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Research Article

THE EFFECT OF PEER EDUCATION ON SLEEP HYGIENE ON SLEEP QUALITY AND PSYCHOLOGICAL RESILIENCE IN UNIVERSITY STUDENTS LIVING IN DORMITORIES

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Abstract: *This study was conducted to examine the effect of peer education on sleep hygiene sleep quality and psychological resilience in university students living in dormitories. In the study, a quasi-experimental method with a pretest-posttest control group was used. 240 university students staying at Akyazı Credit and Dormitories Institution in Akyazı district of Sakarya province participated in the study. Half of the students (n=120) formed the intervention group and the other half (n=120) formed the control group. Before the study, 20 students were given sleep hygiene training by the research team. The training group provided peer education to the intervention group on sleep hygiene. No intervention was made in the control group. Student identification forms, Sleep Hygiene Index, Pittsburgh Sleep Quality Index, and Brief Psychological Resilience Scale were used as data collection tools. There was no statistically significant difference between the Sleep Hygiene Index and Brief Psychological Resilience Scale score averages of the intervention and control group students included in the study at the beginning and the last interview ($p>0.05$). However, it was determined that there was an improvement in the sleep hygiene and psychological resilience levels of the students in the intervention group ($p<0.05$). In terms of the Pittsburgh Sleep Quality Index, it was observed that the general and subscale mean scores of both groups were similar at the beginning and the last interview ($p>0.05$). In addition, it was determined that the intervention group had a significant improvement in subjective sleep quality and sleep latency, which are sub-dimensions of the Pittsburgh Sleep Quality Index ($p<0.05$). In the control group, a worsening of subjective sleep quality and sleep disturbance and an improvement in sleep latency were detected at the last interview ($p<0.05$). In the study, it was observed that sleep hygiene education provided through peer education partially positively affected the sleep quality and psychological resilience of university students living in dormitories. It is recommended that sleep hygiene training be provided at certain periods for students living in dormitories and that the peer education method be disseminated.*

Keywords: *Student, Dormitory, Sleep Quality, Peer Education*

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1. Introduction

Sleep quality is expressed as individuals feeling fit and ready for the new day after waking up from sleep, and it is important for protecting and maintaining physical and psychological health [1,2]. Compliance with sleep hygiene is necessary for sleep quality. Sleep hygiene is defined as the principles and practices that improve sleep quality. Regulations in daily practices, habits, and environmental factors necessary to improve sleep quality throughout the night are considered within the scope of sleep hygiene [3,4]. In this context, sleep hygiene includes behaviors that facilitate sleep, such as regular

exercise, maintaining a regular sleep/wake schedule, and avoiding behaviors that hurt sleep, such as smoking, drinking alcohol or caffeine in the evening, and daytime napping [5].

Failure to ensure sleep quality due to inadequate sleep hygiene may disrupt individuals' daily life activities [6]. Developing and ensuring sleep hygiene, which is an important component of a healthy lifestyle, is an effective practice in terms of improving sleep quality [7]. Sleep hygiene education is widely used as a coping strategy for sleep disorders [3,4].

University life can pave the way for sleep disorders due to factors such as students' freedom to choose their bedtime and increased time spent on extracurricular activities [8]. Similarly, living in a separate environment from the home life and family that students are used to, and living in dormitories, where they start living with people they do not know, can cause sleep disorders. Sleep quality and protection of physiological and psychological health in university students are very important in terms of increasing academic productivity [6]. When the literature is examined, it is known that sleep disorders are common among university students and their sleep quality is not good in studies conducted in Turkey [1,2,9-12]. However, studies have shown that sleep quality has a positive relationship with academic success and psychological health in university students [1,7,13,14]. It is negatively related to substance use [15]. For this reason, it is important to provide sleep hygiene training to improve sleep quality in university students [5].

One of the approaches adopted in addition to formal education in teaching healthy lifestyle behaviors to university students is the peer education model. Peer education is defined as all informal or programmed educational activities carried out together by young people who are willing to receive education, aiming at their development in terms of knowledge, attitude, belief, skills, and awareness of protecting their health [16]. In other words, peer education is the formal or informal education activities of a peer educator (peer counselor), who has similar characteristics such as age, education level, profession, and interests, to provide knowledge, skills, attitudes, and behaviors regarding their health to their peers (peer learners). It is stated as developing, educating, and motivating children to take responsibility for their learning/care/health [17]. Peer education is a cost-effective, public health-strengthening practice that facilitates communication with individuals who interact socially with each other, have equal status, and have similar attitudes and behaviors [18]. In peer education, peers do not have a position to reward or punish each other, use similar language, and influence each other, creating a suitable learning environment [19]. It is stated in the literature that peer education benefits university students in various areas [20-22].

It is important to have high sleep quality to protect and maintain the physical and psychological health of university students who will serve society in the future. Applying sleep hygiene education to university students through peer education, which is widely used today, can contribute to improving sleep quality. It is thought that this project will reveal the effectiveness of peer education in ensuring sleep quality in university students living in dormitories, and if its effectiveness is determined, it will guide educators and contribute to the literature in terms of disseminating sleep hygiene practices through similar training in university students living in dormitories in Turkey. In this context, the hypotheses of the study are as follows:

H_1: Peer education positively affects the sleep quality of university students living in dormitories.

H_2: Peer education increases the psychological resilience level of university students living in dormitories.

2. Materials and Methods

2.1. Research Type

A semi-experimental method with a pretest-posttest control group was used in the research.

2.2. Population and Sample

The population of the research consisted of university students staying in the student dormitory affiliated with the Credit and Dormitories Institution in the Akyazı district of Sakarya province between 22 September and 21 December 2023. This dormitory has a capacity of 556 beds and consists of two blocks. In the group whose population number is known, the sample calculation was made so that the number of samples was at least 227, according to the sample calculation formula. In this context, 120 students staying in one block of the dormitory where the research was conducted formed the intervention group, 120 students staying in the other block formed the control group, and 240 students were included in the study. However, the inclusion criteria for the study are; Agreeing to participate in the study, not using antidepressant medication that will affect sleep patterns, and completing the data collection forms completely.

2.3. Data Collection Tools

Data were obtained using the student identification form, Sleep Hygiene Index, Pittsburgh Sleep Quality Index, and Brief Psychological Resilience Scale.

The student identification form, created by the researchers contains 20 questions to determine students' personal information (age, gender, height, weight, health status, etc.) and sleeping habits (number of people staying in the room, consumption of caffeinated beverages in the evening, time spent on the screen in the last hour of the bed before going to sleep, etc.) [1,2,5,7,13].

Sleep Hygiene Index, Mastin et al [23]. Turkish validity and reliability were determined by Özdemir et al [24]. The index consists of 13 questions and is a 5-point Likert type. The index aims to evaluate the presence of sleep hygiene by questioning how often the participant performs the sleep behaviors that constitute sleep hygiene. Scores range from 13 to 65, with higher scores indicating worse sleep hygiene status of the participant. The Cronbach Alpha value of the index was calculated as 0.70 and was found to be valid and reliable. In this study, the Cronbach alpha value of the scale was determined as 0.74.

Pittsburgh Sleep Quality Index was developed by Buysse et al [25]. It is a scale that provides information about sleep quality and the type and severity of sleep disturbance in the last month. In the scale consisting of 24 questions in total, 19 questions are answered by the person, and 5 questions are filled in by the person's bedmate. While the questions answered by the person are evaluated, the questions answered by the bedmate are not evaluated. With 19 questions answered by the person, 7 sub-dimensions are evaluated: subjective sleep quality, sleep latency (delay), sleep duration, habitual sleep efficiency, sleep disorder, use of sleeping pills, and daytime dysfunction. Each item on the scale receives a value between 0 (no distress) and 3 (serious distress). The sum of the scores for the seven subscales gives the total scale score. The score of each subscale varies between 0 and 3. The total scale score varies between 0-21. The sleep quality of those with a total score of 5 or less is considered "good". The Turkish validity and reliability study of the scale was conducted by Ağargün et al., and the internal consistency coefficient was reported as 0.80 [26]. In this study, the Cronbach alpha value of the scale was determined as 0.74.

The brief Psychological Resilience Scale was developed by Smith et al [27], and adapted into Turkish by Doğan [28]. The scale is one-dimensional and has a 5-point Likert-type answer key. The scale consists of 6 items. In the Turkish adaptation of the scale, the Cronbach alpha internal consistency coefficient was found to be 0.83. Items 2, 4, and 6 in the scale are reverse coded. Scores between 6 and 30 points can be obtained from the scale. High scores indicate a high level of psychological resilience. In this study, the Cronbach alpha value of the scale was determined as 0.79.

2.4. Application of Research

The research was implemented in two stages. The first phase includes the implementation of sleep hygiene educator training, and the second phase includes the implementation of peer education on sleep hygiene. Sleep hygiene trainer training aims to train peer trainers who can provide information to dormitory students about the impact of sleep quality on holistic health. For this purpose, firstly, the research team prepared a 30-minute “Sleep Hygiene Education Presentation” in the form of a Power Point presentation in line with the literature and brochures reflecting the education content [4-8] . Expert opinions were received from at least five academicians who are experts in their fields regarding the prepared presentations and brochures. The final presentation was given to the peer educators by the research team in approximately 30 minutes. In this regard, the following were taken into consideration in the selection of peer educators: Peer educators were selected among students who lived in the same block as the intervention group in the student dormitory where the research would be conducted, who agreed to participate in the study, who did not have auditory or visual communication disabilities, and who had wide social relations and circle of friends. The peer educator group consisted of 20 students, 10 female students, and 10 male students.

Peer educator training was carried out by the researchers in a face-to-face manner with a single group of 20 students during a time when the students did not have classes. Within the scope of the training, in addition to sleep hygiene, information was also provided on protecting the confidentiality of the data and participants in the study. The training was given in the classrooms of Sakarya University of Applied Sciences, Faculty of Health Sciences, Department of Nursing.

Peer educators who participated in the peer educator training were asked to interact with their peers while staying in a block of the student dormitory and share the information given to them with their friends one-on-one or by forming groups for two weeks. The interacted group constituted the intervention group.

Peer educators administered data forms including the " Student Identification Form", "Sleep Hygiene Index", "Pittsburgh Sleep Quality Index" and "Brief Psychological Resilience Scale" to the intervention group before and three months after the interaction. Individually completed data forms were immediately retrieved.

The same data collection forms were filled out in the non-interactive control group at the same times as in the intervention group. It took approximately 15-20 minutes to fill out the data forms.

2.5. Research Variables

Dependent Variables: Students' sleeping habits, psychological resilience levels
Independent Variables: Peer education for sleep hygiene

2.6. Ethical considerations

Before data collection, written approval was taken from the ethics committee of Sakarya University of Applied Sciences (Decision date and number: 23/12/2021-17) and the institution where the study was conducted. The purpose, methods and benefits of the study were explained to both peer educators and all students who were trained, and their willingness to participate in the study was asked and their consent was obtained. Since individual rights must be protected when human subjects are used in the research, the "Informed Consent" condition was fulfilled in line with the "Willingness and Voluntariness" principle. The study complied with the Helsinki Declaration.

2.7. Evaluation of Data

The Statistical Package for the Social Sciences (SPSS) 29.0 program was used to evaluate the data obtained in the study. In the study, in addition to descriptive statistical methods (mean, standard

deviation), the Student's t-test was used for comparisons of normally distributed parameters between two groups for quantitative data, the Paired Sample t-test was used for intragroup comparisons, the chi-square test, and Fisher's Exact chi-square test were used for comparison of qualitative data. In statistical evaluations, significance was accepted at $p<0.05$.

3. Results

When the descriptive characteristics of the intervention group and control group students included in the study were compared, they were found to be similar ($p>0.05$). However, 12.5% of the students in the intervention group and 10% of the students in the control group had a chronic disease diagnosed by a physician. Additionally, 16.7% of the students in the intervention group and 29.2% of the students in the control group still smoke (Table 1).

Table 1. Comparison of descriptive characteristics of intervention and control group students (N=240)

	Intervention Group (n=120)		**Control Group (n=120)**		**Test; p**
Characteristics	**M±SD**		**M±SD**		
Age (year)	19.20±0.85 (Min=17; Max=21)		19.95±1.37 (Min=17; Max=22)		t=-2.095; p=0.074
	n	***%***	***n***	***%***	
Gender					
Female	73	60.8	76	63.3	χ^2= 0.159; p=0.690
Male	47	39.2	44	36.7	
Section					
Nursing	36	30.0	48	40.0	χ^2= 12.334; p=0.065
Physical therapy and	35	29.2	26	21.7	
Physiotherapy	12	10.0	11	9.2	
Healthcare Management	11	9.2	21	17.5	
Management of Health	6	5.0	1	0.8	
First and Emergency Aid	6	5.0	8	6.7	
Medical Laboratory Techniques	11	9.2	4	3.3	
Health Tourism Management	3	2.5	1	0.8	
Class					
1	78	65.0	66	55.0	χ^2= 3.123; p=0.210
2	34	28.3	40	33.3	
3	8	6.7	14	11.7	
Body Mass Index category					
Normal weight	103	85.8	102	85.0	χ^2= 0.033; p=0.855
Overweight or obese	17	14.2	18	15.0	
General health assessment					
Good	61	50.8	64	53.3	χ^2= 0.221; p=0.895
Middle	54	45.0	52	43.3	
Bad	5	4.2	4	3.3	
Presence of chronic disease					
Yes	15	12.5	12	10.0	χ^2= 0.376; p=0.540
No	105	87.5	108	90.0	

Table 1 continued.

	Intervention Group (n=120)		Control Group (n=120)		Test; p
	n	***%***	***n***	***%***	
Presence of constantly used					
Yes	11	9.2	15	12.5	χ^2= 0.609; p=0.406
No	109	90.8	105	87.5	
Smoking status					
Yes	20	16.7	35	29.2	χ^2= 5.871; p=0.057
Usage period (Mean±SD)	0.47±1.27		0.95±1.84		
Usage amount (Mean±SD)	3.31±3.98		4.29±3.94		
Never drank	93	77.5	76	63.3	
No	7	5.8	9	7.5	
Being dissatisfied with the department you					
Yes	79	65.8	72	60.0	χ^2= 0.877; p=0.645
Partially	36	30.0	42	35.0	
No	5	4.2	6	5.0	
Working a job outside of school					
Yes	4	3.3	8	6.7	χ^2= 1.404; p=0.375
No	116	96.7	112	93.3	
Academic grade point average (Mean±SD) (4-point system)	2.61±0.64		2.44±0.44		t=0.759; p=0.449
Academic success evaluation					
Very good	16	14.5	12	10.2	χ^2= 6.385; p=0.172
Good	35	31.8	33	28.2	
Middle	55	50.0	65	55.6	
Bad	3	2.7	6	5.1	
Too bad	1	0.9	1	0.9	

t: Student t-test; χ2: Chi-square test

When the sleep-related characteristics of the intervention group and control group students included in the study were compared, it was determined that they were similar (p>0.05). It is a striking finding that 85% of the students in the intervention group and 75% of the students in the control group had the habit of using screens (computer, television, phone, tablet) in bed in the last hour before sleeping. Additionally, 28.3% of the students in the intervention group and 21.7% of the students in the control group stated that they fell asleep during classes (Table 2).

Table 2. Comparison of sleep-related characteristics of intervention and control group students

	Intervention Group (n=120)		Control Group (n=120)		Test; p
Characteristics	**n**	**%**	**n**	**%**	
Going to bed at the same time in the evening					
Yes	14	11.6	11	9.2	χ^2= 1.148; p=0.563
Sometimes	65	54.2	73	60.8	
No	41	34.2	36	30.0	
Number of people in the room					
1-4	21	17.6	13	10.8	χ^2= 2.273; p=0.132
5-6	98	82.4	107	89.2	

Table 2 Continued.

	Intervention Group (n=120)		Control Group (n=120)		Test; p
Characteristics	**n**	**%**	**n**	**%**	
Consuming caffeinated drinks in the evening					
Yes	43	36.4	38	31.7	χ^2= 1.773; p=0.621
Sometimes	51	43.2	52	43.3	
No	24	20.3	30	25.0	
Sleepiness during classes					
Yes	34	28.3	26	21.7	χ^2= 1.489; p=0.475
Sometimes	57	47.5	64	53.3	
No	29	24.2	30	25.0	
Using a screen (computer, television, phone, tablet) in bed in the last hour before sleeping					
Yes	102	85.0	90	75.0	χ^2= 4.023; p=0.134
Sometimes	17	14.2	27	22.5	
No	1	0.8	3	2.5	
Presence of a family member with sleep disorders					
Yes	25	21.0	33	27.5	χ^2= 5.241; p=0.263
No	94	79.0	87	72.5	

χ2: Chi-square test

There was no statistically significant difference between the Sleep Hygiene Index average scores of the intervention group and control group students included in the study at the beginning and the last interview (p>0.05). However, in the intra-group comparison, it was determined that the average Sleep Hygiene Index score of the students in the intervention group decreased in the last interview (p<0.05). In the intragroup comparison of the control group, it was found that there was no significant difference (p>0.05) (Table 3).

Table 3. Comparison of the average Sleep Hygiene Index scores of the intervention group at baseline and last interview

Sleep Hygiene Index	***Intervention Group (n=120)***	***Control Group (n=120)***	**[b]Test; p**
	M±SD	**M±SD**	
Baseline	36.81±8.23	36.35±7.92	-1.634; 0.104
Last interview	34.77±6.83	37.62±7.65	-0.787; 0.432
[a]Test; p	2.328; **0.022***	-1.718; 0.088 (**p<0.01**)	

a:Paired Sample t test; b:Student t test; *p<0.05

In the study, it was determined that only 33.3% of the students in the intervention group and 35.8% of the students in the control group had good sleep quality at the beginning. After peer education, there was no statistical difference in sleep quality between intervention and control group students (p>0.05).

In the study, there was no statistically significant difference between the Pittsburgh Sleep Quality Index general and subscale score averages of the intervention group and control group students at the beginning and the last interview (p>0.05). However, in the intra-group comparison, while there was no change in the overall score of the Pittsburgh Sleep Quality Index of the students in the intervention group, it was determined that there was a significant improvement in the sub-dimensions of the scale, subjective sleep quality and sleep latency (p<0.05). In the control group, in the intra-group comparison,

a worsening in subjective sleep quality and sleep disturbance, which are the sub-dimensions of the Pittsburgh Sleep Quality Index, and an improvement in sleep latency were detected (p<0.05) (Table 4).

Table 4. Comparison of the Pittsburgh Sleep Quality Index mean scores of students in the intervention and control groups

Pittsburgh Sleep Quality Index	**Intervention Group (n=120)**		**Control Group (n=120)**		**[b]Test; p**
	M±SD		**M±SD**		
Subjective sleep quality					-1.077; 0.079
Baseline	1.28±0.77		0.29±0.74		-0.166; 0.868
Last interview	0.22±0.45		1.30±0.78		
[a]Test; p	13.706; p<0.001		-10.609; p<0.001 (p<0.01)		
Sleep latency					
Baseline	1.75±0.79		1.74±0.70		0.086; 0.931
Last interview	1.51±0.80		1.50±0.85		0.077; 0.938
[a]Test; p	2.573; 0.011*		2.981; 0.003**		
Sleep duration					
Baseline	0.80±1.33		0.75±1.30		0.294; 0.769
Last interview	0.85±1.35		0.80±1.33		0.288; 0.774
[a]Test; p	-0.332; 0.740		-0.342; 0.157		
Habitual sleep efficiency					
Baseline	1.06±1.33		1.29±1.39		-1.276; 0.203
Last interview	0.93±1.32		1.08±1.35		-0.866; 0.387
[a]Test; p	0.899; 0.370		1.419; 0.159		
Sleep disorder					
Baseline	1.21±0.48		1.26±0.47		-0.906; 0.366
Last interview	1.29±0.55		1.40±0.58		-1.431; 0.154
[a]Test; p	-1.392; 0.166		-2.353; 0.020*		
Use of sleeping pills					
Baseline	0.25±1.07		1.15±1.03		0.733; 0.464
Last interview	0.27±0.62		0.85±0.77		-1.079; 0.065
[a]Test; p	-0.337; 0.743		-1.353; 0.092		
Daytime dysfunction					
Baseline	1.33±0.94		1.35±0.91		0.107; 0.981
Last interview	1.43±0.86		1.37±0.91		0.917; 0.360
[a]Test; p	-1.087; 0.279		-0.098; 0.922		
General					
Baseline	7.56±3.88		7.82±4.19		-0.501; 0.617
Last interview	7.57±3.91		7.83±3.83		-0.518; 0.605
[a]Test; p	0.151; 0.881		-0.176; 0.860		
Sleep Quality					
Baseline	**n**	**%**	**n**	**%**	
Good	40	33.3	43	35.8	χ^2= 4.023; p=0.134
Bad	80	66.7	77	64.2	
Last interview					
Good	44	36.7	39	32.5	χ^2= 0.460; p=0.457
Bad	76	63.3	81	67.5	

a:Paired Sample t test; b:Student t test; χ2:Ki-square test; *****p<0.05; ******p<0.01

There was no statistically significant difference between the Brief Psychological Resilience Scale score averages of the intervention group and control group students included in the study at the beginning and at the last interview (p>0.05). However, in the intra-group comparison, it was determined that the Brief Psychological Resilience Scale average score of the students in the intervention group increased in the last interview (p <0.05). In the intragroup comparison of the control group, it was found that there was no significant difference (p>0.05) (Table 5).

Table 5. Comparison of the Brief Psychological Resilience Scale score averages of the intervention group at the beginning and at the last interview

Brief Psychological Resilience Scale	**Intervention Group (n=120)**	**Control Group (n=120)**	**[b]Test; p**
	M±SD	**M±SD**	
Baseline	18.06±4.65	18.85±4.83	-1.289; 0.199
Last interview	19.28±4.23	18.34±4.45	1.678; 0.095
[a]Test; p	-2.408; **0.018***	1.144; 0.255	

a:Paired Sample t test; b:Student t test; *****p<0.05

Table 5 shows that Brief Psychological Resilience Scale score averages of the intervention group were higher at the last interview and this was statistically different (p<0.05).

4. Discussion

Today, sleep quality is a concept that is emphasized in clinical practices and sleep-related research. This is because sleep-related complaints are quite common, poor sleep quality can be a symptom of many medical diseases, and there is a strong relationship between sleep health and physical and psychological well-being [29]. In this study, the effect of sleep hygiene education given through peer education on the sleep quality and psychological resilience level of university students was evaluated.

In the study, it was determined that 85% of the students in the intervention group and 75% of the students in the control group had the habit of using screens in bed in the last hour before sleeping. In a study, it was found that 64.2% of the students used a mobile phone or tablet in the last hour before going to sleep, and 74.0% used a mobile phone or tablet in bed just before going to sleep [10]. The study finding shows that technological devices commonly used today may affect sleep behaviors.

In the study, the average Sleep Hygiene Index score in the intervention group was 36.81±8.23 at baseline and 34.77±6.83 at the last interview; In the control group, it was found to be 36.35±7.92 at the beginning and 37.62±7.65 at the last interview. In the study of Odabaşıoğlu et al [5], the average score of the Sleep Hygiene Index was found to be 32.74±6.87. The study finding shows that sleep hygiene behaviors in university students are not at the desired level. This finding may be because the students included in the study stayed in rooms with an average of five or six people in the dormitory environment.

In the study, it was determined that there was a significant improvement in the sleep hygiene behaviors of the students in the peer education group, while there was no difference in the control group. In line with the literature reviewed, it has been observed that peer education has a positive effect on students' learning behavior and application of what they have learned. In a study, it was determined that the use of the peer education model in nursing education increased the self-confidence of peer educators and learners and increased the motivation for teaching and learning [30]. In this study, it was seen that peer education can be used to ensure sleep hygiene.

In the study, it was determined that only 33.3% of the students in the intervention group and 35.8% of the students in the control group had good sleep quality before the intervention. However, the student's overall mean score on the Pittsburgh Sleep Quality Index was 7.56±3.88 in the intervention

group at the beginning and 7.57±3.91 at the last interview; In the control group, it was 7.82±4.19 at the beginning and 7.83±3.83 at the last interview. In the study conducted by Aysan et al [11], the average score of the students on a similar scale was determined as 6.15±1.90 and the rate of students with poor sleep quality was found to be 59%. In other studies conducted using a similar scale in Turkey, the average score of the scale was found to be 7.89±2.36 [31], and 6.90±2.4 [12]. In a study conducted with first-year university students studying in the field of health, it was found that 72.2% of the students had poor sleep quality [10]. In a study conducted in Thailand, the prevalence of poor sleep quality among university students was stated as 42.4% [32]. The study, which is consistent with the literature, reveals that there is a need to improve sleep quality among university students.

In the study, it was determined that while there was no change in the overall score of the Pittsburgh Sleep Quality Index of the students in the intervention group, there was a significant improvement in the subjective sleep quality and sleep latency, which are the sub-dimensions of the scale. In the control group, in the intra-group comparison, a worsening in subjective sleep quality and sleep disturbance, which are sub-dimensions of the Pittsburgh Sleep Quality Index, and an improvement in sleep latency were detected. Sleep is a fundamental factor for individuals' health. Not getting enough sleep brings with it many health problems. Poor sleep quality of students causes the stress factor to be unmanageable and can negatively affect both their daily life activities and school success. There are no similar studies in the literature using peer education. However, the study findings show that the peer education model may contribute to improving sleep quality in university students.

In the study, it was determined that there was a significant improvement in the psychological resilience level of the students in the peer education group, while there was no difference in the control group. There is no similar study in the literature. However, a study found that adolescents with type 1 diabetes who had good sleep quality had high levels of psychological resilience [33]. This study is important as it reveals that the sleep quality provided by peer education positively affects not only physical health but also psychological health. It may be possible to instill positive health behaviors among university students through education provided by their peers.

5. Conclusion and Recommendation

According to the study findings, it was observed that the sleep hygiene training provided through peer education partially positively affected the sleep quality and psychological resilience of university students living in dormitories. In this regard, it can be said that the peer education approach may be useful in improving students' sleep hygiene and sleep quality. For this purpose, sleep hygiene training can be provided for students staying in the dormitory at certain periods, students can be encouraged to be peer educators to support each other, and behavioral practices that will support sleep hygiene in the dormitory environment can be created. In addition, it is recommended that peer education programs be made more widespread and research be conducted to increase awareness about sleep hygiene.

Ethical statement:

Before data collection, written approval was taken from the ethics committee of Sakarya University of Applied Sciences (Decision date and number: 23/12/2021-17) and the institution where the study was conducted.

Conflict of interest:

The authors declare no conflict of interest.

Authors' Contributions:

Y. K: Conceptualization, Methodology, Data Collection, Writing - Original draft preparation (%40)

İ. A: Conceptualization, Methodology, Data Collection (%30).

F. T. Y: Conceptualization, Methodology, Formal analysis, Writing - Original draft preparation (%30).

All authors read and approved the final manuscript.

References

[1] Ekenler, G., & Altınel, B., "Hemşirelik öğrencilerinde uyku kalitesi ile akademik başarı arasındaki ilişkinin incelenmesi", *Online Türk Sağlık Bilimleri Dergisi*, 6(4), 575-582, 2021. DOI:10.26453/otjhs.883544

[2] Karatay, G., Baş, G. N., Aldemir, H., Akay, M., Bayır, M., & Onaylı, H., "Hemşirelik bölümü öğrencilerinin uyku alışkanları ve etkileyen etmenlerin incelenmesi", *Sağlık Bilimleri ve Meslekleri Dergisi*, 3(1), 16-22, 2016.

[3] Geiger-Brown, J. M., Rogers, V. E., Liu, W., Ludeman, E. M., Downton, K. D., & Diaz-Abad, M., "Cognitive behavioral therapy in persons with comorbid insomnia: a meta-analysis", *Sleep Medicine Reviews*, 23, 54-67, 2015.

[4] Irish, L. A., Kline, C. E., Gunn, H. E., Buysse, D. J., & Hall, M. H., "The role of sleep hygiene in promoting public health: a review of empirical evidence", *Sleep Medicine Reviews*, 22, 23-36, 2015.

[5] Odabaşıoğlu, M. E., Dedeoğlu, T., Kasırga, Z., & Sünbül, F., "Üniversite öğrencilerinde uyku hijyeni", *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, 6(4), 204-212, 2017.

[6] Molla, A., & Wondie, T., "Magnitude of poor sleep hygiene practice and associated factors among medical students in Ethiopia: A cross-sectional study", *Sleep Disorder*, 2021, 6611338, 2021. DOI: 10.1155/2021/6611338.

[7] Dreidi, M., & Asmar, I., "Sleep hygiene and academic achievement among university students in Palestine", *Psychology And Education*, 58(5), 4138-4143, 2021.

[8] Al-Kandari, S., Alsalem, A., Al-Mutairi, S., Al-Lumai, D., Dawoud, A., & Moussa, M., "Association between sleep hygiene awareness and practice with sleep quality among Kuwait University Students", *Sleep Health*, 3(5), 342-347, 2017. DOI: 10.1016/j.sleh.2017.06.004

[9] Uysal, H., Ayvaz, M. Y., Oruçoglu, H. B., & Say, E., "Universite ögrencilerinin beslenme durumu ve uyku kalitesinin değerlendirilmesi" *Journal of Turkish Sleep Medicine*, 5(2), 31-40, 2018.

[10] Ergin, A., Acar, G. A., & Bekar, T., "Sağlıkla ilgili eğitim veren fakültelerdeki öğrencilerin uyku kalitesinin belirlenmesi", *Pamukkale Medical Journal*, 11(3), 347-354, 2018.

[11] Aysan, E., Karaköse, S., Zaybak, A., & İsmailoğlu, E. G., "Üniversite öğrencilerinde uyku kalitesi ve etkileyen faktörler", *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi*, 7(3), 193-198, 2014.

