time would allow further participation. COVID-19 was a unique barrier to PSPs implemented in 2020 onwards. The recent pandemic highlighted the need for peer support, but it also provided barriers. Other preliminary studies of PSP during COVID-19 also found virtual burnout and concerns about engagement sustainability [20].

A common barrier noted in the literature that decreases participation is confidentiality [3, 4, 16, 18]. This was not reported in our study. With larger studies and interdepartmental PSP, physicians feared confidentiality breaches [3]. To mitigate this, institutions have successfully taken a multidisciplinary approach, using legal and risk management teams to support physicians and their confidentiality [18]. This consideration may become important upon expansion of our PSP beyond one department.

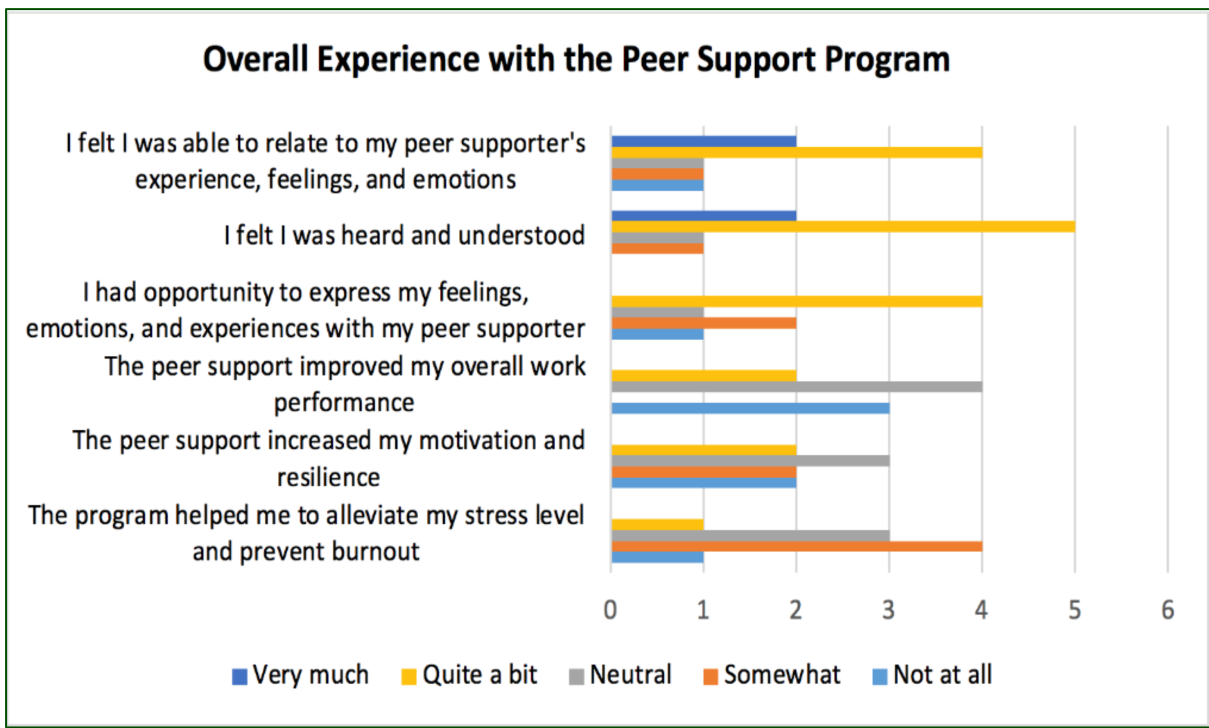

Figure 1. Overall Experience in the Peer Support Program at the Regina General Hospital, Department of Pediatrics. A cross-sectional survey, n = 9.

Within our survey, there was a lack of consensus on the ability of PSP to mitigate burnout. More time in the program may change this outcome as longer-standing PSPs within the literature have reported significant mitigation of burnout as an outcome of peer support [1,4]. The majority of these outcomes were found in "Baliant-like" PSPs, where physicians received support following adverse events [2]. These trends in the literature combined with the positive outcomes of our study may elicit the potential for a hybrid model.

Previous studies in the literature report that physician colleagues were the most popular potential source of support [3]. Similar to our study, the literature shows pre-existing relationships or natural connections increased positive outcomes of PSPs [3]. Studies have found that the ability to relate to

colleagues within the same department increased compared to different departments [2]. Our PSP was able to address the long-standing stigma of physician mental health where the opportunity to engage in the program felt normalized.

Given the short timeline of our study, it is important to consider PSP sustainability. Literature shows volunteer efforts within PSPs may not be sustainable and should be taken into consideration [18,20]. Alternatively, programs that utilize paid positions and paid time have had long-term success [21]. Regardless, PSPs are a low-cost support method, which has contributed to its feasibility and sustainability [4]. Within our study, there was an expressed want for formality around participation expectations, such as meeting times and potential topics. Other studies that used a more formal approach to meeting time, such as a Baliant approach, found there were often missed opportunities and an inability to address chronic stresses at the moment [1]. Regardless of whether there are suggested meeting times, it is evident that peer support must be implemented in a way that does not increase physician workload.

5. Conclusion

The program was well received by the physicians and the intent to move forward with participation was high. The physicians were able to self-reflect on what brought stress in their day-to-day practice, especially when high-intensity cases were involved. Listening to other physicians' stressors allowed for self-reflection through the understanding of commonalities and shared feelings. A structured format to guide the conversations, strategies for efficient and meaningful engagement, pair matching based on types of practice as well as formalities such as reminders, and set time aside were recommended. While 56% of the participants found the program helped alleviate stress and burnout, the majority agreed that they would recommend the PSP to others. In-person meetings (both paired and in group settings) were preferred by almost all physicians – which could potentially be more effective for the program's success. From the regulatory perspective, the authorities can consider implementing department-protected time to increase the ability for physicians to participate. Our study confirmed the feasibility of PSP and a desire for its continuation at RGH's Pediatric department and beyond.

Given the increased prevalence of burnout, especially in light of the recent pandemic, the use of peer support can help aid physicians in preventing adverse outcomes. Peer Support has utility in mental health and burnout intervention. Our study highlights the benefits, barriers, and strategies for other institutions to implement a peer support model and shows similar outcomes to the literature. We believe the results of our study can impact physician well-being by allowing physicians to have a positive community and psychological impact within the program. The implication of physician well-being extends beyond the work environment but to the patient and the system. The role of a physician is to aid in the prevention and recovery of patients, and to do so physicians must have the ability to promote their well-being.

Limitations:

This pilot project was implemented within a small and specific department with a limited number of physicians. Physicians here may experience different work environments and therefore stressors. Our study may experience non-response bias, where the response rate was 57.14% and 64.23% for the interview and survey, respectively.

Ethical statement:

Ethics approval was obtained from the Research Ethics Board, Saskatchewan Health Authority. (Approval date: October 07, 2020; SHA File # REB-20-88)

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Conflict of interest:

No conflicts of interest

Authors' Contributions:

All authors read and approved the final manuscript.

The level of their contributions are as follows:

M.V.E: Data collection, Investigation, Formal analysis, Original and final manuscript preparation

P. N: Conceptualization, Methodology, Resources, Investigation

S.N: Research design, Methodology, Investigation, Formal Analysis and Final manuscript preparation

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Research Article

EFFECTS OF E-HEALTH LITERACY ON RATIONAL DRUG USE: THE MEDIATING ROLE OF HEALTH PERCEPTION

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Abstract: *Rational drug use can make important contributions to treating diseases. Many factors affect rational drug use. This research was undertaken to define the mediating role of health perception (HP) in the effect of e-health literacy (eHL) on rational drug use (RDU). The research presented here was performed between March 11 and April 29, 2023, in the Istanbul and Kocaeli provinces and their districts in Türkiye. Data were collected from individuals residing in Istanbul and Kocaeli provinces or their districts aged 18 and over by online survey method. A total of 520 questionnaires were collected in this process. The findings revealed that eHL positively affects HP. Moreover, eHL and HP positively affect RDU. Finally, it was determined that HP has a mediating role in the effect of eHL on RDU. The research presented here has confirmed that eHL and HP are determinants of RDU. According to these results, some suggestions are presented.*

Keywords: *Internet, e-Health Literacy, Health Perception, Rational Drug Use*

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1. Introduction

While drugs help prevent and treat diseases when used rationally, the irrational use of drugs can lead to serious dangers that threaten human health and may even result in death [1]. Factors such as population growth increase in the prevalence rates of chronic diseases, epidemics, income inequalities, problems in accessing health services, easier access to drugs, increases in both the number and variety of available drugs, and lack of sufficient knowledge and awareness of individuals about drugs have made the rational use of drugs an issue of crucial importance worldwide [2]. Rational drug use (RDU) has been defined as “patients receive medications appropriate to their clinical needs, in doses that meet their requirements, for an adequate period of time, and at the lowest cost to them and their community” [3].

RDU helps achieve positive treatment outcomes, prevent adverse drug effects, reduce drug treatment costs, increase individuals’ quality of life, and improve public health [4, 5]. However, individuals may engage in irrational drug use for reasons such as easy access to drugs, availability of some drugs without a prescription, problems in accessing health services, lack of social security, lack of awareness, lack of education, and economic hardships [6, 7]. Individual behaviors such as self-medication, not taking all of the drugs prescribed, not utilizing drugs at the time or in the dose suggested by the physician, and interrupting drug treatment are behaviors of irrational drug use [8, 9]. Irrational drug use may lead to decreased adherence to treatment, adverse drug interactions, increased resistance

to certain drugs, the prolongation or recurrence of the disease, and increased treatment costs [10, 11]. RDU is associated with sociocultural factors, economic conditions, legal regulations and policies, the demographic characteristics of individuals, income and education levels, and the general health literacy level of society [12, 13].

Another factor associated with RDU is e-health literacy (eHL). Developments such as the advancement of information technologies, widespread adoption of internet usage, and increased access to the internet have led to the concept of eHL [14]. eHL may be described as “the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem” [15]. Today, huge amounts of information of all types can be accessed quickly and easily on the internet [16]. However, accurate information is not always available on the internet. Information obtained from internet sources may be inaccurate, misleading, or of low quality [17]. eHL is very important in being able to access the right health-related information on the internet and interpreting it correctly [18]. High levels of eHL allow individuals to access accurate information about health issues online, make better-informed health decisions, and engage in positive health-related behaviors [19].

Another factor associated with RDU is health perception (HP) [20]. The concept of HP includes individuals’ assessments and beliefs about their health [21, 22]. HP is subjective and differs from person to person. People may perceive themselves as being healthy despite having a chronic disease, or they may perceive themselves as being ill despite having no symptoms of any disease [23]. The HPs of individuals who live in different conditions and have different characteristics in society may also differ [24]. Many variables including age, gender, education and income levels, marital status, and beliefs affect HP [25, 26]. HPs have a significant influence on the ability of an individual to change his or her own behaviors [27]. HPs are also important in protecting health, deciding to adopt and exhibit healthy life behaviors or avoid risky behaviors, and improving health [28, 29].

In the relevant body of literature, the number of studies conducted to date to determine the relationships between eHL HP and RDU is low. It is thought that determining the relationships between these variables will contribute to the literature. With that in mind, the present research was planned with the aim of determining the mediating role of HP in the effect of eHL on RDU. The hypotheses developed for that purpose were as follows:

H_1: eHL positively affects HP.
H_2: eHL positively affects RDU.
H_3: HP positively affects RDU.
H_4: HP has a mediating role in the effect of eHL on RDU.

2. Materials and Methods

The research presented here was performed between March 11 and April 29, 2023, in the Istanbul and Kocaeli provinces and their districts in Türkiye. Data were collected from individuals residing in Istanbul and Kocaeli provinces or in their districts aged 18 and over by online survey method. A total of 520 questionnaires were collected in this process.

While 61% (n=317) of the respondents were female, 39% (n=203) were male. The average age of these participants was 33.50±10.95 years. Among all participants, 21.5% (n=112) had received high school education or below, 22.5% (n=117) had an associate degree, 42.9% (n=223) had an undergraduate degree, and 13.1% (n=68) had received postgraduate education. While 48.7% (n=253) of the participants were not married, 51.3% (n=267) were married. Finally, 71.9% (n=374) of the participants were employed and 28.1% (n=146) were unemployed.

2.1. Measurements

The initial section of the questionnaire form that was administered for the collection of study data was designed to gather information regarding the demographic characteristics of the respondents. The following scales constituted the remainder of the questionnaire:

- *The e-Health Literacy Scale (e-HEALS):* Norman and Skinner developed the e-HEALS, which includes a single dimension and 8 items [30]. Coşkun and Bebiş confirmed the scale's validity and reliability in the Turkish context [31]. The scale is structured as a 5-point Likert-type scale, with items being assigned scores that range from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). The scale was confirmed to be reliable for the purposes of the present study (α=0.761).
- *Perception of Health Scale (PHS):* Diamond et al. developed the PHS, which includes 15 items distributed across a total of 4 dimensions that include the center of control with 5 items, self-awareness with 3 items, certainty with 4 items, and importance of health with 3 items [32]. Kadıoğlu and Yıldız conducted the Turkish validity and reliability study of the PHS [33]. The statements of the PHS are evaluated with a 5-point Likert-type scale, with items being assigned scores that range from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). Of the 15 items, 6 items are evaluated with positive statements and 9 items with negative statements. The items evaluated with negative statements are subsequently reverse-coded by the researchers. The scale was confirmed to be reliable for the purposes of the present study (α=0.672).
- *Rational Use of Drugs Scale (RUDS):* Cengiz and Ozkan [34] developed the RUDS, which constitutes a single dimension containing 21 items that are evaluated with a 5-point Likert-type scale that ranges from 1 ("Never") to 5 ("Always"). The 17th item of this scale is reverse-coded. In its application in the present study, the RUDS was found to possess a high level of reliability (α=0.845).

2.2. Statistical Analysis

IBM SPSS Statistics 22.0 and Process Macro v4.0 were applied in the present work for all statistical analysis. In this process, calculations of descriptive statistics were performed and correlation and effect analyses were utilized in evaluating relationships between variables. The findings of these analyses were evaluated within the framework of 95% confidence intervals at a significance level of 5%.

2.3. Ethical Statement

All procedures undertaken in the research described here were approved by the Human Research Ethics Committee of Yalova University, which confirmed that the study was ethical (Protocol No: 2023/46, Date: 10.03.2023).

3. Results

Based on the findings obtained from the correlation analysis of the study data, a positive correlation exists between eHL and HP (r=0.530). In addition, correlations of a positive nature were observed to exist between both eHL and RDU (r=0.544) and HP and RDU (r=0.517) (Table 1).

Table 1. Correlation Analyses

Variables	X̄	SD	1	2
1. e-Health Literacy	3.670	0.455		
2. Health Perception	3.601	0.403	0.530*	
3. Rational Drug Use	3.956	0.458	0.544*	0.517*

*p<0.001

The results of the analysis confirmed that eHL positively affects HP (β=0.470, p<0.001). Moreover, eHL (β=0.379, p<0.001) and HP (β=0.360, p<0.001) positively affect RDU. These results supported hypotheses H_1, H_2, and H_3 (Table 2).

Table 2. Effect Analyses

Effect	β	S.E.	t	p	LLCI	ULCI
Constant	1.875	0.122	15.347	0.000	1.635	2.115
eHL → HP	0.470	0.033	14.237	0.000	0.405	0.535
Constant	1.266	0.157	8.060	0.000	0.958	1.575
eHL → RDU	0.379	0.042	9.128	0.000	0.298	0.461
HP → RDU	0.360	0.047	7.689	0.000	0.268	0.452

eHL: e-Health Literacy, HP: Health Perception, RDU: Rational Drug Use

The results of the analysis confirmed that HP has a mediating role in the effect of eHL on RDU (β=0.169) and also creates further increases the positive effect of eHL on RDU (β=0.549, p<0.001). These findings supported the fourth hypothesis (Table 3).

Table 3. Analysis of the Mediating Role of Health Perception

Effect		β	S.E.	t	p	LLCI	ULCI
Direct Effect	eHL→RDU	0.379	0.042	9.128	0.000	0.298	0.461
Indirect Effect	eHL→HP→RDU	0.169	0.023			0.126	0.216
Total Effect	eHL→RDU	0.549	0.037	14.770	0.000	0.476	0.622

eHL: e-Health Literacy, HP: Health Perception, RDU: Rational Drug Use

4. Discussion

The research presented here has revealed that eHL has a positive impact on HP. Previous studies in the relevant body of literature have confirmed the existence of a positive relationship between health literacy and HP [35, 36]. Kıbrıs and Kızılkaya showed that eHL positively affects HP [37]. Individuals can access virtually endless amounts of information about health on the internet. However, they must have sufficient eHL levels to understand and apply that information correctly. High levels of eHL will positively affect individuals' perceptions of health and lead them to be more conscious about health and exhibit more positive health-focused behaviors.