[12] Saygılı, S., Akıncı, Ç. A., Arıkan, H., & Dereli, H., "Üniversite öğrencilerinde uyku kalitesi ve yorgunluk", *Electronic Journal of Vocational Colleges*, 88-94, 2011.

[13] Pekmezci Purut, H., Genç Köse, B., Türker, B., Aşık Özdemir, V., & Kefeli Çol, B., "Sleep hygiene and happiness levels of university students studying in health-related departments", *Black Sea Journal of Health Science*, 4(2):, 29-135, 2021. DOI: 10.19127/bshealthscience.869411

[14] İyigün, G., Angın, E., Kırmızıgil, B., Öksüz, S., Özdil, A., & Malkoç, M., "Üniversite öğrencilerinde uyku kalitesinin mental sağlık, fiziksel sağlık ve yaşam kalitesi ile ilişkisi", *Journal of Exercise Therapy and Rehabilitation,* 4(3), 125-133, 2017.

[15] Fadhel, F. H., "Exploring the relationship of sleep quality with drug use and substance abuse among university students: a cross-cultural study", *Middle East Current Psychiatry,* 27:65, 2020. DOI:10.1186/s43045-020-00072-7

[16] Akran Eğitimi Eğitici Kitabı. BM-Avrupa ve Orta Asya Bölgesi "Genç İnsanların Sağlığının Geliştirilmesi ve Korunması" Kuruluşlar Arası Grubu Akran Eğitimi Alt Komitesi, Ankara, 2004.

[17] Şenyuva, E., & Kocaağalar Akince, E., "Akran eğitimi hemşirelik eğitimini güçlendirmede etkili bir yöntem midir?" *Journal of Human Sciences*, 17(1), 92-103, 2020. DOI:10.14687/jhs.v17i1.5779

[18] Yan, Z., Finn, K., Cardinal, B. J., & Bent, L., "Promoting health behaviors using peer education: A demonstration project between international and American College students", *American Journal of Health Education*, 45,288–296, 2014.

[19] Ünver, V., & Akbayrak, N., "Hemşirelik eğitiminde akran eğitim modeli", *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi*, 6(4), 214-217, 2013.

[20] Öztürk, D., & Baykara, Z. G., "Akran eğitiminin hemşirelik becerilerinin öğretimine etkisi", *Hemşirelikte Eğitim ve Araştırma Dergisi,* 16(4), 295-300, 2019.

[21] Foley, B., Shrewsbury, V., Hardy, L., Flood, V. M., Byth, K., & Shah, S., "Evaluation of a peer education program on student leaders' energy balance-related behaviors", *BMC Public Health*, 17, 695, 2017. DOI:10.1186/s12889-017-4707-8

[22] Byl, E., Struyven, K., Meurs, P., Bieke, A., Vanwing, T., Nadine, E., & Koen, L., "The value of peer learning for first-year postgraduate university students' social and academic integration", *Procedia- Social and Behavioral Sciences,* 228, 299-304, 2016.

[23] Mastin, D. F., Jeff, B., & Corwyn, R., "Assessment of sleep hygiene using the Sleep Hygiene Index", *Journal of Behavioral Medicine*, 29(3), 223–227, 2006.

[24] Ozdemir, P. G., Boysan, M., Selvi, Y., Yildirim, A., & Yilmaz, E., "Psychometric properties of the Turkish version of the Sleep Hygiene Index in clinical and non-clinical samples", *Comprehensive Psychiatry,* 59, 135-140, 2015. DOI: 10.1016/j.comppsych.2015.02.001

[25] Buysse, D. J., Reynolds, C. F., & Monk, T. H., "The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research", Psychiatry Research, 28, 193-213, 1989.

[26] Ağargün, M. Y., Kara, H., & Anlar, O., "Pittsburgh Uyku Kalitesi İndeksi'nin geçerliği ve güvenirliği", *Türk Psikiyatri Dergisi,* 7, 107-111, 1996.

[27] Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Jennifer Bernard, J., "The brief resilience scale: Assessing the ability to bounce back", *International Journal of Behavioral Medicine*, 15, 194–200, 2008.

[28] Doğan, T., "Kısa Psikolojik Sağlamlık Ölçeği'nin Türkçe uyarlaması: Geçerlik ve güvenirlik çalışması", *The Journal of Happiness & Well-Being*, 3(1), 93-102, 2015.

[29] Keshavarz Akhlaghi, A., & Ghalebandi, M. F., "Sleep quality and its correlation and general health in pre-university students of Karaj, Iran", *Iranian Journal of Psychiatry and Behavioral Sciences,* 3, 44–49, 2009.

[30] Aşçı, Ö., Gökdemir, F., & Çiçekoğlu, E., "Hemşirelik öğrencilerine akran eğiticiler ile verilen üreme sağlığı eğitiminin etkinliği", *Sağlık Bilimleri ve Meslekleri Dergisi*, 3(3), 173-183, 2016.

[31] Küçükgöncü, S., Aktar, E., Erginbaş, E., Beştepe, E., Çalıkuşu, C., Algin, F., & Erkoc, S., "Relationship between dissociative experiences, abnormal sleep experiences, and sleep quality in undergraduate students", *Düşünen Adam Psikiyatri ve Nörolojik Bilimler Dergisi*, 2(23), 77-84, 2010. DOI: 10.5350/DAJPN2010230201

[32] Pensuksan, W. C., Lertmaharit, S., Lohsoonthorn, V., Rattananupong, T., Sonkprasert, T., Gelaye, B., & Williams, M. A., "Relationship between Poor Sleep Quality and Psychological Problems among Undergraduate Students in the Southern Thailand", Walailak Journal of Science and Technology, 13(4), 235-242, 2016.

[33] Baştopcu, Ö., Arslan, S., & Arslanoğlu, İ., "Tip 1 diyabetli adölesanların uyku ve yaşam kalitesi ile psikolojik sağlamlık düzeyleri arasındaki ilişki", *International Anatolia Academic Online Journal Health Sciences*, 7(2), 56-78, 2021.

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Research Article

INTERCULTURAL COMMUNICATION COMPETENCE OF HEALTHCARE PROFESSIONALS CARING FOR PATIENTS FROM DIVERSE CULTURES

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Abstract: *This research aims to examine the intercultural communication competence of healthcare professionals providing care and treatment to patients from different cultures. It evaluates the impact of intercultural communication on the quality and effectiveness of healthcare services. The research was conducted with the participation of 280 healthcare professionals working at a University Hospital. Data were collected using the Intercultural Sensitivity, Intercultural Effectiveness, and Intercultural Awareness scales. Data analysis was performed using SPSS 25.0, and non-parametric tests were used for data that did not follow a normal distribution. Of the participants, 67.8% were female, 74.7% were under 25 years old, and 81.6% were single. In terms of education, 36.8% had an associate degree, and 44.8% had a bachelor's degree. The effects of demographic variables such as gender, marital status, and work department on intercultural competence were examined. Women scored higher than men in the Identity Protection sub-dimension, while married individuals scored lower than singles in the Cultural Communication Awareness sub-dimension. Paramedics had higher intercultural effectiveness scores compared to nurses. The duration of experience significantly affected the Comfort in Communication sub-dimension. Higher education levels were associated with increased intercultural sensitivity and effectiveness scores. Those who received intercultural patient care training had higher scores, and those willing to work with patients from different cultures had higher intercultural sensitivity and effectiveness scores. These findings emphasize the importance of intercultural training and development programs to improve the quality of healthcare services. Enhancing healthcare professionals' intercultural communication skills is crucial for increasing patient satisfaction and the effectiveness of healthcare services.*

Keywords*: Cultural Competence, Cultural Diversity, Healthcare Workers, Health Tourism, Nursing*

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1. Introduction

The globalization process has made societies more diverse and multicultural. This change has also directly affected the health sector. Healthcare services have become complex as patients and healthcare professionals come from different cultural backgrounds [1-5]. Intercultural communication has a critical importance in the health sector because cultural differences, language diversity and communication methods have a direct impact on the quality and effectiveness of health services. In this context, the intercultural communication competence of healthcare professionals is an important factor affecting patient satisfaction, compliance with treatment processes, and overall health outcomes [3-8].

Intercultural communication is a set of processes that enable individuals from different cultural backgrounds to interact effectively and meaningfully with each other. In healthcare, these

communication skills are critical to understanding and respecting patients' cultural values, beliefs and expectations [1, 3, 7, 9, 10]. The ability of healthcare professionals to communicate effectively with patients from different cultural backgrounds can help patients better adapt to treatment processes and be more satisfied with healthcare services. Therefore, professionals working in the health sector should be sensitive to cultural differences and have effective communication skills [6, 11-17].

Intercultural communication competence includes various dimensions such as cultural sensitivity, cultural effectiveness, and cultural awareness. Cultural sensitivity means that individuals understand and respect the values and beliefs of people from different cultural backgrounds [18-20]. Cultural effectiveness refers to the ability of individuals to communicate effectively and appropriately in different cultural contexts. Cultural awareness involves individuals being aware of their own cultural values and beliefs and being open to other cultural perspectives [6, 7, 8]. These three dimensions are the basic skills necessary for health professionals to communicate effectively with patients from different cultural backgrounds [5, 8, 13, 16, 19].

Demographic variables such as age, gender, and education level were included in this study to assess their potential impact on intercultural communication competence. Various studies have shown that higher education levels and increased work experience contribute to the development of communication skills in healthcare settings [5-8, 13, 19]. Additionally, intercultural training is considered a critical factor that enhances healthcare professionals' cultural sensitivity and effectiveness when interacting with patients from diverse cultural backgrounds. However, the limited number of studies in this field highlights the need for further in-depth investigation into the effects of intercultural training and demographic variables. This study aims to identify key factors that influence healthcare professionals' ability to communicate effectively in a multicultural environment [6, 11-17].

The complex and multi-layered structure of the healthcare system directly affects the experiences of both patients and healthcare professionals. Particularly, patients from diverse cultural backgrounds may encounter language barriers, cultural expectations, and complicated bureaucratic procedures during their access to healthcare services [3, 4, 16, 18, 20]. This can result in prolonged treatment processes, difficulties in patient adherence to treatment, and reduced satisfaction levels. From the healthcare professionals' perspective, the communication problems they face while providing care to patients from different cultural backgrounds, combined with increased workloads and procedural complexity within the system, may decrease job satisfaction and negatively impact the effectiveness of healthcare services. Additionally, healthcare professionals need to possess strong organizational and time management skills to function effectively in such a complex system [4, 20]. This multi-layered structure creates challenges in the healthcare service processes for both staff and patients, ultimately affecting overall health outcomes. This study examines the impact of this complexity on intercultural communication and highlights the necessity for healthcare professionals to enhance their capacity to cope with these challenges. In this context, improving intercultural communication competence can not only increase the job satisfaction of healthcare professionals but also maximize the benefits patients receive from healthcare services [3, 4, 16, 18, 20].

The aim of this study is to examine the intercultural communication competence of healthcare professionals who provide care and treatment to patients from different cultures. The study examined the effects of factors such as health professionals' demographic characteristics, educational status, work experience, and whether they received intercultural training on intercultural communication competence.

2. Materials and Methods

In this study, a cross-sectional descriptive research design was used to assess the intercultural communication competencies of healthcare professionals working in a public hospital. A total of 280

healthcare workers including nurses, paramedics, physiotherapists, technical/support staff and physicians participated in the study. To ensure a representative sample, stratified random sampling was used, where strata were defined according to different job roles within the hospital. This approach facilitated the inclusion of different professional perspectives and experiences, increasing the generalizability of the findings. The sample size was determined using the Cochran formula, which takes into account a 95% confidence level and a 5% margin of error. Given the hospital's population of approximately 500 healthcare workers, the initial calculated sample size was around 222. To accommodate a potential 20% non-response rate, the target sample size was set at 280 respondents.

Data were collected using three standardized measurement tools: Intercultural Sensitivity Scale (ISS), Intercultural Efficacy Scale (IES), and Intercultural Awareness Scale (IAS), and an Introductory Information Form designed to collect demographic and occupational information such as age, gender, education, marital status, years of experience, department, foreign language proficiency, and previous intercultural training. The ISS, first developed by Chen and Starosta (1998), measures sensitivity towards individuals from different cultural backgrounds in sub-dimensions such as responsibility in communication and respect for cultural differences. The IES, developed by Bennett (1993), assesses the ability to communicate effectively in different cultural contexts, including elements such as behavioral flexibility and comfort in communication. The IAS, created by Livermore (1995), assesses awareness of one's own cultural values and openness to other cultural perspectives, including current cultural awareness and cultural communication awareness. In this study, all scales showed high reliability with Cronbach's alpha coefficients of 0.863 for ISS, 0.861 for IES and 0.873 for IAS.

Data collection was performed via an online platform during the month of April 2024. Participation was entirely voluntary and informed consent was obtained from all participants prior to data collection. Responses were recorded anonymously to protect participant confidentiality and encourage honest and accurate reporting.

By comprehensively describing the cultural background, the study aims to capture the multifaceted nature of intercultural interactions in the healthcare setting.

Statistical Analysis

The collected data were analysed using SPSS 25.0 software. The suitability of the data to normal distribution was analysed by Shapiro-Wilks test. Nonparametric tests were used for data that did not conform to normal distribution. Mean, standard deviation, median, frequency, percentage, minimum and maximum values from descriptive statistics were used in the evaluation of the data. Mann-Whitney U Test and Kruskal-Wallis H Test were used to analyse the differences between groups. After Kruskal-Wallis H Test, Dunn-Bonferroni test was used for post hoc analyses [21].

2.1. Ethical statement

Ethical approval and voluntary participation; the study was carried out in line with the principles of the Helsinki Declaration. The research was conducted in accordance with ethical rules. Participants were informed about the purpose and scope of the research and voluntary participation was ensured. The identity information of the participants was kept confidential, and the data were analysed anonymously. Within the framework of these methods, the intercultural communication competencies of health professionals working in a university hospital were examined and how these competencies vary according to factors such as demographic characteristics, educational status, and working experience were evaluated. Ethics committee permission numbered 2024-SBB-0179 and dated 14.03.2024, was obtained from the Bartın University Ethics Committee for the research.

3. Results

Within the scope of the research, the data obtained from 280 health professionals working at a University Hospital were analysed. The demographic characteristics and intercultural communication competencies of the participants were evaluated.

Table 1. Demographic Characteristics of Healthcare Professionals

Variable	Category	n	%
Gender	Female	190	67.8
	Male	90	32.2
Age	25 years and under	209	74.7
	26-35 years	45	16.1
	36-45 years	26	9.2
Marital Status	Single	229	81.6
	Married	51	18.4
Having Children	No	10	18.8
	Yes	42	81.3
Educational Status	High School	35	12.6
	Associate Degree	103	36.8
	Bachelor’s Degree	126	44.8
	Masters/Doctorate	16	5.7
Region Leaved The Longest	Mediterranean Region	151	54.0
	Southeastern Anatolia Region	39	13.8
	Central Anatolia Region	26	9.2
	Eastern Anatolia Region	23	8.0
	Marmara Region	16	5.7
	Aegean Region	13	4.6
	Black Sea Region	6	2.3
	Abroad	6	2.3
Family's Longest Residence Region	Mediterranean Region	154	55.2
	Southeastern Anatolia Region	39	13.8
	Central Anatolia Region	29	10.3
	Eastern Anatolia Region	26	9.2
	Marmara Region	16	5.7
	Aegean Region	10	3.4
	Black Sea Region	3	1.1
	Abroad	3	1.1
Having Been Abroad	Yes	42	14.9
	No	238	85.1
Duration of Stay Abroad (years)	0-1 years	26	61.5
	1-2 years	6	15.4
	5 years and over	10	23.1

In this section, 67.8% of the participants were female. When the distribution according to age groups is analysed, 74.7% of the participants are under the age of 25, 16.1% are between the ages of 26-35, and 9.2% are between the ages of 36-45. The majority of the participants were single (81.6%). When the educational status is analysed, associate degree graduates are 36.8% and bachelor's degree graduates are 44.8%. The rate of being abroad is 14.9% and 61.5% of them have been abroad for 1 year or less. The demographic characteristics are given in Table 1.

Table 2. Workspace and Experiences of Healthcare Professional.

Variable	Category	n	%
Department Worked In	Paramedic	84	29.9
	Nurse	129	46.0
	Physiotherapist	39	13.8
	Technical/Support Services	19	6.9
	Physician	10	3.4
Total Working Time in the Hospital	0-5 years	113	40.2
	6-10 years	158	56.3
	11-15 years	10	3.4
Total Experience	0-1 years	103	36.8
	1-5 years	71	25.3
	6-10 years	68	24.1
	11 years and over	39	13.8
Foreign Language Proficiency	Yes	126	44.8
	No	154	55.2

In the study the participants, 46% worked as nurses, 29.9% as paramedics, 13.8% as physiotherapists, 6.9% as technical/support services and 3.4% as physicians. In the duration of experience within the hospital, 5 years or less is 40.2%, 6-10 years is 56.3%, 11-15 years is 3.4%. In the total duration of experience, 0-1 year was reported by 36.8%, 1-5 years by 25.3%, and 6-10 years by 24.1%. 44.8% of the participants know a foreign language in table 2.

Table 3. Intercultural Communication Competences

Variable	Category	n	%
Willingness to Care for or Treat Patients from Different Cultures	Yes	235	83.9
	No	19	6.9
	Undecided	26	9.2
Receiving Training on Intercultural Patient Care or Treatment	Yes	106	37.9
	No	174	62.1
Willingness to Be Around Patients from Different Cultures	Yes	254	90.8
	No	26	9.2
Sources of Information About the Cultural Backgrounds of Patients from Different Cultures*	Media	145	51.7
	Personal studies	122	43.7
	In-house training	103	36.8
	Previous experiences	97	34.5
	Friends	77	27.6
	Education received at school	68	24.1
	Family experiences	35	12.6
	Travel experiences	29	10.3
	Other	35	12.6

Table 3 Continued.

Variable	Category	n	%
Most Challenging Issues When Providing Care or Treatment to Patients from Different Cultures	Language barrier	229	81.6
	Culturel expectations	100	35.6
	Attitudes towards healthcare workers	39	13.8
	Expectations regarding physiological care and treatment	32	11.5
	Expectations regarding psychological care and treatment	19	6.9
	Spiritual expectations	13	4.6
	Other	39	13.8

* More than one response was received.

In this section, 83.9% of the participants stated that they would like to care for or treat patients from different cultures. However, only 37.9% of them received training on intercultural patient care and treatment. The proportion of those who would like to be together with patients from different cultures is 90.8%. Media (51.7%), individual studies (43.7%) and in-house training (36.8%) were the most common sources of information about the cultural structures of these patients. The most difficult issues in the care of foreign patients were language problems (81.6%) and then cultural expectations (35.6%) in Table 3.

Table 4. Comparison of Total and Subscales of Scales By Age.

		Mean±Standard Deviation Median (Minimum-Maximum)			H value	p value	Groups Making a Difference
		25 years and under (n:209) (a)	26-35 years (n:45) (b)	36-45 years (n:26) (c)			
Intercultural Sensitivity Scale	Scale Total Score	95.29±11.3 94(73-120)	94.29±9.28 94(80-110)	96.38±16.99 101.5(55-111)	1.216	0.545	
	Responsibility in Communication	28.4±3.84 28(19-35)	28.93±3.93 30(22-35)	29.38±5.1 31(17-35)	1.376	0.503	
	Respect for Cultural Differences	24.66±3.35 25(14-30)	23.29±4.69 24.5(14-30)	24.63±5.81 26.5(10-28)	1.952	0.377	
	Confidence in Communication	12.03±2.64 12(3-15)	11.57±3.28 12.5(3-15)	13±2.75 15(8-15)	1.565	0.457	
	Enjoyment of Communication	18.12±3.69 17(12-25)	18.57±1.9 18.5(15-21)	17.88±4 18.5(11-23)	0.464	0.793	
	Being Careful in Communication	12.08±1.53 12(9-15)	11.93±1.69 12(9-15)	11.5±2.75 12(8-15)	0.244	0.885	

Table 4 Continued.

		Mean±Standard Deviation Median (Minimum-Maximum)			H value	p value	Groups Making a Difference
		25 years and under (n:209) (a)	26-35 years (n:45) (b)	36-45 years (n:26) (c)			
Intercultural Effectiveness Scale	Scale Total Score	70.35±10.72 67(50-96)	69.21±7.38 68(54-84)	71.75±14.29 73(44-91)	0.547	0.761	
	Behavioural Flexibility	13.18±2.34 13(4-18)	12.86±3.56 14.5(4-16)	14.25±1.82 14.5(11-16)	1.726	0.422	
	Comfort in Communication	17.91±3.4 17(11-25)	18.07±3.02 17.5(14-25)	16.38±5.32 16(7-23)	0.505	0.777	
	Respect in Communication	12.94±2.21 13(7-15)	12.93±1.97 13(8-15)	13.88±2.67 15(7-15)	2.903	0.234	
	Message Skills	9.52±2.51 9(3-15)	9.14±2.81 9(3-13)	10±3.23 10(4-14)	0.538	0.764	
	Management in Communication	6.89±1.71 7(3-10)	7.07±1.35 7(5-10)	7.5±1.44 7.5(6-10)	1.020	0.600	
	Protection of Identity	9.91±2.2 9(6-15)	9.14±1.91 9(6-13)	9.75±2.78 9.5(6-14)	1.054	0.590	
Intercultural Awareness Scale	Scale Total Score	23.77±8.96 21(10-45)	27.79±11.88 24.5(10-45)	16.63±2.84 17(13-22)	7.051	0.029*	b>c
	Existing Cultural Awareness	10.52±4.45 10(4-20)	12.43±4.72 11(5-20)	5.88±1.72 6(4-8)	12.783	0.002**	b>c b>a
	Perceived Cultural Awareness	5.31±2.34 5(2-10)	6.5±2.67 6.5(2-10)	5.25±2.43 5.5(2-10)	2.193	0.334	
	Cultural Communication Awareness	7.94±3.11 7(3-15)	8.86±4.86 8(3-15)	5.5±2.1 6(3-8)	3.633	0.163	

*p<0.05; **p<0.01; ***p<0.001; H: Kruskal Wallis Test

In Table 4, there are statistically significant differences in terms of total and Existing Cultural Awareness sub-dimension of the Intercultural Awareness Scale according to age (p<0.05, p<0.01). 36-45 age group has a lower mean score than the 26-35 age group in the total scale. In the sub-dimension of Existing Cultural Awareness, those under the age of 25 and the 36-45 age group have lower mean scores than the 26-35 age group. It shows in Table 4, that there are significant differences in the total and Existing Cultural Awareness sub-dimensions of the Intercultural Awareness Scale according to age. The 26-35 age group has a higher level of cultural awareness compared to other age groups.

Table 5. Comparison of the Total and Subscales of the Scales According to the Willingness to Care or Treat Patients from Different Cultures

		Mean±Standard Deviation Median (Minimum-Maximum)			H value	p value	Groups Making a Difference
		Yes (n:235) (a)	No (n:19) (b)	Undecided (n:26) (c)			
Intercultural Sensitivity Scale	Scale Total Score	97.18±10.28 96(78-120)	81.17±16.18 82(55-108)	88±9.04 88(73-101)	10.346	0.006**	a>b
	Responsibility in Communication	29.22±3.57 29(22-35)	25±5.4 26.5(17-31)	25.38±3.53 25.5(21-32)	8.624	0.013*	a>c
	Respect for Cultural Differences	25.21±3.09 25(14-30)	18.67±6.49 17.5(10-28)	21.75±3.09 22(17-27)	11.583	0.003**	a>b
	Confidence in Communication	12.38±2.56 13(3-15)	8.67±3.78 8(3-15)	11.5±2.04 11(9-15)	6.627	0.036*	a>b
	Enjoyment of Communication	18.34±3.53 18(12-25)	16.5±4.31 16.5(11-22)	17.88±1.8 17(15-20)	0.915	0.633	
	Being Careful in Communication	12.03±1.63 12(8-15)	12.33±2.49 13.5(9-15)	11.5±1.61 12(9-13)	0.980	0.613	
Intercultural Effectiveness Scale	Scale Total Score	72.1±10.19 71(54-96)	59±9.22 63(44-70)	62.38±5.77 63.5(53-71)	11.191	0.004**	a>b a>c
	Behavioural Flexibility	13.58±2.23 14(4-18)	10±3.89 9.5(4-15)	12.5±2.28 13(9-16)	6.086	0.058	
	Comfort in Communication	18.19±3.25 18(11-25)	15.83±6.45 15.5(7-25)	15.63±2.1 16(13-19)	4.800	0.091	
	Respect in Communication	13.26±2.18 14(7-15)	12.33±2.76 13.5(7-15)	11.38±1.24 12(9-13)	8.286	0.016*	a>c
	Message Skills	9.88±2.56 10(3-15)	6.5±2.63 6(3-11)	8.38±1.01 8.5(7-10)	9.494	0.009**	a>b
	Management in Communication	7.15±1.55 7(4-10)	6.5±2.2 6(3-10)	5.75±1.33 6(3-7)	4.702	0.095	
	Protection of Identity	10.04±2.28 10(6-15)	7.83±1.1 8(6-9)	8.75±1.11 9(7-11)	8.140	0.017*	a>b
Intercultural Awareness Scale	Scale Total Score	23.64±9.63 20(10-45)	24.33±8.89 21.5(14-36)	24.38±8.99 19.5(15-43)	0.221	0.895	
	Existing Cultural Awareness	10.41±4.66 9(4-20)	10.5±5.06 9.5(4-19)	10.25±3.74 9(7-18)	0.013	0.993	
	Perceived Cultural Awareness	5.47±2.44 5(2-10)	5.83±2.47 6(2-9)	5.5±2.45 5(2-10)	0.167	0.920	
	Cultural Communication Awareness	7.77±3.55 7(3-15)	8±2.65 7.5(5-13)	8.63±3.22 8(5-15)	0.694	0.707	

*p<0.05; **p<0.01; ***p<0.001 ; H: Kruskal Wallis Test

In Table 5 there are statistically significant differences in the total and sub-dimensions of the Intercultural Sensitivity Scale according to the status of caring or treating patients from different cultures (p<0.05, p<0.01). In the total score of the scale, Respect for Cultural Differences and Confidence in Communication sub-dimensions, the average of those who answered yes was higher than those who answered no. In the Responsibility in Communication sub-dimension, the mean score of those who answered yes was higher than those who answered undecided. There are statistically significant differences (p<0.05, p<0.01) in the total, Respect in Communication, Message Skills, Preservation of Identity sub-dimensions of the Intercultural Effectiveness Scale according to the condition of caring or treating patients from different cultures. In the total score of the scale, those who answered yes had higher mean scores than those who answered no or undecided, in the Respect in Communication

dimension, those who answered yes had higher mean scores than those who answered undecided, and in the Message Skills and Preservation of Identity subdimensions, those who answered yes had higher mean scores than those who answered no.

Table 6. Comparison of Total and Subscales of the Scales According to Receiving Training on Intercultural Patient Care or Treatment

		Mean±Standard Deviation Median (Minimum-Maximum) Yes (n:106)	 No (n:174)	Z value	p value
Intercultural Sensitivity Scale	Scale Total Score	98.97±10.83 100(80-120)	92.94±11.5 92(55-116)	-2.263	0.024*
	Responsibility in Communication	29.97±3.29 31(25-35)	27.72±4.14 28(17-35)	-2.313	0.021*
	Respect for Cultural Differences	24.88±4.64 26(14-30)	24.17±3.33 25(10-30)	-1.657	0.097
	Confidence in Communication	12.24±3.27 13(3-15)	11.93±2.42 11(7-15)	-1.023	0.306
	Enjoyment of Communication	19.48±3.38 20(14-25)	17.37±3.31 17(11-25)	-2.556	0.011*
	Being Careful in Communication	12.39±1.64 12(8-15)	11.76±1.69 12(8-15)	-1.542	0.123
Intercultural Effectiveness Scale	Scale Total Score	74.52±11.37 73(56-96)	67.72±9.27 66(44-91)	-2.478	0.013*
	Behavioural Flexibility	13.06±3.34 14(4-17)	13.33±1.92 13.5(8-18)	-0.562	0.574
	Comfort in Communication	19.85±3.37 20(14-25)	16.54±3.1 17(7- 25)	-3.957	0.000***
	Respect in Communication	13.45±2.13 15(9-15)	12.76±2.25 13(7-15)	-1.765	0.078
	Message Skills	10.03±3.2 10(3-15)	9.19±2.16 9(4-14)	-1.679	0.093
	Management in Communication	7.76±1.6 8(5-10)	6.5±1.47 6(3-10)	-3.300	0.001**
	Protection of Identity	10.36±2.6 9(6-15)	9.41±1.88 9(6-15)	-1.413	0.158
Intercultural Awareness Scale	Scale Total Score	24.45±10.5 21(10-45)	23.33±8.83 20(10-42)	-0.368	0.713
	Existing Cultural Awareness	10.85±4.73 9(4-20)	10.13±4.51 9(4-20)	-0.694	0.488
	Perceived Cultural Awareness	5.79±2.82 6(2-10)	5.31±2.16 5(2-10)	-0.629	0.529
	Cultural Communication Awareness	7.82±4.01 7(3-15)	7.89±3.1 7(3-15)	-0.572	0.567

*p<0.05; **p<0.01; ***p<0.001; Z: Mann Whitney U test

In Table 6; there are statistically significant differences in terms of the total Intercultural Sensitivity Scale and the sub-dimensions of Responsibility in Communication and Enjoyment of Communication according to the status of receiving training on intercultural patient care or treatment ($p<0.05$). In both the total scale score and sub-dimensions, the mean score of those who stated that they received training was higher than those who did not receive training. There are statistically significant differences in the total Intercultural Effectiveness Scale and the sub-dimensions of Comfort in Communication and Management in Communication according to the status of receiving training on intercultural patient care or treatment ($p<0.05$, $p<0.01$, $p<0.001$). In both the total scale score and sub-dimensions, the mean score of those who stated that they received training was higher than those who did not receive training. There were no statistically significant differences in the total and sub-

dimensions of the Intercultural Awareness Scale according to the status of receiving training on intercultural patient care or treatment (p>0.05). It shows that those who receive training on intercultural patient care or treatment create positive effects in terms of both Intercultural Sensitivity and Intercultural Effectiveness. There is no significant difference in terms of Intercultural Awareness.

Table 7. Comparison of the Total and Subscales of the Scales According to the Desire to be with Patients from Different Cultures

		Mean±Standard Deviation Median (Minimum-Maximum)		Z value	p value
		Yes (n:254)	**No (n:26)**		
Intercultural Sensitivity Scale	Scale Total Score	96.73±10.58 96(73-120)	80.38±10.99 85(55-92)	-3.418	0.001**
	Responsibility in Communication	29.15±3.57 29(21-35)	22.88±3.36 23.5(17-27)	-3.700	0.000***
	Respect for Cultural Differences	24.89±3.53 25(14-30)	20±4.5 21(10-25)	-3.115	0.002**
	Confidence in Communication	12.18±2.79 13(3-15)	10.75±2.27 11(8-14)	-1.718	0.086
	Enjoyment of Communication	18.39±3.46 18(12-25)	16±3.02 17(11-20)	-1.751	0.080
	Being Careful in Communication	12.13±1.65 12(8-15)	10.75±1.67 11(9-14)	-2.163	0.031*
Intercultural Effectiveness Scale	Scale Total Score	71.54±10.06 70(53-96)	58±8.02 59.5(44-68)	-3.124	0.002**
	Behavioural Flexibility	13.38±2.51 14(4-18)	11.75±2.49 12(8-15)	-1.760	0.078
	Comfort in Communication	18.19±3.35 18(11-25)	13.88±3.44 15(7-17)	-2.835	0.005**
	Respect in Communication	13.27±2.09 14(7-15)	10.63±2.16 11(7-14)	-3.155	0.002**
	Message Skills	9.67±2.65 9(3-15)	7.88±1.8 7.5(5-11)	-2.040	0.041*
	Management in Communication	7.11±1.61 7(3-10)	5.63±1.24 6(3-7)	-2.317	0.020*
	Protection of Identity	9.92±2.24 9(6-15)	8.25±1.42 8(6-11)	-2.143	0.032*
Intercultural Awareness Scale	Scale Total Score	23.91±9.76 20(10-45)	22.25±6.3 20.5(14-33)	-0.118	0.906
	Existing Cultural Awareness	10.49±4.72 9(4-20)	9.5±3.1 9.5(4-14)	-0.273	0.785
	Perceived Cultural Awareness	5.51±2.48 5(2-10)	5.38±1.9 5.5(2-8)	-0.141	0.888
	Cultural Communication Awareness	7.91±3.56 7(3-15)	7.38±2.39 6.5(5-12)	-0.333	0.739

*p<0.05; **p<0.01; ***p<0.001; Z: Mann Whitney U test

In this section, there are statistically significant differences in terms of total, Responsibility in Communication, Respect for Cultural Differences and Being Careful in Communication sub-dimensions of the Intercultural Sensitivity Scale according to the state of wanting to be together with patients from different cultures (p<0.01, p<0.001). In total and all significant sub-dimensions, the mean scores of those who answered yes were higher than those who answered no. There are statistically significant differences in the total, Comfort in Communication, Respect in Communication, Message Skills, Communication Management, and Preservation of Identity sub-dimensions of the Intercultural Effectiveness Scale according to the state of wanting to be together with patients from different cultures

($p<0.05$, $p<0.01$). In total and in all significant sub-dimensions, the average scores of those who answered yes were higher than those who answered no. It shows that the state of wanting to be together with patients from different cultures has positive effects in terms of both Intercultural Sensitivity and Intercultural Effectiveness in Table 7.

4. Discussion

This study investigated the intercultural communication competences of healthcare professionals, focusing on cultural awareness, intercultural sensitivity, and intercultural effectiveness across different age groups. A significant finding was that the 26-35 age group demonstrated higher levels of cultural awareness compared to other age groups. This aligns with existing literature that suggests younger age groups tend to exhibit higher cultural awareness levels. For instance, research, found that individuals under 25 years old had higher cultural awareness, while another reported that the 26-35 age group had the highest levels of awareness, with lower levels observed in the 36-45 age group [1, 9, 10, 15].

Additionally, Pham et al, (2023) highlighted that younger professional (under 25) benefited more from cultural awareness training, resulting in significant increases in their cultural awareness levels [8]. Another research discovered that the 25-35 age group not only possessed high cultural awareness but also saw a positive impact on their job performance. Further supported these findings by demonstrating that the 26-35 age group had the highest cultural awareness levels and were more effective in delivering health services [10, 11, 13].

The higher cultural awareness observed in the 26-35 age group may be attributed to several factors. This age group is typically more active in both business and social environments, facilitating interactions with diverse cultures. Moreover, younger professionals have increased access to global information through technology and social media, which may enhance their cultural awareness. Additionally, this age group is often exposed to cultural diversity trainings during their education and early career development, contributing to their higher levels of cultural competence [2, 6, 8, 14].

Conversely, the lower cultural awareness in the under-25 age group may be due to their limited work and social experiences compared to the 26-35 age group. Although younger individuals may participate in cultural diversity courses during their education, they may have fewer real-world experiences and professional interactions that deepen their cultural understanding. In contrast, the 26-35 age group is more likely to encounter cultural diversity in their careers, fostering a more profound and practical comprehension of intercultural interactions [3, 13, 17, 20].

Regarding intercultural training, this study found that healthcare professionals who received intercultural training demonstrated higher scores in both intercultural sensitivity and intercultural effectiveness. This is consistent with existing literature that emphasizes the positive impact of intercultural training programs. In the literature reported significant increases in intercultural sensitivity and effectiveness among healthcare professionals who underwent training. Similarly in another research, observed that training programs effectively enhanced cultural sensitivity and communication skills, although they noted limited effects on cultural awareness. In literature found that while intercultural training significantly improved sensitivity and effectiveness, there was no substantial change in cultural awareness levels. These findings suggest that while intercultural training is effective in enhancing certain aspects of cultural competence, its impact on overall cultural awareness may be limited [6, 7, 12, 16, 17, 18].

Furthermore, studies have demonstrated that intercultural sensitivity and effectiveness are critical for effective patient care. It's demonstrated that healthcare professionals with high cultural awareness communicate more effectively with patients from diverse backgrounds, leading to increased patient satisfaction and improved health outcomes. Similarly, it's found that intercultural effectiveness is essential for effective communication in both face-to-face and digital healthcare platforms. These

studies reinforce the importance of intercultural competence in enhancing the quality of healthcare services [13, 19, 20].

However, discrepancies in the literature regarding cultural awareness levels across age groups highlight the complexity of cultural awareness as a construct influenced by multiple variables, including age, training, and professional experience. While some studies support the notion that younger professionals exhibit higher cultural awareness, others emphasize the role of professional experience and targeted training in fostering cultural competence across all age groups. This underscores the multifaceted nature of cultural awareness and suggests that both educational interventions and practical, real-world experiences are essential for developing comprehensive intercultural competence [4, 5, 17, 18, 20].

The sample of this study is limited to healthcare professionals from a single university hospital, and the generalizability of the findings to other healthcare institutions or broader geographical regions needs to be addressed. Nevertheless, despite this limitation, the study provides valuable insights into the assessment and development of healthcare professionals' intercultural communication skills. Future studies employing a larger and more heterogeneous sample could enhance the generalizability of the findings and allow for a more comprehensive examination of the long-term effects of intercultural communication competence.

5. Conclusion and Recommendations

This study highlights the importance of cultural awareness and sensitivity in healthcare services, finding that younger age groups (particularly those aged 26-35) and associate degree graduates demonstrate higher levels of cultural awareness and sensitivity. Intercultural training has been shown to enhance the sensitivity and effectiveness of healthcare professionals, thereby improving patient satisfaction and the quality of healthcare services. In conclusion, it is recommended to increase and continuously update intercultural training programs for healthcare professionals, introduce cultural awareness training from early education stages, encourage practical experiences that facilitate interactions with diverse cultures, support research on cultural sensitivity and its effectiveness by integrating findings into health policies, and organize events to raise awareness of cultural diversity in healthcare settings.

Ethical Statement:
Ethics committee permission was obtained for the research. Ethics committee permission numbered 2024-SBB-0179 and dated 14.03.2024, was obtained from the Bartın University Ethics Committee for the research.

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

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References

[1] Y. Zhang, J. Xi, and L. Owens, "Chinese people's explicit and implicit attitudes toward rural left-behind elderly in the context of traditional-modern culture conflicts," *The Social Science Journal*, vol. 58, no. 1, pp. 1–15, 2021. [Online]. Available: https://doi.org/10.1080/03623319.2021.1908108

[2] W. Chu, G. Wippold, and K. D. Becker, "A systematic review of cultural competence trainings for mental health providers," Professional Psychology: *Research and Practice*, vol. 53, no. 4, pp. 362–374, 2022.

[3] X. Dai and G. M. Chen, Conflict management and intercultural communication. Routledge, 2017. [Online]. Available: https://doi.org/10.9781315266916

[4] C. Luo and S. Jiang, "The knowledge map of gender equality in cross-cultural communication: A bibliometric approach," *Heliyon*, vol. 9, no. 6, p. e07845, 2023. [Online]. Available: https://doi.org/10.1016/j.heliyon.2023.e07845

[5] D. E. Camacho-Rodríguez, D. A. Carrasquilla-Baza, K. A. Dominguez-Cancino, and P. A. Palmieri, "Patient safety culture in Latin American hospitals: A systematic review with meta-analysis," *International Journal of Environmental Research and Public Health*, vol. 19, no. 21, p. 14380, 2022. [Online]. Available: https://doi.org/10.3390/ijerph192114380

[6] A. Malik, P. Budhwar, and K. Kandade, "Nursing excellence: A knowledge-based view of developing a healthcare workforce," *Journal of Business Research*, vol. 144, pp. 472–483, 2022. [Online]. Available: https://doi.org/10.1016/j.jbusres.2022.02.021

[7] S. S. Tsang and T. V. T. Nguyen, "Sociocultural adaptation and job satisfaction as mediators between cultural competence and intention to stay among Vietnamese workers in Taiwan," *Humanities and Social Sciences Communications*, vol. 10, no. 1, pp. 1–12, 2023. [Online]. Available: https://doi.org/10.1057/s41599-023-01689-w

[8] B. De-María, G. Topa, and M. A. López-González, "Cultural competence interventions in European healthcare: A scoping review," *Healthcare*, vol. 12, no. 10, p. 1040, May 2024. [Online]. Available: https://doi.org/10.3390/healthcare12101040

[9] C. Yang, "Motivational cultural intelligence and well-being in cross-cultural workplaces: A study of migrant workers in Taiwan," *Employee Relations*, vol. 45, no. 3, pp. 743–761, 2023. [Online]. Available: https://doi.org/10.1108/ER-03-2022-0137

[10] E. S. Wellwood, "The other 2/3 of the iceberg: Building intercultural understanding in a monocultural setting," M.S. thesis, Western University, 2024. [Online]. Available: https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1484&context=oip

[11] L. Pham, S. Rosén, and T. Nguyen, "The influence of cultural distances on the relationship between motivational practice and job satisfaction: A quantitative study comparing multinational corporations in Vietnam and Sweden," *International Journal of Business and Management Studies*, 2023. [Online]. Available: https://doi.org/10.1108/IJBMS-03-2023-0145

[12] E. B. Shiraev and D. A. Levy, Cross-cultural psychology: Critical thinking and contemporary applications, 6th ed. Routledge, 2020.

[13] O. Hargie, Skilled interpersonal communication: Research, theory and practice, 6th ed. Routledge, 2021.

[14] G. C. N. Hall, Multicultural psychology. Routledge, 2022.

[15] J. Du, R. Wang, and C. Jiang, "Cultural intelligence, diversity climate, and employee behavior: A study of MNE subsidiaries in China," Journal of Comparative International Management, vol. 26, no. 2, pp. 159–175, 2023. [Online]. Available: https://doi.org/10.1504/JCIM.2023.110023

[16] P. Hagqvist, A. Oikarainen, A. M. Tuomikoski, J. Juntunen, and K. Mikkonen, "Clinical mentors' experiences of their intercultural communication competence in mentoring culturally and linguistically diverse nursing students: A qualitative study," *Nurse Education Today*, vol. 87, p. 104348, 2020. [Online]. Available: https://doi.org/10.1016/j.nedt.2020.104348

[17] H. K. Yakar and S. E. Alpar, "Intercultural communication competence of nurses providing care for patients from different cultures," *International Journal of Caring Sciences*, vol. 11, no. 3, pp. 1743–1755, 2018.

[18] I. Papadopoulos, S. Shea, G. Taylor, A. Pezzella, and L. Foley, "Developing tools to promote culturally competent compassion, courage, and intercultural communication in healthcare," *Journal of Compassionate Health Care*, vol. 3, pp. 1–10, 2016. [Online]. Available: https://doi.org/10.1186/s40639-016-0023-4

[19] N. M. Bakić-Mirić, S. Butt, C. Kennedy, N. M. Bakić, D. E. Gaipov, M. Lončar-Vujnović, and B. Davis, "Communicating with patients from different cultures: Intercultural medical interview," *Srpski Arhiv za Celokupno Lekarstvo*, vol. 146, no. 1–2, pp. 97–101, 2018. [Online]. Available: https://doi.org/10.2298/SARH1802097B

[20] H. Mosed, M. Periord, and M. Caboral-Stevens, "A concept analysis of intercultural communication," *Nursing Forum*, vol. 56, no. 4, pp. 993–999, Oct. 2021. [Online]. Available: https://doi.org/10.1111/nuf.12581

[21] F. Akdeniz, Probability and statistics. Akademisyen Publishing, 2022.

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Research Article

EVALUATION OF HEALTH LITERACY LEVELS IN SOCIAL WORKERS

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Abstract*: Health literacy levels of social workers working with disadvantaged or risky groups of society have a significant place in the protection of public health. This study aims to determine the relationship between the level of health literacy knowledge of social workers in Turkey and various variables. In this study, 237 social workers working in institutions affiliated with the Ministry of Family and Social Policies and the Ministry of Health in different provinces of Turkey were included in the analysis. Health literacy levels were measured using Turkey's Health Literacy (TSOY-32). The SPSS package program was used in the statistical analysis of the data and $p<0.05$ was considered statistically significant. According to the TSOY-32, 59.8% of respondents had inadequate or problematic health literacy levels. More than half of the participants (68.1%) stated that they did not have enough health information, 40.6% did not know the concept of health literacy, and 16.6% were not aware of the national health campaigns of the Ministry of Health. The percentage of those who think that the role of social workers in formulating health policies is adequate (9.6%) is quite low. In conclusion, it is believed that this study will contribute to the literature because no study has determined the health literacy of social workers and related variables in Turkey. More studies should be conducted on the effectiveness of specific training programs and, the content, duration, and, methods of these programs to increase the health literacy levels of social workers.*

Keywords: *Health services, health literacy, social work, social worker*

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1. Introduction

Health literacy, a concept introduced in the 1970s, focuses on an individual's ability to effectively navigate the complex requirements of maintaining and enhancing health in contemporary society. Over the past twenty years, the concept has garnered growing attention due to its substantial advantages for individual and public health, as well as the sustainability of health systems [1]. One of the main reasons for the increased interest in this concept among researchers, practitioners, and policymakers across different disciplines is the potential of health literacy to understand, explain, and address individual and group differences in various health outcomes [2].

It has been noted by the World Health Organization (WHO) that health literacy levels are low in both developing and developed nations [3]. Key barriers to health literacy include advanced age, low levels of education, disadvantaged socioeconomic conditions, and insufficient reading skills. Research indicates that low-income populations often have poor reading skills, resulting in low health literacy. This issue is particularly prevalent in densely populated, ethnically and culturally diverse countries that prioritize human development, economic stability, and basic health [4,5]. In another study, it was

reported that approximately half of Europeans have inadequate health literacy skills, with the rate varying between 2% and 27% depending on the country. Low health literacy was found in 29% and %62 of the Netherlands and Bulgarians, respectively [6]. As the population continues to age and live with complex comorbid conditions, health literacy must be routinely assessed [7].

Although the literature on health literacy in Turkey is quite limited, the Turkey Health Literacy Survey found that only one-third of the population had adequate or excellent health literacy levels. The study emphasized that age, educational status, and socioeconomic status were the main reasons for low literacy levels [8].

Social determinants of health include the environments in which individuals are born, grow up, live, work and grow old. The distribution of money, resources and power at the local, national, and global levels shapes social determinants of health. These factors are responsible for unjustifiable and preventable differences in health status at the national or international level, i.e., health inequalities [9]. Social workers are professionals equipped with skills in cultural awareness and competence, ensuring that social work practices acknowledge and uphold the value and dignity of individuals from all cultures, languages, classes, ethnicities, abilities, religions, sexual orientations, and other diverse characteristics [10]. In addition, they are also interested in the field of medical social work, which deals with practices aimed at solving the problems encountered by patients receiving services from health institutions while accessing and treating services in a planned and professional manner within a team work with a holistic perspective on the patient [11]. In this context, the fact that social workers are health literate has a positive effect on their interventions at the micro, mezzo, and macro levels [12]. It has been identified by the National Association of Social Workers (NASW) [13] that one of the top priorities of social work is access to health and mental health services. National and international initiatives to improve health literacy among the public agree with the NASW's goals. The National Association of Social Workers (NASW) [13] highlighted access to health and mental health services as a primary focus for social work. Efforts at both national and international levels to enhance public health literacy align with the goals set by NASW.

All social workers, not just those in the health sector, must possess a high level of health literacy. Social workers frequently assist disadvantaged populations who, are more likely to have low health literacy; thus this skill is crucial across the profession [14]. Increasing the level of health literacy in disadvantaged or risky groups of society is crucial for the protection of public health, and the more these communities are reached, the higher the level of health literacy in the society as a whole. The objective of this study is to identify the correlation between the knowledge of social workers regarding health literacy in Türkiye and various variables. In the literature, studies to determine the level of health literacy of social work students [15,16] and social workers [14,17] were found. In addition, studies on the contributions of social workers to strengthening the health literacy of clients have been conducted [18,19,20]. In Turkey, no study has been found to determine the health literacy of social workers and related variables. In this respect, it is anticipated that this study will provide valuable insights to the existing literature.

2. Materials and Methods

This study was designed as a descriptive cross-sectional study from quantitative research methods.

2.1. Participants and Sample Size

Social workers working in organizations affiliated with the Ministry of Family and Social Policies and the Ministry of Health living in different provinces of Turkey were reached through an

online survey. In the study, a total of 237 participants, were reached, but 229 surveys were included in the analysis after missing surveys and extreme data were removed.

2.2. Data Collection Tools

The data collection tool of the study consisted of two parts: "socio-demographic and health-related information" and "Turkish Health Literacy Scale-32 (TSOY-32)". Participants were asked for sociodemographic information such as gender, age, marital status, educational status, and length of employment. To determine the characteristics of the participants regarding their health status, questions were asked about chronic diseases, health education status, sources of access to health information, national health campaigns, and the concept of health literacy.

Health literacy levels were measured using the TSOY-32, which consists of 32 questions. TSOY is the Turkish-translated version of the Self-Report Scale based on the conceptual framework developed by the European Health Literacy Consortium (HLS-EU CONSERTIUM). The internal consistency (Cronbach's alpha) coefficient of the scale was determined as 0.927, and it was stated that it could be used as a reliable test to assess health literacy in our country [21]. The TSOY-32 comprises eight components, treatment and services, as well as disease prevention/health promotion. Additionally, it includes four processes: accessing, comprehending, appraising, and utilizing/applying health-related information. On the scale, 0 indicates the lowest health literacy and 50 indicates the highest. When evaluating the mean scores obtained from TSOY-32, 0-25 points were defined as inadequate, >25-33 points as problematic borderline health literacy, >33-42 points as adequate, and >42-50 points as excellent health literacy.

2.3. Statistical Analysis

The online survey was delivered to social workers through social media channels, and data were collected. The research data were collected between May and December 2022. Before the questionnaire form was administered to the participants, the voluntary consent form was approved by the individuals who voluntarily agreed to participate in the study.

The SPSS package was used for the statistical analysis of the data. The Shapiro-Wilk normality test was used to determine whether the data were suitable for normal distribution. The distribution of the participants' demographic information and characteristics related to their health status were analyzed by frequency analysis and are presented as numbers (n) and percentages (%). In the evaluation of the relationship between some characteristics of the participants and health literacy status, the Chi-Square test, which is used to examine the relationship between categorical variables, was applied. Reliability analysis was performed to determine the reliability level of the scale and its subdimensions used in the study, and Cronbach's alpha coefficient was obtained. In all statistical tests, 95% confidence interval and $p<0.05$ were considered statistically significant.

2.4. Ethical Considerations

The online survey was delivered to social workers through social media channels, and data were collected. The questionnaires were completed anonymously; thus the personal information of the participants was excluded. No action contrary to the Helsinki Declaration criteria was taken during the research process. The research was initiated with the ethics committee decision of Mardin Artuklu University Non-Interventional Clinical Research Ethics Committee dated 06.04.2022 and numbered 2022-7.

3. Results and Discussion

The distribution of demographic information about the participants was analyzed by frequency analysis (Table 1). When the distribution of the participants according to gender was analyzed, 54.6% were men and 45.4% were women. When the distribution according to age groups was analyzed, the proportion of people aged 24-30 years was 50.7%, the proportion of people aged 31-40 years was 43.7%, and the proportion of people over 40 years was 5.7%. In total, 55.5% of the participants were married and 44.5% were single. When the distribution according to educational status was examined, 82.1% of the participants had a bachelor's degree, 17% had a master's degree, and 0.9% had a doctoral degree.

Table 1. Distribution of the socio-demographic characteristics of the participants

Socio-demographic characteristics	Number (n)	%
Gender		
Male	125	54,6
Female	104	45,4
Age		
24-30	116	50,7
31-40	100	43,7
40+	13	5,7
Marital status		
Married	127	55,5
single	102	44,5
Education status		
Bachelor's	188	82,1
Master's	39	17,0
PhD	2	0,9
Seniority (years)		
1-5	112	48,9
6-10	98	42,8
11-15	10	4,4
16-20	4	1,7
21 years and above	5	2,2
Weekly working hours		
20-30	4	1,7
30-40	112	48,9
40-50	108	47,2
50-60	3	1,3
60 or more	2	0,9
Ministry		
Ministry of Family and Social Policies	123	53,7
Ministry of Health	106	46,3
Total	**229**	**100.0**

According to Table 1, 48.9% of the employees have been working for 1-5 years, 42.8% for 6-10 years, 4.4% for 11-15 years, 1.7% for 16-20 years, and 2.2% for 21 years or more. When the distribution according to weekly working hours is analyzed, the proportion of those working 20-30 hours is 1.7%, 30-40 hours is 48.9%, 40-50 hours is 47.2%, 50-60 hours is 1.3%, and 60 hours or more is 0.9%. When the distribution according to the Ministry of Employment was analyzed, 53.7% of those working in the Ministry of Family and Social Policies and 46.3% of those working in the Ministry of Health.

Table 2. Characteristics of the participants regarding their health status

	Number (n)	**%**
Chronic illness status		
Yes	43	18,8
No	186	81,2
Health education status		
Yes	133	58,1
No	96	41,9
Sufficient knowledge on health		
Yes	73	31,9
No	156	68,1
Sources of access to information on health		
Health personnel	107	46,7
Online	86	37,6
Health education books	8	3,5
Television, radio, newspapers or magazines	9	3,9
Familiy, friends	19	8,3
Knowledge of the concept health literacy		
Yes	136	59,4
No	93	40,6
Are you satisfied with the health services you receive from health institutions and organizations?		
Yes	32	14,0
No	78	34,1
Partially	119	52,0
Are you aware of the Ministry of Health's national health campaigns?		
Yes	38	16,6
No	121	52,8
Partially	70	30,6
Do you think that Social Workers make sufficient contributions to the provision of health services?		
Yes	65	28,4
No	81	35,4
Partially	83	36,2
Do you think the roles of Social Workers are adequate in the formulation of health policies?		
Yes	22	9,6
No	161	70,3
Partially	46	20,1
Total	**229**	**100,0**

18.8% of the participants have chronic diseases. The rate of those who received health education is 58.1%. The percentage of those with sufficient knowledge about health is 31.9%. When the distribution of the sources of access to health information is examined, 46.7% of the participants received information from health personnel, 37.6% from the internet, 3.5% from health education books, 3.9% from television, radio, newspapers or magazines, and 8.3% from family and friends. The proportion of participants who know health literacy is 59.4%. The rate of those who are satisfied with the health services they receive from health institutions and organizations is 14%, the rate of those who are partially satisfied is 52%, and the rate of those who are not satisfied is 34.1%. In total 16.6% of the participants were not aware of the national campaigns of the Ministry of Health, while 52.8% were not aware of the national campaigns of the Ministry of Health. The rate of those who think that Social Workers have sufficient contribution to the provision of health services is 28.4%, the rate of those who think that they have partial contribution is 36.2%, and the rate of those who think that they have no contribution is 35.4%. The rate of those who think that the role of Social Workers is adequate

in formulating health policies is 9.6%, the rate of those who think it is partially adequate is 20.1%, and the rate of those who do not think it is adequate is 70.3%.

Table 3. Characteristics of participants with health literacy status

		Health Literacy							
		Inadequate		Problematic-limited		Adequate		Perfect	
		n	%	n	%	n	%	n	%
Gender	Male	26	24,3%	37	34,6%	28	26,2%	16	15,0%
	Female	18	19,6%	38	41,3%	16	17,4%	20	21,7%
		X^2=4,078 ; p=0,253							
Age	24-30	17	17,3%	37	37,8%	24	24,5%	20	20,4%
	31-40	22	24,2%	35	38,5%	20	22,0%	14	15,4%
	40+	5	50,0%	3	30,0%	0	0,0%	2	20,0%
		X^2=8,013 ; p=0,237							
Marital status	Married	26	23,6%	36	32,7%	26	23,6%	22	20,0%
	Single	18	20,2%	39	43,8%	18	20,2%	14	15,7%
		X^2=2,620 ; p=0,454							
Education status	Bachelor's	38	23,8%	65	40,6%	33	20,6%	24	15,0%
	Master's	6	16,2%	10	27,0%	10	27,0%	11	29,7%
	PhD	0	0,0%	0	0,0%	1	50,0%	1	50,0%
		X^2=9,463 ; p=0,149							
Seniority (years)	1-5	16	16,5%	36	37,1%	25	25,8%	20	20,6%
	6-10	22	25,9%	32	37,6%	17	20,0%	14	16,5%
	11-15	2	22,2%	4	44,4%	2	22,2%	1	11,1%
	16-20	3	75,0%	1	25,0%	0	0,0%	0	0,0%
	21 and above	1	25,0%	2	50,0%	0	0,0%	1	25,0%
		X^2=11,522 ; p=0,485							
Weekly working hours	20-30	0	0,0%	3	100,0%	0	0,0%	0	0,0%
	30-40	22	23,4%	32	34,0%	23	24,5%	17	18,1%
	40-50	22	22,0%	40	40,0%	20	20,0%	18	18,0%
	50-60	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	60 or more	0	0,0%	0	0,0%	1	100,0%	0	0,0%
		X^2=13,994 ; p=0,301							
Ministry	Ministry of Family and Social Policies	21	20,2%	43	41,3%	21	20,2%	19	18,3%
	Ministry of Health	23	24,2%	32	33,7%	23	24,2%	17	17,9%
		X^2=1,502 ; p=0,682							
Chronic Illness Status	Yes	9	24,3%	16	43,2%	6	16,2%	6	16,2%
	No	35	21,6%	59	36,4%	38	23,5%	30	18,5%
		X^2=1,275 ; p=0,735							
Health education status	Yes	28	23,3%	42	35,0%	26	21,7%	24	20,0%
	No	16	20,3%	33	41,8%	18	22,8%	12	15,2%
		X^2=1,420 ; p=0,701							

Table 3 Continued.