Another important finding of this research was the positive impact of eHL on RDU. Tosun and Hoşgör showed a positive relationship between eHL and awareness of RDU [38]. Yalman and Tosun

showed that health literacy positively affects RDU [13]. The results of the mentioned studies support the findings of the present work. Low levels of health literacy may cause individuals to experience problems and make mistakes in drug use [39]. The present work has demonstrated that individuals with high levels of eHL have appropriate attitudes toward RDU.

Another finding of this work was the positive impact of HP on RDU. Çifçi et al. showed a positive relationship between HP and RDU [40]. HP is one of the factors affecting individuals' positive attitudes about and behaviors to support their own health and their willingness to take responsibility [41]. It can be said that individuals with high HP levels will likely show the necessary care and sensitivity in their use of drugs. The present study has likewise demonstrated that individuals with positive HP exhibit behaviors appropriate for RDU. According to the results obtained in this study, HP has a mediating role in the effect of eHL on RDU. Adequate eHL levels support the development of positive HPs on the individual level. In turn, positive individual HPs indirectly increase the positive effect of eHL on RDU.

5. Conclusion

The research presented here has confirmed that eHL and HP are determinants of RDU. According to these results, some suggestions are presented. To increase the level of eHL, courses should be given in schools, and training sessions should be organized for the community. Trustworthy websites should be created to increase the eHL of the public. Mechanisms should be established to monitor the accuracy of the health information available online. Additionally, institutional websites should be created where the public can access accurate and safe health information. To foster the public's positive perceptions of health, awareness of the importance of health should be raised through training, news, and television programs. Efforts should be made to make individuals sensitive to health issues. It should also be ensured that individuals take responsibility for their own health. Social awareness should be raised to increase the prevalence of appropriate attitudes toward RDU. The public should be informed about RDU. Health policies should be developed and legal regulations should be established for RDU. Health professionals should inform patients in detail about how, when, and at what dose they should take their drugs.

6. Limitations

The fact that this study was carried out only in two provinces and the districts of these provinces is a limitation of the study. Another limitation is that the feasibility of comparing the results of this study with the findings of previous research is relatively limited due to the low number of studies conducted to date to describe the relationships between eHL HP and RDU.

Ethical Statement:

All procedures undertaken in the research described here were approved by the Human Research Ethics Committee of Yalova University, which confirmed that the study was ethical (Protocol No: 2023/46, Date: 10.03.2023).

Conflict of Interest:

The author declared that there is no conflict of interest.

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Authors' Contributions:

The study has been prepared by the author.

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Research Article

EXAMINING THE RELATIONSHIP OF NURSING STUDENTS' ATTITUDES TOWARDS ELDERLY INDIVIDUALS AND THEIR LEVELS OF COMPASSION WITH THE FACTORS INFLUENTIAL ON THEM

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Abstract: *Today, the changes that occur with aging are met negatively in most of the societies in the world, and elderly individuals are exposed to discrimination. This study aimed to examine the relationship of nursing students' attitudes towards elderly individuals and their levels of compassion with the factors influential on them. The study is of descriptive and cross-sectional type. The study was carried out with the 2nd grade, 3rd grade, and 4th-grade nursing students (n:508). In the study, the independent variables with a statistically significant relationship with the dependent variables were subjected to the stepwise multiple linear regression analysis. The students' mean scores were 48.85±5.00 on the UCLA geriatric attitude scale and 99.17±10.98 on the compassion scale. It was found that compassion, willingness to work with elderly individuals after graduation, the place the elderly person should stay in (in a nursing home, in their own home), perceived compassion fatigue level (mild), father's education level (undergraduate level and above), and problems experienced in social relations with elderly individuals were significant predictors of the nursing students' attitudes towards elderly individuals. It was revealed that nursing students' positive attitudes towards elderly individuals increased as their levels of compassion increased. It was seen that the students who had a mild level of compassion fatigue and who wanted to work with elderly individuals after graduation had more positive attitudes. Moreover, it was found that the students who thought that elderly individuals should stay in a nursing home or in their own home, whose father's education level was undergraduate level and above, and who had problems in social relations with elderly individuals had more negative attitudes. Educators, nursing students, nurses, and administrators can make use of the findings of this study so that they can develop appropriate strategies to improve attitudes toward elderly individuals.*

Keywords: *Elderly individual, attitude, compassion, nursing, student, education.*

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1. Introduction

Today, the changes that occur with aging are considered negative by most societies in the world, and elderly individuals are exposed to discrimination. Respect for elderly individuals, obedience to their words, and protection of them are traditional in Turkish culture, while today, urbanization, migration, increase in industry, economic difficulties, presence of women in work life, transition from extended family to nuclear family and rapid changes in social life cause changes in family structure especially in big cities [1]. The rapid increase in the elderly population and the vulnerability of these people to various

health problems cause an increase in the number of elderly patients who need healthcare [2]. This situation increases the need for well-equipped health workers who know the characteristics, needs, and problems of the elderly population, who understand them, and who have been trained in this regard [3]. Although different attitudes towards elderly individuals are demonstrated by health professionals, these individuals are generally seen as a group described as "bed-occupying", "requiring long-term hospitalization" and "failure in the health system as they cannot be treated" [4]. In addition to health problems, elderly individuals have to cope with this negative attitude they encounter [1]. In the literature, it is reported that young people constitute a risk group in terms of demonstrating negative attitudes towards elderly individuals [5-7]. Negative views about and negative attitudes towards aging affect the quality of nursing care negatively [8-10]. Nursing students' attitudes towards the elderly may affect the quality of therapeutic interaction between students and elderly individuals and their willingness to care for these patients [2]. Therefore, the quality of education in establishing positive relationships with patients is important [2,11].

The General Medical Council and Nursing Midwifery Council (2012) pointed out that students/healthcare professionals should have compassion as well as technical knowledge and skills before starting the profession [12]. The reason for this is that when people get sick, they become vulnerable, need the help of others even in the most trivial things, and want to be treated with care and compassion [13]. When the literature is examined, it is seen that there are studies on the attitudes of nursing students toward elderly individuals and the factors affecting them [9,14-17]. A study conducted with nursing students determined that students who live with an elderly person at home, care for elderly family members, and communicate with elderly individuals every day have positive attitudes toward the elderly [9]. In another study, it was stated that nursing students living in a large family and living with an elderly person showed more positive attitudes towards elderly individuals [16]. In the literature, it is seen that the number of studies on compassion in the care of elderly individuals is limited [18,19]. In addition, no research conducted to examine the effect of compassion on nursing students' attitudes toward elderly individuals was found. In this respect, the purpose of the study was to examine the relationship between nursing students' attitudes towards elderly individuals and their levels of compassion and the factors influential on them. Defining the relationship between nursing students' attitudes towards elderly individuals and compassion and the factors that may affect them is important for planning nursing education and for developing nursing care offered to elderly individuals.

2. Materials and Methods

2.1. Research Type, Setting and Sample

The study was conducted using the relational descriptive and cross-sectional research design. The study was carried out using questionnaire forms created online between December 2020 and April 2021. The universe of the study consisted of 2nd-grade, 3rd-grade, and 4th-grade students studying in the Department of Nursing. The research sample was made up of 508 students who agreed to participate in the study. The inclusion criteria for the research sample were being a nursing student, volunteering to participate in the study, and having experience in clinical practices. At the end of the study, the power of the study was found to be 0.99 according to the power analysis when the effect size was 0.237 (p=0.05), when the number of predictors/predictive variables was 7, and when the number of participants was 508 [20].

2.2. Data Collection Tools

2.2.1 Introductory Characteristics Form

This form was prepared by the researchers in line with the related literature. The form included questions related to *" age, class, gender, family type, mother/father's level of education, grade point average (GPA), willingness to be a nurse, taking courses on old age/geriatrics, presence of an elderly relative, wanting to live with their parents in the future, the place where elderly individuals should stay, willingness to work with elderly individuals after graduation, having problems in social relations with elderly individuals, and perceived compassion fatigue level"* [10,11,14,16,21].

2.2.2 UCLA Geriatric Attitudes Scale

The scale was developed to determine the attitudes of healthcare professionals towards elderly individuals. The Turkish validity and reliability study of the scale was conducted with healthcare workers by Şahin et al. (2012). The scale consisted of a total of 14 items and five-point Likert-type options. The scale was made up of four sub-dimensions such as "social values, medical care, compassion, and resource allocation," and the total attitude score was calculated as a combination of the sub-dimensions. The score to be obtained from the scale varied between 14-70. An increase in the scale score meant that the attitude towards elderly individuals was positive. The internal consistency reliability Cronbach alpha coefficient of the scale was found to be 0.67 [22]. The scale was used in this study to determine the attitudes of nursing students toward elderly individuals. The internal consistency Cronbach alpha reliability coefficient of the scale was calculated in the study as 0.60.

2.2.3 Compassion Scale

The Turkish validity and reliability study of the scale was carried out by Akdeniz and Deniz (2016) with university students. The scale was made up of 24 and 5-point Likert-type items. The scores to be obtained from the scale varied between 24-120. As the total score obtained from the scale increased, the level of compassion increased as well. It was reported that the internal consistency Cronbach alpha reliability coefficient for the whole scale was 0.85 [23]. The scale was used in this study to determine the compassion levels of the nursing students. The internal consistency Cronbach alpha reliability coefficient of the scale for this study was 0.90.

2.3. Data Collection

The data of the nursing students who voluntarily agreed to participate in the study were collected online due to the COVID-19 pandemic process. To collect the research data, firstly, online survey forms were created in Google, forms application, and then the students studying in undergraduate nursing departments were reached by using social media tools (WhatsApp, Instagram).

2.4. Data Analysis

The data collected in the study were analyzed using the Statistical Package for Social Sciences (SPSS) (IBM SPSS Statistics, Chicago, IL, USA) 25.0 in a computer environment. Descriptive statistics, numbers, percentages, mean and min-max were used. Normality tests were used to examine whether there were missing values in the data set belonging to the research group and whether the data showed a normal distribution or not. Independent variables that had a statistically significant relationship with the dependent variables were included in the stepwise multiple linear regression analysis. Standard residual for the variables and multicollinearity for independent variables were examined before constructing the regression model. In stepwise regression analysis, an initial model was created, and all the variables were included in the model. Only the significant variables among all were included in the model step by step. In regression analysis, categorical variables were included in the analysis as "dummy" variables. For the variables to be included in the regression equation, the statistical

significance level was accepted as $p<0.05$ [24]. In addition, a power analysis was performed to calculate the power of the research. G * power software, version 3_1, was used for power analysis [20].

2.5. Research Ethics

Before starting the research process, approval (dated 17.11.2020, number 354) was obtained from the Medical Faculty Clinical Research Ethics Committee of Süleyman Demirel University. Written permission was obtained from the authors who conducted the Turkish adaptation of the measurement tools used in the study. Due to the COVID-19 pandemic process, permission was obtained online from the nursing students who met the criteria for inclusion in the research sample and who agreed to participate in the study. With the informed consent form at the beginning of the online survey forms, the students were informed about the purpose, duration, application, and data collection in the study; about voluntary participation in the study, about the possibility of leaving the research at any time, and about keeping the names of the participants confidential. It was accepted that the students who filled out the questionnaires after reading this information gave their consent.

2.6. Limitations

The results of the research represent only the second, third, and fourth-year students studying in the nursing department of some universities.

3. Results

The mean age of the nursing students participating in the study was 21,22±1,47 (min-max=19,00-27,00). Of all the students, 37,6% of them were 2nd-grade students; 78,1% were female; 82,7% had a nuclear family; and 47,6% of them had literate fathers. Findings regarding the introductory characteristics of the nursing students are given in Table 1.

Table 1. Findings regarding the introductory characteristics of nursing students (n: 508)

Introductory Characteristics	X̄±SD	Min-Max	
Age	21,22±1,47	19,00-27,00	
	Variable Levels	**N**	**%**
Class Grade	2nd Grade	191	37,6
	3rd Grade	157	30,9
	4th Grade	160	31,5
Gender	Female	397	78,1
	Male	111	21,9
Marital Status	Single	501	98,6
	Married	7	1,4
Financial State	Income equal to expenditures	308	60,6
	Income higher than expenditures	50	9,8
	Income lower than expenditures	150	29,5
Registered Region	Marmara	66	13,0
	Aegean	72	14,2
	Central Anatolia	55	10,8
	Mediterranean	104	20,5
	Southeastern Anatolia	146	28,7
	Eastern Anatolia	33	6,5
	Black Sea	32	6,3
Longest lived place	City	281	55,3
	District	138	27,2
	Village	89	17,5

Table 1. Continued

	Variable Levels	N	%
Family type	Nuclear family	420	82,7
	Extended family	88	17,3
Parent status	Living together	456	89,8
	Divorced	22	4,3
	Dead	30	5,9
Mother's education level	Literate	295	58,1
	Below undergraduate level	195	38,4
	Bachelor level and above	18	3,5
Father's education level	Literate	242	47,6
	Below undergraduate level	198	39,0
	Bachelor level and above	68	13,4
Family member with best getting-along	Grandfather-grandmother	9	1,8
	Father-mother	131	25,8
	Brother-sister	122	24,0
	All	197	38,8
	None	49	9,6
Grade point average	80-100	270	53,1
	60-79	232	45,7
	Lower than 60	6	1,2
Wanting to become a nurse	Yes	361	71,1
	No	31	6,1
	Partly / Neutral	116	22,8
Having taken a course on old age/geriatrics	Yes	189	37,2
	No	319	62,8
Over how many years old is considered old	50 years old and younger	57	11,2
	51-64 years old	183	36,0
	65 years old and older	268	52,8
Presence of an elderly relative	Yes	489	96,3
	No	19	3,7
Having lived in the same house with an elderly individual aged 65 and over until now	Yes	296	58,3
	No	212	41,7
If yes (if s/he has lived in the same house with an elderly individual aged 65 and over); how long s/he has lived	Less than 1 year	92	31,1
	1-5 years	86	29,1
	6-10 years	52	17,6
	Longer than 10 years	66	22,3
If yes (if s/he has lived in the same house with an elderly individual aged 65 and over); Did s/he provide caring or support for caring	Yes	206	69,6
	No	90	30,4
Willingness to live with an elderly individual	Yes	284	55,9
	No	224	44,1
Willingness to live with parents in the future	Yes	354	69,7
	No	154	30,3
The place where older individuals should stay	In his/her own house	243	47,8
	With his/her children	252	49,6
	In a nursing house for the elderly	13	2,6
Willingness to work with elderly individuals after graduation	Yes	332	65,4
	No	176	34,6
Having problems in social relations with elderly individuals	Yes	75	14,8
	No	433	85,2
The level of perceived compassion fatigue	Low	54	10,6
	Medium	335	65,9
	High	119	23,4

The nursing students' mean scores were calculated as 48,85±5,00 (34,00-61,00) on the UCLA-GT scale and as 99,17±10,98 (68,00-120,00) on the Compassion Scale (Table 2).

Table 2. Findings regarding the UCLA-GT scale and compassion scale mean scores of the nursing students (n: 508)

Scales	X̄±SD	Min-Max
UCLA Geriatric Attitude scale	48,85±5,00	34,00-61,00
Compassion scale	99,17±10,98	68,00-120,00

As the stepwise step was used, only the significant ones of all the variables included in the model were left in the model, and the meaningful variables were included in the model step by step. The VIF value, which expresses the relationship between the independent variables, was found to be less than 5, and it was seen that there was no multicollinearity problem in the model. When the results were examined, the final model, the seventh model, was found to be statistically significant ($p<0,05$; $F=23,553$). In the seventh model, 24% of the change in UCLA-GT level was explained with the willingness to work with elderly individuals after graduation, compassion, the place where the elderly individual should stay (in a nursing home), the place where the elderly person should stay (in their own home), perceived compassion fatigue level (low), father’s education level (undergraduate level and above) and having problems in social relations with elderly individuals (Adj R^2: 0,237).

When the seventh model was examined, it was seen that a one-unit increase in the compassion score increased the UCLA-GT level by 0,105 units. In addition, when the beta coefficients were examined in the seventh model, the students with a desire to work with elderly individuals after graduation had a higher UCLA-GT level than those who did not (the reference category was positive as the beta coefficient of willingness to work with elderly individuals after graduation was 2,194). The students who thought that elderly individuals should stay in a nursing home had a lower UCLA-GT level than the others (the reference category had a negative score as the beta coefficient of where elderly individuals should stay (in a nursing home) was -4,202). The students who thought that elderly individuals should stay in their own homes had a lower UCLA-GT level than the others (the reference category was negative as the beta coefficient of where elderly individuals should stay (in their own home) was -1,365). The students with a mild level of perceived compassion fatigue had a higher UCLA-GT level than the others (the reference category was positive as the beta coefficient of the perceived compassion fatigue level (mild) was 1,906). The students whose father had an undergraduate degree or above had a lower UCLA-GT level compared to others (the reference category had negative scores as the beta coefficient of the father’s education level (undergraduate level or above) was -1,714. The students who had problems in social relations with elderly individuals had a lower UCLA-GT level than those who did not (the reference category was negative as the beta coefficient of having problems in social relations with elderly individuals was -1,386) (Table 3).