		Health Literacy							
		Inadequate		**Problematic-limited**		**Adequate**		**Perfect**	
		n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Sufficient knowledge on health	Yes	17	25,8%	17	25,8%	15	22,7%	17	25,8%
	No	27	20,3%	58	43,6%	29	21,8%	19	14,3%
		X^2=7,550 ; p=0,056							
Sources of access to information on health	Health personnel	22	23,2%	32	33,7%	20	21,1%	21	22,1%
	Online	16	21,9%	28	38,4%	22	30,1%	7	9,6%
	Health education books	2	33,3%	2	33,3%	2	33,3%	0	0,0%
	Television, radio, newspapers or magazines	2	28,6%	4	57,1%	0	0,0%	1	14,3%
	Familiy, friends	2	11,1%	9	50,0%	0	0,0%	7	38,9%
		X^2=20,630 ; p=0,056							
Knowledge of the concept health literacy	Yes	22	18,8%	45	38,5%	25	21,4%	25	21,4%
	No	22	26,8%	30	36,6%	19	23,2%	11	13,4%
		X^2=3,206 ; p=0,361							
Are you satisfied with the health services you receive from health institutions and organizations?	Yes	2	7,1%	8	28,6%	6	21,4%	12	42,9%
	No	23	33,3%	30	43,5%	11	15,9%	5	7,2%
	Partially	19	18,6%	37	36,3%	27	26,5%	19	18,6%
		X^2=24,678 ; **p=0,000**							
Are you aware of the Ministry of Health's national health campaigns?	Yes	3	8,8%	6	17,6%	9	26,5%	16	47,1%
	No	24	23,1%	43	41,3%	26	25,0%	11	10,6%
	Partially	17	27,9%	26	42,6%	9	14,8%	9	14,8%
		X^2=29,631 ; **p=0,000**							
Do you think that Social Workers make sufficient contributions to the provision of health services?	Yes	5	8,6%	19	32,8%	16	27,6%	18	31,0%
	No	21	30,9%	26	38,2%	13	19,1%	8	11,8%
	Partially	18	24,7%	30	41,1%	15	20,5%	10	13,7%
		X^2=16,755 ; **p=0,010**							
Do you think the roles of Social Workers are adequate in the formulation of health policies?	Yes	0	0,0%	4	22,2%	4	22,2%	10	55,6%
	No	33	22,9%	55	38,2%	33	22,9%	23	16,0%
	Partially	11	29,7%	16	43,2%	7	18,9%	3	8,1%
		X^2=23,023 ; **p=0,001**							

When the relationship between the level of health literacy and the significance levels of various parameters was examined, a significant relationship was found between the level of health literacy and satisfaction with health services, being aware of national health campaigns, thinking that social workers have a sufficient contribution to the provision of health services, and thinking about the adequacy of the role of social workers in the formulation of health policies ($p<0.05$)

When the relationship between satisfaction with health services received from health institutions and organizations and the level of health literacy is examined, the rate of those who are satisfied with health services is 7.1%, the rate of those with inadequate health literacy is 28.6%, the rate of those

with limited health literacy is 28.6%, the rate of those with adequate health literacy is 21.4%, and the rate of those with excellent health literacy is 31%. Among those who were not satisfied with the services, 33.3% had inadequate health literacy, 43.5% had limited health literacy, 15.9% had adequate health literacy, and 7.2% had excellent health literacy. Among those who are partially satisfied, those with inadequate health literacy are 18.6%, the rate of those with limited health literacy is 36.3%, the rate of those with adequate health literacy is 26.5%, and those with excellent health literacy are 18.6%.

When the relationship between awareness of the national health campaigns of the Ministry of Health and the level of health literacy was analyzed, the percentage of those who were aware of the campaigns was 8.8%, 17.6%, 26.5%, 26.5%, and 47.1%, respectively. Among those who were not informed, 23.1% had inadequate health literacy, 41.3% had limited health literacy, 25% had adequate health literacy, and 10.6% had excellent health literacy. Among those who are partially informed of those with inadequate health literacy 27.9%, of those with limited health literacy 42.6%, of those with adequate health literacy 14.8%, and the rate of those with excellent health literacy 14.8%.

When the relationship between the level of health literacy and the state of thinking that Social Workers have adequate contributions to the provision of health services is examined; the rate of those who think that they are adequate is 8.6%, the rate of those with limited health literacy is 32.8%, the rate of those with adequate health literacy is 27.6%, and the rate of those with excellent health literacy is 31%. Among those who think that their health literacy level is not adequate, the rate of those with inadequate health literacy is 30.9%, that of those with limited health literacy is 38.2%, that of those with adequate health literacy is 19.1%, and that of those with excellent health literacy is 11.8%.

When the relationship between the state of thinking that the roles of social workers are adequate in the formulation of health policies and the level of health literacy is examined; the rate of those who think that the level of health literacy is adequate is 0%, the rate of those with limited health literacy is 22.2%, the rate of those with adequate health literacy is 22.2%, and the rate of those with excellent health literacy is 55.6%. Among those who think that it is not adequate, the rate of those with inadequate health literacy is 22.9%, the rate of those with limited health literacy is 38.2%, the rate of those with adequate health literacy is 22.9%, and the rate of those with excellent health literacy is 16%. Among those who think that their health literacy level is partially adequate, the rate of those with inadequate health literacy is 29.7%, the rate of those with limited health literacy is 43.2%, the rate of those with adequate health literacy is 18.9%, and the rate of those with excellent health literacy is 8.1%.

Social workers' health literacy levels can have a significant impact on access to health services, ability to make health decisions, and community health. However, research on social workers' health literacy levels is limited, and the lack of knowledge in this area is noteworthy. This study focused on determining the knowledge levels of social workers, who play an important role in increasing the health literacy of society. In our study, it was found that 59.8% of social workers had inadequate and problematic health literacy levels according to the TSOY-32 averages. In addition, a significant correlation was found between satisfaction with health services, awareness of national health campaigns, thinking that social workers have a sufficient contribution to the provision of health services, and the adequacy of the role of social workers in the formulation of health policies and health literacy level ($p<0.05$).

When the literature data are examined, there is no research data on determining the health literacy levels of social workers; however, in studies conducted on the general population, 36% inadequate and 22% problematic health literacy rates were reported in the USA, 12.4% inadequate and 35.2% problematic health literacy rates were reported in European countries [22]. These findings show that social workers need to be further informed and studied to increase individuals' access to health services and their ability to make informed health decisions.

Social workers play a pivotal role in enhancing health outcomes by strategizing and overseeing interventions intended to strengthen health literacy [23]. Within this framework, it is imperative for social workers to identify clients with low health literacy, comprehend their requirements, and address any obstacles they may face. Social workers can actively engage in associations and committees comprising educators, healthcare professionals, and governmental bodies focused on promoting health literacy. They can advocate for either private or government funding to support health literacy initiatives, or they can organize social and political forums to campaign for increased funding [24]. In this study, more than half of the social workers (68.1%) stated that they did not have sufficient knowledge about health, 40.6% did not know the concept of health literacy, and 16.6% were not aware of the national health campaigns of the Ministry of Health. In addition, a very small proportion of the participants (9.6%) thought that the role of social workers was adequate in the formulation of health policies. Additional services to their patients and referrals to medical team members can be provided by social workers trained in health literacy when necessary. [20]. Social workers with high levels of health literacy can provide better information to their clients, guide them to health services more effectively, and increase their access to health services. Therefore, it is important that social work training programs include components that increase health literacy and health policies.

4. Conclusion

In conclusion, the relationship between health literacy and social work is crucial for improving the health status of society. Social workers' efforts to increase health literacy play an important role in reducing health inequality and increasing social welfare. Every social worker, regardless of their specialization, should possess a strong foundation in health literacy. Given that, social workers often work closely with marginalized populations, who are more prone to low levels of health literacy, this competency is essential across the profession. Future researches should continue to better understand effective interventions and best practices in this area. There is also a need for more research on the effectiveness of specific training programs to increase the health literacy levels of social workers, and more studies should be conducted on the content, duration, and methods of these training programs so that the most effective strategies to increase the health literacy levels of social workers can be identified.

Limitations of the study:

There are some limitations in this study. This study may have been limited to participants working in only two fields, and the results may affect generalizability. Larger samples and long-term follow-up studies are needed to better understand the impact of interventions to increase social workers' health literacy.

Ethical statement:

The research was carried out following the Helsinki Principles, and authorization was obtained from the Non-Interventional Clinical Trials Ethics Committee of Mardin Artuklu University. (date: 06/04/2022, Number:7).

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There are no declarations to be made.

Conflict of interest:

There are no disclosures to be made.

Authors' contributions:

H.A.: Conceptualization, Formal analysis, Investigation, Supervision, Validation, Writing – original draft, Writing - review & editing.

Z.C.: Conceptualization, Formal analysis, Investigation, Writing - original draft, Writing – review & editing.
Y.Y.: Conceptualization, Formal analysis, Data curation, Methodology, Software, Supervision, Validation, Writing - review & editing.
All authors read and approved the final manuscript.

References

[1] Liu, C., Wang, D., Liu, C., Jiang, J., Wang, X., Chen, H., Zhang, X., "What is the meaning of health literacy? A systematic review and qualitative synthesis", *Family medicine and community health*, 8(2), e000351,2020.

[2] Okan, O., Bauer, U., Levin-Zamir, D., Pinheiro, P., Sørensen, K., International Handbook of Health Literacy: Research, Practice and Policy Across The Lifespan, Policy Press, 2019.

[3] WHO (World Health Organization), Policy brief 4: health literacy, The 9th global conference on health promotion, Shanghai, China, 2017.

[4] Gazmararian, J.A., Parker, R.M., Baker, D.W., "Reading skills and family planning knowledge and practices in a low-income managed-care population", *Obstetrics & Gynecology*, 93(2), 239-244, 1999.

[5] Haun, J., Luther, S., Dodd, V., Donaldson, P., "Measurement variation across health literacy assessments: implications for assessment selection in research and practice", *Journal of health communication*, 17(sup3), 141-159, 2012.

[6] Apfel, F., Tsouros, A.D., "Health literacy: the solid facts", Copenhagen: World Health Organization, 3-26, 2013.

[7] Hickey, K.T., Creber, R.M.M., Reading, M., Sciacca, R.R., Riga, T.C., Frulla, A.P., Casida, J.M., "Low health literacy: Implications for managing cardiac patients in practice", *The Nurse Practitioner*, 43(8), 49-55, 2018.

[8] Tanriöver, M.D., Yildirim, H.H., Ready, F.N.D., Çakir, B., Akalin, H.E., "Türkiyede Sağlık Okuryazarlığı Araştırması", *Sağlık-Sen Yayınları,* 6, 42-47, 2014.

[9] Gözlü, K., "Sağlığın sosyal bir belirleyicisi: Sağlık okuryazarlığı", *SDÜ Tıp Fakültesi Dergisi*, 27(1), 137-144, 2020.

[10] Bonner, C., Bullock, C., Colon, Y., Fong, R., Jackson, V., Montemayor, A., Ramanthan, C., Yellow Bird, N., *Nasw standards and indicators for cultural competence in social work practice* NASW: Washington, DC, USA, 2015.

[11] Erdem, M., "Klinik sosyal hizmete ilişkin kavram karışıklığı", *Tarih Okulu Dergisi*, 17(68), 91-106, 2024.

[12] Liechty, J. M., "Health literacy: Critical opportunities for social work leadership in health care and research", *Health & Social Work*, 36(2), 99-107, 2011.

[13] National Association of Social Workers (NASW), Health care policy, 2008. http://www.socialworkers.org/advocacy/healthcarereform/documents/167-170%20health%20care.pdf

[14] Ürgün, S., Yıldırım, F., "The Importance of the Health Literacy Interventions From Social Work Perspective", *Toplum ve Sosyal Hizmet*, 31(1), 203-217, 2020.

[15] Juvinyà-Canal, D., Suñer-Soler, R., Boixadós Porquet, A., Vernay, M., Blanchard, H., Bertran-Noguer, C., "Health literacy among health and social care university students", *International journal of environmental research and public health*, 17(7), 2273, 2020.

[16] Martin, J., "An exploratory study of the benefits of youth mental health literacy studies for social work students", *Social Work in Mental Health*, 14(1), 42-60, 2016.

[17] Lennon-Dearing, R., "Health literacy for social workers: A cross-cultural approach", [Online], 2013. https://www.researchgate.net/publication/277718481

[18] Allen-Meares, P., Lowry, B., Estrella, M. L., Mansuri, S., "Health literacy barriers in the health care system: Barriers and opportunities for the profession", Health & Social Work, 45(1), 62-64, 2020.

[19] Mannsåker, I.K.R., Vågan, A., Geirdal, A.Ø., & Stenberg, U., "Hospital social workers' contributions to increasing health literacy among parents of acutely and critically ill children", *European Journal of Social Work*, 26(1), 121-133, 2023.

[20] Rust, C., Davis, C., "Medication therapy management and collaborative health care: Implications for social work practice". Health & social work, 36(1), 69, 2011.

[21] Sağlık Bakanlığı, Türkiye sağlık okuryazarlığı ölçekleri güvenilirlik ve geçerlilik çalışması, 2016. https://ekutuphane.saglik.gov.tr/Ekutuphane/kitaplar/Sağlık%20Okur%20Yazarlığı.pdf.

[22] Yılmaz, M., Tiraki, Z., "Sağlık okuryazarlığı nedir? Nasıl ölçülür?", *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi*, 9(4), 142-147, 2016.

[23] Findley, A., "Low health literacy and older adults: meanings, problems, and recommendations for social work", *Social Work in Health Care*, 54(1), 65-81, 2015.

[24] Singleton, K., *Health Literacy and Social Work*. Virginia Commonwealth University, Richmond, 2003.

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Research Article

ONE CRISIS WITHIN ANOTHER: COPING WITH DOMESTIC VIOLENCE DURING THE COVID-19 PANDEMIC

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Abstract: *Although Covid-19 has aggravated and initiated mental health concerns to domestic violence (DV) victims, there is a worrying lack of measures meant to DV victims in the context of a pandemic. This study aims to (a) identify and understand the types of domestic violence experienced by women during the pandemic, as well as the consequences in social and work contexts, (b) assess the coping strategies of abuse victims, and (c) identify the gap in government and organizational support for DV victims. A semi-structured questionnaire was used to conduct in-depth interviews with 19 Malaysian women. NVIVO 14 was utilised for thematic analysis. The qualitative findings suggest that there was an increase in gender-based violence in Malaysia during the lockdown, with psychological abuse appearing to be the most prevalent. Despite the difficulties, many victims who were exploited during the lockdown did not report the abuse and instead employed avoidance-based coping mechanisms. Negative passive avoidance and negative active avoidance were the most prevalent coping mechanisms. The findings also indicate that eradicating domestic violence would necessitate a broader, more coordinated, and integrated system of government and organizational support. This is the first study to evaluate the serious impact of domestic violence on working Malaysian women in the wake of the Covid-19 crisis. As a result, it provides a wealth of information. It could serve as a firm basis for designing effective psychological interventions for women in countries with cultural and societal norms similar to those in Malaysia.*

Keywords: *Mental health, coping, domestic violence, Covid-19*

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1. Introduction

Violence against women (VAW) is a violation of human rights that the United Nations General Secretary has labeled a ‘global pandemic’ [1]. Domestic abuse is one of the most underreported criminal offences in the world with many of its victims being women who are subjected to more severe forms of violence. Domestic violence takes many forms, including abuse of power in the context of one's gender through physical (i.e. assault, killing), sexual (i.e. unwelcome intercourses, harassment), economic (i.e. control over one's finances), and psychological dominance (i.e. manipulation, threats, humiliations, intimidation) [2][3]. The impact of hazards does not differ by gender [4]. In accordance with Moser's

(1993) [5] framework for gender analysis, several studies demonstrate that crises such as famine, war, natural disasters, and pandemics exacerbate existing gender disparities for women [6]. Hurricane "Katrina" in 2005 is an example of a calamity of this type [7][8]. Similarly, during the Ebola outbreak in West Africa from 2014 to 2016, an increase in sexual violence against women was observed [9]. The prevalence and severity of domestic violence against women after natural and man-made disasters are primarily attributable to (1) lower marriage satisfaction, (2) post-disaster pressures such as economic turmoil, and (3) women's limited access to social and professional supports that aid abuse victims [10][2].

During the Covid-19 pandemic, a rise in domestic violence rates is especially worrisome given this context. Following the World Health Organization's (WHO) guidelines for containing the Covid-19 pandemic [11], governments and authorities around the globe have implemented strict protocols to control the spread of the contagion (e.g., quarantine, isolation, social distancing). While these efforts were successful in slowing the spread of the Covid-19 virus, they increased the likelihood of violence against women by altering family dynamics via health, economic, and social factors [12].

Following the onset of the Covid-19 pandemic in March 2020, when the recommendation for social distancing was first implemented in many countries, an increase in reports of domestic violence against women was observed [4][13][1]. Most studies found that victims' calls online helplines for violence prevention increased by more than fivefold between April 2019 and April 2020 [14]. While gender-based domestic violence is on the rise in numerous countries, including Brazil (50%), France (30%), New Zealand (30%), the United Kingdom (25%), and Spain (20%) [15] [16], the coexistence of the two pandemics (domestic violence and Covid-19) has worsened the health and well-being of those vulnerable groups residing in areas with a higher prevalence of domestic violence. In India [17] and China [18], for instance, domestic violence increased by a factor of two and three, respectively, during the pandemic. Given Malaysia's lengthy history of violence against women [3], the sudden increase in domestic violence since the implementation of the nationwide lockdown (known locally as Movement Control Order, MCO) is expected. Specifically, within the first few weeks of the MCO, Talian Kasih (Caring Hotline) in Malaysia reported a 57 percent increase in the number of calls from women in distress [19], picking up a record 3,308 calls on just one day during the second week of April 2020, in contrast to the average for the day of 145 calls [20]. Similarly, the Women's Aid Organisation (WAO) encountered a 14% increase in calls during the first two weeks of the MCO, which increased by 112% compared to the same period in February during the first two weeks of April [21]. Even though the nature of these contacts demonstrates that Covid-19 social restriction has a greater impact on domestic abuse victims than previously believed, it is imperative that clear and defined strategies be developed to mitigate the effects of such violence.

The socioeconomic distress induced by the Covid-19 pandemic [19] highlights the need for organisational and government-level social capital protection policies. Most research on the effects of domestic violence on women's employment has focused on women receiving public assistance [22,23]. These studies do not, however, discuss the workplace support that can be provided to these women during periods of extreme personal hardship. This latter omission has become quite important as companies navigate the Covid-19 pandemic, where 'work from home' standards have merged the 'home' and 'work' spheres [24]. In order to mitigate the long-term effects of domestic violence on labor productivity, employers must be aware of the various settings in which domestic violence occurs, as the risk to those most susceptible to domestic violence is greater than ever. To this end, the purpose of this study is to fill some of the identified gaps in the literature by gathering more comprehensive data on the effects of the Covid-19 pandemic on domestic violence rates in Malaysia. This exploratory study aims to (a) identify and comprehend the type of domestic violence experienced by women during the pandemic and its consequences in social and work contexts, (b) assess the coping strategies adopted by

abuse victims, and (c) identify the gap in government and organisation support for domestic violence victims.

2. Design Methodology Research

Violence against women is a violation of human rights [3]. As a result, a variety of actions are required to counteract the various pressures they have endured because of social injustice. This exploratory qualitative study investigates and characterises women's experiences with domestic violence and identifies voids in government and organisation assistance to victims of domestic violence during the Covid-19 pandemic. The study was approved by the University of Malaya Research Ethics Committee (UM Approval Ethics No: UM.TNC2/UMREC-1250 and Date: 8.10.2021).

2.1. Participants

For this study, 19 female victims of domestic violence in Malaysia were recruited. Given the stigma associated with domestic violence against women, it was difficult to identify and gain access to participants, so convenient and snowball sampling was used [25]. The use of convenient and snowball sampling in research on domestic violence is a common practice, previous studies used these sampling found that these methods were effective in recruiting participants for family violence studies and intimate partner violence studies [26]. Likewise, studies by [27][28] have successfully used these sampling methods to identify risk factors for domestic violence, such as childhood violence, education level, and having multiple partners.

Participants were selected according to the following criteria: (1) they were Malaysian women who had experienced domestic violence, and (2) they were employed. They were first identified through their network that includes co-workers, relatives, and friends. This method not only saves time but also allows for greater communication with the samples [25]. While using a network of relatives and friends for qualitative research may seem convenient, it is critical to note that there are various flaws that could cause bias in the results. However, with appropriate management, this strategy can generate valid and valuable findings [29][30]. A number of research have demonstrated that the use of convenient sampling in domestic violence studies is not biased since victims of domestic abuse have various experiences and demographic backgrounds [31][32]. This study warrants that there is no presence of bias, as the victims of domestic abuse have varying experiences and come from diverse demographic backgrounds.

There is no minimum sample size needed for qualitative research [33]. Data saturation is the conceptual criterion used for measuring qualitative sample sizes [34]. Sampling is continued until saturation or redundancy is reached, at which time no new insights emerge and the same input is repeated [35]. This study reached saturation after gathering data from the seventieth victim. The responses showed a consistent pattern regarding the types and consequences of domestic violence, the coping strategies, and the available support services for victims. As a result, 19 victims have been considered adequate.

2.2. Data Collection

A semi-structured question was utilized to facilitate in-depth interviews with 19 women victims of domestic violence between September and December 2021. Due to the Covid-19 situation, which made in-person meetings and interactions difficult, interviews were conducted via phone and video conversation. Participants were given their preferred approach.

Personal identifiers were removed and substituted with interview codes to protect confidentiality. Before recording, an information sheet was shared to inform participants about confidentiality and anonymity policies. Participation was voluntary. In addition, the participants' verbal, and documented consent to the use of their data for research objectives was obtained at the time of participation. The

study was approved by the University of Malaya Research Ethics Committee (Universiti Malaya Approval Ethics No: UM.TNC2/UMREC-1250).

Each interview lasted between thirty (30) and sixty (60) minutes and was conducted in Malay language. The interviews were recorded using a voice recorder and transcribed verbatim. Only the quotations of the interviews cited in the findings were translated into English language. The translation of interview quotations from Malay language to English is crucial for clear communication and is essential for ensuring that the intended meaning is accurately conveyed to the readers [37]. The proficiency of the researchers in both Malay and English is instrumental in preserving the nuances and context of the original quotation. Moreover, engaging the original participants in the translation process by sharing the translated quotations for the review ensures the meaning is accurately maintained. These measures collectively ensure the translation does not alter the actual meaning of the quotations.

The questions asked during the interview were guided by the objectives of the study which are the types of domestic violence experienced by women during the pandemic, coping strategies and available supports.

2.3. Data Analysis Method

Since the primary objective of this study is to describe a novel phenomenon, Covid-19, and domestic violence against women, rather than verifying hypotheses, an exploratory investigation has been conducted. The interpretive thematic analysis is used to evaluate qualitative interview data [37]. Before being transcribed, each recorded interview was repeated multiple times to ensure that the data were accurate and consistent with the study's goals. The NVIVO 14 software was utilised with an open and axial coding approach [38] to generate essential themes. The participant responses were triangulated to identify cross-validation and discrepancy [39] to mitigate inconsistencies that may arise during thematic analysis. Four themes were identified from the findings, and they are types of domestic violence, consequences of domestic violence, coping strategies, and governmental and institutional aid. These themes are discussed accordingly in the result sections.

3. Results

3.1. Demographic profile

As shown in Table 1, the study included 19 female victims of domestic violence spanning age from 28 to 59 years old, with a mean age of 39.21 years. Malays (13 participants), Chinese (3 participants), and Indians (3 participants) are among the represented ethnic groupings. The majority (15 participants) of the victims have a bachelor's degree, 2 participants have a master's degree, and 2 participants with a diploma, and their average income is RM 5,534.11. Many of them are married (18 participants) and employed full-time (17 participants), with the majority (17 participants) belonging to the Middle 40% (M40) family income group in Malaysia.

3.2. Theme 1 - Domestic violence types

During the Covid-19 pandemic, all participants reported experiencing some form of domestic violence. Psychological abuse, such as shouting, insulting, nicknaming, and using offensive language, was the most frequently reported form of abuse where 14 participants confirmed they have suffered this type of abuse. This abuse also included judgments on appearance, comparisons to other women, and the exercise of social control. As stated by one participant,

> He will also insult my job and insult my co-workers…. he would compare me to other women and belittle me in front of others (EP_19)

For almost half of these participants, physical abuse was also a concern. Physical abuses such as pushing, striking, beating, kicking, punching, and dragging were frequently reported by these participants. Some participants recalled violent incidents that resulted in facial, head, and eye injuries. A minor fraction (2 participants) had also experienced sexual assault and financial abuse. Sexual assaults refers to any non-consensual sexual act imposed by one spouse on the other whereas, financial abuse is characterized by partners refused to pay for their spouses' healthcare and minimised the necessity of treatment or care.

3.3. Theme 2 - Consequences of domestic violence

Consistent with the mainstream discourse on the effects of domestic violence on victim's health [40][41] there was a clear consensus among participants that domestic abuse had a negative effect on their health. Although it may be less visible or tangible to victims and society, many (18) participants placed greater emphasis on mental health than physical health (3 participants). During the interviews, depression, fear, tension, lack of concentration, insomnia, and low self-esteem were frequently mentioned. This may be a result of the additional burden imposed by the Covid-19 pandemic, particularly the increased exposure to the abuser during the lockdown. According to accounts from the victims,

> I was so traumatised that I was afraid of loud noises; because of the mental and emotional abuse, I became a person who was quickly tired and not energetic when I was at home (EP_19).

> I cannot meet my family and friends (EP_5)

In addition, the pandemic emphasises the spatial complexity of domestic violence, wherein the home has become the workplace for a significant portion of the population. The majority (16) of participants reported that the abusive behaviour of their perpetrators had a negative impact on their work performance, with 9 participants reporting feeling ill or unfocused at work and 4 participants experiencing a lack of confidence and anxiety in social interactions, especially with male colleagues. As a result, among the victims, absenteeism was prevalent (4 participants).

> If the injury was severe, I had to take a few days off. This affected my performance at work (EP_16).

> If we fight or get beaten up, I will typically take medical certification (MC) or emergency leaves if I feel ill (EP_17).

Table 1. Demographic profile of the participants

Attributes	Mean	Interviewee code	No
Average Age (years)	39.21		(19)
Ethnicity:			
Malay		EP_1; EP_2; EP_3; EP_4; EP_5; EP_8; EP_9; EP_10; EP_12; EP_14; EP_15; EP_17; EP_18	(13)
Chinese		EP_7; EP_11; EP_16	(3)
Indian		EP_6; EP_13; EP_19	(3)
Education:			
Diploma		EP_6; EP_13	(2)
Bachelor's degree		EP_1; EP_2; EP_3; EP_4; EP_5; EP_8; EP_10; EP_11; EP_12; EP_14; EP_15; EP_16; EP_17; EP_18; EP_19	(15)
Master's degree		EP_7; EP_9	(2)
Marital status:			
Married		EP_1; EP_2; EP_3; EP_4; EP_5; EP_6; EP_7; EP_8; EP_9; EP_10; EP_11; EP_12; EP_13; EP_14; EP_15; EP_17; EP_18; EP_19	(18)
Unmarried		EP_16	(1)
Type of employment:			
Full-time		EP_2; EP_3; EP_4; EP_5; EP_6; EP_7; EP_9; EP_10; EP_11; EP_12; EP_13; EP_14; EP_15; EP_16; EP_17; EP_18; EP_19	(17)
Contractual		EP_1; EP_8	(2)
Monthly income (RM)	5534.11		(19)
Average Monthly Household Income (RM)*:			
M40	6695.50	EP_1; EP_3; EP_4; EP_5; EP_6; EP_7; EP_8; EP_10; EP_11; EP_12; EP_13; EP_14, EP_15; EP_16; EP_17; EP_18; EP_19	(17)
T20	>10,971	EP_2; EP_9	(2)

Note: * According to the Department of Statistics Malaysia (2020), Households in Malaysia are categorized into three distinct income groups as follows: RM2,500-RM4,849=B40 (Bottom 40% of Malaysian household income); RM4,850-RM10,959 =M40 (Middle 40% of Malaysian household income); Above RM10,960=T20 (Top 20% of Malaysian household income).

3.4. Theme 3 - Coping Strategies

Since women cannot effectively avoid violence in a dominant masculine culture like Malaysia where abuse against women is ingrained in the fabric of society, the participants' responses indicate that a carefully selected mix of positive (4 participants) and negative (17 participants) coping is more effective in mitigating violence. While the literature tends to divide domestic violence coping mechanisms into distinct forms such as active versus passive, problem-oriented coping, social support/approach, and avoidance [42] [39], this study depicts the coping strategies as undichotomized pairs. According to the narratives, the most prevalent coping strategy employed by domestic abuse victims was negative passive avoidance (8 participants), which involved emotional suppression, denial or rationalisation of violent behaviour, avoidance, and social isolation. According to one of the victims

I prefer to be alone and avoid large groups (EP_7)

Even though some studies advocate proactive forms of coping over passive strategies [42][43] of the participants who opted for negative active-avoidance coping reported that these coping mechanisms can be self-destructive as such.

Attempted suicide one time (EP_1)
Took sleeping medication (EP_6)

Similarly, four (4) of abuse victims reported employing negative active-problem-focused coping strategies, such as filing for divorce, filing a police report against the abuser, and engaging a lawyer to represent them in court. Positive passive problem-focused coping (2 participants) such as religious beliefs and physical fitness were also crucial factors in domestic violence victims' recovery.

3.5. Theme 4 - Governmental and institutional aid

Violence against women has increased significantly during the Covid-19 lockdown [44]. Those who experienced abuse during the lockdown felt alone due to the lack of available assistance options [49]. When asked about the organisational support they received from their employers to cope with domestic abuse, 9 participants indicated that the support primarily consisted of unpaid leave subject to management approval. Only 2 participants reported having access to domestic violence counselling and awareness programmes, and 12 participants believed that counselling services would be the most effective and advantageous support their workplace could provide to combat domestic abuse issues.

It is best if a company could have free counselling services for its employees (EP_1)

In addition, some (5) participants advocated for flexible leave benefits while other (3) participants targeted domestic violence awareness programmes.

Need counselling and leave benefits. So far, my company does not allow unpaid leave unless I have a strong medical reason (EP_3).

Being accommodating with respect to the medical certification (MC) taken by the employee (EP_6)

Create workplace awareness through domestic violence (DV) campaigns so victims know what to do (EP_5).

Intriguingly, the narratives of the victims revealed that workplace support alone is insufficient to assist them in overcoming the challenges of domestic violence. While every employer owes a duty of care to their employees under common law, common-law proceedings frequently fail to identify the broader social climate that fosters domestic violence [24]. Consequently, greater coordination and integration of government and organisation support is necessary. Fourteen (14) participants were aware of the government resources already available to victims of domestic violence, such as shelter and counselling services.

Talian Kasih (a crisis hotline service) provides free counselling services (EP_16)

Couples may find JAIS (-intensive counselling sessions more beneficial (EP_18).

Twelve (12) participants were also familiar with the Domestic Violence Act (DVA) of Malaysia, which incorporates a provision to the Emergency Protection Order and further defines the responsibilities of protection officers.