Table 3. Examining the effect of compassion and other introductory characteristics on nursing students' attitudes toward elderly individuals

	Model	Beta	T	Sig.	VIF	F	P	Adj. R^2	Power
1	Constant	46,517	131,064	0,000		66,358	0,000	0,114	0,999
	Willingness to work with elderly individuals after graduation	3,576	8,146	0,000	1,000				
2	Constant	34,770	19,027	0,000		57,328	0,000	0,182	0,999
	Willingness to work with elderly individuals after graduation	3,044	7,083	0,000	1,037				
	Compassion	0,122	6,543	0,000	1,037				
3	Constant	35,203	19,341	0,000		41,602	0,000	0,194	0,999
	Willingness to work with elderly individuals after graduation	2,943	6,878	0,000	1,044				
	Compassion	0,119	6,434	0,000	1,040				
	Where elderly individuals should stay (in a nursing home)	-3,691	-2,908	0,004	1,011				
4	Constant	36,005	19,751	0,000		34,163	0,000	0,207	0,999
	Willingness to work with elderly individuals after graduation	2,595	5,915	0,000	1,116				
	Compassion	0,120	6,522	0,000	1,040				
	Where elderly individuals should stay (in a nursing home)	-4,417	-3,452	0,001	1,046				
	Where elderly individuals should stay (in their own homes)	-1,290	-3,113	0,002	1,097				
5	Constant	36,196	19,984	0,000		29,373	0,000	0,219	0,999
	Willingness to work with elderly individuals after graduation	2,544	5,834	0,000	1,118				
	Compassion	0.116	6,369	0,000	1,044				
	Where elderly individuals should stay (in a nursing home)	-4,407	-3,468	0,001	1,046				
	Where elderly individuals should stay (in their own homes)	-1,320	-3,208	0,001	1,098				
	Perceived compassion fatigue level (mild)	1,835	2,872	0,004	1,008				
6	Constant	36,719	20,326	0,000		26,279	0,000	0,230	0,999
	Willingness to work with elderly individuals after graduation	2,423	5,574	0,000	1,128				
	Compassion	0,114	6,286	0,000	1,046				
	Where elderly individuals should stay (in a nursing home)	-4,418	-3,503	0,001	1,046				
	Where elderly individuals should stay (in their own homes)	-1,331	-3,258	0,001	1,098				
	Perceived compassion fatigue level (mild)	1,947	3,065	0,002	1,011				
	Father's education level (undergraduate or above)	-1,690	-2,931	0,004	1,016				

Table 3 Continued.

Model		Beta	T	Sig.	VIF	F	P	Adj. R^2	Power
7	Constant	37,959	20,284	0,000		23,553	0,000	0,237	0,999
	Willingness to work with elderly individuals after graduation	2,194	4,950	0,000	1,184				
	Compassion	0,105	5,716	0,000	1,089				
	Where elderly individuals should stay (in a nursing home)	-4,202	-3,339	0,001	1,051				
	Where elderly individuals should stay (in their own homes)	-1,365	-3,354	0,001	1,099				
	Perceived compassion fatigue level (mild)	1,906	3,014	0,003	1,012				
	Father's education level (undergraduate or above)	-1,714	-2,987	0,003	1,016				
	Having problems in social relations with elderly individuals	-1,386	-2,390	0,017	1,127				

Footnote: Willingness to work with elderly individuals after graduation: Yes:1; No:0, Where elderly individuals should stay: In a nursing home:1; Other:0, Where elderly individuals should stay: in their own home:1; Other:0, Perceived compassion fatigue level: Mild:1; Other:0, Father's education: Undergraduate or above:1; Other:0, Having problems in social relations with elderly individuals: Yes:1; No:0

4. Discussion

In the study, it was revealed that the nursing students' levels of compassion were high and that their positive attitudes toward elderly individuals increased as their levels of compassion increased. In the literature, there was no research examining the relationship between nursing students' levels of compassion and their attitudes toward elderly individuals. In the studies conducted on nursing students, it was seen that they had different levels of compassion and that their levels of compassion were generally high [25,26]. In a study carried out with staff giving care to elderly individuals, it was found that compassion had a positive effect on the attitude towards elderly individuals. In the same study, it was reported that good attitudes and personality traits (such as extraversion, and responsibility) of the staff giving care to elderly individuals allowed them to feel compassion for elderly individuals and to take action for caring [18]. In a qualitative study, nurses and students thought that compassion accelerated the recovery of elderly individuals and increased the quality of care [19]. In a systematic review, among the characteristics that a compassionate nurse should have are honesty, sincerity, trust, value, respect, sympathy, openness, courtesy, sincerity, authenticity, acceptance, and love [27]. The seven dimensions of compassion were attention to the patient's problems, active listening, accepting pain, participation, helping, being present, and understanding pain [28]. Pain is thought to be a triggering factor in the emergence of compassion. Various conditions such as weakness, chronic illness, loneliness, and disability can cause elderly individuals to suffer [25]. The pain experienced by elderly individuals due to any illness first arouses a desire for compassion in their relatives and then in the healthcare professionals whom they apply for help, or elderly individuals expect compassion from these healthcare professionals [29]. The ANA and ICN ethical codes and declarations are based on compassion. In the literature, it is pointed out that compassion is a strong support for achieving excellent care if it is accepted as the main competency in nursing and is considered important in terms of evidence-based practices [28]. In the Turkish traditional family structure, children try to care for their parents until they die, to maintain communication and interaction and not to leave them alone [30]. In this respect, it is seen that the characteristics of compassionate individuals, the seven dimensions of the nature of compassion and

the ethical principles have an important place in the curriculum of nursing education. In this case, the fact that the nursing students' attitudes towards the elderly person increased as their levels of compassion increased might be related to the individual and cultural characteristics of the students in the sample. It also suggests that it may have resulted from the development of the students' compassionate characteristics in line with the content of the nursing education and from the effect of what was expected from the students within the scope of the education.

In the study, it was revealed that the nursing students with mild perceived compassion fatigue had more positive attitudes towards elderly individuals. Compassion fatigue is expressed as the negative effect of helping individuals who have experienced a traumatic event or who are suffering from pain [31]. As compassion is one of the most basic components of nursing care, nursing students are at risk for compassion fatigue compared to other student groups [32,33]. Nursing education is an education that requires high levels of professional knowledge and skills and involves emotional and stressful clinical education environments where emotional exhaustion is common [32-34]. Compassion fatigue is a gradual decrease in compassion for patients over the long term. Nurses, who feel that the compassion they show towards patients tires them, may act insensitively towards patients [35]. In a study conducted on nurses, it was concluded that compassion fatigue could negatively affect service quality and work performance and cause problems in important issues for care such as clinical errors, wrong decisions, and wrong treatment planning [36]. In a study carried out on intensive care nurses, it was seen that there was a negative relationship between care ability and compassion fatigue [37]. In this respect, it is thought that students with mild compassion fatigue are more aware of the problems of elderly individuals; that they could be more sensitive/understanding towards them; and that they therefore demonstrate more positive attitudes than students with moderate and severe levels of compassion fatigue.

In the study, it was seen that the nursing students who were willing to work with elderly individuals after graduation had more positive attitudes toward elderly individuals. Looking at the research findings, it could be stated that 65,4% of nursing students wanted to work with elderly individuals after graduation. In a study conducted on nursing students (n:487), it was found that only 12% wanted to work in a geriatric clinic and that these students had more positive attitudes towards elderly individuals [8]. In studies conducted with nursing students and medical faculty students, those who wanted to work with elderly individuals after graduation demonstrated a more positive attitude [38,39]. In another study, it was reported that nursing students who were willing to care for elderly individuals in the future had more positive attitudes toward elderly individuals [9]. In another study, it was pointed out that healthcare professionals might prefer to focus on the acute health problems of young patients instead of dealing with the chronic problems of elderly individuals [30]. Consequently, when the literature was evaluated, it was seen that studies reported results similar to the ones obtained in the present study, and it was an expected result that those who wanted to work with elderly individuals after graduation had a positive attitude.

In the study, it was concluded that the attitudes of the nursing students who thought that elderly individuals should stay in a nursing home or in their own home were more negative than those who thought that their children should stay with them. In the literature, there are studies showing that students who are willing to live with elderly individuals have more positive attitudes toward them [40,41]. In studies conducted with health and nursing students, it was reported that 20,4% (n:1237) [21] and 24,9% (n:148) [32] were of the opinion that elderly people should stay in their own homes. In studies conducted with nurses [10], nursing students [9,16], and physiotherapy students [42], it was seen that living with elderly individuals had a positive effect on attitudes towards elderly individuals. In another study, it was stated that the time spent with elderly individuals positively affected their willingness to care for elderly individuals [43]. In the literature, it was stated that nursing students who lived with elderly individuals, who were willing to live with an elderly family member in the future and who participated in their care

had more positive attitudes as they gained experience and a perspective on elderly individuals [44]. In the literature, there are studies showing that living with elderly individuals or the place of residence of the elderly person does not affect the attitude towards these individuals [45,46]. In Turkish culture, respecting elderly individuals, respecting the word of the elderly, and taking care of the elderly are traditional and unchangeable expectations; moreover, nowadays, the status and prestige of the elderly in society are changing [4]. In line with this information in the literature, it is an expected result that students who think that the elderly person should stay in a nursing home or in their own home have a more negative attitude.

It was seen that the attitudes of the nursing students whose father's education level was undergraduate or above were more negative towards elderly individuals. Similar to the research finding, it was seen in a study conducted on nursing students that the positive attitude increases as the education level of the father decreases [47]. This situation suggests that families with a low level of father's education reflect the understanding of caring for and respecting the elderly person, which is part of the cultural characteristics of the Turkish family structure. Again, if it is assumed that the socio-economic levels of the students whose father's education level was undergraduate or above were better, it is thought that purchasing care services for elderly individuals from institutions and being together with elderly individuals less often negated the attitude. In the literature, there are findings different from the results of the present study [21,48,49].

In the study, it was revealed that the attitudes of the nursing students who had problems in social relations with elderly individuals towards elderly individuals are more negative/negative. Again, in the study, 1,8% of the students stated that they mostly got along with their grandparents, and 25,8% said they got along with their parents. In studies conducted with health and nursing students, approximately one-fourth of the students stated that they thought old people should stay at home and lead a quiet life. This situation shows that the students have a negative attitude such as isolating themselves from social life by not taking more roles in the social lives of elderly individuals [21,32]. In the literature, it is pointed out that there are problems in social relations between young and old individuals for such reasons as health problems, generation gap, incompatibility of tastes, and conflicting issues [50]. In a study carried out with elderly individuals (n:740), they thought that they were not respected as before (21,2%) and that their words were not valued (17.2%). Elderly individuals considered the causes of the changes in the relationship between parents and children to be technological developments (29,2%), the change in time (20%), the difference between generations (16,6%), and changes in family structure (12,4%)[51]. It is thought that there may be problems in social relations between young and old individuals due to differences between generations and incompatibility of tastes; therefore, students may exhibit negative attitudes towards elderly individuals. In this respect, it is an expected result that the students who had problems in social relations with elderly individuals had more negative attitudes towards them.

5. Conclusion

As the level of compassion in nursing students increases, their positive attitudes towards elderly individuals increase. It was revealed that the students who had a mild level of compassion fatigue and who wanted to work with elderly individuals after graduation had a more positive attitude. In addition, it was found that the students who thought elderly individuals should stay in a nursing home or in their own home, whose father's education level was undergraduate or above, and who had problems in social relations with elderly individuals, had more negative attitudes. To increase the positive attitude of nursing students toward elderly individuals, it is important to include more topics and practices related to old age and elderly care in the content of the undergraduate education, to increase the level of knowledge, to change the perspectives, to update the educational content constantly in line with the

literature, to organize programs on geriatric nursing before and after graduation and to ensure their participation in activities that will increase awareness of elderly care. To determine the elderly health education curriculum in nursing, more research on the needs of nursing students and nurses and on their perspectives regarding elderly individuals. Educators, nursing students, nurses, and administrators can make use of the findings of this study so that they can develop appropriate strategies to improve attitudes toward elderly individuals. Knowing the factors that affect the attitudes of nursing students towards elderly individuals will guide the educational and counseling services to be given to the students. However, it is seen in the literature that there are different findings regarding the factors likely to affect the attitudes of nursing students toward elderly individuals, and it is thought that more research should be carried out to clarify the concept.

Undergraduate education should focus on compassionate care as well as technical knowledge and skills. What is recommended is to inform nursing students about compassion, compassionate care behaviors, and skills such as empathy leading to compassion and to increase their awareness. Targeting the emotional learning domain, facilitating reflective thinking, fostering a culture of compassionate care, and integrating indicators of compassionate care into clinical and educational curricula could be beneficial for the development of students' compassion. In addition, preventive studies could be conducted to reduce perceived compassion fatigue levels so that students can provide elderly individuals with a good post-graduation care service. Finding someone to share their stress and troubles; raising awareness of what needs to be done such as adequate sleep, spare time for oneself, and development of areas of interest; and including these subjects in the education could be done to reduce the compassion fatigue of nursing students. Moreover, with the help of digital learning resources, the level of knowledge and awareness could be increased; they could be made aware of the factors that activate or hinder their ability to be compassionate; and breathing and meditation exercises could be done. Lastly, to reduce the problems experienced in social relations between elderly individuals and young people, educational and consultancy services could be provided for both groups.

Ethical statement

Before starting the research process, approval (dated 17.11.2020, number 354) was obtained from the Medical Faculty Clinical Research Ethics Committee of Süleyman Demirel University.

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Conflict of interest:

The authors declare no conflict of interest.

Authors' Contributions:

Study conception and design: AB, HHÖ
Data collection: AB, HHÖ, EÇU
Data analysis and interpretation: AB, HHÖ, EÇU
Drafting of the article: AB, HHÖ, EÇU
Critical revision of the article: AB, HHÖ, EÇU
All authors read and approved the final manuscript.

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Research Article

THE RELATIONSHIP BETWEEN WOMEN'S ATTITUDES TOWARD EARLY DIAGNOSIS OF CERVICAL CANCER AND HEALTH LITERACY LEVELS

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Abstract: *The purpose of this study is to determine the relationship between women's attitudes toward early diagnosis of cervical cancer and their health literacy levels. The sample of the descriptive and cross-sectional study consisted of 714 women aged 30 to 65 who lived in a district center. Data were collected through the "Personal Information Form", the "Attitude Scale Towards Early Diagnosis of Cervical Cancer (ASTEC)" and the "Health Literacy Scale (HLS)". Data were analyzed using SPSS (Statistical Package for Social Sciences) for the Windows 16.0 program. Percentage distribution, t-test, ANOVA test, and Spearman correlation were used for data analysis, and statistical significance was accepted $p<0.05$. The participants' ASTEC total mean score was found 95.33±7.64, and their HLS mean score was found 82.32±20.33. A statistically significant and positive correlation was detected between both scales. A significant relationship was found between the scale mean scores and education, economic condition, knowledge of cervical cancer, and knowing and having the pap-smear test. Increasing women's health literacy levels and raising their awareness are important for the elimination of cervical cancer.*

Keywords: *Cervical cancer, health literacy, attitude, behavior.*

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1. Introduction

Human papillomavirus (HPV), comprising over 200 types, is a globally prevalent group of viruses [1;2]. Approximately 40% of HPV types, by affecting the genital tract epithelium, cause almost all cervical cancers [1;3;4]. The high incidence of the HPV virus has also led to an increase in the incidence of cervix cancer, which has made it the fourth most common cancer among women worldwide. The incidence frequency of cervix cancer among female cancers is 13.3 per 100,000 and the mortality rate is 7.3 in the world. As for Turkey, with an incidence rate of 4.8 per 100,000 and a mortality rate of 2.2, it ranks 12th among female cancers [5].

Cervical cancer is distinguished from other cancers in that it is preventable cancer due to factors such as the availability of effective screening methods, effective treatment of preinvasive lesions, and the availability of vaccination. For this reason, strategies have been developed worldwide for the elimination of cervical cancer and HPV, which is considered the most important cause of cervical cancer. Within the scope of the fight against cervical cancer, the World Health Assembly aims to fully vaccinate 90% of girls with the HPV vaccine by age 15, screen 70% of women with a high-performance test at ages 35 and 45, and provide women diagnosed with cervical cancer with treatment at a rate of 90% between the years 2020 and 2030. Achieving these goals is predicted to prevent 300,000 deaths from cervical cancer by the year 2030, and over 14 million by the year 2070 [6]. Primary prevention is

one of the most important ways to support HPV and cervical cancer elimination. Raising awareness, vaccination, using barrier contraceptive methods, participating in screening programs, and adopting healthy lifestyle behaviors can be listed among these prevention factors [7].