> I am aware that the government has taken additional steps to manage the issues and provide more housing for victims. The DV Act and Protection Order are advantageous (EP_1)

However, few believed that these government acts and regulations were intended to compel employers to alleviate the difficulties domestic abuse victims face. According to participants, the labour law requires revision.

> Law that affords protection and employment security to victims taking unpaid leave or leaves of longer duration for medical reasons (EP_9)

> Paid absence options with flexibility. Modification of caretaker leave for specific concerns, such as domestic violence victim management (EP_11).

4. Discussion

Consistent with reports of domestic violence against women observed at the beginning of the Covid-19 pandemic in March 2020 [44][1], the qualitative findings of this study indicate that gender-based violence has increased in Malaysia during the lockdown. Psychological abuse is the most common form of domestic violence, followed by physical violence. The practice and rate of violence against women can manifest as immediate and/or for a long time physical and mental health problems, as has been well documented in previous studies [46][47]. However, the effects of mental maltreatment have received little attention [41]. Due to the multifaceted nature of mental health issues, victims may exhibit no symptoms and therefore go undiagnosed and untreated [47]. In addition to having negative effects on their health and social interactions, psychological abuse, according to the participants, caused them to lose confidence, concentration, and productivity at work.

This study was conducted in Malaysia during the late and early phases of the second and third waves of the Covid-19 pandemic, respectively. As the home has become the workplace for many, the increased exposure to the abuser during the Covid-19 confinement may explain why most of the victims studied experienced severe distress symptoms during this time. In addition, the victims' uncertainty about what lies ahead, and fear of the uncertainty may have exacerbated their mental health [48]. Given that 17 of these participants belonged to the M40 income group, the M40 income group's complaints have been contextualised. Neither do they have the financial means to enjoy the luxuries of the Top 20% (T20) of the Malaysian household income group, nor do they qualify for the numerous government assistance aimed at the Bottom 40% (B40) of the Malaysian household income group, such as Bantuan Sara Hidup (BSH), a cash assistance programme for households with RM4,000 income per month or less, and PeKa B40, a programme that focuses on non-communicable diseases.

Gender distinctions exist in terms of coping mechanisms for violence. Many underlying biological factors may make women more susceptible to depression and anxiety [49] and distressing events may have a greater impact on them [50]. Despite the difficulties associated with domestic violence and the pandemic, many victims who experienced abuse during the lockdown did not disclose it, according to the findings of this study. This is the case in many countries, particularly developing nations, where patriarchal and religious cultural norms frequently legitimise gender-based violence by placing the burden on women to maintain family unity [51]. Thus, women's decision to tolerate violence may be influenced by their commitment to the relationship [52]. In contrast to previous research that categorised domestic violence coping mechanisms as active versus passive, problem-focused coping, social support/approach, and avoidance [42][53][39], this study revealed that women use a combination

of coping strategies that change over time, oscillating between avoidance or social support or problem-focused to active or passive.

As highlighted by the participants, the adjustments in coping strategies to suit a particular circumstance were primarily due to a lack of available resources and government and organisational support. Negative passive-avoidance coping (suppressing emotions, avoidance, and isolation) and negative active-avoidance coping (self-destructive behaviour) were the two most common coping strategies used by domestic abuse victims. Although active coping actions (approach and engagement responses) have the potential to reduce violence in a woman's life, they may also have negative consequences, such as causing victims to struggle with genocide. This explains why most participants chose a combination of avoidance coping strategies rather than actively pursuing institutional support from law enforcement agencies or deciding to leave their marriage. Therefore, the internal conflict of a victim is a crucial factor that must be considered when designing initiatives to empower women and enhance their coping skills.

However, the most common form of support reported by participants for coping with domestic violence was unpaid leave, which is typically subject to management approval. In addition, the findings revealed that most victims support the implementation of awareness programmes and counselling services. At the micro-level, employers must analyse the coping strategies used by their employees who have experienced domestic abuse and provide therapies or counselling that focuses on helping victims understand their rights as individuals, thereby empowering them to handle their problems more effectively and enhancing their social and emotional well-being. While at the meso-level, activists and policymakers around the world have raised the alarm about the increase in violence against women during this pandemic [54], an interesting aspect that emerged from the victims' narratives is that awareness about government resources that are available to help domestic violence victims, such as shelter, free counselling services, and crisis hotline service (Talian Kasih), is insufficient to address the challenges of domestic violence. It is necessary to have a government and organisation support system that is more coordinated and integrated [24].

Domestic violence legislation as a workplace health and safety concern is especially essential now and, in the years, following the Covid-19 pandemic due to the blurring of spatial boundaries between home and work. As part of the implementation of the policy, the participants suggested that domestic violence legislation be revised to require employers to take steps to alleviate the obstacles faced by victims, such as providing protection and job security for victims taking unpaid leave or longer medical breaks.

5. Implications, Conclusions, and Limitations

Violence against women is the most egregious violation of human rights [3]. While Covid-19 both exacerbated and established mental health challenges to domestic violence victims, there is an alarming dearth of interventions tailored to domestic violence victims in the pandemic context, especially to deal with the blurred lines between "home" and "work" [24]. To the best of our understanding, this is the initial study to assess the severe impact of domestic abuse on Malaysian working women in the context of the Covid-19 pandemic. Therefore, it provides a wealth of data and could serve as a firm foundation for designing effective psychological interventions for women in countries with cultural and societal norms comparable to Malaysia. As a prerequisite to recommending policies to safeguard social capital at both the organisational and governmental levels, this study identifies the forms and consequences of domestic violence faced by women during the Covid-19 pandemic as its first contribution. Next, the report investigates the victims' preferred coping strategies, which may provide policymakers with useful information when developing initiatives to empower women. This study, unlike previous research, contextualises coping strategies as undivided pairs. This

study concludes with additional legislative reforms and actions to alleviate the burden of domestic violence victims.

This study has several limitations; consequently, it warrants further investigation. Due to the fact that the sampling method (snowball) may limit the generalizability of the results, the possibility of selection bias should be considered. Given the atypical lockdown and social distance, the snowball sampling method was the only viable option. In addition, each participant was between 28 and 59 years old, had some postsecondary education, and was employed. Therefore, it would be imprudent to generalise the results to all Malaysian women. Before comparing these results to those from other nations, adjustments must be made.

Ethical Statement:

The study was approved by the University of Malaya Research Ethics Committee (UM Approval Ethics No: UM.TNC2/UMREC-1250 and Date: 8.10.2021).

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Conflict of interest:

There is no competing interest in this study.

Authors' Contribution:

Che-Ha, N – Conceptualization and overall methodology, Analysis, and Writing (45%)
Che Hashim, R – Conceptualization, Methodology and Fieldwork, and Writing (30%)
Karim, N – Data collection, Data Analysis and Data Interpretation (15%)
Othman, S – Field work, Analysis, and Writing (10%)

References

[1] Sánchez, O. R., Vale, D. B., Rodrigues, L., and Surita, F. G., "Violence against women during the COVID-19 pandemic: An integrative review", *International Journal of Gynaecology and Obstetrics*, 151(2), 180–187, 2020. Doi: https://doi.org/10.1002/ijgo.13365

[2] Viero, A., Barbara, G., Montisci, M., Kustermann, K., and Cattaneo, C., "Violence against women in the Covid-19 pandemic: A literature review and a demand for shared strategies to combat health and social emergencies", *Forensic Science International*, 319 (110650), 319, 2021. Doi: https://doi.org/10.1016/j.forsciint.2020.110650

[3] Yusof, M. M., Azman, A., Singh, P. S. J., and Yahaya, M. A., "Qualitative investigation into the coping strategies of female victims of victimisation following separation", *Human Rights and Social Work Journal*, 7, 84-90, 2022. Doi: https://doi.org/10.1007/s41134-021-00199-5

[4] Betron, M., Gottert, A., Pulerwitz, J., Shattuck, D., and Stevanovic-Fenn, N., "Men and Covid-19: Adding a gender lens", *The Journal of Global Public Health*, 15(7), 1090–1092, 2020. Doi: 10.1080/17441692.2020.1769702

[5] Moser, C., Gender Planning and Development: Theory, Practice and Training, Routledge, London, 1993.

[6] McLaren, H. J., Wong, K. R., Nguyen, K. N., and Mahamadachchi, K. N. D., "Covid-19 and women's triple burden: Vignettes from Sri Lanka, Malaysia, Vietnam and Australia", *Social Sciences*, 9(5), 87, 2020. Doi: https://doi.org/10.3390/socsci9050087

[7] Anastario, M. P., Larrance, R., and Lawry, L., "Using mental health indicators to identify postdisaster gender-based violence among women displaced by Hurricane Katrina", *Journal of Women's Health*, 17(9), 1437–1444, 2008. Doi: 10.1089/jwh.2007.0694

[8] Harville, E. W., Taylor, C. A., Tesfai, H., Xiong, X., and Buekens, P., "Experience of Hurricane Katrina and reported intimate partner violence", *Journal of Interpersonal Violence*, 26(4), pp. 833–845, 2011. Doi: https://doi.org/10.1177/0886260510365861

[9] John, N., Casey, S. E., Carino, G., and McGovern, T.., "Lessons never learned: crisis and gender-based violence", *Developing World Bioethics*, 20(2), 65–68, 2020. Doi: https://doi.org/10.1111/dewb.12261

[10] First, J. M., First, N. L., and Houston, J. B., "Intimate partner violence and disasters: A framework for empowering women experiencing violence in disaster settings", *Affilia*, 32(3), 390–403, 2017. Doi: https://doi.org/10.1177/0886109917706338

[11] International Health Organisation (2020b), "The Director-General's introductory remarks at the Covid-19 media briefing", Retrieved from the WHO website at https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-Covid-19, 11-march-2020.

[12] Yahya, A. S., Khawaja, S., and Chukwuma, J., "Association of COVID-19 with intimate partner violence", *The Primary Care Companion for CNS Disorders*, 22 (3), 27392, 2020. Doi: 10.4088/PCC.20com02634

[13] Neil, J., "Domestic violence and HIV prevalence 19", *Australian General Practitioners Journal,* 2020, *Retrieved from* https://web.archive.org/web/20201105235027id_/https://www1.racgp.org.au/getattachment/6f14564c-e1ef-447d-b920-303ba93d0cac/Domestic-violence-and-COVID-19.aspx

[14] Mahase E., "Covid-19: EU states report 60% rise in emergency calls about domestic violence" BMJ: *British Medical Journal* (Online) 369, pmid: 32393463, 2020.

[15] Bradbury-Jones, C., and Isham, L., "The pandemic paradox: The consequences of Covid19 on domestic violence", *Nursing Clinical Journal*. Jul. 29(13-14), 2047-2049, 2020. Doi: 10.1111/jocn.15296

[16] Weatherall, R., Gavin, M., and Thorbun, N. "Safeguarding women at work? Lessons from Aotearoa New Zealand on effectively implementing domestic violence policies", *Journal of Industrial Relations*, 63(4). 568-590, 2021. Doi: https://doi.org/10.1177/0022185621996766

[17] Malathesh, B. C., S. Das, and S. S. Chatterjee, "Covid-19 and violence against women in the home", *Asian Journal of Psychiatry*, 53, 102227, 2020.

[18] Noman, A. H. M., M. D. Griffiths, S. Pervin, and M. N. Ismail., "The negative effects of the pandemic of COVID-19 on domestic violence against women", *Journal of Psychiatric Research.*134, 111–112, 2021. Doi: 10.1016/j.jpsychires.2020.12.057

[19] Yong, S. S., & Sia, J. K. M. "COVID-19 and social wellbeing in Malaysia: A case study" *Current Psychology*, 42(12), 9577-9591, 2023.

[20] UNICEF., "Examining the Effects of Covid-19 on Vulnerable Children and Families in Malaysia. Impact of Covid-19 on Vulnerable Children and Families in Malaysia.pdf", 2020, Retrieved from https://www.unicef.org/malaysia/media/1916/file/Impact of Covid-19 on Vulnerable Children and Families in Malaysia.pdf.

[21] Jung, Y. P., "Domestic Violence and Women's Safety During the Covivirus-19 Pandemic. Domestic-Violence-Covid-19.pdf", 2020, Retrieved from https://penanginstitute.org/wp-content/uploads/2020/12/Domestic-Violence-Covid-19.pdf

[22] Riger, S., Ahrens, C., and Blickenstaff, A., "Measuring the interference with employment and education reported by women with violent partners: Preliminary data", *Violence and Victims,* 15 (2), 161–172, 2000. Doi: 10.1891/0886-6708.15.2.161

[23] Swanberg, J. E., Logan, T. K., and Macke, C., "Intimate partner violence, employment, and the workplace: Consequences and future directions", *Trauma, Violence, and Abuse*, 6(4), 286–312, 2005. Doi: 10.1177/1524838005280506

[24] Weatherall, R., Gavin, M., and N. Thorburn, "Safeguarding women at work? Lessons from Aotearoa New Zealand on how to effectively implement policies regarding domestic violence", Journal *of Industrial Relations,* 63(4). 568-590, 2021. Doi: https://doi.org/10.1177/0022185621996766

[25] Polit, D., & Beck, C. Essentials of nursing research. *Ethics*, 23(2),145-160, 2012.

[26] Slep, A. M. S., Heyman, R. E., Williams, M. C., Van Dyke, C. E., & O'Leary, S. G., "Using random telephone sampling to recruit generalizable samples for family violence studies", *Journal of Family Psychology, 20*(4), 680–689, 2006. Doi: https://doi.org/10.1037/0893-3200.20.4.680

[27] Andersson, N., Ho-Foster, A., Mitchell, S., Scheepers, E., & Goldstein, S., "Risk factors for domestic physical violence: national cross-sectional household surveys in eight southern African countries", *BMC Women's Health,* 7:11**,** 2007. Doi: 10.1186/1472-6874-7-11

[28] Jewkes, R., Levin, J., & Penn-Kekana, L. "Risk factors for domestic violence: findings from a South African cross-sectional study", *Social science & medicine, 55 9,* 1603-17, 2002.

[29] Robinson, O.C. "Sampling in Interview-Based Qualitative Research", *A Theoretical and Practical Guide. Qualitative Research in Psychology*, 11, 25 – 41, 2014. Doi: https://doi.org/10.1080/14780887.2013.801543

[30] Bell-Martin, R.V., & Marston, J.F. "Confronting Selection Bias: The Normative and Empirical Risks of Data Collection in Violent Contexts", *Geopolitics*, 26, 159 – 192, 2019. Doi: https://doi.org/10.1080/14650045.2019.1659780

[31] Bajracharya, A., & Amin, S. "Microcredit and Domestic Violence in Bangladesh: An Exploration of Selection Bias Influences", *Demography,* 50, 1819-1843, 2013. Doi: https://doi.org/10.1007/s13524-013-0226-0

[32] Nagassar, R., Rawlins, J., Sampson, N., Zackerali, J., Chankadyal, K., Ramasir, C., & Boodram, R. "The prevalence of domestic violence within different socio-economic classes in Central Trinidad", *The West Indian Medical Journal,* 59(1), 20-5, 2010.

[33] Kumar, S., Kumar, R. S., & Prabhu, M. G. N. "Sampling framework for personal interviews in qualitative research", *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(7), 7102-7114, 2020.

[34] Guest, G., Namey, E., & Chen, M. "A simple method to assess and report thematic saturation in qualitative research", PloS one, 15(5), e0232076, 2020. Doi: https://doi.org/10.1371/journal.pone.0232076

[35] Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newberry Park. Sage Publications Inc

[36] Maher, A. "Quotations in translation: A case study", The *International Journal of Translation and Interpreting Research*, 5(2) August, 101-124, 2013.

[37] Braun, V., and Clarke, V., "Using thematic analysis in psychology", *Qualitative Research in Psychology*, 3(2), 77–101, 2006. Doi: 10.1191/1478088706qp063oa

[38] Strauss, A., and Corbin, J., Fundamentals *of qualitative research*. Sage Publications Inc., 1990.

[39] Van der Putten, M., and Nur-E-Jannat, A., "Coping with domestic violence: women's voices in Bangladesh", *Journal of Health Studies*, 36(1), 77-88, 2020. Doi: https://doi.org/10.1108/JHR-02-2020-0026

[40] Ozcakar, N., Yeşiltepe, G., Karaman, G., and Ergonen, A. T., "Domestic violence survivors and their experiences during the legal process", *Journal of Forensic and Legal Medicine*. 40, 1–7, 2016. Doi: 10.1016/j.jflm.2016.01.023

[41] Su, Z., McDonnell, D., Roth, S., Li, Q., Šegalo, S., Shi, F., and Wagers, S., "Mental health solutions for domestic violence victims amid COVID-19: a review of the literature", *Globalisation and Health*, 17(1), 1–11, 2021. Doi: https://doi.org/10.1186/s12992-021-00710-7

[42] Childress, S., Gioia, D., and Campbell, J. C.,"Women's strategies for coping with the impacts of domestic violence in Kyrgyzstan: A grounded theory study", *Social Work in Health Care*, 57(3), 164-189, 2018. Doi: 10.1080/00981389.2017.1412379

[43] Smith, P. H., C. E. Murray, and A. L. Coker., The coping window: A contextual understanding of the methods women use to cope with battering", *Violence and Victims*, 25(1), 18–28, 2010. Doi: 10.1891/0886-6708.25.1.18

[44] Bellizzi, S, Nivoli, A., Lorettu, L., and Ronzoni, A. R., "Human rights during the Covid-19 pandemic: the issue of female genital mutilations", *Public Health*, 185: 53-54, 2020. Doi: 10.1016/j.puhe.2020.05.037

[45] Sediri, S., Zgueb, Y., Ouanes, S., Ouali, U., Bourgou, S., Jomli, R., and Nacef, F., "Women's mental health: acute impact of COVID-19 pandemic on domestic violence", Archives *of Women's Mental Health, 23*(6), 749-756, 2020. Doi: 10.1007/s00737-020-01082-4

[46] Sharma, K. K., Vatsa, M., Kalaivani, M., and Bhardwaj, D., "Mental health effects of domestic violence against women in Delhi: A community-based study", *Journal of Family Medicine and Primary Care*. 8(7), 2522, 2019. Doi: 10.4103/jfmpc.jfmpc_427_19

[47] Trevillion, K., Hughes, B., Feder, G., Borschmann, R., Oram, S., and Howard, L. M., "Disclosure of domestic violence in mental health settings: A qualitative meta-synthesis", *International Review of Psychiatry*, 26(4), 430–444, 2014.

[48] Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., and Rubin, G. J., "The psychological impact of quarantine and how to reduce it: rapid review of the evidence.", *The Lancet*, 395(10227). 912–920, 2020. Doi: https://doi.org/10.1016/S0140-6736(20)30460-8

[49] Verma, R., Balhara, YPS., and Gupta, C. S., "Gender Differences in Stress Response – Role of developmental and biological determinants," *Industrial Psychiatry Journal*, 20(1), 4-10, 2011. Doi: 10.4103/0972-6748.98407

[50] Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., and Ho, R. C., "Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-

19) epidemic among the general population in China", *International Journal of Environmental Research and Public Health,* 17(5), 1729, 2020. Doi: https://doi.org/10.3390/ijerph17051729

[51] Zgueb, Y., Ouali, U., Achour, R., Jomli, R., and Nacef, F., "Cultural aspects of vaginismus therapy: a case series of Arab-Muslim patients", *The Cognitive Behaviour Therapist,* 12, e3, 2019. Doi: https://doi.org/10.1017/S1754470X18000119

[52] Hassouneh-Phillips, D., "American Muslim women's experiences of leaving abusive relationships", *Health Care for Women International,* 22(4), 415–432, 2001. Doi: https://doi.org/10.1080/07399330119163

[53] Waldrop, A. E., and Resick, P. A., "Coping among adult female victims of domestic violence", *Journal of Family Violence,* 19(5), 291–302, 2004. Doi: https://doi.org/10.1023/B:JOFV.0000042079.91846.68

[54] Meyer, A., Wagner, B., and Dutton, M. A., "The relationship between battered women's causal attributions for violence and coping efforts", *Journal of Interpersonal Violence,* 25(5), 900–918, 2010. Doi: https://doi.org/10.1177/08862605093369

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Research Article

NURSE FACULTY MEMBERS' PERCEPTION OF DIVERSITY MANAGEMENT: A CROSS-SECTIONAL ONLINE SURVEY IN TURKEY

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Abstract*: Academic organizations are institutions where people with different backgrounds come together. However, the perceptions of academic nursing faculty members on diversity management are unknown. This aims to determine the perceptions of academic nursing faculty members regarding diversity management. A total of 351 volunteer academic nursing faculty members participated in the study. The study data were collected using an online survey. It was determined that the perception of the diversity management of academic nursing faculty members is at a moderate level. In addition, academic nurse there were statistically significant differences between groups in terms of title, administrative duties, institutional experience, and management style of the institution ($p < 0.05$). To increase the perception of diversity management of academic nursing faculty members, raising awareness of academic unit managers and adopting diversity management approaches can be recommended.*

Keywords: *academic nursing faculty members, diversity management, nursing, nurses.*

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1. Introduction

"Diversity," which is considered a concept that needs to be managed in all aspects of life today, refers to the differences that are inherent or acquired later and can be seen or invisible in the work-life among employees in terms of age, gender, sexual orientation, race, language, religion, ethnic origin, culture, physical characteristics, disability, belief, opinions, etc. [1, 2]. The idea that differences are the cause of wealth for organizations has led to the emergence of the understanding of "diversity management" [3]. Organizational changes and developments, as well as the phenomenon of creativity and globalization, have also required organizations to manage diversities [4]. Today, especially as a result of demographic changes in society, individuals from three different generations working together in organizations have become one of the situations that increase the importance of diversity management.

R. Roosevelt Thomas, one of the first to use the concept of diversity management, defined it as "the process of creating and maintaining a work environment in which the differences and similarities of employees are valued so that employees can use their full potential in a way that contributes to the strategic goals and objectives of the organization" [5]. In other words, diversity management is defined as the method used to balance the problems arising from the differences of the individuals that make up an organization [6]. It also encompasses specific policies and programs developed in an organization, often to recruit, promote, and retain different employees [7, 8].

Diversity management, which is a means of accepting and benefiting from differences [9], contributes to organizational goals by incorporating elements such as a new perspective, knowledge, skills, and experience for the organization [10] as well as enables the members of the organization to reach their true potential [11, 12]. Institutions that employ people with different characteristics should create an organizational system that can use the benefits of these differences to their advantage, increase productivity, and eliminate or balance the damages [1, 3].

The purpose of diversity management is to reach a common point from many differences, to give equal opportunities to everyone, to ensure that individuals perceive themselves as separate values, and to make the most efficient use of the skills that each individual has [9, 1]. With this understanding, creative changes within the organization and the solution to emerging environmental and internal problems will be possible [10, 12]. When the diversities are managed well, it has been determined that the turnover of personnel in organizations decreases, the morale of the employees increases, the intention to leave the job decreases, and organizational commitment, organizational citizenship behavior, and organizational trust increase, and the perception of organizational justice is positively affected [4, 10, 13, 14, 15, 16, 17, 18, 19].

Academic organizations are organizations where educators with different levels of education, cultures, personality traits, abilities, opinions, beliefs, knowledge, skills, etc., work together. When these differences are not effectively managed, they can lead to disagreements, conflicts, cliques, and consequently, situations such as reduced productivity, alienation from work, and loss of qualified workforce [20, 21]. The importance of the diversity management approach cannot be underestimated in academic institutions where the production, dissemination, access, and use of scientific knowledge are ensured and future professionals are shaped. Diversity management in academic institutions becomes even more important to avoid situations that will adversely affect productivity, to ensure organizational commitment and job satisfaction, to achieve academic goals, and to increase performance [20, 22].

Academic nursing faculty members, who train professional members in the field of nursing, which is an important part of health services, are expected not to adopt a uniform approach due to their professional philosophy, to be able to train professionals who serve by accepting the differences between individuals, and manage these differences well and be role models in this regard to teach their students to respect differences, not to discriminate, and to serve according to ethical principles such as equality and justice. However, in the literature review conducted, no study was found regarding how academic nursing faculty members perceive differences in the institutions where they work. Based on this need, this study aimed to examine the perceptions of academic nursing faculty members toward diversity management in the institutions where they work.

2. Methods

2.1. Objectives and Design

This study is designed as descriptive and cross-sectional to assess the perceptions of academic nursing faculty members regarding diversity management.

2.2. Research Questions

The study sought answers to the following questions:

1. What is the level of perception of academic nursing faculty members about diversity management?
2. What factors influence the perceptions of academic nursing faculty members regarding diversity management?

2.3. Participants

The population of the study consists of academic nursing faculty members working in Turkey (N=2200). The study did not employ a sampling method, and an attempt was made to reach all academic nursing faculty members in the study universe. However, out of the academic nursing faculty members to whom the survey forms were sent, 351 voluntarily participated in the study and filled out the survey form.

2.4. Instruments

The study data was collected using an online survey form that included a descriptive information form and the Diversity Management Scale.

Descriptive Information Form: It is a form prepared by the researchers containing 10 questions to determine the characteristics of the participants such as gender, age, marital status, year of birth, department they work in, etc.

Diversity Management Scale (DMS): The "Diversity Management Scale" developed by Balay and Sağlam (2004) for educators consists of 28 items in total. The scale consists of 3 sub-dimensions "individual attitudes and behaviors (Needing different experiences of colleagues when solving individual problems, tolerating different thinking tendencies among colleagues and accepting differences in behavior as natural, etc.)", "organizational values and norms (Rather than prejudices, a tendency to think flexibly, being open to exchanging ideas, being able to communicate with those who have different personality traits, being careful about issues that colleagues are sensitive about, etc.) ", and "administrative practices and policies (Managers must not give privileges to anyone because of their political views or tendencies, must be treated fairly in assignments, must not allow separations based on status differences, etc.)". The highest score that can be obtained from the 5-point Likert-type scale (1 - completely disagree, 2 - disagree, 3- undecided, 4- agree, and 5- completely agree) is 140, and the lowest score is 28 and is evaluated over both total scores and the sub-dimension scores. An increase in the score indicates a higher perception of diversity management meaning that differences are well managed. The total Cronbach's alpha value for the scale is .97, while it ranges from .77 to .95 for the sub-dimensions [11]. In this study, the total Cronbach's alpha value for the scale was found to be .96, while it ranged from .82 to .96 for the sub-dimensions.

2.5. Data Collection

Study data were collected through an online questionnaire between June and December 2021. The questionnaire was sent to academic nursing faculty members through both group communication mobile applications and their institutional email addresses, inviting them to participate in the study. The questionnaire was sent three times at intervals of one week reminded of the research and invited again. However, 351 of the academic nursing faculty members voluntarily participated in the study.

2.6. Data analysis

The study data were evaluated using the IBM SPSS Statistics 20 package software. Normality was tested using skewness and kurtosis values. Parametric tests were used to evaluate data that conformed to a normal distribution, and nonparametric tests were used to evaluate data that did not conform to a normal distribution. Cronbach alpha coefficient, frequency and percentage distribution, descriptive statistics, t-test, ANOVA test, and Kruskall Wallis tests were used to evaluate the data.

2.7. Ethical considerations

Ethical approval was obtained from the Bandirma Onyedi Eylul University Ethics Committee (Date:23.05.2021; No:2021-33). In the study, the participants were informed through the informed

consent form, and those who volunteered were enabled to participate. In addition, permission was obtained from the author who developed the Diversity Management Scale regarding the use of the scale.

3. Results

3.1. Characteristics of academic nursing faculty members

When examining the demographic characteristics of academic nurses, it was found that 91.2% of the participants were female, 66.4% were married, 66.4% were born between 1981 and 2000, 16.2% worked in the Department of Surgical Diseases Nursing, 32.9% held the title of Assistant Professor, 72.9% did not have administrative duties, 76.6% worked in a Faculty of Health Sciences or School of Health, 24% had professional experience between 11-15 years, 43.3% had institutional experience between 1-5 years, and 38.2% found the management style of their institutions to be democratic (Table 1).

Table 1. Distribution of the descriptive characteristics of academic nursing faculty members (n:351)

Descriptive Characteristics		n (number)	% (percent)
Gender	**Female**	**320**	**91.2**
	Male	31	8.8
Marital Status	**Married**	**233**	**66.4**
	Single	118	33.6
Year of birth	1980 and before	118	33.6
	1981 to 2000	**233**	**66.4**
Department	Fundamentals of Nursing	49	14.0
	Internal Medicine Nursing	50	14.2
	Surgical Diseases Nursing	**57**	**16.2**
	Women's Health and Diseases Nursing	30	8.7
	Pediatric Nursing	38	10.8
	Mental Health and Diseases Nursing	24	6.8
	Public Health Nursing	50	14.2
	Teaching and Management in Nursing	53	15.1
Title	Prof. Dr.	22	6.2
	Assoc. Prof. Dr.	49	14.0
	Asst. Prof. Dr.	**115**	**32.9**
	Lecturer	66	18.9
	Research Assistant	99	28.0
Presence of administrative duty	Yes	95	27.1
	No	**256**	**72.9**
Employed institution	Faculty or School of Nursing	82	23.4
	Faculty of Health Sciences or School of Health	**269**	**76.6**
Professional Seniority	Less than 5 years	77	22.0
	6-10 years	69	19.7
	11-15 years	**84**	**24.0**
	16-20 years	42	11.7
	21 years and more	79	22.6
Year of employment at the institution	Less than 1 year	23	6.6
	1-5 years	**152**	**43.3**
	6-10 years	91	25.9
	11-15 years	40	11.4
	16-20 years	19	5.4
	21 years and more	26	7.4
The management style of the institution	Autocratic management style	87	24.8
	Democratic management style	**134**	**38.2**
	Participatory management style	93	26.5
	Exploitative management style	37	10.5
	Total	**351**	**100.0**

3.2. Levels of diversity management perception of academic nursing faculty members

Academic nurses scored M= 12.86±3.51 points for the "individual attitudes and behaviors" sub-dimension of DMS M=25.41±7.28 points for the "organizational values and norms" sub-dimension M=49.31±14.79 points for the "administrative practices and policies" sub-dimension and M= 87.59±23.13 points for the overall DMS (Table 2).