Health literacy is one of the important conditions for the realization of primary prevention. There are several definitions of health literacy, but the World Health Organization defines it as the cognitive and social skills that determine to gain access to, understand, and use information in ways that promote and maintain good health. High health literacy leads to an increase in health knowledge and healthy lifestyles and a decrease in health care costs and duration of hospitalization [8,9]. Low health literacy was found to be associated with low health knowledge [10], increased incidence of chronic diseases [11], reduced benefits from preventive health services, and decreased frequency of participation in screening programs [12]. Health literacy is one of the social determinants of health associated with cancer-related inequalities [13]. Therefore, determination of the level of health literacy is highly important for the prevention of cancer and the improvement of health literacy [14]. This is important for individuals to take responsibility for their own health. While women's taking responsibility for their health increases their participation in cervical cancer screening programs, it is also important in determining their attitudes and beliefs toward screening programs. In line with all this information, the purpose of this study is to determine the relationship between women's attitudes toward early diagnosis of cervical cancer and their health literacy levels. In the literature, it seems that studies on women's attitudes towards cervical cancer early diagnosis are mostly about increasing knowledge and awareness. However, women's participation in screening programs is not at the desired level. For this reason, it is thought that the results obtained from the study will guide other studies in planning interventions aimed at increasing women's knowledge and awareness of health literacy and taking responsibility for their own health.

2. Materials and Methods

2.1. Research Design

This study used a descriptive and cross-sectional design.

2.2. Target Population and the Sample

This study was conducted in a Family Health Center (FHC) located in a district center. The target population of the study included menopausal women who were registered in the Family Health Center (FHC). The population of women aged between 30-65 years old is 5396 in the region. Hence, the determination of the number of samples in the groups with a known population was done using the n=N.t2.p.q/d2.(N-1)+t2.p.q formula, and when t=1,96; p=0,50, q=0,50; d=0,05 is taken, the number of the sample was determined as 359. The study was completed with 714 people who sought treatment in the FHC for any reason between March 2023 and June 2023 and who agreed to participate in the study.

2.3. Data Collection Tools

Data were collected through the "Personal Information Form", "Attitude Scale Towards Early Diagnosis of Cervical Cancer ", and the "Health Literacy Scale".

2.3.1 Personal Information Form

This form consists of a total of 19 questions to determine the participants’ sociodemographic and cervical cancer-related features [15,16].

2.3.2 Attitude Scale Towards Early Diagnosis of Cervical Cancer (ASTEC)

The scale developed by Özmen and Özsoy (2009) consists of four sub-scales and 30 items. Eight items in the scale are scored reversely, and the scores to be obtained from the scale range between 30 and 150. Higher scores indicate a positive attitude toward early diagnosis of cervical cancer. Cronbach's alpha coefficient was reported to be between 0.89 and 0.70 for the whole scale and its sub-scales [16]. Cronbach's alpha coefficient was found to be 0.81 in this study.

2.3.3 Health Literacy Scale (HLS)

The Health Literacy Scale consists of four sub-scales and 25 items, and its Turkish validity and reliability were conducted by Aras and Bayık Temel. Scores to be obtained from the five-point Likert scale range from 25 to 125. The scale includes no reverse items. While lower scores indicate inadequate, problematic, or poor health literacy, higher scores indicate adequate and very good health literacy [17]. The Cronbach alpha reliability coefficient of the scale is 0.92 and in this study, it is 0.87.

2.4. Data Collection

Those who gave written informed consent to participate in the study were administered the data collection forms at the FHC; they filled out the forms individually; and the forms were collected back by the researchers.

2.5. Ethical Considerations

Ethics approval was obtained from the Non-Invasive Clinical Research Ethics Committee of Sivas Cumhuriyet University (2023-03/30) and written permission was obtained from Sivas Provincial Health Directorate and Family Health Centers. Additionally, each woman in the study was verbally informed on the context of the study and voluntary participation, and written permissions from the women were taken. The study was conducted under the ethical standards of the Helsinki Declaration.

3. Statistical Analysis

Data analysis was performed using SPSS package software, and while descriptive data were given as means and standard deviations for continuous variables, numbers, and percentages were given for categorical variables. The normality distribution of the variables was analyzed by Kolmogorov-Smirnov/Shapiro-Wilk tests and homogeneity of variances was examined by Levene's test. $P<0.05$ was considered significant by using t-test, ANOVA test, and Spearman correlation in the analyses.

4. Results and Discussion

4.1. Results

The average age of the participants was 35.89±5.29 (lowest: 30, highest:65) years. Of all the participants, 58.2% were high school graduates, 63.4% had low economic status, 89.9% were married, 30% had a chronic disease, 1.7% had a history of cancer, and 1.2% had a history of cervical cancer in the family. While 56.8% had heard of the pap-smear test and mainly received information from their friends, 24.5% knew about cervical cancer and received this information from health personnel. In addition, 52.6% of the women had at least one pap-smear test (Table 1).

Table 1. Distribution of Women by Some Individual Characteristics (n=714)

Participants' average age: 35.89±5.29 (lowest: 30, highest:65)		
	N	**%**
Education level		
Primary school	71	9.9
High school	416	58.2
Associate	117	16.4
Undergraduate	93	13.1
Postgraduate	17	2.4
Economic level		
Low	453	63.4
Middle	250	35.1
High	11	1.5
Marital status		
Single	93	13.1
Married	621	86.9
Having a chronic disease		
Yes	214	30.0
No	500	70.0
History of cancer		
Yes	12	1.7
No	702	98.3
History of cervical cancer in the family		
Yes	8	1.2
No	706	98.8
Hearing about the Pap-smear test		
Yes	406	56.8
No	308	43.2
Sources of information about the Pap-smear test *		
Health personnel	312	43.6
Internet	250	35.1
Visual and print media	117	16.3
Family, relatives	257	35.9
Friends	327	45.7
Knowledge of cervical cancer		
Yes	175	24.5
No	539	75.5
Sources of knowledge of cervical cancer*		
Health personnel	368	51.5
Internet	125	17.5
Visual and print media	10	1.4
Family, relatives	47	6.5
Friends	68	9.5
Having Pap-smear test		
Yes	376	52.6
No	338	47.4

*More than one option was selected

The participants' ASTEC scores were found 95.33±7.64 points, and the sub-scale scores were 24.68±3.45 for "Perceived Sensitivity", 22.43±3.10 for "Perceived Severity", 20.31±4.20 for "Perceived Barrier", and 27.34±3.12 for "Perceived Benefit" sub-scales. HLS mean score was found 82.32±20.33, and the sub-scale scores were 16.53±5.13 for "Finding Health Information", 24.74±6.12 for "Understanding Health Information", 29.41±7.01 for "Appraising/Evaluating Health Information", and 19,36±4,47 for "Applying/Using Health Information" (Table 2).

Table 2. Distribution of the Participants' ASTEC and HLS Scores (n=714)

Scale	Number of Items	Mean ± SD	Min-Max
ASTEC total	30	95.33±7.64	30-150
Perceived Sensitivity	9	24.68 ±3.45	9-45
Perceived Severity	8	22.43±3.10	8-40
Perceived Barrier	7	20.31±4.20	7-35
Perceived Benefit	6	27.34±3.12	6-30
HLS total	25	82,32±20,33	25-125
Finding Health Information	5	16,53±5,13	5-25
Understanding Health Information	7	24,74±6,12	7-35
Appraising/Evaluating Health Information	8	29,41±7,01	8-40
Applying/Using Health Information	5	19,36±4,47	5-25

ASTEC and the HLS mean scores were significantly higher in women who had postgraduate degrees, had good economic status, knew and had the pap-smear test done, and had knowledge of cervical cancer (Table 3). No statistically significant relationship was found between the participants' other characteristics and the scale mean scores.

Table 3. Comparison of the Participants' Socio-demographic Characteristics and ASTEC and HLS scores (n=714)

	ASTEC Mean ± SD	**HLS Mean ± SD**
Education level		
Primary school	64.72±13.71	54.55±25.62
High school	78.14±8.95	68.57±19.18
Associate	86.48±9.61	86.24±17.89
Undergraduate	88.13±11.35	87.27±19.03
Postgraduate	91.18±12.26	92.11±18.31
[a]Test/p	11.09/ **<0.001****	6.30/**0.001****
Economic level		
Low	68.34±11.19	63.48±16.73
Middle	77.29±10.68	71.62±13.37
High	93.57±12.17	86.28±10.36
[a]Test/p	7.13/ **0.002****	7.20/**0.003****
Hearing about the Pap-smear test	98.53±12.21	78.27±9.21
Yes	86.31±11.32	32.17±11.13
No		
[b]Test/p	5.21/ **0.001****	6.07/**0.001****
Knowledge of cervical cancer		
Yes	74.27±9.05	71.32±12.35
No	56.36±13.25	49.50±8.98
	3.37/ **<0.001****	9.11/**0.004****
Having Pap-smear test		
Yes	108.17±9.87	98.85±10.33
No	74.78±14.12	65.67±9.28
	5.48/ **0.003****	3.65/**0.002****

[a]Test: one-way ANOVA; [b]Test: student-t-test; $\bar{x}$± SD = mean and standard deviation; **:p<0.01

Spearman rank correlation test was conducted to determine the relationship between ASTEC and HLS mean scores of participants and the results were showed in Table 4.

Table 4. Relationship between ASTEC and HLS mean scores (n=714)

		HLS
ASTEC	r	0. 828
	p	0.000***
	n	714

r: Spearman Correlation; p<0,001

According to the results shown in Table 4 a statistically significant, positive, and strong relationship was detected between the ASTEC and the HLS.

4.2. Discussion

Health literacy has a crucial role in the prevention of cervical cancer, which is an important public health problem. ASTEC mean score was found 95.33±7.64 in this study. Lower scores were obtained in the majority of other studies using the same scale [18-22]. The difference in the findings might result from different sample groups.

While the ASTEC sensitivity, severity, and barrier perception sub-scale mean scores were found to be moderate, the benefit perception mean score was found to be high. According to the Health Belief Model, sensitivity perception refers to the individual's perception of danger and risk that may occur in his/her health status. Therefore, the likelihood of reducing risky behavior increases with the increase in perceived sensitivity. Perceived severity, on the other hand, refers to the severity of a disease perceived according to its consequences. Hence, when a woman believes that cervical cancer is associated with serious complications, she demonstrates behaviors that aim to reduce the risk. The perceived barrier is the individually perceived barrier to performing the recommended health behavior. Therefore, reducing the perceived barrier is highly important for the implementation of preventive health behaviors. Perceived benefit refers to the perceived benefit of reducing the risk of developing the disease as a result of the individual's behaviors to prevent the disease or reduce the severity of the disease. Preventive health behavior is realized when the perceived benefit, perceived sensitivity, and perceived severity reduce the perceived barrier [23,24].In this regard, there seems to be a need for strategies to increase women's knowledge and awareness about early screening programs for cervical cancer.

HLS mean score was found 82.32±20.33 in this study. Other studies conducted in female sample groups using different scales reported a low level of health literacy. For example, HL levels were reported to be adequate in 19.3% of women and low in 80.7% of women by Yilmazel [25], low in 94% of women, inadequate in 3.3% of women, and adequate in 2.7% of women by Aghaeian [26]; inadequate in 11.7% of women, problematic-limited in 44.4% of women, adequate in 29.8% of women, and excellent in 14.1% of women by Astantekin et al. [27]. Health literacy has a quite high contribution to the improvement of women's health. Women with adequate health literacy levels are known to demonstrate gynecological cancer screening and care-seeking behaviors and postpone the age of first sexual intercourse [28]. Considering the positive effects of improving women's health on both family and community health, it is important to improve health literacy levels in women.

Women with higher education levels and better economic status were found to have higher ASTEC and HLS mean scores in this study. Several studies have demonstrated the relationship between women's HL levels and education [29;30] and economic status [30;31]. High health literacy levels in this group seem to positively affect women's attitudes toward early diagnosis of cervical cancer.

ASTEC and the HLS scores were significantly higher in women who knew and had Pap-smear tests and women with knowledge of cervical cancer. Yılmazel (2019) found that women with inadequate health literacy were less likely to have Pap smears [25]. Kiracılar and Kocak (2023) reported that the rate of those who knew about Pap smear tests was high among women with excellent health literacy levels [8].

A statistically significant and positive relationship was detected between the ASTEC and the HLS. Like the present study, Baharum et al. (2020) reported a positive relationship between cervical cancer screenings and health literacy levels [32]. This result is important as it shows that initiatives that will primarily increase health literacy are valuable in increasing attitudes toward early diagnosis of cervical cancer.

5. Conclusion

Improving women's health indicators is the most important condition for improving family and community health. In this regard, increasing women's health literacy is one of the important conditions to be met. Increasing women's health literacy is believed to lead to a decrease in the incidence and mortality rates of cervical cancer, which is preventable cancer. Thus, a significant contribution is believed to be made to the fight against cervical cancer by the World Health Assembly.

Limitations of the study:

The major limitation of our study is that it is a single center. The results obtained may not be generalized to other parts of the country.

Ethical Considerations

Ethics approval was obtained from the Non-Invasive Clinical Research Ethics Committee of Sivas Cumhuriyet University (2023-03/30) and written permission was obtained from Sivas Provincial Health Directorate and Family Health Centers. Additionally, each woman in the study was verbally informed on the context of the study and voluntary participation, and written permissions from the women were taken. The study was conducted under the ethical standards of the Helsinki Declaration.

Conflict of interest:

The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

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Research Article

NURSES' RETIREMENT PLANS: A CROSS-SECTIONAL AND COMPARATIVE STUDY WITH FINANCIAL, LIFESTYLE, PSYCHOSOCIAL AND HEALTH DIMENSIONS FROM TÜRKİYE†

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Abstract: *This descriptive, cross-sectional, and comparative study examined the retirement planning of nurses in Türkiye. The research was conducted between May and October 2022 in Türkiye with 262 nurses who agreed to participate in the study. Data were collected using a Descriptive Information Form and the Process of Retirement Planning Scale and analyzed with descriptive statistics and comparative tests. As a result of the research, it was seen that the nurses' made plans for the lifestyle the most, and that they made financial plans the least. In addition, the levels of retirement planning of nurses who were male, who were aged between 40-59, who had a bachelor's or master's degree, who had an extended family, who had 3 or more children, who were employed in the private sector, who had a professional and institutional experience of 20 years or over, who had willingly chosen the profession, and who had a chronic disease were higher. In this study, it was revealed that the level of retirement planning of nurses in Türkiye was not high and that the levels showed differences, especially in terms of age, the number of cohabitants, working schedule, and the presence of chronic disease. Nurses should make a conscious retirement plan and be supported, especially in financial planning. To this end, primarily, wage policies should be developed in order to increase monthly income levels and factors such as economic concerns and health problems should be eliminated.*

Keywords: *Nursing, nurse, retirement plan, Türkiye*

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1. Introduction

1.1. Background of the Study

As the country's population ages, the manpower of that country ages and the number of manpower who leave business life and retire increases. Retirement, which refers to the end of active working life, is an important process in human life since it is a turning point that continues until the end of life and determines the transition from middle age to old age [1]. In the world, the average life expectancy differs according to the country and usually varies between 75-85 in men and 81-85 in women [2-3]. The

† *This research was presented as a summary paper in the Union of Thrace Universities V. International Health Sciences Congress on December 01-02 2022.*

average retirement age for men and women who started to work at the age of 22 is 66-66 in Australia, 65-65 in Finland, 64.5-64.5 in France, 62-62 in Italy, 65-65 in Japan, 62-62 in Korea, 67-67 in Norway, 66-66 in England, 66-66 in America, 60-55 in China, and 52-49 in Türkiye, respectively [4]. According to these data, women live longer compared to men and people are expected to live an average of 10-15 years after retirement. These years constitute an important period in a person's life and it is necessary to plan how to spend these years. Some people approach the decision of retirement with fear, avoidance, and rejection whereas others elaborately plan this process and get prepared for retirement. However, it is often not planned until the last time, and the years missed are not noticed [5]

Transition to retirement is important and requires careful planning [6]. If retirement is not well-planned, it may become a difficult process that causes feelings such as uselessness, anxiety, social isolation, and self-abandonment over time [6] and impairment of health due to cognitive dysfunctions and depression [7]. For this reason, retirement planning, which is the first stage of the retirement process and is necessary for a satisfactory retirement, should be well-made in several aspects such as financial, health, social, work/career, and mental [8-10].

According to the data from the World Health Organization, nurses constitute an important group of the international health labor force and there are 27.9 million nurses working worldwide. The nurse shortage is around 5.9 million and the rate is 89% in low- and middle-income countries. By 2030, the nursing labor force is expected to increase to 36 million [11]. It was stated that nurses work until old age due to the nurse shortage in European countries [12]. It was reported that the retirement age has been increased and that the compulsory retirement age has been abolished in some countries such as England, America, and Australia [13-15]. It was emphasized that the number of elderly employees is increasing in some countries such as Japan, Korea, and China [16-17].