Table 2. Distribution of DMS total and sub-dimension scores of academic nursing faculty members

DMS Sub-dimensions	Min	Max.	Mean ± SD.
Individual attitudes and behaviors	4.00	20.00	12.86± 3.51
Organizational values and norms	8.00	40.00	25.41± 7.28
Administrative practices and policies	16.00	80.00	49.31± 14.79
Total	**28.00**	**140.00**	**87.59± 23.13**

3.3. The factors influencing the perception of diversity management among academic nursing faculty members

When the mean scores of the sub-dimensions of DMS were evaluated according to the characteristics of academic nursing faculty members, it was determined that academic nursing faculty members born in 1980 or earlier, female, working in the Department of Surgical Diseases Nursing, holding the title of professor, having administrative duties, having 21 years and more professional experience, having less than 1 year of institutional experience, and evaluating the management style of their institution as "participatory" had higher scores in the *"individual attitudes and behaviors"* sub-dimension. There were statistically significant differences between groups in terms of years of service in the institution and the management style of the institution ($p < 0.05$) (Table 3).

In the *"organizational values and norms"* sub-dimension of DMS, it was found that academic nursing faculty members born in 1980 or earlier, female, married, working in the Department of Internal Medicine Nursing, holding the title of professor, having administrative duties, having 21 years and more professional experience, having less than 1 year of institutional experience, and evaluating the management style of their institution as "participatory" had higher mean scores, and there were statistically significant differences between groups in terms of having administrative duties and the management style of the institution ($p < 0.05$) (Table 3).

In the "*administrative practices and policies"* sub-dimension of DMS, it was found that academic nursing faculty members born in 1980 or earlier, female, single, working in the Department of Internal Medicine Nursing, holding the title of professor, having administrative duties, having 21 years and more of both professional and institutional experience, and evaluating the management style of their institution as "participatory" had higher sub-dimension scores, and there were statistically significant differences between groups in terms of title, having administrative duties, institutional experience, and the management style of the institution ($p < 0.05$) (Table 3).

Table 3. Total and sub-dimension score averages of DMS according to the characteristics of academic nursing faculty members (n: 351)

Descriptive Characteristics		DMS Total		Individual attitudes and behaviors		Organizational values and norms		Administrative practices and policies	
		Mean ± SD.	**Test/p**	**Mean ± SD.**	**Test/p**	**Mean ± SD.**	**Test/p**	**Mean ± SD.**	**Test/p**
Gender	Female	88.06± 23.37	t: 1.232 p: 0.219	12.95± 3.53	t: 1.552 p: 0.122	25.60± 7.24	t: 1.571 p: 0.117	49.50± 14.92	t: 0.785 p: 0.433
	Male	82.70± 20.30		11.93± 3.24		23.45± 7.52		47.32± 13.45	
Year of birth	1980 and before	90.16± 24.17	t: 1.481 p: 0.140	13.21± 3.38	t: 1.302 p: 0.194	25.90± 7.11	t: 0.908 p: 0.364	51.04± 15.89	t: 1.559 p: 0.120
	1981-2000	86.29± 22.53		12.69± 3.57		25.15± 7.37		48.44± 14.16	
Marital Status	Married	87.27± 23.59	t: -0.369 p: 0.712	12.84± 3.45	t: -0.175 p: 0.861	25.62± 7.28	t: 0.781 p: 0.435	48.79± 15.04	t: -0.921 p: 0.357
	Single	88.23± 22.28		12.91± 3.63		24.98± 7.30		50.33± 14.29	
Department	Fundamentals of Nursing	89.75± 18.45	KW: 4.149 p: 0.762	13.22± 3.34	KW:5.972 p: 0.543	26.40± 5.60	KW:7.028 p: 0.426	50.12± 12.10	KW:4.061 p: 0.773
	Internal Medicine Nursing	92.46± 21.85		13.20± 3.42		26.68± 7.22		52.58± 14.07	
	Surgical Diseases Nursing	87.35± 24.94		13.33± 3.57		25.75± 7.50		48.26± 16.59	
	Women's Health and Diseases Nursing	84.93± 26.04		12.66± 4.59		25.03± 7.98		47.23± 15.72	
	Pediatric Nursing	83.68± 26.33		12.31± 3.43		22.63± 8.91		48.73± 16.48	
	Mental Health and Diseases Nursing	87.58± 24.53		12.58± 3.94		25.66± 7.89		49.33± 14.78	
	Public Health Nursing	84.98± 25.32		12.84± 3.47		24.72± 7.86		47.42± 15.98	
	Teaching and Management in Nursing	88.05± 19.44		12.39± 2.94		25.66± 5.61		50.00± 12.96	
Title	Prof. Dr.	95.09± 25.55	KW: 10.053 **p: 0.040***	13.68± 3.27	KW: 3.534 p: 0.473	27.09± 6.96	KW:5.336 p: 0.254	54.31± 17.60	KW:10.479 **p: 0.033***
	Assoc. Prof. Dr.	92.48± 25.42		13.40± 3.35		26.97± 7.14		52.10± 16.68	
	Asst. Prof. Dr.	89.00± 22.12		12.89± 3.43		25.56± 7.15		50.55± 13.88	
	Lecturer	84.54± 23.29		12.54± 3.85		24.69± 7.63		47.30± 14.34	
	Research Assistant	83.84± 21.88		12.60± 3.50		24.55± 7.28		46.69± 14.05	
Presence of administrative duty	Yes	94.87± 20.64	t: 3.652 **p: 0.000*****	13.41± 3.09	t: 1.764 p: 0.079	27.23± 6.41	t: 2.882 **p: 0.004****	54.23± 13.35	t: 3.866 **p: 0.000*****
	No	84.89± 23.46		12.66± 3.64		24.73± 7.48		47.49± 14.91	

Descriptive Characteristics		DMS Total		Individual attitudes and behaviors		Organizational values and norms		Administrative practices and policies	
		Mean ± SD.	**Test/p**	**Mean ± SD.**	**Test/p**	**Mean ± SD.**	**Mean ± SD.**	**Test/p**	**Mean ± SD.**
Employed institution	Faculty or School of Nursing	87.04± 22.78	t: -0.244 p: 0.807	12.91± 3.30	t: 0.134 p: 0.893	25.17± 7.29	t: -0.340 p: 0.734	48.96± 14.13	t: -0.246 p: 0.806
	Faculty of Health Sciences or School of Health	87.76± 22.78		12.85± 3.58		25.48± 7.29		49.42± 14.96	
Professional Seniority	Less than 5 years	89.19± 21.27	F: 1.782 p: 0.132	13.36± 5.50	F: 1.854 p: 0.118	26.07± 7.09	F: 1.275 p: 0.280	49.75± 13.82	F: 1.792 p: 0.130
	6-10 years	81.52± 22.46		12.28± 3.55		23.78± 4.47		45.45± 13.77	
	11-15 years	87.78± 23.25		12.34± 3.53		25.25± 7.58		50.19± 14.78	
	16-20 years	87.68± 24.01		12.92± 3.39		25.92± 6.55		48.82± 15.53	
	21 years and more	91.16± 24.41		13.43± 5.45		26.10± 7.28		51.63± 15.87	
Year of employment at the institution	Less than 1 year	96.86± 21.57	KW: 14.631 **p: 0.012***	14.52± 3.46	KW: 17.851 **p: 0.003****	28.21± 6.72	KW: 9.967 p: 0.076	54.13± 15.17	KW: 9.967 **p: 0.032***
	1-5 years	85.24± 21.54		12.75± 3.42		25.00± 6.98		47.48± 13.77	
	6-10 years	85.18± 24.18		12.15± 3.86		24.56± 7.74		48.47± 14.34	
	11-15 years	91.60± 24.42		13.55± 2.80		26.67± 7.68		51.37± 16.93	
	16-20 years	84.31± 22.00		11.84± 3.02		23.73± 6.70		48.73± 14.16	
	21 years and more	97.80± 24.89		14.30± 3.28		27.53± 6.95		55.96± 16.91	
The management style of the institution	Autocratic management style	74.41± 20.07	F: 44.756 **p: 0,000*****	11.77± 3.15	F: 14.736 **p: 0.000*****	22.51± 7.19	F: 14.736 **p: 0.000*****	40.12± 12.48	F: 55.301 **p: 0.000*****
	Democratic management style	94.55± 20.01		13.40± 3.38		26.79± 6.43		54.36± 12.67	
	Participatory management style	98.81± 17.69		14.07± 2.97		28.01± 6.34		56.78± 10.96	
	Exploitative management style	65.02± 22.62		10.78± 4.20		20.67± 8.30		33.86± 12.89	

*p < 0.05;**p < 0.01;***p < 0.001; KW: Kruskal Wallis; t: t-test; F: One way ANOVA test

In general, when the scores obtained from DMS were examined, it was found that academic nursing faculty members born in 1980 or earlier, female, single, working in the Department of Internal Medicine Nursing, holding the title of professor, having administrative duties, having 21 years and more of both professional and institutional experience, and evaluating the management style of their institution as "participatory" had higher sub-dimension scores, and there were statistically significant differences between groups in terms of title, having administrative duties, institutional experience, and the management style of the institution ($p < 0.05$) (Table 3).

4. Discussion

Diversity management, which has become a necessity for all organizations in the globalizing world, is also a significant management approach for academic organizations. Especially in academic organizations, which have many functions such as knowledge production, dissemination, utilization, and the training of professional members, ensuring the productivity of academics requires, first and foremost, the effective management of the differences they possess and the presence of positive perceptions of diversity management among academics.

The results of this study, which aimed to determine the perceptions of academic nursing faculty members about diversity management, showed that academic nursing faculty members have moderate perceptions of diversity management in their workplaces, both in terms of individual attitudes and behaviors, organizational values, and norms, and administrative practices and policies, as well as overall diversity management. While this finding is considered a positive finding in order not to have negative perceptions of academic nursing faculty members on diversity management, it also reveals the necessity of increasing their perceptions of this issue positively. In some studies conducted in the field of education, teachers' perceptions of diversity management are at a moderate level [17, 24], while the level of perception is high in some studies [23, 25].

In this study, it was determined that academic nursing faculty members born before 1980, belonging to the X generation, female, and having more than 21 years of professional experience had more positive perceptions of diversity management, although there were no significant differences. Some studies have found that there is no difference in diversity management perception based on gender [3, 25, 26], while others have found that perceptions of diversity management vary by gender [17, 23, 27].

These findings may be influenced by the fact that the majority of participants were women, but they predominantly worked in institutions where differences were relatively more prevalent, such as Health Sciences Faculties or Health Vocational Schools, compared to other institutions.

Although there was no significant difference in the study, it was observed that the participants in Generation X had a more positive perception. This finding is consistent with the findings for professional experience. It is believed that older and more senior generations of academic nursing faculty members, due to their life experiences, may have more positive perceptions because they have encountered differences more often compared to others. While this finding overlaps with some studies [25, 27, 28] in which the age variable is addressed, it differs from some studies [29, 30]. Considering that the participants in the study are individuals from two different generations and that Generation Z has not yet joined the working life, the absence of significant difference between the two close generations can be considered a positive finding in terms of the compatibility of the working environment.

It was observed that there were no significant differences in the perceptions of diversity management according to marital status, institution, and department of academic nursing faculty members, but participants who were single, working in the Internal Medicine Nursing department and School of Health Sciences / School of Health had a more positive perception. Previous studies have also found no significant difference in diversity management perception based on marital status [29, 31]. The

participants' perception being more positive is believed to be mainly because they mostly work in the Faculty of Health Sciences/Health Vocational School where there are more differences in terms of department, profession, gender, beliefs, culture, and having more opportunities to observe and evaluate these differences in the context of diversity management.

In the study, the differences in perception among the participants in terms of title, administrative duty, institutional experience, and management style of the institution were evaluated as remarkable findings. In particular, it is seen that professors have a more positive perception of administrative policies and practices. This suggests that professors take more into account differences in the decisions they make because they are more involved in decision-making mechanisms and decision-making roles in the institutions where they work, and that their ability to accept and cope with differences improves depending on their professional and especially institutional experiences. In the study, the fact that academic nursing faculty members who have administrative duties and have more institutional and professional experience have a more positive perception is in parallel with this finding. There hasn't been a study in the literature that compares the perception of diversity management based on academic titles. However, in the studies conducted on teachers, the perception of diversity management differed according to seniority [17, 24]. In addition, it has been found that managers have a higher perception of diversity management compared to employees, and school principals have a higher perception compared to teachers [25, 27, 32]. In another study conducted in health institutions, it was similarly determined that the personnel in managerial positions were more positive in their perception of diversity management than the employees [33].

The most noteworthy finding of the study is that there are differences in the perceptions of academic nursing faculty members both on all sub-dimensions and on diversity management in general, according to the management style they perceive in the institution they work for. While it is seen that this perception is more positive, especially in institutions where the participatory management approach is dominant, it is determined that the lowest perception is in institutions with an exploitative management approach. It is considered that the diversity management perceptions of academic nursing faculty members are more positive in the participatory management approach due to the features of the participatory management approach, such as taking the opinions of different people, adopting the understanding of pluralism, having a common decision-making understanding, and the participation of academic nurses with different characteristics in the decision-making processes. The results of various studies in different fields have shown a positive relationship between servant leadership and diversity management ability [29], and a negative relationship between mobbing, which falls within the scope of an exploitative management approach, and the perception of diversity management [34]. These findings support the results of the current study. This finding reveals the effect of the management approach of academic institutions on the perceptions of diversity management.

4.1. Strengths and Limitations

This study is important and robust in that it includes nurse academics from various regions of Turkey, rather than just a single institution or region, and it is one of the first studies to examine perceptions of diversity management. However, it also has some limitations. The use of online surveys due to the pandemic has limited participation in the study as it prevented face-to-face data collection. Therefore, the results of the study are limited to the self-reports of the academic nursing faculty members participating in the study. Furthermore, the lack of other studies conducted with academic nursing faculty members on this topic has limited the comparison of the study results.

5. Conclusions

It is important for academic nurses, who have an important place in the advancement of nursing science and the training of future nurses, to have diversity management skills in order to be role models. As a result of this study, it was revealed that academic nurses' diversity management perceptions were at a medium level, and especially the title of the institution, administrative duty, institutional experience and management style affected their diversity management perceptions. The medium level of diversity management perception indicates that academic nurses perceived that their managers and colleagues' individual differences, ideas and behavioral differences were not managed in a fully tolerant manner.

It is important for the productivity of academic nurses who are currently working under difficult working conditions to be accepted in the institutions they work in based on their contributions to the profession and their students, rather than their individual ideas and opinions (individual differences, political views, perspectives, ethnic origins, etc.). It is likely that the commitment to the institution, job satisfaction, motivation and unhappiness of academic nurses whose differences are not respected will increase. In the future, their leaving the institution and causing loss of workforce may become an even more serious problem.

Working in an institutional culture where differences are well managed, together with a safe and fair institutional culture environment, will increase the professional satisfaction, productivity and collegiality of academic nurses.

Ethical statement:

The study was approved by the Health Sciences Non-Interventional Research Ethics Committee of Bandırma Onyedi Eylül University (Date: 23.05.2021 & No: 2021-33).

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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Implications:

According to the research results, it is recommended to raise awareness among academic unit administrators such as deans, directors, and department heads to promote a more positive perception of diversity management among academic nursing faculty members. It is also recommended to investigate why the perception of diversity management is low, especially among academic nurses with low titles, those without managerial positions, those with low institutional experience, and those who find the management style of the institution abusive. In addition, more in-depth studies should be conducted on other factors that may affect the perception of diversity management in future studies.

Authors' Contributions:

M.S.: Conceptualization, Methodology, Analysis, Resources, Writing - Original draft preparation (%60)

S.A.: Conceptualization, Methodology, Analysis, Writing - Original draft preparation (%40), Evaluation of the research report in terms of content

All authors read and approved the final manuscript.

References

[1] Bulşu, Ç., Gümüş, M., "Effect of Diversity Management and Organisational Commitment on Intention to Leave", *Journal of Tourism and Gastronomy Studies*, 6(4), 322-344, 2018. DOI: 10.21325/jotags.2018.312

[2] Çelik Keskin, S.Ç., Diversity Management in Turkey: A Research on Women Managers in the Banking Sector, Master Thesis, Ankara University, Ankara, 2020.

[3] Gül, İ., Türkmen, F., "Investigation of Administration and Conflict Resolution Skills of Differences of School Administrators by Teacher's Vision", *Turkish Studies*, 13(4), 649-668, 2018. Doi:10.7827/TurkishStudies.12434

[4] Taşlıyan, M., Çiçeklioğlu, H., and Afşar, A., "Managing Diversity and the Effects of Discrimination Perception on Academic Performances of University Students: A Field Research", *Kahramanmaraş Sütçü İmam University Faculty of Economics and Administrative Sciences Journal,* 7(2), 101-124, 2017.

[5] United States Government Accountability Office. Diversity Management: Expert-Identified Leading Practices and Agency Examples, Report to the Ranking Minority Member, Committee on Homeland Security and Governmental Affairs, U.S. Senate, GAO-05-90, 2005. (www.gao.gov/ cgibin/getrpt? GAO-05-90).

[6] Çakır, E., Management of Diversity and Organizational Citizenship Behavior: In Karaman Governor Application, Master Thesis, Karamanoğlu Mehmetbey University, Konya, 2011.

[7] Mor Barak, M.E., Lizano, E.L., Kim, A., Duan, L., Rhee, M.-K., Hsiao, H.-Y., and Brimhall, K.C., "The Promise of Diversity Management for Climate of Inclusion: A State-of-the-Art Review and Meta-Analysis", *Human Service Organizations: Management, Leadership and Governance*, 40(4), 305-333, 2016. DOI:10.1080/23303131.2016.1138915

[8] Udod, S.A., and Racine L., "Diversity in Health Care Organizations" In: Leadership and Influencing Change in Nursing. edited by Joan Wagner, 2022. https://leadershipandinfluencingchangeinnursing.pressbooks.com/chapter/chapter-2-diversity-in-health-care-organizations/

[9] Alptürker, H., Göküş, M., "The Effects of Management of Differences on Municipal Service Satisfaction: The Case of Mersin Metropolitan Municipality", *Contemporary Local Governments*, 28(4), 1-22, 2019.

[10] Meşe, S., Bayraktar, O., "The Mediating Role of Organızational Justice Between Diversity Management and Organizational Commitment", *Istanbul Commerce University Journal of Social Sciences*, 19 (37), 175-199, 2020.

[11] Balay, R., Sağlam, M., "Applicability of Diversity Management Scale in education", *Suleyman Demirel University Journal of Burdur Education Faculty*, 5(8), 31-46, 2004.

[12] Farnsworth, D., Clark, J.L., Green, K., López, M., Wysocki, A., and Kepner, K.., "Diversity in the Workplace: Benefits, Challenges, and the Required Managerial Tools", 2020. https://edis.ifas.ufl.edu/pdf/HR/HR02200.pdf , accessed 20.03.2021

[13] Akman, Y., "The Examination of the Relationship With Diversity Management Capabilities of School Principals and Organizational Justice According to Teachers' Opinions", *Hitit University*

Journal of Social Sciences Institute, 11(1), 611-626, 2018. http://dx.doi.org/10.17218/hititsosbil.368751

[14] Belloda, B., Bilir Güler, S., and Oğuzhan, A., "Management and Organizational Commitment of Diversity: A Research in Prizren State Schools in Kosovo" *Balkan and Near Eastern Journal of Social Sciences*, 3(2), 1-19, 2017.

[15] Fettahlıoğlu, Ö. O., Tatlı, H. S., "The Research Through Demographic Diversities About Determine the Relationship Between Perceptions of Organizational Commitment and Diversity Management", *KSU Journal of Social Sciences*, 12 (2), 119-140, 2015.

[16] Fettahlıoğlu, Ö., İnce, M., "The Effect of Job Satisfaction to Applications Diversity Management in The Business Life: Textile Industry Field Research", *Kahramanmaraş Sütçü İmam University Faculty of Economics and Administrative Sciences Journal*, 3(1), 77-88, 2013.

[17] Gök, M.İ. , The Relationship Between Teachers 'Perceptions on the Management of Differences in Schools and Level of Organizational Silence, Master Thesis, Siirt University, Siirt, 2020.

[18] Kurtulmuş, M., The Diversity Management's Effects on High School Teachers' Organizational Commitment and Organizational Citizenship Behaviours, Doctoral Thesis, Dicle University, Diyarbakir, 2014.

[19] Kurtulmuş, M., Karabıyık, H., "The Effect of Diversity Management on Teachers' Organizational Identification and Turnover Intention", *International Journal of Human Sciences*, 13 (1), 1324-1341, 2016. doi:10.14687/ijhs.v13i1.3597

[20] Ateş, A., The Relationship Between Diversity Management, Job Satisfaction, and Organizational Commitment: Mediating Role of Perceived Organizational Support, PhD Thesis, Selcuk University, Konya, 2019.

[21] Robinson-Neal, A., "Exploring Diversity in Higher Education Management: History, Trends, and Implications for Community Colleges" 2009. https://files.eric.ed.gov/fulltext/EJ940623.pdf

[22] Akaber, M.O.S.M., Al-Titi, O.A.K., and Al-Nasr N.S., "Organizational Policies and Diversity Management in Saudi Arabia", *Employee Relations*, 41(3), 454-474, 2019. https://doi.org/10.1108/ER-05-2017-0104

[23] Atasayar, Ö, Examining Teachers' Perceptions and Attitudes Regarding the Management of Cultural Diversity in Terms of Some Variables, Master Thesis, Marmara University, Istanbul, 2015.

[24] Geçdoğan Yılmaz, R., The abilities to manage differences and servant leadership competency levels of managers who work in public institutions, Master Thesis, Harran University, Şanlıurfa, 2013.

[25] Karakaş, O., The relationship between diversity management and leadership capacity, Master Thesis, Necmettin Erbakan University, Konya, 2021.

[26] Karaşahin, T., Management of Diversity and Organizational Loyalty: A Case Study at Karamanoğlu Mehmetbey Üniversity, Master Thesis, Karamanoğlu Mehmetbey University, Karaman, 2019.

[27] Özkan, F., The Relationship Between Diversity Management and Knowledge Sharing: A Study Conducted at Schools under the Ministry of National Education in Ünye, Master Thesis, Giresun University, Giresun, 2020.

[28] Genç, Ö. N., Primary School Principals' Status of Diversity Management Among Teachers, Master Thesis, Gazi University, Ankara, 2017.

[29] Balay, R., Kaya, A., and Geçdoğan Yılmaz, R., "The Relationship Between Servant Leadership Competencies and Diversity Management Skills Among Education Managers", *Journal of Educational Sciences Research*, 4(1), 229-249, 2014. http://dx.doi.org/10.12973/jesr.2014.4os14a

[30] Çakar, H., Diversity Management Perception and Employee Voice: A Study of Academicians in Turkey, Doctoral Thesis, Necmettin Erbakan University, Konya, 2020.

[31] Canbaz, O., The Relationship Between the Diversity Management Skills of Secondary School Administrators and the Organizational Commitment of Teachers. Master Thesis, Bolu Abant İzzet Baysal University, Bolu, 2019.

[32] Öztürk, Z., Tombak, F., Gedik, Ö., and Kızılkaya, S., "Perception of Diversity Management in Hospitals: Example of a University Hospital", *Route Educational and Social Science Journal* 6(8), 180-194, 2019.

[33] Polat Dede, D., "Investigation of the Perceptions of Public Health Staff on the Diversity Management in Terms of Demographic Characteristics", *Turkish Studies - Social Sciences*, 14 (5), 2411-2430, 2019. DOI: 10.29228/TurkishStudies.37024

[34] Başaran, A., Mobbing Behavior and Management in Diversity Management Process: A Study in Industry Sector in Kutahya Province, Master Thesis, Anadolu University, Eskisehir, 2019.

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Research Article

CURRENT LEVEL OF KNOWLEDGE AND AWARENESS OF HEALTHCARE PERSONNEL IN BASIC AND ADVANCED LIFE SUPPORT IN ARREST CASES WITH AND WITHOUT COVID-19 INFECTION

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Abstract: *The knowledge of healthcare professionals about life support is crucial for saving lives. It was aimed to evaluate the knowledge and awareness level of healthcare professionals about advanced life support. Our study was conducted between 15.02.2021 and 15.03.2021 in healthcare personnel working in a tertiary education and research hospital in Ankara. Data were collected by the questionnaire method. The researcher prepared the survey questions according to the European Resuscitation Council COVID-19 guidelines and American Heart Association Advanced Cardiac Life Support algorithms updated in 2020. The study included 265 healthcare personnel (physicians, physician assistants, family physicians, nurses, health officers, and anesthesia technicians). Demographic characteristics of the participants (gender, age, duration of service, duties, duty stations), training and practice status, and level of knowledge were evaluated. 67.2% of the participants were female, and 32.8% were male. The majority of the participants were nurses working in the inpatient clinics. 49.9% had a tenure of 1-5 years. 52.0% had received advanced cardiac life support training, and 19.6% had obtained and used automatic external defibrillators. 63.8% had performed advanced cardiac life support on a patient. In this study, the ACLS knowledge level of healthcare workers was low; their knowledge of ACLS application differences in COVID-19 patients was outdated and confused with adult ACLS. There was no significant difference in advanced cardiac life support scores in terms of gender, age, occupation, workplace, and tenure (p=0.604; p=0.986; p=0.927; p=0.982; p=0.295, respectively). In terms of their duties, physicians had higher rates of correct answers to ACLS questions in patients with COVID-19. Providing in-service resuscitation training to healthcare workers in line with current guidelines and supporting them with practical applications can provide quality knowledge and skills and increase their awareness of their responsibilities.*

Keywords: *Healthcare professionals, Advanced life support, Knowledge, Awareness*

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1. Introduction

The most crucial goal of all medical interventions is to keep patients alive. Cardiopulmonary arrest is the sudden cessation of spontaneous respiration and circulation due to various causes [1]. Cardiopulmonary resuscitation (CPR) is the maintenance of airway patency, respiration, and circulation in a patient whose respiration and circulation have ceased due to any cause. In CPR, two levels are defined as Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) [1].

ACLS involves specialized treatment modalities administered by physicians and specially trained medical staff. Its basis includes good BLS, manual defibrillation, airway management during CPR, oxygenation and ventilation, circulation, monitoring, and medications to be administered [1, 2].

Resuscitation has been an important subject of scientific studies for many years, and information in this field has been regularly updated with guidelines published by international organizations [2]. The latest guidelines were published by the American Heart Association (AHA) and the European Resuscitation Council (ERC) in 2020 [3, 4]. The SARS-CoV-2 pandemic started in January 2020 and has led to many changes from community life to patient care. COVID-19 is a highly contagious disease caused by the SARS-CoV-2 virus. Cardiopulmonary resuscitation procedures are risky procedures. Neither the ERC nor the AHA Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) guidelines include guidance for the COVID-19 pandemic. Due to this situation, both organizations have introduced new recommendations for the pandemic [4]. During the pandemic, frontline healthcare personnel have played a critical role in diagnosing, treating, and monitoring the disease, and many have been infected, treated, and even died from COVID-19 [5]. The recently published CPR guidelines needed some changes to ensure the continuity of care and the safety of healthcare workers, especially for cardiac arrest patients needing emergency care. In the basic and advanced cardiac life support guidelines, various application differences have been proposed for COVID-19 cases [4]. The recommended changes formed the basis of our study.

Although CPR training is mandatory in healthcare institutions, this training should be periodically updated with guidelines. Healthcare personnel participating in training should have high knowledge and awareness levels and up-to-date information about life support [3,5]. Since COVID-19 is highly contagious, especially during resuscitation, and carries a high risk of morbidity and mortality, procedures have been proposed to ensure the best possible chance of survival without compromising the safety of rescuers [5]. This study aimed to evaluate the level of ACLS knowledge of healthcare workers and the currency of their knowledge in adults and possible/infected COVID-19 patients in line with current guidelines.

2. Materials and methods

Type of the Study

This descriptive study was conducted between 15.02.2021 and 15.03.2021 at the University of Health Sciences, Ankara, Dr. Abdurrahman Yurtaslan Oncology Training and Research Hospital.

2.1. Study Population and Sample Selection

The study population consisted of 375 healthcare personnel in this hospital who participated in resuscitation training. Before the participation, the participating healthcare personnel were informed that this was not an exam, that all of the data would be used for scientific study, and that the answers would not affect their professional life and future in any way. They were explained that each question consisted of statements with four options and that only one option was correct. Three hundred healthcare personnel (specialist physicians, assistant physicians, general practitioners, family physicians, nurses, health officers, and anesthesia technicians) participated in the study, and their verbal consent was obtained.

2.2. Instruments for Data Collection

Data were collected using a questionnaire. Participants were asked to answer the questionnaire within 30 minutes. The researcher prepared the survey questions based on the resuscitation guidelines updated in 2020. Participants were asked three questions about demographics, ACLS training, and practice status, and ten questions with multiple-choice statements highlighting changes and updates to the 2020 adult ACLS and guidelines for possible/probable COVID-19 patients. It was calculated out of

10 points, with 1 point for a correct answer and 0 points for an incorrect answer. Using an interval scale, a score range of 0-4 points was evaluated as low knowledge, 5-7 points as moderate knowledge, and 8-10 points as good knowledge. The study was completed with 265 participants. Thirty-five participants who gave incomplete answers and/or checked more than one option and left their demographic information blank were excluded from the study. The level of knowledge about ACLS was analyzed in terms of gender, duty station, length of service, and duties.