Türkiye is one of the countries with an aging population. Nurses, who have an important role in the delivery of health services in the country, have a tiring, risky, stressful, and exhausting working life. There is no problem in terms of nurse manpower in Türkiye; however, nurses retire at a younger age, when productivity and efficiency continue, compared to other countries. The highest rates of working after retirement among nurses in various countries are seen in Iceland (83%), New Zealand (78.8%), Sweden (76.4%), and Japan (74.1%). However, Türkiye ranks last in this list with 35.6% [18].

The conscious planning of the retirement period will enable nurses to be productive and prosperous, continue to work, not worry about the future individually, reduce their fears, and reduce all kinds of support they may need as healthy individuals. Furthermore, it allows nurses to continue to benefit from the experiences, knowledge, and abilities of retired nurses and have the opportunity to take advantage of them as counselors, mentors, and guides [19-21].

In recent years, more importance has been attached to the retirement plans of nurses worldwide and the number of studies on this subject has begun to increase [12,19,22,23]. However, no study has been conducted on nurses' retirement plans in Türkiye, which is one of the countries that professionally emigrated people to European countries in recent years, especially during the COVID-19 pandemic. Based on this need, it is predicted that the results of this study, which was conducted after the pandemic, will provide important data about nurses' retirement status and will be effective in the future decisions of health politicians about nurses.

1.2. Research Questions

Accordingly, answers were sought to the following questions.

1) What is the retirement planning status of nurses?
2) Do nurses' retirement plans differ according to their descriptive characteristics and retirement status?

2. Materials and Methods

2.1. Study Design

This descriptive, cross-sectional, and comparative study was carried out to reveal the retirement planning of nurses in Türkiye.

2.2. The Study Area

The research population consisted of nurses (N= 227292) working all over Türkiye [24].

2.3. Study Population

All nurses aged over 20 who could be reached online and volunteered to participate in the study were included in the study using random sampling. A total of 262 nurses voluntarily participated in the study and filled out the data collection tool.

2.4. Sample Size Estimation

A power analysis was performed to test the sufficiency of the sample size and the power was calculated as 0.964 with a confidence interval of 95%, an error margin of 5%, and an effect size of 0.5. It was calculated that the sample size should be 244. These values show that our sample size (n=262) is sufficient for this study.

2.5. Data Collection Tools

An online survey including the "Demographic Information Form" to determine the characteristics of nurses and the "Process of Retirement Planning Scale" was used for data collection.

***Demographic Information Form*:** The form was prepared by the researchers in accordance with the purpose of the research and consists of 25 questions to determine the demographic characteristics of nurses and their retirement status.

The Process of Retirement Planning Scale: The Process of Retirement Planning Scale (PRePS) was developed by Noone et al. [25] in order to evaluate the planning processes of individuals regarding benefitting from increased spare time during the retirement years, maintaining healthy social relations, having sufficient income, protecting health, and maintaining positive family relations. The scale consists of 4 subscales (financial planning process-FPP, lifestyle planning process-LPP, psychosocial planning process-PPP, and health planning process-HPP) and 48 questions that are ranked on a five-point Likert-type scale (1- Absolutely untrue of me, 2- Untrue of me, 3- Not sure if it is true of me, 4- True of me, and 5- Absolutely true of me). The scale was adapted to Turkish by Günay [1]. The factor loads of the scale range from 0.46 to 0.91; the Cronbach alpha value ranges from 0.52 to 0.79 for the subscales and is 0.88 for the overall scale. The scale is evaluated over the mean subscale scores. High scores indicate that the individual makes a plan to prepare for retirement life whereas low scores indicate that there is no planning behavior for retirement life [1].

2.6. Data Collection

After receiving the necessary permissions, the data were collected between May to October 2022. The research data were collected online since the pandemic process has not yet ended. The link to the prepared online survey was sent to nurse groups through social media and applications that provide group communication. The nurses were informed about the research and the volunteers filled out the survey.

2.7. Data Entry, Analysis and Presentation

The data were evaluated at a confidence interval of 95% and a significance level of $p<0.05$ using statistical package software in the computer environment. G-Power was used to determine the sufficiency of the sample size. Frequency and percentage distribution were used for the evaluation of the data. When the data fit the normal distribution, the Student T-test and One-Way ANOVA were used from the parametric tests. When the data did not fit the normal distribution, Mann Whitney U and Kruskal Wallis were used from nonparametric tests. The dependent variable of the study was the PRePS scores of the nurses and the independent variable was the descriptive characteristics and retirement status of the nurses.

2.8. Ethical Considerations

Prior to the research, ethical approval (Date: 04.14.2022; Number: 2022-40) was taken from the ethics committee of the institution where the research was conducted. The participants were informed in line with the informed consent form and the voluntary participants were given the opportunity to fill in the survey. For the use of PRePS in data collection, permission was taken from the author, who adapted the scale into Turkish, via e-mail.

3. Results

The majority of the nurses who participated in the study were female (93.5%), were aged between 40-49 (49.6%), had a bachelor's degree (76.7%), were employed in the public sector (98.9%), worked as service nurses (29.8%), worked sometimes at night and sometimes during the day (56.8%), worked 41-50 hours per week (47.7%), had 16 years or more of professional experience (62.6%), and had 0-10 years of institutional experience (71.8%). Most of the nurses were married (77.9%), had a nuclear family (95.0%), lived with a maximum of 3 people at home (56.8%), and had 2 children (48.1%). The participants stated that they had willingly chosen the profession (49.6%) and did not have a chronic disease (68.3%).

According to the characteristics of nurses regarding their retirement status, it was determined that the majority of the nurses did not reach the retirement age yet (79.0%), that those who reached the retirement age wanted to retire (52.7%), that those who did not reach the retirement age wanted to retire immediately when the retirement age comes (83.6%), that they considered it important to plan retirement (91.2%), and that they made plans for retirement (80.2%).

Nurses who were of retirement age and wanted to retire mostly wanted to retire because of burnout (31.1%) and the desire to spare time for their family/themselves (31.1%). Those who did not plan to retire despite reaching retirement age did not want to retire mostly due to economic concerns (47.2%). It was determined that nurses wanted to spend time with their family (24.0%), travel (23.3%), spend time on their hobbies (22.2%), and rest (21.7%). The nurses defined the concept of retirement generally as freedom (23.4%), family (21.0%), and spare time (18.5%).

Table 1. The mean scores of the nurses on the subscales of PRePS

Subscales	N	Min	Max	Mean	SD	Cronbach's Alpha
Financial planning process- FPP	262	1.50	4.14	2.92	0.48	0.64
Lifestyle planning process- LPP	262	1.00	4.45	3.24	0.52	0.64
Psychosocial planning process- PPP	262	1.00	4.92	2.95	0.61	0.79
Health planning process- HPP	262	1.73	4.55	3.20	0.50	0.58

The mean scores of the nurses on the subscales of PRePS were above average. The mean highest score was taken on the lifestyle planning process subscale (M= 3.24±0.52) and the lowest mean score was taken on the financial planning process subscale (M= 2.92±0.48) (Table 1).

Table 2. The mean scores of the nurses on the subscales of PRePS according to their descriptive characteristics

Descriptive characteristics / PRePS subscales	FPP X̄ ±SD	LPP X̄ ±SD	PPP X̄ ±SD	HPP X̄ ±SD
Gender				
Female (n=245) (%93.5)	2.91±0.48	3.23±0.53	2.94±0.62	3.20±0.51
Male (n=17) (%6.5)	3.09±0.52	3.34±0.44	3.14±0.50	3.18±0.32
Test	Z= -1.581	Z= -1.101	Z= -1.421	Z= -0.285
p-value	p=0.110	p=0.270	p=0.150	p=0.770
Age				
20-39 years (n=107) (%40.8)[a]	2.95±0.44	3.20±0.58	2.84±0.61	3.10±0.50
40-59 years (n=155) (%59.2)[b]	2.90±0.51	3.27±0.48	3.03±0.60	3.27±0.49
Test	t=0.820	t= -0.986	t= -2.392	t= -2.645
p-value	p=0.413	p=0.325	p=0.017* (b>a)	p=0.009* (b>a)
Education level				
High school graduate (n=11) (%4.2)	2.74±0.63	3.15±0.49	2.85±0.54	2.96±0.48
Bachelor’s degree (n=201) (%76.7)	2.93±0.49	3.25±0.53	2.99±0.63	3.21±0.50
Master’s degree (n=48) (%18.3)	2.96±0.46	3.22±0.51	2.83±0.54	3.23±0.49
Doctorate degree (n=2) (%0.8)	2.78±0.10	2.95±0.57	2.58±0.47	2.63±0.25
Test	X^2=1.197	X^2=1.624	X^2=4.811	X^2=5.204
p-value	p=0.754	p=0.654	p=0.186	p=0.157
Marital status				
Married (n=204) (%77.9)	2.93±0.48	3.24±0.50	2.94±0.58	3.20±0.48
Single (n=58) (%22.1)	2.91±0.51	3.07±0.60	2.99±0.70	3.22±0.58
Test	t= 0.318	t= 0.093	t= -0.473	t= -0.269
p-value	p=0.751	p= 0.926	p=0.638	p=0.788
Family type				
Nuclear family (n=249) (%99.5)	2.92±0.49	3.23±0.53	2.95±0.61	3.21±0.50
Extended family (n=13) (%0.5)	2.95±0.37	3.33±0.39	3.00±0.61	2.98±0.47
Test	Z= -0.180	Z= -0.558	Z= -0.297	Z= -1.668
p-value	p=0.857	p=0.577	p=0.767	p=0.095
Number of cohabitants				
1 (n=28) (%10.7)[a]	2.97±0.49	3.30±0.56	2.84±0.60	3.14±0.45
2 (n=52) (%19.8)[b]	3.10±0.41	3.38±0.49	3.13±0.61	3.36±0.57
3 (n=69) (%26.3)[c]	2.91±0.49	3.10±0.54	2.83±0.62	3.14±0.47
4 and more (n=113) (%43.1)[d]	2.84±0.50	3.25±0.49	2.97±0.59	3.18±0.49
Test	X^2=11.072	X^2=10.968	X^2=6.540	X^2=4.583
p-value	p=0.011* b>d	p=0.012* b>c	p=0.088	p=0.205
Number of children				
0 (n=54) (%20.6)	2.94±0.48	3.25±0.55	2.82±0.57	3.13±0.45
1 (n=27) (%21.8)	2.99±0.41	3.23±0.55	3.04±0.74	3.30±0.53
2 (n=126) (%48.1)	2.88±0.50	3.21±0.50	2.97±0.57	3.17±0.51
3 and more (n=25) (%9.5)	2.91±0.56	3.40±0.49	2.97±0.59	3.34±0.51
Test	X^2=1.966	X^2=4.585	X^2=4.807	X^2=3.951
p-value	p=0.579	p=0.205	p=0.187	p=0.267

Table 2. Continued

PRePS subscales / Descriptive characteristics	FPP X̄ ±SD	LPP X̄ ±SD	PPP X̄ ±SD	HPP X̄ ±SD
Monthly income level				
5.000-10.000 TL between (n=27) (%10.3)	2.84±0.60	3.22±0.64	2.99±0.94	3.23±0.62
10.000-15.000 TL between (n=73) (%27.9)	2.88±0.47	3.20±0.57	2.94±0.57	3.17±0.52
15.000-20.000 TL between (n=80) (%30.5)	2.94±0.45	3.22±0.46	2.88±0.50	3.20±0.45
20.000 TL and more (n=82) (%31.3)	2.98±0.50	3.30±0.49	3.03±2.62	3.23±0.49
Test	X^2=2.166	X^2=1.534	X^2=4.110	X^2=2.230
p-value	p=0.539	p=0.674	p=0.250	p=0.526
Working sector				
Public sector (n=259) (%98.9)	2.92±0.48	3.24±0.52	2.95±0.61	3.20±0.50
Private sector (n=3) (%1.1)	3.09±0.57	3.45±0.86	3.02±0.71	3.30±0.50
Test	Z= -0.537	Z= -0.921	Z= -0.253	Z= -0.530
p-value	p=0.591	p=0.357	p=0.800	p=0.596
Professional experience				
5 years and less (n=30) (%11.5)a	3.05±0.44	3.39±0.47	3.00±0.57	3.23±0.44
6-10 years (n=34) (%13.0)[b]	2.96±0.46	3.10±0.67	2.70±0.72	3.01±0.57
11-15 years (n=34) (%13.0)[c]	2.94±0.49	3.18±0.55	2.84±0.49	3.07±0.41
16-20 years (n=34) (%13.0)[d]	2.83±0.37	3.15±0.43	3.00±0.62	3.16±0.47
21-25 years (n=37) (%14.1)[e]	2.85±0.44	3.20±0.46	3.11±0.66	3.25±0.59
26-30 years (n=68) (%26.0)[f]	2.89±0.59	3.34±0.49	3.01±0.62	3.26±0.48
31 years and more (n=25) (%9.5)[g]	3.24±0.46	3.23±0.54	2.96±0.46	3.45±0.42
Test	X^2=6.943	X^2=8.953	X^2=7.387	X^2=15.804
p-value	p=0.326	p=0.176	p=0.287	p=0.015* g>c
Institutional experience				
0-20 years (n=240) (%91.6)	2.92±0.49	3.23±0.53	2.95±0.62	3.20±0.51
21 years and more (n=22) (%8.4)	2.97±0.49	3.38±0.45	3.04±0.45	3.21±0.39
Test	Z= -0.402	Z= -0.942	Z= -0.625	Z= -0.031
p-value	p=0.688	p=0.346	p=0.346	p=0.925
Position				
Family health worker (n=26) (%9.9)	2.98±0.49	3.19±0.52	3.02±0.60	3.21±0.55
Service nurse (n=78) (%29.8)	2.95±0.43	3.27±0.49	2.95±0.60	3.17±0.51
Intensive care nurse (n=14) (%5.3)	2.96±0.38	3.28±0.38	2.97±0.63	3.07±0.41
Emergency nurse (n=39) (%14.9)	2.82±0.51	3.13±0.67	2.77±0.67	3.08±0.46
Outpatient nurse (n=21) (%8.0)	3.00±0.66	3.45±0.51	3.17±0.48	3.44±0.39
Operating room nurse (n=4) (%1.5)	2.92±0.43	3.52±0.43	3.22±0.48	3.40±0.31
Head nurse (n=22) (%8.4)	3.00±0.55	3.22±0.47	2.87±0.49	3.19±0.38
Supervisor (n=4) (%1.5)	2.96±0.66	3.25±0.42	3.08±0.15	3.20±0.20
Health care services manager or assistant (n=2) (%0.8)	2.96±0.65	2.77±0.44	2.33±0.11	3.09±0.51
Other (vaccine unit, endoscopy etc.) (n=52) (%19.8)	2.86±0.46	3.20±0.52	3.00±0.70	3.28±0.59
Test	X^2=6.002	X^2=9.209	X^2=12.465	X^2=11.970
p-value	p=0.740	p=0.418	p=0.188	p=0.215
Working schedule				
Constantly at night (n=6) (%2.3)[a]	2.85±0.39	3.39±0.35	2.40±0.12	2.87±0.30
Constantly at day (n=108) (%41.2)[b]	2.92±0.52	3.25±0.54	2.99±0.63	3.26±0.57
Sometimes at night, sometimes during the day (n=148) (%56.5)[c]	2.93±0.46	3.22±0.51	2.95±0.60	3.17±0.44
Test	X^2=0.271	X^2=0.570	X^2=7.592	X^2=6.872
p-value	p=0.873	p=0.752	p=0.022* b>a. c>a	p=0.032* b>a

Table 2. Continued

PRePS subscales / Descriptive characteristics	FPP $\bar{X}$ ±SD	LPP $\bar{X}$ ±SD	PPP $\bar{X}$ ±SD	HPP $\bar{X}$ ±SD
Weekly working hours				
40 hours and less (n=88) (%33.6)	2.86±0.53	3.20±0.50	2.88±0.62	3.15±0.51
41-50 hours (n=125) (%47.7)	2.95±0.47	3.24±0.56	3.00±0.63	3.24±0.51
51 hours and more (n=49) (%18.7)	2.98±0.43	3.31±0.45	2.98±0.54	3.20±0.43
Test	F=1.198	F=0.709	F=1.031	F=0.722
p-value	p=0.303	p=0.493	P=0.358	p=0.487
The state of choosing the profession willingly				
Yes (n=130) (%49.6)[a]	3.00±0.48	3.26±0.52	3.00±0.60	3.24±0.50
No (n=37) (%14.1)[b]	2.77±0.58	3.24±0.49	2.97±0.68	3.07±0.51
Partially (n=95) (%36.3)[c]	2.88±0.44	3.21±0.54	2.88±0.60	3.20±0.49
Test				
p-value	F=3.815	F=0.303	F=1.195	F=1.543
	p=0.023*	p=0.739	p=0.304	p=0.216
	a>b			
Presence of chronic disease				
Yes (n=83) (%31.7)[a]	2.94±0.52	3.38±0.51	3.08±0.63	3.38±0.50
No (n=179) (%68.3)[b]	2.92±0.47	3.17±0.51	2.90±0.59	3.12±0.48
Test	t= 0.368	t= 3.058	t= 2.216	t= 3.966
p-value	p=0.713	p=0.002*	p=0.028*	p=0.000*
		a>b	a>b	a>b

FPP= Financial planning process, LPP= Lifestyle planning process, PPP= Psychosocial planning process, HPP: Health planning process, Z= Mann Whitney U, t= Student T, F= One Way Anova, X^2= Kruskal Wallis, M= Mean, SD= Standart Deviation, *p<0.05

When the mean scores of the nurses on the subscales of PRePS were evaluated according to their descriptive characteristics, it was determined that those who were male, who were aged between 20 and 39, who had a bachelor's or master's degree, who were married, who had an extended family, who lived with 2 people at home, who had 1 child, who had a monthly income of 15.000 TL or over, who were employed in the private sector, who had 31 years or more of professional experience, who had 21 years or more of institutional experience, who worked in the day and night shifts as an outpatient nurse or head nurse, who worked 51 hours or over per week, who had willingly chosen the profession, and who had a chronic disease had higher mean scores on the "financial planning process" subscale than others. It was also determined that there were significant differences between the groups in terms of the number of cohabitants at home and the status of willingly choosing the profession (p<0.05) (Table 2).

According to the mean scores of nurses on the "lifestyle planning process" subscale, it was seen that those who were male, who were aged between 40 and 59, who had a bachelor's or master's degree, who were married, who had an extended family, who lived with 2 people at home, who had 3 children, who had a monthly income of 15.000 TL or over, who were employed in the private sector, who had professional experience of 21 years or more or less than 5 years, who had 21 years or more of institutional experience, who worked as an outpatient nurse or operating room nurse, who constantly worked at night shifts for 51 hours or over per week, who had willingly chosen the profession, and who had a chronic disease had higher mean scores on the LPP subscale compared to other nurses. It was also determined that there were significant differences between the groups in terms of the number of cohabitants at home and the presence of a chronic disease (p<0.05) (Table 2).

According to the mean scores of nurses on the "psychosocial planning process" subscale, it was determined that those who were male, who were aged between 40-59, who had a bachelor's or master's degree, who were single, who had an extended family, who lived with 2 people at home, who had 1 child, who had a monthly income of 20.000 TL or over, who were employed in the private sector, who

had 21-25 years of professional experience, who had 21 years or more of institutional experience, who worked as an outpatient nurse or operating room nurse, who constantly worked at day shifts for 41-50 hours per week, who had willingly chosen the profession, and who had a chronic disease had higher mean scores on the PPP subscale compared to other nurses. In addition, it was determined that there were significant differences between the groups in terms of age, working schedule, and presence of a chronic disease (p<0.05) (Table 2).

According to the mean scores of nurses on the "health planning process" subscale, it was determined that those who were female, who were aged between 40-59, who had a bachelor's or master's degree, who were single, who had a nuclear family, who lived with 2 people at home, who had 3 children, who had a monthly income of 20.000 TL or over, who were employed in the private sector, who had 31 years or more of professional experience, who had 21 years or more of institutional experience, who worked as an outpatient nurse or operating room nurse, who constantly worked at day shifts for 41-50 hours per week, who had willingly chosen the profession, and who had a chronic disease had higher mean scores on the HPP subscale compared to other nurses. In addition, it was determined that there were significant differences between the groups in terms of age, duration of employment in the profession, working schedule, and presence of a chronic disease (p<0.05) (Table 2).

Table 3. The mean scores of the nurses on the subscales of PRePS according to their retirement characteristics

Retirement characteristics / PRePS subscales	FPP X̄ ±SD	LPP X̄ ±SD	PPP X̄ ±SD	HPP X̄ ±SD
Have you reached retirement age? (n=262)				
Yes (n=55) (%21)[a]	2.95±0.50	3.21±0.54	3.01±0.66	3.38±0.57
No (n=207) (%79)[b]	2.92±0.48	3.25±0.52	2.94±0.60	3.15±0.47
Test	t=0.362	t= -0.460	t= 0.789	**t= 3.053**
p-value	p=0.718	p=0.646	p=0.431	**p=0.003* a>b**
Are you thinking of retiring if you are of retirement age?(n=55)				
Yes (n=26) (%47.3)	3.04±0.50	3.28±0.44	3.00±0.55	3.35±0.44
No (n=29) (%52.7)	2.86±0.50	3.15±0.61	3.02±0.75	3.41±0.61
Test	Z= -0.836	Z= -0.465	Z= -0.059	Z= -0.752
p-value	p=0.403	p=0.642	p=0.953	P=0.452
If you have not reached retirement age, how many years are left on average until your retirement? (n=207)				
0-5 years (n=46) (%22.3)	2.95±0.53	3.39±0.44	3.09±0.52	3.25±0.42
6-10 years (n=26) (%12.6)	2.79±0.51	3.30±0.38	2.86±0.59	3.26±0.46
11-15 years (n=39) (%18.8)	2.95±0.37	3.10±0.50	3.03±0.47	3.07±0.41
16 years and more (n=96) (%46.3)	2.93±0.49	3.22±0.58	2.85±0.67	3.11±0.51
Test	X^2=2.098	X^2=5.889	X^2=6.490	X^2=6.547
p-value	p=0.552	p=0.117	p=0.090	p=0.088
If you were of retirement age, would you want to retire immediately?(n=207)				
Yes (n=173) (%83.6)	2.92±0.47	3.26±0.53	2.92±0.58	3.15±0.46
No (n=34) (%16.4)	2.90±0.54	3.20±0.45	3.01±0.69	3.20±0.53
Test	t=0.239	t= 0.556	t= -0.810	t= -0.563
p-value	p=0.811	p=0.579	p=0.419	p=0.574
Do you think planning retirement is important? (n=262)				
Yes (n=239) (%91.2)[a]	2.94±0.49	3.27±0.52	2.97±0.61	3.22±0.50
No (n=23) (%8.8)[b]	2.80±0.46	2.96±0.49	2.77±0.63	3.03±0.45
Test	Z= -1.569	Z= -2.731	Z= -1.850	Z= -1.625
p-value	p=0.117	**p=0.006* a>b**	p=0.064	p=0.104

Table 3. Continued

Retirement characteristics \ PRePS subscales	FPP X̄ ±SD	LPP X̄ ±SD	PPP X̄ ±SD	HPP X̄ ±SD
Do you have a retirement plan? (n=262)				
Yes (n=208) (%79.4)[a]	2.94±0.49	3.29±0.48	3.02±0.59	3.22±0.50
No (n=54) (%20.6)[b]	2.85±0.47	3.04±0.61	2.70±0.62	3.12±0.49
Test	t= 1.195	t= 2.717	t= 3.391	t= 1.264
p-value	p=0.233	**p=0.008* a>b**	**p=0.001* a>b**	p=0.207

FPP= Financial planning process, LPP= Lifestyle planning process, PPP= Psychosocial planning process, HPP= Health planning process, Z= Mann Whitney U, t= Student T, F= One Way Anova, X^2= Kruskal Wallis, M= Mean, SD= Standart Deviation, *p <0.05

When the mean scores of the nurses on the subscales of PRePS were evaluated according to their retirement characteristics, it was seen that the nurses who were of retirement age and considered retiring, who had less than 5 years to retire, who wanted to retire immediately if they reached retirement age, who thought that retirement planning was important, and who made a retirement plan had higher mean scores on the “financial planning process” subscale than the other nurses but there was no significant difference between the groups (p> 0.05) (Table 3).

The nurses who were not of retirement age, who considered retiring, who had less than 5 years to retire, who thought that retirement planning was important, and who made a retirement plan had higher mean scores on the “lifestyle planning process” subscale than the other nurses and there were significant differences between the groups in terms of making a retirement plan (p< 0.05) (Table 3).

When the mean scores of the nurses on the “psychosocial planning process” subscale were examined, it was determined that those who were of retirement age but did not consider retiring, who had less than 5 years to retire, who did not want to retire immediately if they reached retirement age, who thought that retirement planning was important, and who made a retirement plan had higher mean scores than the other nurses and that there were significant differences between the groups in terms of making a retirement plan (p< 0.05) (Table 3).

Finally, it was determined that those who were of retirement age but did not consider retiring, who had less than 5 years to retire, who did not want to retire immediately if they reached retirement age, who thought that retirement planning was important, and who made a retirement plan had higher mean scores on the “health planning process” subscale compared to the other nurses and that there were significant differences between the groups in terms of retirement age (p< 0.05) (Table 3).

4. Discussion

Retirement is the last stage of working life and can also be considered a period opening up to a new life. It is important for nurses, who are an important component of health institutions, to have a planned retirement after both professionally and organizationally challenging work life for their health and welfare levels. In this study, it was found that the majority of nurses were in the age group of 40-49 who had not yet reached the retirement age, were employed in the public sector, worked on shifts and over 40 hours a week, had 16 years or more professional experience, were married and had a nuclear family with 2 children, had chosen the profession willingly, and did not have a chronic disease. These findings showed that the working conditions of nurses were difficult and that they were likely to retire in the next 10 years. This thought is supported by the findings regarding the retirement status of nurses.

It was revealed that nurses who reached the retirement age wanted to retire, that those who did not reach retirement age wanted to retire immediately if they reached the retirement age, that they thought retirement planning was important, and that they made retirement planning. It was revealed that those who wanted to retire mostly experienced burnout and wanted to retire since they wanted to spare

time for their family/themselves, and that those who did not plan to retire although they were of retirement age did not want to retire mostly because of economic concerns. Nurses stated that they wanted to spend time with their families, travel, spend time on their hobbies, and rest after retirement and that the concept of retirement generally meant freedom, family, and spare time for them. These results show that nurses do not want to work after retirement due to reasons such as difficult working conditions, professional exhaustion, and burnout and that they will turn to social life. However, it was seen that economic concerns were also an important factor in retirement planning. The low level of retirement planning among nurses with low monthly incomes also supports this idea. The results of this study are consistent with the results of another study on the subject. Likewise, in the study conducted by Öztürk et al.[26] , it was determined that nurses with retirement qualifications wanted to retire mostly because they wanted to spend more time with their children and family and that those who did not want to retire despite having retirement qualifications did not want to retire mostly because of economic problems. In addition, it was revealed that the concept of retirement meant “comfort, spending time on oneself and hobbies and financial difficulties” for nurses.

It was observed that the level of retirement planning of the nurses was above average, that they made lifestyle plans the most, and that they made financial plans the least. These findings are considered to be consistent with the lifestyle plans made by nurses such as sparing time for family and themselves and taking a rest during retirement. It is thought that the low level of planning of the nurses in financial issues was due to the low monthly income levels among the majority of them and the social culture. In our country, which has a more traditional and patriarchal culture, men are more interested in financial issues in the family. The majority of the nurses participating in the study were women and the male nurses had a high level of financial planning, supporting this idea. Furthermore, the levels of health and psychosocial planning of the nurses were not very high. This is thought to be due to the fact that the majority of the nurses did not have a chronic disease and were in a younger age group who did not reach retirement age.

Studies in the literature have shown that retirement planning is insufficient among nurses [12, 22, 27-28]. Similar to the results of the research, it was reported that female nurses were more aware of health care and social relations but they neglected saving and financial issues [29], that women were less financially prepared for retirement planning [30-31], and that poor wages given to women negatively affected their retirement planning [32] and that women spent less time on retirement planning [33].

In general, it was seen that the nurses who were male, who were aged between 40-59, who had a bachelor’s or master’s degree, who had an extended family, who had 3 or more children, who had a monthly income of 20.000 TL or over, who were employed in the private sector, who had a professional and institutional experience of 20 years or over, who worked more than 40 hours a week as an outpatient nurse or operating room nurse, who had willingly chosen the profession, and who had a chronic disease had higher levels of retirement planning.

The finding that the levels of retirement planning of nurses who had a long professional experience, therefore, were close to retirement age, who had a large family, who had a high monthly income, who had long working hours, and who had a chronic disease were high can be considered an expected finding. Nurses’ willingness to spare time for themselves and their families was in line with the finding that those who did not have economic concerns and those who experienced burnout wanted to retire. Likewise, in the literature, it was stated that nurses aged over 40 and those with a long duration of employment had better retirement planning [34]. However, in another study, it was reported that the duration of employment and age did not influence retirement planning [13].

In this study, the findings regarding the higher levels of retirement planning among those with extended families and those with 3 or more children, planning for lifestyle and planning for spending

time with the family support each other. These findings suggest that nurses want to compensate for the time and attention, that they cannot spend on their families and children during their working life, during the retirement period. Liu et al. [13] stated that nurses have to support their families and continue to take care of their children after retirement and that nurses who have lost a family member have higher levels of retirement planning.

The finding that nurses who had a master's degree and had willingly chosen the profession had a high level of retirement planning is considered interesting. This suggests that although nurses had willingly chosen the profession and had a good education level, they either could not meet their expectations or they acted more consciously due to their education levels, revealing that the effect of education on retirement should be examined in detail. On the other hand, employees in the private sector are thought to make retirement plans to feel safe due to the lack of sufficient employment security throughout their working lives. It is thought that outpatient nurses and operating room nurses wanted to retire due to the content of their work. It can be suggested that nurses may become monotonous after a while and maybe bored with their work due to limited interaction with patients in these units, a more monotonous working schedule, doing the same job all the time as in the production sector, and the lack of development opportunities for nurses. Similarly, it was determined that nurses with higher education levels had better retirement planning [34].

The lifestyle planning of the nurses who worked constantly at night, the health and psychosocial planning of the nurses who worked constantly during the day, the fact that the nurses who worked for 40 hours or over made more planning in these dimensions, and the fact that the nurses had a challenging and exhausting working life although they had willingly chosen the profession suggest that they want to meet their needs, which they cannot meet in terms of lifestyle, psychosocial status, and health status, during retirement. The high level of retirement planning of nurses who had willingly chosen the profession and who had a chronic disease can be considered as findings that reveal the importance of this need. Studies showed that working schedule and the presence of a chronic disease affected the decision to retire before the retirement age [19], that the health status of nurses affected their retirement planning [22, 28] that working at night did not affect the retirement planning of nurses [12] and that nurses who did not work at night had better retirement planning [34].

It was expected that the levels of retirement planning were high among nurses with high monthly incomes and this finding is consistent with other studies. Accordingly, it was reported that income status was effective on nurses' continuation to work [13] and that nurses with higher wages had better retirement planning [34].

It was seen that the levels of retirement planning of the nurses who reached retirement age, who had less than 10 years to retire, who thought that retirement planning was important, and who made a retirement plan were higher. Li et al. [22] stated that nurses found it important to plan retirement even though they did not have retirement planning.

Limitations

The research data were collected online, not face-to-face, since the pandemic process has not yet ended, causing a limited number of individuals in the study. The results of the study are limited to the self-reports of the participants.

5. Conclusion and Recommendations

A well-planned retirement period will enable nurses to have a better quality of life in old age after their professional life. For this, it is important to know the retirement planning of nurses and the affecting factors in each country. As a result of this study conducted in Türkiye, it was revealed that nurses' levels of retirement planning were not high, that their levels of lifestyle planning were high and their levels of

financial planning were low, and that they showed differences, especially in terms of age, the number of cohabitants, working schedule, and presence of a chronic disease. Furthermore, it was seen that nurses who were male, who were aged between 40 and 59, who had a bachelor's or master's degree, who had an extended family, who had 3 or more children, who had a monthly income of 20.000 TL or over, who were employed in the private sector, who had a professional and institutional experience of 20 years or over, who worked more than 40 hours a week as an outpatient nurse or operating room nurse, who had willingly chosen the profession, and who had a chronic disease had higher levels of retirement planning.

For nurses to make a more conscious retirement planning, a counseling service should be provided in institutions and they should be supported especially in financial planning. For this purpose, health politicians should develop new wage policies to increase the monthly incomes of nurses and eliminate their economic concerns. In addition, working conditions should be improved to eliminate factors that are effective in the retirement planning of nurses such as working schedule, and health problems.

Ethical Statement:

Before the research, ethical approval (Date: 04.14.2022; Number: 2022-40) was taken from the ethics committee of the institution where the research was conducted. The participants were informed in line with the informed consent form and the voluntary participants were given the opportunity to fill in the survey. For the use of PRePS in data collection, permission was taken from the author, who adapted the scale into Turkish, via e-mail.

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Conflicts of interest:

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Data availability statement:

The datasets generated during and/or analysed during the current study are not publicly available as respondents were assured raw data would remain confidential and would not be shared.

Author's contributions:

N.T.: Conceptualization, Methodology, Acquisition of data for the study, Formal analysis, Writing - Original draft preparation

S.A.: Conceptualization, Methodology, Formal analysis, Writing - Original draft preparation

All authors read and approved the final manuscript.