2.3. Statistical Analysis

All analyses were performed with SPSS 25.0 (IBM, USA). The findings of the study were expressed as frequencies and percentages. Normality analysis was performed using the Kolmogorov-Smirnov test. Age variables not normally distributed were presented as the median and interquartile range (IQR) and 25^{th}-75^{th} percentiles. Numerical dependent variables that were not normally distributed were compared with the Kruskal-Wallis test for more than two groups. Correct answer rates between groups were compared using the Chi-Square test. Possible correlations of variables with life support scores were analyzed using Spearman correlation. $P< 0.05$ was accepted for statistical significance.

Ethical procedures

This work was approved by the Health Sciences University Research Ethics Committee. Approval number and date: 2021/01-933; 27.01.2021

3. Results and Discussion

The median age was 33.0 years, and the majority were female. When analyzed in terms of occupational groups, approximately 60% of them work as nurses. The most frequently working units were emergency services and inpatient clinics. Approximately half of the participants have worked in our hospital for 1-5 years. The demographic characteristics of the participants are shown in Table 1.

Table 1. Demographic features of the participants (N=265)

	N/%
Gender	
Female	178(67.2)
Male	87(32.8)
Age (median: IQR,25^{th}-75^{th})	33.0 (17.0)
Place of duty	48(18.1)
Outpatient clinic	78(29.4)
Inpatient clinics	11(4.2)
Inpatient clinics during pandemic	7(2.6)
Intensive care unit/pandemic	22(8.3)
Intensive care units	76(28.7)
Emergency service	23(8.5)
Operation rooms	
Task duration	119(49.9)
1-5 years	28(10.6)
6-10 years	29(10.9)
11-15 years	32(12.1)
16-20 years	26(9.8)
21-25 years	31(11.7)
>25 years	

IQR: Interquartile range

The percentages of theoretical and model-based practical training related to ACLS in our hospital are presented in Table 2. When examining the ACLS training status of healthcare personnel, 60.3% of the participants received theoretical ACLS training, 63.8% performed ACLS on an adult patient, and 19.6% received and applied AED (Automated External Defibrillator) training.

Table 2. Survey questions about the life support training history of the participants (N=265)

1. Have you had theoretical and practical training on a model in our hospital about advanced cardiac life support?	**N/%**
No, I have not.	105(39.7)
Yes, I had theoretical education and practical training on a model once.	87(32.8)
Yes, I had theoretical education and practical training on a model several times.	51(19.2)
Yes, I had theoretical education once but had no practical training in a model.	16(6.0)
Yes, I had theoretical education many times, but I had no practical training in a model	6(2.3)
2. Have you ever performed advanced cardiac life support for an adult patient?	**N/%**
No, I have never performed advanced cardiac life support on an adult patient.	83(31.3)
Yes, I have performed advanced cardiac life support on an adult patient.	169(63.8)
Yes, I have performed advanced cardiac life support on a model.	13(4.9)
3. Have you had training about autonomic external defibrillators? Have you ever used it?	**N/%**
No, I have not had training, and I have not used it.	90(34.0)
Yes, I have had training but have not used it.	105(39.6)
Yes, I have had training and used it.	52(19.6)
No, I have not had training, but I have used it.	18(6.8)

The ACLS general knowledge level was assessed with ten questions; 1 point was given for correct answers and 0 for incorrect answers Table 3. The median ACLS score was 3.0 (2.0-5.0). In all ten questions regarding ACLS knowledge in general (questions 1, 2, 3, 5) and possible/certain COVID-19 (questions 4, 6, 7, 8, 9, 10) patients, correct response rates were below 50%, and healthcare workers were evaluated as unsuccessful in general. There were no significant differences in gender, age, occupation, place of work, or task duration (p=0.604; p=0.986, p=0.927, p=0.982, p=0.295, respectively).

Table 3. Correct answer rates for the questions about advanced cardiac life support

Question	**Correct Answer (N/%)**	**Wrong Answer (N/%)**
1. Which of the following is incorrect about medications and doses used in advanced cardiac life support?	66(24.9)	199(75.1)
2. Each effort to ensure survival during a sudden cardiac arrest has been defined as a life-saving chain. Which of the following correctly describes the intra-hospital survival chain?	80(30.2)	185(69.8)
3. Which of the following is one of the recommendations for qualified CPR criteria in adults?	34(12.8)	231(87.2)
4. Which of the following is not a recommendation for providing airway patency and respiration?	76(28.7)	189(71.3)
5. The use of physiological parameters such as arterial blood pressure and end-tidal CO2 is recommended for monitoring CPR quality; end-tidal CO2 is a prognostic marker for recovery of spontaneous circulation (ROSC). Which of the following is correct about end-tidal CO2	88(33.2)	174(65.7)
6. Which one of the following is not a high-risk resuscitation intervention in a patient with COVID-19?	118(44.5)	147(55.5)

Table 3 Continued.

Question	Correct Answer (N/%)	Wrong Answer (N/%)
7. Which statement is false for suspected or known adult cardiac arrest patients with COVID-19?	77(29.1)	188(70.9)
8. Considering the procedures to be applied to suspected or known adult COVID-19 patients and the virus's transmission routes, three different levels of personal protective equipment have been defined for three different transmission routes. Which of the following is wrong about transmission and personal protective equipment?	114(43.0)	150(56.6)
9. Which of the following is incorrect regarding the procedures to be applied to the patient and the personal protective equipment (PPE) to be used?	118(44.5)	147(55.5)
10. Which of the following is not one of the recommendations for the Advanced Life Support algorithm in a patient with cardiac arrest and suspected or known COVID-19?	100(37.7)	164(61.9)

The response rates to the last five questions about advanced cardiac life support, knowledge about high-risk resuscitative procedures, balloon mask application, risk of contamination, and use of personal protective equipment in a patient with COVID-19 were relatively higher. When the correct response rates for the other ACLS questions were evaluated in terms of occupational groups, such as physicians and other healthcare professionals, the correct response rate for the general knowledge level of ACLS (Question 1), the use of capnography (Question 5), the correct response rate for the drug and dose information related to high-risk resuscitation intervention in a patient with COVID-19 (Question 6) was higher in the physician group (respectively $p<0.001$), $p<0.01$ and $p=0.011$), and the correct response rate for the question about PPE use (Question 9) was higher in the other healthcare professional group ($p=0.045$). Correct answer rates in terms of occupational groups are given in Table 4.

Table 4. Correct answer rates of advanced cardiac life support questions

Questions	Doctors (N=82) N / %	Other health professionals (N=183) N / %	p
1.	31 (37.8)	25(13.6)	**<0.001**
2.	29(35.3)	51(27.8)	>0.05
3.	8(9.7)	26(14.2)	>0.05
4.	25(30.4)	51(27.8)	>0.05
5.	39(47.5)	49(26.7)	**<0.01**
6.	46(56.0)	72(39.3)	**<0.05**
7.	18(21.9)	59(32.2)	>0.05
8.	33(40.2)	81(44.2)	>0.05
9.	29(35.3)	89(48.6)	**<0.05**
10.	34(41.4)	66(36.0)	>0.05

4. Discussion

Resuscitation has been an important subject of scientific research for many years. The term "Lifesaving Chain" describes the stages of treatment for a patient who develops an arrest [6]. For a successful resuscitation, all links in this chain must be established quickly, sequentially, continuously, and effectively. ACLS is the link in the life-saving chain between BLS and postcardiac care [6]. ACLS interventions include manual defibrillation, airway management during CPR, oxygenating and ventilating, circulating, monitoring, and administering medications [7]. The COVID-19 pandemic,

which started in January 2020, has necessitated some modifications during CPR, especially for the safety of rescuers. The World Health Organization and ILCOR (International Liaison Committee on Resuscitation) have classified chest compression and CPR (tracheal intubation, positive pressure ventilation) as aerosol and droplet-generating procedures [5]. The latest guideline recommended procedures to ensure the best possible chance of survival without compromising the safety of rescuers because COVID-19 is highly contagious, especially during resuscitation, and carries a high risk of morbidity and mortality [5].

Most of the participants in this study received training and practiced ACLS. However, the overall ACLS knowledge level is low, with a correct response rate of 12.8%-44.5%. No difference was found in terms of knowledge level according to age, gender, place of duty, and length of service, but the correct response rates of the physician group (9.7%-56.0%) were found to be higher, as expected from other healthcare (13.6%-48.6%) professionals. However, it was found that the general knowledge level of ACLS ranged between 6%-77% in similar studies conducted using previous guidelines [8]. In the study of Güven et al. [9], nurses' knowledge level about CPR was 43.5%. Kımaz et al. [10] found that the rate of physicians answering ACLS questions correctly was 35%, and it was determined that age, gender, tenure, and place of duty did not affect knowledge levels. In the study by Örsal et al. [11], the mean ACLS knowledge score was found to be 2.20±0.6 over 17 points, and it was found that the ACLS knowledge scores of nurses working in emergency and surgical intensive care units were significantly higher than those working in other services. In the study of Kartal et al.[11], it was found that the ACLS knowledge level of nurses was not adequate, and no statistically significant difference was found in the correct answer rates in terms of age and gender. The results of our study were parallel with those of previous studies.

Current information on CPR and practice recommendations are published in the guidelines. Following these guidelines is important to increase resuscitation success [12]. In our study, the correct answer rate of “Atropine 1 mg” to the 1st question, “Which of the following drugs and doses used for ACLS is incorrect?” is 24.9%. The rate of correct answers was higher in the physician group compared to other healthcare personnel, and the statistical difference was significant. However, in the AHA 2015 CPR guideline, it is recommended to repeat 1 mg adrenaline 1 mg IV/IO every 3-5 minutes in cases of NEA and asystole in ACLS, and atropine application is not recommended; this recommendation remains in the latest guideline [3, 12]. The knowledge level of healthcare professionals for this question was not up-to-date. Each effort to ensure survival in the event of CPA is defined as the "Lifesaving Chain." This chain is divided into out-of-hospital and in-hospital and is defined as six links in the 2020 guidelines. In Question 2, “Which links of the in-hospital lifesaving chain are correctly identified?”, the correct response rate is 30.2% as “Early recognition and prevention - activation of emergency response system - quality CPR - defibrillation - post-cardiac arrest care - recovery”. The most important part of the prevention of in-hospital cardiac arrests is early recognition of patients with deteriorating conditions. The survival rate can be increased by training the staff, monitoring the patients, recognizing the severity of the disease, and early recognition and notification of patients with deteriorating conditions [6]. In this question, most participants marked the answer as an out-of-hospital lifesaving chain consisting of five links, and the knowledge level of all health workers was not up to date. Questions 3 and 5 asked for suggestions on quality CPR criteria. In the 3rd question related to compression fraction, the correct response rate was 12.8%, answered as “In case of arrest, CPR should be performed with a chest compression fraction of at least 60%”. Most of the participants marked the statement “In the presence of 2 or more rescuers, it is recommended to change the compression/ventilation ratio to 15/2 every 2 minutes” in this question. In the 5th question related to monitoring, 33.2% of the correct answers were “It is recommended that end-tidal CO2 should be at least 10 mmHg and ideally >20 mmHg during CPR”. The knowledge level of all healthcare personnel was low in both questions, but the correct

response rate of physicians in question 5 was 47.5%, and the statistical difference was significant. In the guideline recommendations, position, compression fraction and pauses, compression depth and rate, and monitoring were accepted as determiners of quality CPR criteria. Recommendations on compression fraction and pauses in CPR: Pauses in chest compressions before and after shock in adult cardiac arrest should be as short as possible. The paramedic rescuer should minimize the rhythm assessment and pulse assessment time (no more than 10 s for pulse). In the presence of 2 or more rescuers, the rescuer performing chest compressions should be changed every 2 minutes (after every 5 cycles with a compression ventilation ratio of 30:2). In case of cardiac arrest in adults, it is appropriate to perform CPR with a chest compression fraction of at least 60%. Recommendations on monitoring: If possible, physiological parameters such as arterial blood pressure and end-tidal CO2 are recommended for monitoring and optimizing CPR quality. Systemic reviews have shown that end-tidal CO2 is a prognostic marker for return of spontaneous circulation (ROSC); below 10 mmHg, it is associated with poor outcome, whereas above 20 mmHg, it is a better predictor for ROSC. Therefore, an end-tidal CO2 of at least 10 mmHg but ideally >20 mmHg is recommended during CPR. [2,14]. The compression/ventilation ratio was updated in the 2010 guideline and changed to 30/2 for all rescuers, while in the 2015 guideline, it was emphasized that "a chest compression fraction of at least 60% should be provided". While in this guideline, "a chest compression fraction of at least 60% should be provided" [2,14]. In this question, it was concluded that the information was outdated.

Because of the COVID-19 pandemic caused by the SARS-Cov-2 virus, some practice differences have been recommended in cardiac arrest patients [3, 5]. ACLS, which involves close patient contact and practices that increase aerosol dispersal, increases the risk of infection transmission to healthcare workers [5]. It aims to protect the safety of healthcare professionals in terms of infection risk and provide an effective ACLS for suspected/infected patients in the 2020 ACLS guideline [5]. Medications, defibrillation doses, and CPR quality used during ACLS for possible or definite COVID-19 patients do not differ from standard algorithms for COVID-19 patients. It is recommended that the resuscitation team should not perform chest compressions or airway procedures if they are not wearing level 3 PPE [5]. In our study, the correct response rate to the question "Airway patency and respiration are not among the recommendations" as "Respiration in a patient with COVID-19 is evaluated using the look-listen-feel method" was 28.7%. In the CPR algorithm, the "look-listen-feel" method is recommended to evaluate respiration, but it was emphasized that respiration in patients with COVID-19 should be visually assessed [3, 5]. The rate of correct responses to question 6, which asked about "knowledge of high-flow resuscitative procedures," was 44.5% for "Defibrillation." Physicians have the highest response rate to this question; the statistical difference is significant. In this question, most participants answered "high-flow nasal cannula application". According to the guidelines, defibrillation is not a high-risk resuscitation procedure, and there is no need to wear PPE [5]. The correct response rate to the 7 questions asking the "incorrect statement for cardiac arrest patients with COVID-19" was 29.1%, which was answered as "Compression should not be interrupted during intubation". In the ACLS protocol, it is recommended not to pause compressions during intubation, but in the patient with probable/certain COVID-19, the guideline states, "The intubation procedure carries a high risk of aerosolization and transmission. Therefore, chest compressions may be paused for a period of time to minimize failed intubation attempts" [5]. In question 8, which asked about the incorrect statement in the knowledge of "different transmission routes and personal protective equipment", the correct answer rate is 43.0%, which is answered as "Level 2- In droplet transmission - gloves, surgical mask, long-sleeved gown, eye and face protection are recommended". "Use of FFP2 or N95 masks" was recommended for droplet transmission. Personal protective equipment has become an ever more important and sensitive issue during the COVID-19 pandemic caused by the novel coronavirus. The virus is mainly spread by droplet and contact, the route of transmission and the use of appropriate equipment are important to reduce risk

[5]. The correct response rate to Question 9, which asked about the wrong statement in "Procedure-PPE knowledge", was 44.5%, which was answered as "Level 2 PPE should be worn for balloon mask application". In this question, other healthcare personnel answered correctly at a higher rate, and the statistical difference is significant. The guideline recommends that the resuscitation team intervening in a patient with possible/uncertain COVID-19 should not perform chest compressions or airway procedures (intubation, balloon-mask application) without Level 3 PPE [5]. The correct response rate to Question 10, "It is not one of the ACLS recommendations in a patient with COVID-19" is 37.7%, which is answered as "If the rhythm is a shockable rhythm, defibrillate by shocking, start CPR without checking the rhythm and wear PPE". In the guideline, "In the presence of a shockable rhythm in a possible/infected patient, it is recommended that up to 3 shocks can be defibrillated". PPE should be worn during this procedure, and CPR should be started [1, 3, 7]. It was concluded that the level of knowledge of ACLS application differences in COVID-19 patients was outdated and confused with adult ACLS.

With the publication of guidelines, healthcare professionals are typically expected to update their knowledge about these changes. It is not likely that the need to follow current information about CPR will be the same in healthcare professional groups with different working areas and responsibilities [13]. The extent to which healthcare professionals have up-to-date CRP information and the extent to which revised and old information are confused is also an important question [13]. There is no similar study in the literature comparing the response rates we obtained in our study. It was concluded that the ACLS knowledge level of healthcare workers is low; their knowledge of ACLS application differences in COVID-19 patients is outdated and confused with adult ACLS. Healthcare workers already have a considerably higher risk of contracting the disease compared to the normal population due to the environment they are in and the obligations they undertake during the diagnosis and treatment phase in patients with COVID-19. The presence of aerosol and droplet-generating applications in resuscitation in patients with COVID-19, the risk of contact with the patient's body fluids, the risk of contact with the patient's body fluids, multiple rescuers working close to each other and the patient, and the lack of PPE increase the risk for healthcare workers. Matching COVID-19 with the routes of transmission, types, and features of PPE, as well as the isolation measures they should use, significantly reduces the risk of transmission for healthcare workers.

The presence of aerosol and droplet-generating applications in resuscitation in patients with COVID-19, the risk of contact with the patient's body fluids, the risk of contact with the patient's body fluids, multiple rescuers working close to each other and the patient, and the lack of PPE increase the risk for healthcare workers.

The fact that the training was interrupted for a while due to the pandemic and the training organized afterward was not sufficiently attended due to the risk of transmission may be related to our results. The initiation of BLS, defibrillation when necessary, and application of ACLS by healthcare workers who witness cardiopulmonary arrest can result in the success of saving lives. Therefore, healthcare workers should have a certain level of theoretical and practical knowledge in these areas. Evidence-based knowledge and practices in resuscitation medicine are evolving and changing over time. In some unique and unexpected situations, such as the COVID-19 pandemic, guidelines are revised urgently, and differences in practice emerge. For this reason, it is important to determine the level of knowledge of healthcare workers, especially physicians, on CPR and the currency of existing knowledge [16]. Healthcare workers should receive CPR training at regular intervals following current guidelines. The content of BLS and ACLS training and who should receive it are described in detail in the 2005 ERC resuscitation guidelines [2]. A study by Chamberlain et al. showed that repeated training every six months effectively maintained knowledge and skills [17]. In contrast, Moser et al. [18] recommended

short refresher training every 3-6 months and annual refresher training. The 2010 guidelines recommend that physicians should be trained more frequently than every six months [19].

5. Conclusion

Healthcare workers should have adequate and up-to-date knowledge of CPR to increase their chances of survival in case of arrest. Providing in-service resuscitation training in line with current guidelines and supporting them with practical applications can provide quality knowledge and skills, reduce risk, and increase their awareness of their responsibilities.

Limitations:

Our study has some weak limitations; firstly, the level of knowledge was assessed theoretically. Since it was a questionnaire study, it was answered depending on thoughts, memories, and experiences.

Ethical statement:

This work was approved by the Health Sciences University Research Ethics Committee. Approval number and date: 2021/01-933; 27.01.2021

Conflict of interest:

The author declares no conflict of interest.

Authors' Contributions:

One-author study

References

[1] Steen, P. A., Johansen, J. K., "Improving cardiopulmonary resuscitation quality to ensure survival", *Curr Opin Crit Care,* 14 (3), 299-304, 2008, doi: 10.1097/MCC.0b013e3282f827d3.

[2] Mellor, R.,Woollard, M., "Skill acquisition by health care workers in the Resuscitation Council (UK) 2005 Guidelines for Adult Basic Life Support", *Int Emerg Nurs,* 18 (2), 61-6, 2010, doi: 10.1016/j.ienj.2009.08.003.

[3] Panchal, A. R., et al., "Part 3: Adult Basic and Advanced Life Support: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care", *Circulation,* 142 (16), 366-468, 2020, doi: 10.1161/cir.0000000000000916.

[4] Nolan, J., Gwinnutt, C., "1998 European guidelines on resuscitation. Simplifications should make them easier to teach and implement", *Bmj,* 316 (7148), 1844-5, 1998, doi: 10.1136/bmj.316.7148.1844.

[5] Nolan, J. P., et al., "European Resuscitation Council COVID-19 guidelines executive summary", *Resuscitation,* 153, 45-55, 2020, doi: 10.1016/j.resuscitation.2020.06.001.

[6] Link, M. S., et al., "Part 7: Adult Advanced Cardiovascular Life Support: 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care", *Circulation,* 132 (18), 444-64, 2015, doi: 10.1161/cir.0000000000000261.

[7] Soar, J., et al., "European Resuscitation Council Guidelines 2021: Adult advanced life support", *Resuscitation,* 161, 115-151, 2021, doi: 10.1016/j.resuscitation.2021.02.010.

[8] Örsal, Ö., Boğa, S. M., Kersu, Ö., "Assessment of Knowledge Levels of Nurses Working in Emergency and Intensive Care Services on Basic and Advanced Cardiac Life Support", *Istanbul*

Gelisim University Journal of Health Sciences, (3), 203-220, 2017. [Online]. Available: https://dergipark.org.tr/tr/pub/igusabder/issue/32050/324238.

[9] Güven, D., Karabulut, N., "Hemşirelere Verilen Kardiyopulmoner Resusitasyon Eğitiminin Bilgi Düzeyine Etkisi," *Sağlık Bilimleri ve Meslekleri Dergisi,* 5 (2), 161-168, 2018.

[10] Kımaz, S., Soysal, S., Çımrın, A., Günay, T., "Assessment of physicians employed in emergency medical services about their level of knowledge on basic life support, advanced cardiac life support, and medicolegal responsibilities", *Ulus Travma Acil Cerrahi Derg,* 12(1), 59-67, 2006. [Online]. Available: https://dx.doi.org/.

[11] Kartal, H., "Assessment of Current Status of Emergency and Intensive Care Unit Nurses Interms of Cardio Pulmonary Resuscitation", *Journal of Academic Research in Nursing,* 7(1), 1-9, 2021, doi: 10.55646/jaren.2021.92905.

[12] Neumar, R. W., et al. A. H. Association, "2015 American Heart Association guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care", *Resuscitation,* 132(18), 315-589, 2018.

[13] Handley, A. J., et al., "European Resuscitation Council guidelines for resuscitation 2005. Section 2. Adult basic life support and use of automated external defibrillators", *Resuscitation,* 67(1), 7-23, 2005, doi: 10.1016/j.resuscitation.2005.10.007.

[14] Sayre, M. R., et al., "Part 5: Adult basic life support: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations", *Circulation,* 122 (16), 298-324, 2010, doi:10.1161/circulationaha.110.970996

[15] Handley, A. J., et al., "European Resuscitation Council guidelines for resuscitation 2005. Section 2. Adult basic life support and use of automated external defibrillators", *Resuscitation,* 67(1), 7-23, 2005, doi: 10.1016/j.resuscitation.2005.10.007.

[16] Swor, R., Khan, I., Domeier, R., Honeycutt, L., Chu, K., Compton, S., "CPR training and CPR performance: do CPR-trained bystanders perform CPR?", *Acad Emerg Med,* 13 (6), 596-601, 2006, doi: 10.1197/j.aem.2005.12.021.

[17] Chamberlain, D., et al., "Trials of teaching methods in basic life support (3): Comparison of simulated CPR performance after first training and at 6 months, with a note on the value of re-training", *Resuscitation,* 53 (2), 179-187, 2002.

[18] Moser, D. K., Coleman, S., "Recommendations for improving cardiopulmonary resuscitation skills retention", *Heart & Lung: The Journal of Critical Care,* 21 (4), 372-380, 1992.

[19] Elazazay, H. M., Abdelazez, A. L., Elsaie, O. A., "Effect of cardiopulmonary resuscitation training program on nurses knowledge and practice", *Life Sci J,* 9 (4), 3494-3503, 2012.

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Review Article

THE CLINICAL EFFECTIVENESS OF ADVANCED OR METASTATIC NON-SMALL CELL LUNG CANCER: A SYSTEMATIC REVIEW

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Abstract: *Lung cancer imposes a significant epidemiological and economic burden globally, ranking second in incidence and first in mortality among all cancers. The rapid introduction of new, high-cost treatment options has placed substantial financial pressure on public healthcare systems. Given the limited healthcare resources, the economic evaluation of new cancer therapies is essential to ensure healthcare system sustainability and improve patient access to treatments. This study systematically reviews health state utility values (HSUVs) associated with traditional chemotherapy and targeted therapies in the first-line treatment of advanced or metastatic non-small cell lung cancer (NSCLC). A comprehensive search of the PubMed, EMBASE, and BioMed Central databases identified 10 studies from a total of 1,319 publications based on predefined inclusion criteria. The review reveals that HSUVs for targeted therapies are consistently higher across all health states compared to traditional chemotherapy. These findings provide a comprehensive framework for incorporating HSUVs into economic evaluations of NSCLC treatments and highlight the need for further empirical research to expand the range of available HSUVs.*

Keywords: *Non-Small Cell Lung Cancer, Health State Utility Values, Health-Related Quality of Life, Chemotherapy, Systematic Literature Review*

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1. Introduction

Lung cancer is one of the leading causes of cancer-related deaths worldwide [1]. According to the Global Burden of Disease 2019 report, lung cancer ranks second in incidence and first in mortality among malignant tumors [2]. Non-small cell lung cancer (NSCLC), the most common subtype, accounts for approximately 85% of all lung cancer diagnoses [3]. NSCLC is often asymptomatic in its early stages, with two-thirds of patients being diagnosed at advanced or metastatic stages, resulting in a five-year survival rate of only 15% [4]. In advanced-stage cases where curative treatment or surgical intervention is not possible, chemotherapy can improve both patient survival and quality of life (QoL) [5].

Since the late 1990s, significant advancements have been made in cancer treatment, with platinum-based chemotherapies becoming the standard first-line treatment for NSCLC [6,7]. However, for advanced or metastatic NSCLC, overall survival (OS), progression-free survival (PFS), and progression survival (PD) rates achieved with chemotherapy are often suboptimal [8]. In the early 21st century, the development of targeted therapies significantly improved the prognosis of several cancers, including lung cancer. This shift has placed increasing emphasis on targeted therapies to enhance outcomes in advanced NSCLC [9,10]. These therapies are expected to reduce tumor size, regress

metastases, and alleviate some symptoms and systemic effects of the tumor, ultimately improving both QoL and survival rates [11]. However, the high cost of targeted therapies imposes a substantial economic burden, making their economic evaluation and reimbursement policies crucial [12]. Economic evaluations play a vital role in supporting evidence-based reimbursement decisions in cancer treatment [13].

The primary goals in treating advanced or metastatic NSCLC are to prolong survival and improve QoL [14]. A Quality-Adjusted Life Year (QALY) is a measure that captures the health gains provided by a medical intervention in terms of both life expectancy and quality of life [15,16]. In economic evaluation studies, health benefits are typically expressed in QALYs [17]. Health State Utility Values (HSUVs), fundamental to QALY calculations, allow for the quantitative assessment of QoL. HSUVs are numerical values that assess the quality of a specific health state, reflecting the desirability or preference for that health state [18,19]. QALYs are calculated by weighting the time spent in a particular health state according to its associated HSUVs, which are expressed as values ranging from 0 (representing death) to 1 (representing perfect health) [20]. Additionally, values lower than 0 can represent health states perceived as worse than death [21].

HSUVs are among the most uncertain yet critical input parameters in cost-utility analyses. Even small margins of error in their measurement can lead to significant deviations in QALYs and incremental cost-effectiveness ratios between compared treatments. Such deviations can potentially influence reimbursement and pricing decisions, thereby affecting the accessibility of an intervention [22].

HSUV measurement methods provide a means of quantifying how individuals assess various health states. These methods are typically divided into two main types: direct and indirect measurement methods [23,24,25]. The typology of HSUV measurement methods is presented in Table 1.

Table 1. Typology of HSUV Measurement Methods

<table>
<tr><th colspan="2">Preference-Based</th><th colspan="3">Non-Preference-Based</th></tr>
<tr><th>Direct Utility Assessment</th><th>Contingent Valuation</th><th colspan="3">Indirect Utility Assessment</th></tr>
<tr><td>The Time Trade-Off Method (TTO)</td><td rowspan="2">Willingness to Pay Method (WTP)</td><td>Generic HRQOL Instruments</td><td>Disease-Group Specific Instrument</td><td>Disease Specific Instruments</td></tr>
<tr><td>The Standard Gamble Method (SG)</td><td rowspan="3">EQ-5D, Health Utility Index (HUI), Short Form-6D (SF-6D), etc.</td><td rowspan="3">Patients Health Questionnaire-9 (PHQ-9), Dermatology Life Quality Index (DLQI)</td><td rowspan="3">Beck Depression Inventory (BDI), Hamilton Depression Scale (HADS), etc.</td></tr>
<tr><td>Discrete Choice Experiment (DCE)</td><td rowspan="2">Willingness to Accept Method (WTA)</td></tr>
<tr><td>Best-Worst Scaling (BWS)</td></tr>
</table>

Note: This typology does not list all measurement instruments.
Source: [25].

Direct measurement methods ask participants to choose between alternative health states, directly capturing their evaluations based on rational decision-making models [26]. These methods typically involve participants evaluating health states through scenarios or their current conditions. Common techniques include Standard Gamble (SG), Time Trade-Off (TTO), Discrete Choice Experiment (DCE), and Best-Worst Scaling (BWS) [25,26].

The most commonly used techniques for direct measurement of HSUVs are the SG and TTO methods [24]. SG assesses the choices individuals make between alternatives to determine which health states they value more. According to the rational decision-making model, when life expectancy is equal, individuals are expected to prefer the option leading to the best health outcome [27]. The TTO method evaluates the extent of life expectancy individuals are willing to sacrifice to live in a better health state [28]. For example, an individual might prefer to live 10 years in perfect health rather than 20 years in a specific health condition [27].

Indirect measurement methods, on the other hand, do not require patients to directly express their preferences for health states. Instead, these states are described using utility-based instruments, with scores assigned through predefined algorithms [29]. Depending on the research focus, different instruments may be used, including health-related quality of life (HRQOL) instruments such as EQ-5D and the Health Utilities Index (HUI), or disease-specific instruments like the Patient Health Questionnaire (PHQ-9) and the Dermatology Life Quality Index (DLQI) [25,29]. Indirect methods are often preferred in health policy decision-making due to their simplicity, speed, and ease of use [30].