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Research Article

THE EFFECT OF VIOLENCE AGAINST 112 EMERGENCY HEALTHCARE PERSONNEL ON JOB SATISFACTION

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Abstract: *In this study, the types of violence faced by the healthcare personnel working in the 112 Emergency Health Services and the effect of this situation on the job satisfaction of the healthcare personnel were examined. A questionnaire was applied to 165 emergency healthcare personnel working in Istanbul, between August and October 2021. Demographic information and the Hackman and Oldham job satisfaction scale were used in the questionnaire. 80.6% of the participants stated that they were exposed to physical, verbal, psychological, or sexual violence. It was determined that 48.7% of the perpetrators were the relatives of the patient and 30.2% were the patients themselves. In addition, it was determined that 78.9% of the attackers were male Significant differences were found between the duration and age of healthcare workers in the institution and their job satisfaction. It has been determined that the job satisfaction of healthcare personnel who are exposed to violence is lower than those who are not exposed to violence. In the state of exposure to violence, the motivation and psychological state of the personnel working in the emergency health services are highly affected, and this has a negative effect on job satisfaction. It is recommended that health managers take measures to protect the health and safety of healthcare personnel and take initiatives to increase job satisfaction.*

Keywords: *Emergency health services, violence, job satisfaction*

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1. Introduction

There have been cases of violence in the world since the existence of humanity. Although demographic information such as language, age, religion, gender, and education level changes, violence that affects every part of society is encountered in every aspect of our daily life. In order to prevent violence, it is very important to determine the cause. The leading causes that push individuals to violence are self-expression, genetic predisposition, anger, anger control, love, respect, helplessness, and experiences. When compared with other professions, it is seen that the occupational group most exposed to violence is healthcare personnel. Studies have found that the most frequently reported type of violence by health professionals in health institutions is physical assault, while other types of violence are reported relatively less [1,2]. The World Health Organization defines violence as: "The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either result in or have a high likelihood of resulting g in injury, death, psychological harm, maldevelopment or deprivation." Also, job satisfaction is one of the most important reasons that enable healthcare professionals to be more productive and successful in their jobs. For this reason, the

satisfaction of healthcare personnel from their profession will enable them to be happy, efficient, innovative, practical, and productive, and thus to provide qualified and effective service [3]. Low job satisfaction negatively affects interpersonal communication. It can cause tension in communication, and nervous and aggressive behavior [4]. When the job satisfaction of healthcare personnel who provide 24-hour uninterrupted service in emergency health services decreases, headaches, feeling tired, and physical discomfort will increase and anxiety levels will rise. This will disrupt the service provided by health workers and therefore reduce productivity [5].

It is known that healthcare personnel work with heavy work conditions such as insomnia, fatigue, insufficiently defined authorities and responsibilities of their duties, low salaries, and irregular working hours. Even though violence against physicians has global significance, there is yet no consensus on the evaluation, and classification of workplace violence in healthcare settings [4]. In India, 40.8% of resident physicians were reported to have experienced violence, while the incidence rate was found to be 83.4% in China, and 50.6% in Norway [6,7]. According to the studies in Türkiye, the rate of violence against healthcare workers varies from 49% to 87% [8].

In this study, the types of violence faced by the healthcare personnel working in the 112 Emergency Health Services and the effect of this situation on the job satisfaction of the healthcare personnel were examined. Although there are studies on violence against healthcare workers in Türkiye, its effect on job satisfaction has not been studied sufficiently. It is thought that this study will contribute to the literature.

2. Materials and Methods

2.1. Participants and sample size

The sample of this study consists of 165 healthcare personnel working in 112 Emergency Health Services in Istanbul and determined by easily accessible situation sampling [9]. This sampling method is generally preferred when it is not possible to use other sampling methods [10, 11]. This method was chosen because of circumstances such as high workload, shift work, status of leave, or rest of healthcare personnel working in 112 Emergency Health Services. The application was carried out by face-to-face interviews by the researcher between August and October 2021. Before the scale was applied to the participants, necessary information was given about the questions.

2.2. Data Collection Tool

Personal information form, questionnaire form, and Hackman-Oldham scale were used as data collection tools in the research. In the personal information form prepared by the researcher, there are demographic questions that aim to determine the unit, working style, profession, gender, age, education level, marital status, duration of employment, and duration of work in the institution of healthcare personnel working in 112 Emergency Health Services. The questionnaire form used in the research was prepared by using the relevant literature [12, 13]. To collect information about the violence experienced by the healthcare personnel working in the 112 Emergency Health Services and these incidents of violence.

The Job Satisfaction Scale developed by Hackman and Oldham (1975) was used in the study [14]. The scale was adapted to Turkish by Gödelek (1988) [15]. The 14-item scale has a 5-point Likert-type rating system (1: very inadequate, 5: very adequate). The highest score that can be obtained from the scale is 70, and the lowest score is 14. A high score indicates a high level of job satisfaction. Scoring criteria are 14-32 low, 33-52 medium, 53-70 high. The validity and reliability study of the scale was conducted with the test-retest method, and the average score of the first application was 34.27, the average score of the second application was 34.71, and the standard deviation was 7.69. The fact that

the average score of the two applications was very close to each other was accepted as an indicator of reliability. The test-retest correlation was also found to be .80. In the analyzes conducted within the scope of this research, the Cronbach alpha internal consistency reliability coefficient of the scale was calculated as .90.

2.3. Evaluation of Data

The data obtained in this research were analyzed using the SPSS 25.0 statistical package program. Before the data were evaluated, the Kolmogorov-Smirnov Test was used to examine whether the variables showed normal distribution or not. Descriptive statistics for the variables were calculated. For this purpose, number, percentage, mean and standard deviation values were used. Independent group t-test was used to compare quantitative continuous data between two independent groups, and One-way ANOVA was used to compare quantitative continuous data between more than two independent groups. After the Anova test, the Gabriel test, one of the post-hoc tests, was used to determine which group caused the difference. The level of significance was determined as .05 in this research.

Ethical procedures

This study was approved by the Ethics Committee of Nişantaşı University (Number: 2020/7, date: 01.04.2020) and necessary permissions were obtained from the Ministry of Health Scientific Research

3. Results and Discussion

When the demographic characteristics of the participants were examined, it was determined that 63% of them were women, and 72.1% of their marital status was single. Participants were 32.90 ± 9.8 years old on average. Healthcare personnel participating in the research; 40% are paramedics, 38.2% nurses, 13.9% emergency medical technicians, 6.7% ambulance drivers, and 1.2% doctors. Educational status of the participants; 45.5% are at associate degree, 35.8% are at undergraduate level. 64.2% of the employees have been working in the profession for 5 years or less. In working styles; 39.4% of them are on duty for 24 hours, 34.5% of them work in day and night shifts, 14.5% of them work only during the day and 11.5% of them work only by night shifts.

When the rates of being exposed to assault in their working life are examined, 80.6% of them state that they have been exposed to physical or verbal violence. Of the healthcare personnel who were exposed to violence, 80 (60.2%) were female and 53 (39.8%) were male.

In the distribution of people who perpetrate violence against healthcare workers, the relatives of the patients are the most common, followed by the patients. The majority of the perpetrators (78.9%) are men and they are between the ages of 31-50 (61.7%). When the types of violence are examined, it is seen that verbal violence is the most and sexual violence is the least. The distribution of types of violence to which healthcare workers are exposed is shown in Table 1.

Healthcare personnel working in 112 emergency health services stated that most of the violence cases were experienced between the hours of 16:00-24:00, and they have stated that 30.1% of cases have occurred in the area where they first reached the case by ambulance while 50.4% of them were examining the patient/providing treatment/physical care. It has been stated that the reason for this situation is that violence has a place in society as a "problem-solving method", bad and negative communication stemming from the patient/their relatives, and insufficient education level.

Table 1. Distribution of types of violence that healthcare personnel are exposed to (N=165)

Violence types*	n	%
Physical violence type		
Walk up to	53	42,6
Pushing	27	21,7
Throwing objects/using weapons	14	11,2
Kicking/biting..etc	71	24,5
Verbal violence type		
Bandy words	84	23,5
Insulting	82	23
Threatening	66	18,5
Humiliation	65	18,2
Spear	59	16,5
Psychological violence type		
Mistreating	71	29,7
Negative criticism	66	27,6
Blame	52	21,8
Mobbing	50	20,9
Sexual violence type		
Physical contact	75	55,6
Sexually explicit talk	59	44,4

*More than one option is marked.

It has been determined that 67.9% of healthcare professionals are given white code training by the institution they work for, and 66.2% of them have an application to identify and report violent incidents in the institution. Despite this, the rate of giving white code in the face of an attack is 24.8%. When asked about the precautions taken in the institution after the violence, 37.6% of the healthcare personnel stated that "I did not apply to the institution" and 34.6% stated that "nothing was done". After the violence, the healthcare personnel stated that she/he was angry, disappointed, and nervous, her/his motivation decreased and they took individual measures. After the violence was experienced, 31.6% of the healthcare personnel stated that they thought of changing the unit they worked in and that the punishment given to prevent violence should be a deterrent.

The Hackman and Oldham Job Satisfaction Scale was used to measure the job satisfaction of the healthcare personnel working in the 112 emergency health services exposed to violence. The descriptive values of the scale are shown in Table 2. According to the scoring measures of the scale, it was evaluated as 14-32 points (Low), 33-52 points (Medium), and 53-70 points (High). It is seen that the employees in 112 emergency health services have medium job satisfaction. The scores of the working healthcare personnel from the job satisfaction scale; it was determined that they did not differ significantly according to their gender, marital status, education level, duration of time they were in the profession, and the way they worked in shifts ($p>.05$).

Table 2. Hackman and Oldham job satisfaction scale descriptive values

				Participants' scores		Percentages		
	N	**$\bar{X}$**	**SD**	**Min.**	**Max**	**25%**	**50%**	**75%**
Job Satisfaction Score	133	35.74	9.93	14	60	29	36	43

ANOVA analysis of the scale scores of the participants according to age and working time of the participants was conducted and the results were given in Table 3.

Table 3. ANOVA analysis of the scale scores of the participants according to age and working time in the institution

	Source of Variance	Sum of Squares	S	Mean Squares	F	P
Age	Intergroup	699.114	2	349.557	3.686	0.028*
	Ingroups	12.328.194	130	94.832		
	Total	13.027.308	132			
Working Time in the Institution	Intergroup	724.996	2	362.498		
	Ingroups	12.302.312	130	94.633	3.831	0.024*
	Total	13.027.308	132			

*p<0.05

When Table 3 is examined, it is seen that the mean scores of healthcare personnel from the job satisfaction scale show a significant difference according to age (F=3.686, p<.05). Job satisfaction scale mean scores of healthcare personnel aged between 40-50 ($\bar{X}$=45.28) are higher than those between the ages of 18-28 ($\bar{X}$=35.45) and those aged 29-39 ($\bar{X}$=34.35).

It is seen that the mean scores of the healthcare personnel from the job satisfaction scale show a significant difference according to the working time in the institution (F= 3.831, p<.05). The job satisfaction scale mean scores of healthcare personnel who have worked in the institution for 11-20 years ($\bar{X}$=43.25) are higher than those who have worked at the institution for 6-10 years ($\bar{X}$=32.87).

Cases of violence appear in a wide range of areas, from working life to family relations. While it is thought that violence is more common in business areas related to security services, in recent years, health services have surpassed other sectors. Especially healthcare personnel working in emergency health services are exposed to violence very often. When the studies conducted in Türkiye are examined, the violence that healthcare personnels from many cities and different hospitals in Türkiye are exposed to has been taken as the subject. The job satisfaction of healthcare personnel working in different branches was also examined. It has been determined that the most frequently exposed services to violence in health institutions are emergency services. However, the effect of the violence experienced by the employees in the 112 emergency health services located in the emergency services or case areas where violence is experienced the most, on job satisfaction has not been examined [2,7,8].

In a study conducted with healthcare personnel about job satisfaction in Türkiye, it was found that job satisfaction changed significantly according to occupation. When the data were compared, among the doctors, nurses, dentists, administrators, pharmacists, and health technicians participating in the study, the profession with the lowest job satisfaction was the nurse [16]. In studies examining the job satisfaction of nurses, knowledge and experience increase in direct proportion with age, which increases job satisfaction [17]. When the job satisfaction of the doctors is examined, it has been determined that the job satisfaction of the professor doctors is higher than that of the assistant doctors. It was found that while job satisfaction was higher in doctors aged 36 and above, job satisfaction was higher in nurses aged 31 and above [18]. In our study, the rates of exposure to violence by education level are as follows: 15% of them are high school graduates; 41.3% of them are associate degree graduates; 39.9% of them have a bachelor's degree, and 3.8% have a master's degree. It has been observed that associate and undergraduate healthcare personnel are exposed to violence more than high school and graduate healthcare personnel. It has been determined that there is an inverse relationship between educational status and exposure to violence, and these results are consistent with the literature. The educational status of healthcare personnel did not affect job satisfaction. However, it has been determined that the job satisfaction of those in the 40-50 age group and with a working period of 11-20 years is high.

It has been determined that nurses are exposed to more violence than other healthcare personnel because they are in closer contact with patients and their relatives [19, 20]. In terms of gender, it has been stated that women are exposed to violence the most, violence occurs mostly in state and training and research hospitals, and healthcare workers are most exposed to verbal violence, but verbal violence does not change according to the gender of the healthcare personnel [19, 21-23]. 80.6% of the healthcare personnel working in 112 emergency health services participating in the research have been exposed to physical or verbal violence at least once during their working life. When the genders of those who were exposed to violence were examined, it was seen that women (60.2%) were exposed to violence more.

Healthcare personnel stated that they were exposed to violence by 30.2% by the patient, 48.7% by the patient's relatives, 13.3% by the doctor, and 7.6% by the nurse at the same time or at different times. It is seen that 21.1% of the attackers are women and 78.9% are men. In addition, it was stated that 25.6% of the attackers were between the ages of 19-30; 61.7% of them were between the ages of 31-50; 12% were between the ages of 51-65 and 8% were over the age of 65.

In a study conducted in 2011, it was stated that 70-80% of healthcare personnel who were subjected to verbal and physical violence felt anger, fear, and occupational disappointment [24]. In our study, it was found that although 67.9% of the healthcare personnel working in the emergency health services received white code training, only 24.8% of them gave white code in the case of violence. After the violence experienced, the employees stated that they were angry, disappointed, and nervous, their motivation decreased, they were more careful in the workplace and they tried to protect themselves. This is one of the main reasons for the decrease in job satisfaction. As people's job satisfaction decreases, their commitment to the workplace also decreases.

In a study conducted with the emergency room workers of a hospital in Ankara in 2015, it was stated that the healthcare personnel were exposed to verbal violence mostly during the night shift by the patients and their relatives, and the reason for this was the insufficient number of working personnel and communication problems with the patients. In addition, healthcare personnel stated that they do not report to any place because they think that they will not get results when they are exposed to violence and that the institution they work for does not take adequate security measures. It was determined that the job satisfaction of the nurses who worked after violence decreased and their job satisfaction was medium [25]. In the research we have done, it has been determined that the healthcare personnel working in the emergency health services use similar expressions.

4. Conclusion

When the job satisfaction of the healthcare personnel participating in the research is examined, it is seen that the 112 healthcare personnel have medium job satisfaction. Healthcare personnel stated that the most satisfaction was their relationship with their colleagues. It has been stated that the main factors that reduce job satisfaction are the unfair wages they receive for the job, insufficient wages, and low institutional support. Insufficient level of security in health institutions and the fact that they do not find their workplaces safe in terms of their future plans were also considered factors reducing job satisfaction.

It should be ensured that the number of healthcare personnel is sufficient to prevent the violence that occurs in cases of making the patient wait due to the lack of the number of healthcare personnel. Determining the number of employees in hospitals according to the location of the hospital and the number of patients admitted to the hospital, rather than the number of beds of the hospital, will reduce violence. Healthcare professionals should be given regular in-service training on communication techniques, and opportunities to improve their communication skills should be provided. As a result, it is thought that some of the violence will be prevented and job satisfaction will increase.

It is necessary to provide training for healthcare personnel to ensure their safety, and to inform all healthcare personnel by organizing in-service training every year on how to proceed in the face of

violence. Healthcare personnel should be encouraged not to remain silent against violence and the necessary support should be provided by the institution.

As a result of violence, it is necessary to take legal measures to protect the healthcare personnel (such as punishments should be deterrent and good behavior discounts should not be given). It is necessary to increase the measures to prevent violence after violence and to increase the number of security personnel in units where violence is intense and during times of intense violence. It is recommended that health managers take measures to protect the health and safety of healthcare personnel and take initiatives to increase job satisfaction. Expectations of employees should be taken into account, and improvements should be made in terms of wages, rewards, and promotions. In this study, the sample group is limited to 112 Emergency Health Services employees working in Istanbul. It is recommended that such studies be carried out in other provinces as well.

Ethical statement

This study was approved by the Ethics Committee of Nişantaşı University (Number: 2020/7, date: 01.04.2020) and necessary permissions were obtained from the Ministry of Health Scientific Research Platform and the institution where the research was conducted.

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Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Authors’ contributions:

S.D: Concept, Data Collection and/or Processing, Literature Search, Design, Writing Manuscript.
N.H: Design, Writing Manuscript.
E.H.Y: Design, Writing Manuscript.
I.E: Concept, Data Collection and/or Processing, Literature Search, Design, Writing Manuscript.
All authors read and approved the final manuscript.

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Research Article

EVALUATION OF THE RELATIONSHIP BETWEEN SPIRITUAL WELL-BEING AND SURGICAL FEAR IN LIVER TRANSPLANT CANDIDATES

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Abstract: *This study was conducted to evaluate the relationship between spiritual well-being and surgical fear in liver transplant candidates. This study is a cross-sectional study conducted with 124 liver transplant candidate patients admitted to a university liver transplant center. Personal Information Form, Spiritual Well-Being Scale (SWBS), and Surgical Fear Scale (SFS) were used to collect data. It was determined that the patients' spiritual well-being was 24,59 ± 9,20 and their surgical fear was 40,11 ± 10,94. In the study, it was determined that there was a statistically negative correlation between the patients' spiritual well-being and surgical fear (r=-0.248, p<0.01). This study proved that liver transplant candidates with high levels of spiritual well-being have lower levels of surgical fear. For this reason, awareness of spiritual well-being should be developed in healthcare professionals and it is recommended that they provide healthcare services that provide moral and social support to patients.*

Keywords*: Liver transplant, surgical fear, spiritual well-being.*

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1. Introduction

Liver transplantation is one of the frequently preferred medical options in terminal liver disease because it provides long survival and good quality of life [1]. On the other hand, solid organ transplantation practices cause several complications such as life-threatening infection, acute and chronic rejection, malignancies, recurrent organ failure, and death [2]. Although surgical interventions, such as liver transplantation, are practices aimed at preserving life and improving health status, they are both physiological and psychological trauma for the patient due to the complications that may occur both during and after the surgery [3]. Surgical intervention causes psychological problems in patients such as fear, anxiety, irritability, emotional instability, and feelings of inadequacy [4]. The most common emotional reaction among these reactions is the patient's fear of the surgery process and the postoperative period [5].

Before the surgical procedure; factors such as pain, waiting for the operation, concern about organ and tissue loss, possible physical or mental harm of the surgery, possible distortions in body image, separation from the social environment, and addiction anxiety can be listed among the factors that cause surgical fear in patients [6,7]. The level of knowledge about the surgical operation, previous anesthesia and surgery experience, the type of surgical intervention to be performed, and the degree of difficulty and risk affect the patient's level of surgical fear. Preoperative fear leads to postoperative depression, anxiety, prolonged wound healing and hospital stay, use of additional anesthetic drugs, and excessive

use of analgesics in the postoperative period [8,9]. For this reason, it is important to determine the surgical fear levels of patients and the affecting factors and to plan and implement the necessary interventions. It is thought that spiritual well-being, which is known to have a positive effect on the mental state of patients, will affect the level of surgical fear.

Spirituality is the essence of a human being: The meaning of life, and feeling of connectedness to transcendental phenomena such as the universe or god [10–13]. Spirituality is also part of comprehensive palliative care as defined by the World Health Organization [14]. Spiritual well-being gives individuals hope, helps them find meaning in their lives, and thus increases their well-being. Individuals with a high level of spiritual well-being can cope better with negative events [15]. There are studies in the literature showing that spiritual well-being has positive effects on the clinical symptoms of diseases [16,17]. In this study, the relationship between spiritual well-being levels and surgical fears in liver transplant candidates will be investigated.

In the study, the following questions were tried to be answered

1. What is the spiritual well-being level of liver transplant candidates?
2. What is the surgical fear of liver transplant candidates?
3. Is there a significant relationship between the spiritual well-being and surgical fear of liver transplant candidates?

2. Methods

This study is descriptive and cross-sectional.

2.1. Research design and participants

This research was carried out with patients with liver transplant candidates who applied to the Liver Transplantation Institute of a university hospital in Turkey after obtaining the permission of the ethics committee. The purposive sampling method was used in sample selection. As a result of the power analysis, the sample size of the study consisted of 124 patients with a significance level of 0.05, a confidence interval of 0.95, an effect size of 0.5, and a representative power of 0.5.

2.1.1 Inclusion criteria

- Being a liver transplant candidate,
- To volunteer to participate in the study,
- Be 18 years of age or older,
- No communication barriers.

2.1.2 Exclusion criteria

- Not being a liver transplant candidate,
- Patients under 18 years of age,
- Speak no Turkish, have communication barriers,
- Not willing to participate in research.

2.2. Data collection tools

The study data were collected using a personal information form, the spiritual well-being scale (SWBS), and the surgical fear scale (SFS).

Spiritual Well-Being Scale (SWBS)

The original scale, the Functional Assessment of Chronic Illness Therapy–Spiritual Well-being scale (FACIT–SP), was developed by Peterman et al. in 2002 [18]. Peterman et al. determined that the Cronbach's alpha value of the scale varied between 0.81 and 0.83. The Turkish validity and reliability

of the scale were performed by Aktürk et al., in 2017 [19]. The Cronbach's alpha coefficient of the scale varies between 0.81 and 0.89. The five-point Likert scale consists of 3 subscales meaning (2, 3, 5, 8), peace (1, 4, 6, 7), and faith (9, 10, 11, 12). Each item on the scale is scored between 0-4 points. While items 4 and 8 of the scale are scored reversely, the other items are scored directly. The total score of the subscales is 0-16. The total score interval of the scale is 0-48. A higher score means a higher spiritual well-being [19]. In the study, the Cronbach's alpha coefficient of the scale was found to be 0.898.

Surgical Fear Scale (SFS)

It was developed in 2014 to determine the level of fear caused by the short and long-term consequences of the surgical operation in patients undergoing elective surgery [20]. Its Turkish validity and reliability were tested by Bağdigen and Karaman Özlü in 2018 [21]. The 11-point Likert-type scale is composed of 8 items and scored between 0 and 10. Each item is scored in a range from 0= "not afraid at all" to 10= "very afraid." The scale consists of two subscales of fear of the short-term consequences of surgery and the long-term consequences of surgery (Items 1 to 4: fear of the short-term consequences of surgery; items 5 to 8: fear of the long-term consequences of surgery). The subscale total score is obtained by adding up the scores of 4 items in the subscales, and the total score of the scale is obtained by adding up the scores of the two subscales. The lowest score to be obtained from the subscales is 0, and the highest score is 40. The total score of the scale ranges from 0 to 80. A high score obtained from the scale indicates a high level of surgical fear [20]. In the study on the validity and reliability of the scale, the Cronbach Alpha internal consistency coefficient was found to be 0.93, while it was 0.96 for the subscale of short-term consequences (SFS-S) and 0.90 for the subscale of long-term consequences (SFS-L). In our study, the Cronbach's alpha coefficient of the scale was calculated as 0.83, and for the subscales, it was 0.82 (SFS-S) and 0.80 (SFS-L).

2.3. Ethics

Before the study, the ethical approvals were obtained from Turgut Ozal Medical Center Liver Transplant Institute and Malatya Turgut Özal University Ethics Committee (Decision No:2023/8). After the participants were informed about the voluntary submission of answers in the research, the purpose of the research, and how to use the results to be obtained from the research, their consent (informed consent principle) was obtained orally and in writing. The patients who participated in the study were told that the information about them would not be disclosed to anyone else and the "confidentiality principle" was complied with. The research was conducted following the Principles of the Declaration of Helsinki.

2.4. Statistical Analysis

After the data were coded by the researchers, data analysis was performed by using IBM SPSS (Statistical Package for the Social Sciences) Statistics 25. Pearson's correlation test was performed to analyze associations between surgical fear and the spiritual well-being of patients. Independent sample t-test and ANOVA test were used to examine to associations between the patients' identifying information with Surgical Fear Scale and Spiritual Well-Being Scale. In the evaluation of the obtained results, a 95% confidence interval and p-value less than 0.05 were taken into account.

3. Results

The distribution of the descriptive characteristics of the patients included in the research is shown in Table 1. It was determined that 33.9% of the patients were between the ages of 29-39, 52.4% were women, 71% were married, and 41.1% had high school education. It was determined that 83.1% of the

patients participating in the study had experience of being hospitalized at least 2 times in the past, 40.3% had experience of surgery once in the past, and 71.8% had additional chronic diseases.

Table 1. Demographics and Identifying Characteristics of Patients (n=124)

	Patients n(%)
Sex	
Male	59 (%47.6)
Female	65 (%52.4)
Age, years	
18-28	14 (11.3%)
29-39	42 (33.9%)
40-50	37 (29.8%)
>51	31 (25%)
Marital status	
Married	88 (71%)
Unmarried	36 (29%)
Educational status	
Illiterate	1 (0.9%)
Literate	13 (10.5%)
Elementary School	36 (29 %)
High School	51 (41.1 %)
University	23 (18.5%)
Previous hospitalization status	
None	3 (2.4%)
Once	18 (14.5%)
Two and more	103 (83.1%)
Previous surgery status	
None	59 (47.6%)
Once	50 (40.3%)
Two and more	15 (12.1%)
Existence of comorbid chronic physical disease	89 (71.8%)

Table 2 shows the spiritual well-being scale and surgical fear scale mean scores in liver transplant candidates. While the total score average of the SWBS was determined as 24.59 ± 9.20 (medium level), one of the sub-dimensions of the SWBS; meaning was determined to be 8.03 ± 3.34 (medium level), peace was 7.77 ± 3.29 (medium level), faith was 8.79 ± 3.41 (medium level). The surgical fear scale total score average was determined as 40.11 ± 10.94 (moderate level).

Table 2. Total Scores and Mean Scores Obtained from the SWBS and SFS

Scale	**Min-Max Score**	**$\bar{X}$ ± SD**
SFS	16-62	40,11 ± 10,94
SWBS	11-39	24,59 ± 9,20
SWBS meaning	2-14	8,03 ± 3,34
SWBS peace	1-15	7,77 ± 3,29
SWBS faith	0-14	8,79 ± 3,41

It is seen that there is a strong negative relationship between the SWBS and the SFS of the patients included in the study, and this situation is statistically significant ($r=-0.248$, $p < 0.005$) (Table 3).

Table 3. The Relationship Between the Patients' Surgical Fear and Their Spiritual Well-Being

	SFS	
	r	**p**
SWBS	-0.248	**0.006****
SWBS meaning	-0.257	**0.004****
SWBS peace	-0.201	**0.025***
SWBS faith	-0.222	**0.013 ***

r: Pearson's correlation test; *p<0.05; **:p<0.01

A comparison of the descriptive characteristics of the patients included in the study and the mean scores of the spiritual well-being scale and surgical fear scale are shown in Table 4. Accordingly, no statistically significant difference was found between age, gender, marital status, previous hospitalization status, number of previous surgical operations, and the presence of additional chronic diseases and the SFS (p>0.05). In addition, a significant difference was found between gender, marital status, number of previous surgical operations, and the SWBS average score (p<0.01).

Table 4. Comparison of the Patients' Identifying Information with Total Mean Scores Obtained from the SFS and the SWBS

	SFS X̄ ± SD	p	SWBS X̄ ± SD	p
Sex				
Male	38.5±10.2	0.107	26.8±9.1	**0.009****
Female	41.6±11.5		22.6±8.9	
Age, years				
18-28	33.1±9.7		23±8.8	
29-39	41.7±10	0.521	22.9±9.6	0.333
40-50	42.4±13.7		26.2±8.8	
>51	38.5±7.4		25.6±9.2	
Marital status				
Married	40.0±11.3	0.793	26.1±9	**0.003****
Unmarried	40.5±10.1		20.9±8.7	
Previous hospitalization status				
None	49.7±16.4		20.7±13.3	
Once	40.3±11.3	0.307	24.0±9.6	0.690
Two and more	39.8±10.7		24.8±9.1	
Previous surgery status				
None (1)	41.5±10		20.5±8.4	
Once (2)	39.7±12.5	0.183	27.7±8.6	**<0.001****
Two and more (3)	35.8±7.6		30.3±7.1	
Exist.of. chr. Disease				
Yes	40.9±10.8	0.209	24.8±9	0.697
No	38.1±11.3		24.1±10	

Independent sample t-test and ANOVA test was used ; **:p<0.01; *Post hoc: 1<2<3

4. Discussion

Liver transplantation is a surgical procedure that causes complex reactions in the patient and their relatives. Possible complications of the surgical procedure may cause surgical fear in transplant candidates. Fear of surgery before transplantation may bring about some psychological problems [8],

and psychological problems negatively affect the recovery process by triggering physiological problems and making the already stressful surgery experience even more difficult. The total SFS score average of the participants was determined to be 40.11 ± 10.94. Although there are many studies examining the mental state of transplantation patients in both international and national literature [1,22–24]; no study examining surgical fear has been found, and therefore our study will contribute to the literature. Çetin and Yılmaz examined the fear of surgery in patients undergoing gallbladder surgery in the surgery clinic and found the mean total score of the surgical fear scale to be 36.76±20.31 (moderate) [25]. Işıklı et al., in their study of 103 patients who were hospitalized in thoracic and cardiovascular surgery departments and underwent elective surgery, found that the total mean score of the patients on the surgical fear scale was 26.9±20.5 (low) [26]. In addition, a study in the literature states that preoperative anxiety and fear increase the severity of postoperative pain and cause the individual to need more analgesics and have difficulty in pain control [27]. In the literature, it is thought that there are different levels of surgical fear in patient groups undergoing different surgical operations and that this difference is affected by the type of operation to be performed, possible complications of this operation, and lifestyle changes that may occur as a result of the operation.

It was determined that the participants' total mean score from the SWBS was 24.59 ± 9.20. Only one study examining spiritual well-being in transplantation patients has been found in the literature. Gültekin et al., ın their study examining the relationship between spiritual well-being and psychological resilience in patients with liver transplantation, it was determined that the total score average of the participants on the Spiritual Well-Being Scale was 34.85±6.70 (high) [28]. In a study examining the relationship between pain beliefs, pain coping, and spiritual well-being in surgical patients, the patients' SWBS total score average was found to be 25.99 ± 8.43 (moderate) [29]. A high level of spiritual well-being will positively affect liver transplant candidates' psychological well-being and ability to cope with the disease.

In the study, a significant negative relationship was found between the patients' SWBS and SFS score averages. Surgery is an unexpected, risky quality of life, requiring extra effort and highly stressful experience for everyone. According to the data of the study, as individuals' spiritual well-being levels increased, their fear of surgery decreased. No study has been found in the literature examining the relationship between spiritual well-being and surgical fear in this patient group. Kapıkıran et al. In their study, they found a negative significant relationship between spiritual well-being and surgical fear in patients undergoing abdominal surgery [8]. The study result is parallel to our study.

In the study, when the descriptive characteristics of liver transplant candidates and the SWBS total score averages were compared, it was seen that there was a statistically significant difference between gender, marital status, previous surgery experience, and spiritual well-being ($p<0.01$). It was determined that spiritual well-being was higher in men and those who were married. Gültekin et al. Similarly, in their study of liver transplant patients, they found spiritual well-being to be high in men [28]. Cultural and power expectations of society from men may be considered the reason for the higher spiritual well-being of male patients. It is thought that the social support system is stronger in married patients and thus coping strategies are used more effectively and acceptance of the disease and positive thinking are improved.

5. Limitations of this study

The results obtained from this research are limited to liver transplant candidates in a single center within a certain period. Another limitation of the study is that the findings are based on cross-sectional data, which is less informative than that of a longitudinal study.

6. Conclusion

Preoperative anxiety and fear can affect postoperative wound healing, pain and anesthesia intensity, and analgesia requirements [30]. This study proved that liver transplant candidates with high levels of spiritual well-being have lower levels of surgical fear. For this reason, awareness of spiritual well-being should be developed in healthcare professionals and it is recommended that they provide healthcare services that provide moral and social support to patients.
The World Health Organization changed the definition of health in 1988 and revised it as “Health is a dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmity”. However, today studies are scarce in these contexts, as topics related to death and the human’s existential conditions are strongly censored. Patient care has been widely discussed in the literature in cases of illness requiring intensive care. However, the spiritual dimension has not been incorporated into patient care. Surgical fear causes negative mood and non-compliance with treatment in transplant patients and is a situation that needs to be addressed. Our study results showed that liver transplant candidates with high levels of spiritual well-being have lower levels of surgical fear. Therefore, future studies that evaluate the spiritual and religious needs of organ transplant candidates and implement intervention programs are needed.

Ethical Statement:

Before the study, institutional permission was obtained from the relevant hospital, and ethics committee approval (Decision Date:January 10, 2023; Decision No:2023/8) was obtained from the Malatya Turgut Özal University. In accordance with the Declaration of Helsinki, the patients were informed by reading the Volunteer Information Form to them by the researcher. Patients who volunteered to participate in the study were included upon taking their verbal consent.

Conflict of Interests:

There is no conflict of interest to declare.

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