Systematic reviews and meta-analyses of HSUVs provide a comprehensive framework for understanding choice-based utility values in lung cancer, enhancing the validity and reliability of future economic evaluations and guiding the use of HSUVs [31].

2. Methods

2.1. Study Objectives

This systematic literature review has two primary objectives: first, to systematically examine HSUVs associated with platinum-based chemotherapy in the first-line treatment of advanced or metastatic NSCLC; and second, to provide a comprehensive framework of HSUVs for use in pharmacoeconomic modeling of these treatments.

A systematic literature review is a comprehensive, organized, and repeatable process for selecting, evaluating, and summarizing existing knowledge from various databases based on predefined criteria to answer a research question. Systematic reviews and meta-analyses are increasingly important in health research and are widely used across many disciplines [32]. Several guidelines outline the rules for preparing systematic literature reviews [32,33]. This review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [32]. Additionally, the study followed the "Identification, Review, and Use of HSUVs in Cost-Effectiveness Models: An ISPOR Good Practices for Outcomes Research Task Force Report" [17], which serves as a methodological guide for health economics and outcomes research.

2.2. Data Sources and Search Strategy

In this study, HSUVs related to standard chemotherapy and targeted therapies in the treatment of advanced or metastatic NSCLC were examined. Studies published between January 1, 2000, and May 31, 2024, were reviewed. The databases used for identifying these studies included PubMed, EBSCO, and BioMed Central. Mendeley (version 1.19.8) and Rayyan, an intelligent systematic review tool [34], were used to prevent duplication, identify articles containing relevant keywords, and organize the data. Research sources were categorized based on topics and significance. The search strategy was adapted to align with the structure of the databases.

The search strategy used for the literature review is as follows:

(Advanced Non-Small Cell Lung Cancer OR Metastatic Non-Small Cell Lung Cancer OR Advanced NSCLC OR Metastatic NSCLC OR Advanced Lung Cancer OR Metastatic Lung Cancer OR Stage IV Lung Cancer) AND (First-Line Treatment OR First-Line Therapy OR Primary Treatment OR Initial Treatment OR Frontline Therapy) AND (Economic Evaluation OR Cost-Utility Analysis OR Cost-Effectiveness Analysis OR Health Economics OR Cost Analysis) AND (Platinum-Based Drugs OR Cisplatin OR Carboplatin OR Chemotherapy OR Targeted Therapy OR Immunotherapy)

2.3. Eligibility Criteria

This systematic literature review followed the Patient, Intervention, Comparator, and Outcome (PICO) framework, aligning with the research objectives. The inclusion and exclusion criteria are presented in Table 2.

The inclusion criteria focused on patients with advanced or metastatic NSCLC (stages IIIB-IV) who received first-line treatment. Studies addressing treatments for earlier stages were excluded. Eligible interventions and comparators included pharmacoeconomic evaluation studies involving platinum-based agents, chemotherapy, immunotherapy, and targeted therapies.

In advanced or metastatic NSCLC, a challenging cancer type with poor prognosis, surgical intervention is often not an option. Therefore, economic evaluation studies that clearly specify HSUVs based on active substances and progression levels were selected as the outcome criteria. After removing duplicates from the database searches, studies were screened by titles, abstracts, and HSUV characteristics. Only full-text pharmacoeconomic studies focusing on treatment regimens were included. Conference abstracts, reviews, editorials, notes, comments, letters, systematic reviews, and studies providing general HSUV/HRQoL data were excluded. Full-text articles that were inaccessible were also excluded.

Table 2. Inclusion and Exclusion Criteria

Criteria	Include	Exclude
Population	• Patients with advanced or metastatic stage NSCLC (stage IIIB-IV) • First-line Treatment	• Early-stage NSCLC patients (suitable for surgery; stages 0/I/II/III) • Pediatric patient population • Mixed disease populations where NSCLC data are not reported separately, • Patients receiving treatments other than first-line therapy
Intervention and Comparators	• Studies comparing treatment alternatives • Platinum-Based Drugs • Chemotherapy • Targeted Therapy • Immunotherapy	• Studies comparing diagnostic and screening alternatives • Standard monotherapies involving platinum-based treatment
Outcomes	• Direct and indirect HSUVs	• Health outcomes other than HSUVs • Disease-specific/general HSUV/HRQoL studies • Utility values not associated with a specific health state
Study Design	• Pharmacoeconomic evaluations • Studies with clearly defined health states (e.g., stable, progression, etc.) • Full-text research articles • Studies on treatment topics • Studies where HSUVs are specified according to health states and active substances.	• Conference papers • Reviews • Editorials • Notes/Comments/Letters • Systematic reviews
Publication Date	• January 1, 2000, to May 31, 2024	
Language	• English and Turkish	

2.4. Data Extraction and Quality Assessment

Study selection and data extraction were conducted by one analyst, with data elements verified by a second analyst. Decisions regarding data selection and extraction were made by one researcher and cross-checked by another. Using the Rayyan Intelligent Systematic Review tool, studies obtained after removing duplicate articles underwent processes including an overview, data review, screening, and full-text screening.

The collected study data were analyzed based on author, year, perspective, targeted therapy, treatments and doses, health states, HSUVs, and methods. Articles meeting the inclusion criteria were organized into Microsoft Excel tables. Eligibility assessments were conducted in accordance with the inclusion and exclusion criteria for each study. For methodological quality assessment, the checklist developed by Papaioannou et al. [35] was employed, focusing on the evaluation and quality of HSUVs.

3. Results

In this systematic literature review, economic evaluation studies involving dual platinum combination therapy as a first-line treatment in advanced or metastatic stages were identified using a predetermined search strategy, resulting in a total of 1,319 articles from all databases. After removing duplicate articles, the titles and abstracts of 842 articles were screened. Subsequently, 210 articles were selected for full-text evaluation to assess their eligibility based on inclusion and exclusion criteria. As a result of this assessment, the full texts of 10 studies were thoroughly reviewed and deemed appropriate for inclusion in the systematic review. No studies in the Turkish language meeting the criteria were identified.

The PRISMA flow diagram, which shows the study selection process and reasons for exclusion, is presented in Figure 1.

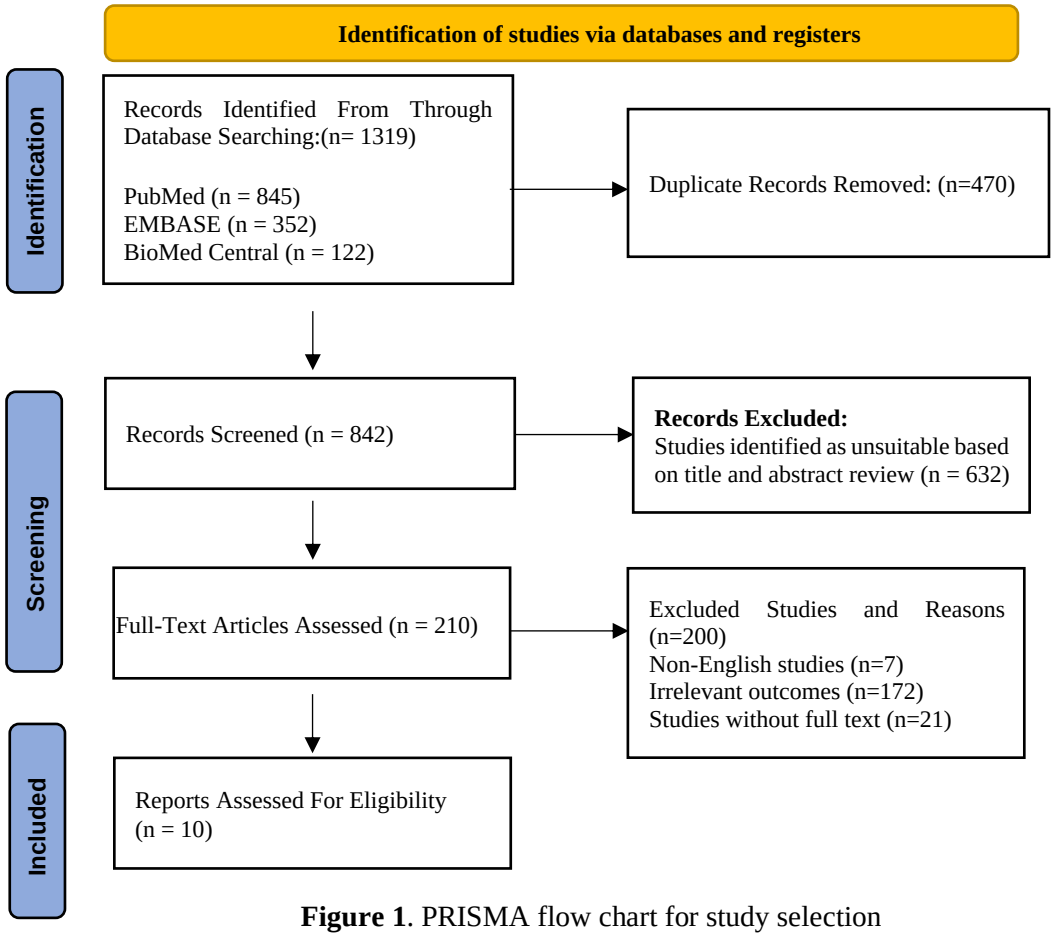

Figure 1. PRISMA flow chart for study selection

The findings related to the author, year, perspective, targeted therapy, treatments and doses, health states, HSUVs, and methods from the studies included according to the research criteria are presented in Table 3.

In this systematic literature review, five studies focused on the U.S. healthcare perspective [36, 40, 41, 43, 44]. There is one study each focusing on the healthcare systems of Turkey [38], Colombia [42], China [37], Ireland [45], and Thailand [39]. Additionally, one of the included studies reports from

both the U.S. and Taiwan healthcare perspectives [34]. A large portion of the included studies consists of comparisons between targeted therapies and standard chemotherapy treatments. However, it is noteworthy that only studies addressing EGFR and PD-L1 biomarkers met the inclusion criteria. In the systematic literature review, seven studies [37, 39, 40, 41, 43, 44, 45] focused on the cost-effectiveness analysis of targeted therapies, while three studies [36, 38, 42] concentrated on standard chemotherapy treatments. Although researchers have primarily focused on pharmacoeconomic comparisons of targeted therapies, standard chemotherapy treatments continue to hold significant importance.

According to HSUV measurement methods, Yalçın Balçık and Bayram [38] and Limwattananon et al. [39] obtained HSUVs using the EQ-5D scale. This method aims to directly determine the health state utility values from patients. In the other seven studies, HSUVs were adapted or transferred from similar pharmacoeconomic evaluation studies or disease-specific HSUV/HRQoL studies in the literature [36, 37, 40, 41, 42, 43, 44]. Additionally, in the study by She et al. [40], QLQ-C30 scores were mapped to the EQ-5D scale.

The combined use of direct and indirect measurement methods results in more comprehensive and balanced outcomes. Consequently, many studies have adapted HSUVs obtained through various methods. In Klein et al.'s study [36], the cost-effectiveness of cisplatin/pemetrexed, cisplatin/gemcitabine, carboplatin/paclitaxel, and carboplatin/paclitaxel/bevacizumab combinations was compared. HSUVs were derived using an algorithm developed by Nafees et al. [46], based on VAS scores, SG, and EQ-5D values. In Wang et al.'s study [37], the cost-effectiveness of erlotinib monotherapy versus Carboplatin + Gemcitabine combination in EGFR mutation-positive patients was analyzed. HSUVs were determined based on the progression levels described in studies by Nafees et al. [46] and Carlson et al. [47], using SG, VAS, and EQ-5D scales.

In the study by Hu et al. [41], a cost-effectiveness analysis was conducted comparing nivolumab and ipilimumab combination therapy with standard chemotherapy (pemetrexed + cisplatin/carboplatin) in patients with PD-L1 expression levels of ≥ 1% and < 1%. HSUVs were adapted based on progression status using algorithms reported by Nafees et al. [46] and Reck et al. [48], incorporating SG, EQ-5D, and VAS values. In the study by Wang et al. [44], cemiplimab was compared with platinum-based chemotherapy (pemetrexed, cisplatin, or carboplatin combinations) in patients with PD-L1 expression levels of at least 50%. This study used the adaptation method from Hu et al. [41], applying SG, EQ-5D, and VAS values.

The study conducted by Parody Rua et al. [42] compares the cost-effectiveness of Carboplatin + Paclitaxel versus Carboplatin + Paclitaxel + Bevacizumab combinations. The health states are defined as PFS, progression, and terminal stage. The utility values used in the study were obtained from various studies in the literature and international databases, including those by Nafees et al. [46], Chouaid et al. [49], and the Tufts Medical Center CEA (Cost-Effectiveness Analysis) database [50].

In the study by Yang et al. [43], the cost-effectiveness of nivolumab + ipilimumab or nivolumab + ipilimumab + standard chemotherapy was compared in patients with PD-L1 tumor proportion scores of ≥1% and <1%. HSUV values were adapted using EQ-5D and WHOQOL-BREF scores from the CheckMate 9LA and CheckMate 227 phase 3 trials conducted by Yang et al. [51] and Reck et al. [48], respectively.

In the study by She et al. [40], cost-effectiveness analyses were conducted comparing pembrolizumab with standard chemotherapy in patients with tumor proportion scores of ≥50%, ≥20%, and ≥1%. Utility values were mapped from QLQ-C30 scores to EQ-5D utility values using algorithms published from the KEYNOTE-024 study [52], facilitating the economic evaluation of treatment options. Similarly, in the study by Chu et al. [45], a cost-effectiveness analysis was conducted comparing pembrolizumab monotherapy with chemotherapy in patients with PD-L1 tumor proportion scores of 50% or higher. Health State Utility Values (HSUVs) were also adapted from the randomized study in the KEYNOTE-024 trial [52]

Table 3. HSUVs in Targeted and Standard Therapies for Advanced or Metastatic NSCLC

Authors	Perpective	Biomarker Status	Treatment Regimen	HSUV Values	Measurement Method
Klein et al. [36]	U.S. Payer Perspective.	-	**Platinum-Based Chemotherapy Regimens Among** • Cisplatin: 75 mg/m² Q3W IV • Pemetrexed: 500 mg/m² Q3W IV • Gemcitabine: 1250 mg/m² D1, D8 Q3W IV • Carboplatin: AUC 6 Q3W IV • Paclitaxel: 200 mg/m² Q3W IV • Bevacizumab: 15 mg/kg Q3W IV	**Progressive Disease:** No Treatment: 0.47 Mild Side Effects (Cis/Pem): 0.48 Mild Side Effects (Cis/Gem): 0.48 Mild Side Effects (Carb/Pac): 0.48 Mild Side Effects (Carb/Pac/Bev): 0.48 Serious Side Effects: 0.31 **Stable Disease:** No Treatment: 0.65 Mild Side Effects (Cis/Pem): 0.56 Mild Side Effects (Cis/Gem): 0.56 Mild Side Effects (Carb/Pac): 0.56 Mild Side Effects (Carb/Pac/Bev): 0.56 Serious Side Effects: 0.49 **Partial Response:** No Treatment: 0.67 Mild Side Effects (Cis/Pem): 0.58 Mild Side Effects (Cis/Gem): 0.58 Mild Side Effects (Carb/Pac): 0.58 Mild Side Effects (Carb/Pac/Bev): 0.58 Serious Side Effects: 0.51 **Complete Response:** No Treatment: 0.85 Mild Side Effects (Cis/Pem): 0.75 Mild Side Effects (Cis/Gem): 0.75 Mild Side Effects (Carb/Pac): 0.75 Mild Side Effects (Carb/Pac/Bev): 0.75 Serious Side Effects: 0.68 **End of Life:** No Treatment: 0.35 Mild Side Effects (Cis/Pem): 0.25 Mild Side Effects (Cis/Gem): 0.25 Mild Side Effects (Carb/Pac): 0.25 Mild Side Effects (Carb/Pac/Bev): 0.25	Based on the VAS scores, SG, and EQ-5D values reported by Nafees et al. [46], utility values were adapted.

Authors	Perpective	Biomarker Status	Treatment Regimen	HSUV Values	Measurement Method
				Serious Side Effects: 0.18	
Wang et al. [37]	Chinese Healthcare System Perspective	EGFR +	**Erlotinib vs. Chemotherapy** • **Target Treatment:** • Erlotinib: 150 mg/day oral • **Alternative Agents (Chemotherapy):** • Carboplatin: AUC 5 Q3W IV • Gemcitabine: 1000 mg/m² Q1W IV	**Progression-Free Survival:** Erlotinib: 0.65 (Range: 0.26–0.87) CG (Carboplatin + Gemcitabine): 0.56 (Range: 0.224–0.75) **Disease Progression:** General: 0.47 (Range: 0.30–0.58)	Based on the algorithms reported by Nafees et al. [46] and Carlson et al. [47], which mapped VAS scores, SG, and EQ-5D values to utility values.
Yalçın Balçık and Bayram [38]	Turkish Social Security Institution (SGK) perspective	-	**Platinum-Based Chemotherapy Regimens Among** • Pemetrexed: 500 mg/m² Q3W IV • Cisplatin: 75 mg/m² Q3W IV • Gemcitabine: 1250 mg/m² Q1W IV	**Progression-Free Survival:** Cisplatin + Gemcitabine: 0.70 Cisplatin + Pemetrexed: 0.82 **Progressive Disease:** Cisplatin + Gemcitabine: 0.63 Cisplatin + Pemetrexed: 0.64	Empirically, HSUV values were obtained by applying the EQ-5D scale.
Limwattananon et al. [39]	Thailand healthcare system perspective	EGFR	**Target Treatment:** • Gefitinib: 250 mg/day oral • Erlotinib: 150 mg/day oral • Afatinib: 40 mg/day oral **Alternative Agents (Chemotherapy):** • Carboplatin: AUC 5-6 Q3W IV • Paclitaxel: 200 mg/m² Q3W IV • Cisplatin: 75 mg/m² Q3W IV • Gemcitabine: 1250 mg/m² Q1W IV	Use of platinum doublets 0.54 (0.48-0.60) Use of Tyrosine kinase inhibitors: 0.67 (0.59-0.77) No progression 0.68 (0.62-0.74) Disease progression 0.32 (0.07-0.58)	Empirically, HSUV values were obtained by applying the EQ-5D scale.
She et al. [40]	U.S. Payer Perspective.	TPS ≥ %50, TPS ≥ %20 ve TPS ≥ %1	**Pembrolizumab vs. Platinum-Based Chemotherapy** **Target Treatment:** • Pembrolizumab: 200 mg Q3W IV **Alternative Agents (Chemotherapy):** • Carboplatin: AUC 5-6 Q3W IV • Paclitaxel: 200 mg/m² Q3W IV	**Progression-Free Survival:** Pembrolizumab: 0.691 (Range: 0.5582–0.8292) Chemotherapy: 0.653 (Range: 0.5224–0.7863) **Progressive Disease:** General: 0.473 (Range: 0.3784–0.5676)	The QLQ-C30 scores applied in the KEYNOTE-024 study [52] were mapped based on utility values

Authors	Perpective	Biomarker Status	Treatment Regimen	HSUV Values	Measurement Method
			• Pemetrexed: 500 mg/m² Q3W IV		
Hu et al. [41]	U.S. Payer Perspective.	PD-L1 (≥50, ≥1, and <1%)	**Nivolumab+ Ipilimumab vs. Platinum-Based Chemotherapy** • **Target Treatment:** • Nivolumab: 3 mg/kg Q2W IV • İpilimumab: 1 mg/kg Q6W IV **Alternative Agents (Chemotherapy):** • Carboplatin: AUC 5 Q3W IV • Pemetrexed: 500 mg/m² Q3W IV • Paclitaxel: 200 mg/m² Q3W IV • Gemcitabine: 1000 mg/m² Q1W IV	**Progression-Free Survival:** Nivolumab plus Ipilimumab: 0.784 (Range: 0.74–0.828) Chemotherapy: 0.693 (Range: 0.642–0.743) **Progressive Disease:** General: 0.473 (Range: 0.166–0.568)	Based on the algorithms reported by Nafees et al. [46] and Reck et al. [48], VAS scores, SG, and EQ-5D values were mapped to utility values.
Parody-Rúa and Guevara-Cuellar [42]	Colombian healthcare system perspective	-	**Platinum-Based Chemotherapy Regimens Among** • Carboplatin+Paclitaxel Carboplatin+Paclitaxel+Bevacizumab	**Progression-Free Survival:** Carboplatin + Paclitaxel: 0.75 Bevacizumab + Carboplatin + Paclitaxel: 0.77 **Progressive Disease:** Carboplatin + Paclitaxel: 0.59 Bevacizumab + Carboplatin + Paclitaxel: 0.62	Based on the algorithms reported by Nafees et al. [46], Chouaid et al. [49], and the Tufts Medical Center [50], VAS scores, SG, and EQ-5D values were converted into utility values.
Yang et al. [43]	U.S. Payer Perspective.	PD-L1 ≥ %1 ve < %1	**Nivolumab+ Ipilimumab vs. Platinum-Based Chemotherapy** **Target Treatment:** • Nivolumab: 3 mg/kg Q2W IV • İpilimumab: 1 mg/kg Q6W IV **Alternative Agents (Chemotherapy):** • Carboplatin: AUC 5 Q3W IV	**Progression-Free Survival:** Nivolumab plus Ipilimumab with/without chemotherapy: 0.88 (Range: 0.79–0.97) Chemotherapy: 0.79 (Range: 0.71–0.87) **Progressive Disease:**	Based on utility values, the EQ-5D and WHOQOL-BREF scores obtained from the CheckMate 227 [48] and

Authors	Perpective	Biomarker Status	Treatment Regimen	HSUV Values	Measurement Method
			• Pemetrexed: 500 mg/m² Q3W IV • Paclitaxel: 200 mg/m² Q3W IV • Gemcitabine: 1000 mg/m² Q1W IV	General: 0.72 (Range: 0.65–0.79)	CheckMate 9LA [51] phase 3 randomized trials were mapped.
Wang et al. [44]	U.S. Payer Perspective.	PD-L1≥50	**Cemiplimab vs. Standard Chemotherapy** **Target Treatment:** Cemiplimab: 350 mg Q3W IV **Alternative Agents (Chemotherapy):** • Pemetreksed: 500 mg/m² Q3W IV • Sisplatin: 75 mg/m² Q3W IV • Sisplatin: 100 mg/m² Q3W IV • Karboplatin: AUC 5-6 Q3W IV • Paklitaksel: 200 mg/m² Q3W IV • Gemsitabin: 1250 mg/m² Q1W IV	**Progression-Free Survival:** Cemiplimab: 0.784 (Range: 0.627–0.940) Chemotherapy: 0.693 (Range: 0.554–0.831) **Progressive Disease:** General: 0.473 (Range: 0.3784–0.5676)	Using the example from the study by Hu et al. [41], the algorithms reported by Nafees et al. [46] and Reck et al. [48] were used to map VAS scores, SG, and EQ-5D values to utility values.
Chu et al. [45]	Irish Healthcare System Perspective	PD-L1 ≥%50	**Pembrolizumab vs. Chemotherapy** **Target Treatment:** Pembrolizumab: 200 mg Q3W IV **Alternative Agents (Chemotherapy):** • Pemetreksed: 500 mg/m² Q3W IV • Paklitaksel: 200 mg/m² Q3W IV • Karboplatin: AUC 5-6 Q3W IV • Sisplatin: 75 mg/m² Q3W IV • Gemsitabin: 1250 mg/m² Q1W IV	**Progression-Free Survival:** Pembrolizumab: 0.808 Chemotherapy: 0.757 **Progressive Disease:** Pembrolizumab: 0.737 Chemotherapy: 0.687	The QLQ-C30 scores applied in the KEYNOTE-024 study [52] were mapped based on utility values

In the studies conducted by Yalçın Balçık and Bayram [38] and Klein et al. [37], the cost-effectiveness of cisplatin+pemetrexed versus cisplatin+gemcitabine was compared. The mean HSUV values for the cisplatin+gemcitabine combination were reported as 0.63 (0.599 – 0.662) for PFS and 0.556 (0.532 – 0.588) for PD. For the cisplatin+pemetrexed combination, the mean values were 0.688 (0.656 – 0.724) for PFS and 0.559 (0.532 – 0.588) for PD. Additionally, Klein et al. [37] included comparisons with carboplatin+paclitaxel and carboplatin+paclitaxel+bevacizumab combinations. In the study by Parody-Rúa and Guevara-Cuellar [42], the average HSUV values for the carboplatin+paclitaxel combination were 0.655 (0.622 – 0.688) for PFS and 0.475 (0.451 – 0.499) for PD.

Hu et al. [41] and Yang et al. [43] compared the Nivolumab+Ipilimumab combination with standard platinum-based chemotherapy, finding that the Nivolumab+Ipilimumab combination had higher HSUV values. The average values were 0.832 (0.790 – 0.873) for PFS and 0.596 (0.566 – 0.626) for PD, compared to 0.741 (0.704 – 0.778) for PFS with standard chemotherapy. She et al. [40] and Chu et al. [45] compared Pembrolizumab monotherapy with standard platinum-based chemotherapy. The average HSUV values for Pembrolizumab monotherapy were 0.749 (0.712 – 0.787) for PFS and 0.605 (0.574 – 0.635) for PD. For standard chemotherapy, these values were 0.705 (0.669 – 0.740) for PFS and 0.58 (0.551 – 0.609) for PD.

In Wang et al. [44], the HSUV values for cemiplimab monotherapy were reported as 0.784 (0.627–0.940) for PFS, while for standard platinum-based chemotherapy, they were 0.693 (0.554–0.831) for PFS and 0.473 (0.378–0.567) for PD. Limwattananon et al. [39] and Wang et al. [37] found that erlotinib monotherapy had higher HSUV values compared to standard platinum-based chemotherapy, with average HSUV values of 0.66 (0.627 – 0.693) for PFS and 0.395 (0.375 – 0.415) for PD. These studies indicate that targeted therapies generally have higher utility values compared to standard platinum-based chemotherapy.

Table 4. The Average HSUVs For Standard Chemotherapy And Targeted Therapies

Treatment Combination	PFS HSUV (Range)	PD HSUV (Range)
Cisplatin+Gemcitabine	0,63 (0,599 – 0,662)	0,556 (0,532 – 0,588)
Cisplatin+Pemetrexed	0,688 (0,656 – 0,724)	0,559 (0,532 – 0,588)
Carboplatin+Paclitaxel	0,655 (0,622 - 0,688)	0,475 (0,451 - 0,499)
Nivolumab+Ipilimumab	0,832 (0,790 – 0,873)	0,596 (0,566 – 0,626)
Pembrolizumab Monotherapy	0,749 (0,712 – 0,787)	0,605 (0,574 – 0,635)
Cemiplimab Monotherapy	0,784 (0,627-0,940)	0,473 (0,378-0,567)
Erlotinib Monotherapy	0,66 (0,627 – 0,693)	0,395 (0,375 – 0,415)

The HSUVs for chemotherapy and targeted therapy regimens used in the treatment of advanced or metastatic NSCLC, derived from studies meeting the inclusion criteria, are presented in Table 4. The HSUVs are evaluated for PFS and PD states, with their averages and 5% margins of error used to calculate the lower and upper limits. This table allows for a comparative analysis of the utility values across different therapeutic agents and provides data for economic evaluation studies.

4. Conclusion

This systematic literature review aims to provide a comprehensive analysis of HSUVs for platinum-based chemotherapy and targeted therapies in the treatment of advanced or metastatic NSCLC.

In situations where healthcare resources are limited, their allocation is not based solely on economic evaluations; the expertise and knowledge of healthcare professionals are also crucial. It is important to evaluate a wide range of studies in health economics and achieve common conclusions through objective, high-quality analyses. Systematic literature reviews enable a more comprehensive approach to health economics and policy decisions.

Comparing HSUVs for targeted therapies with those for standard platinum-based chemotherapy in advanced or metastatic NSCLC suggests that targeted therapies offer higher scores for both PFS and PD, indicating the potential for improved quality of life and extended survival compared to standard chemotherapies.

HSUVs are crucial components used in economic evaluations to calculate QALYs. The findings indicate that most HSUVs used in cost-effectiveness analyses of different treatment regimens are derived from disease-specific HSUV/HRQoL studies in the literature. Data obtained through empirical methods reflect patients' quality of life more directly, while HSUVs adapted from the literature provide broader applicability. HSUVs from different studies and methods are essential for data diversity, broad comparisons, and obtaining valid results in pharmacoeconomic research.

In developing countries such as Turkey, there is a shortage of pharmacoeconomic evaluations and systematic reviews related to cancer. Therefore, more studies are needed to provide reliable data for cost-effectiveness analyses. Increasing both the quality and quantity of these studies will help ensure better healthcare decisions for patients.

This systematic literature review aims to provide reliable HSUV estimates for use in economic evaluations of platinum-based treatments in advanced or metastatic NSCLC. Our study emphasizes that targeted therapies offer higher HSUVs for both PFS and PD, indicating a potential for better quality of life compared to standard chemotherapies.

Ethical Statement:

This paper is exempt from the Institutional Ethics Committee review since it does not involve human subjects.

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Conflict of interest:

There is no conflict of interest to declare.

Authors' Contributions:

Both authors collaborated on the research processes, including data acquisition, overview, data review, screening, and full-text screening.

References

[1] C. Fitzmaurice et al., "Global, regional, and national cancer incidence, mortality, years of life lost, years lived with disability, and disability-adjusted life-years for 29 cancer groups, 1990 to 2017: A systematic analysis for the global burden of disease study," *JAMA Oncology*, vol. 5, no. 12, pp. 1749–1768, 2019, doi: 10.1001/jamaoncol.2019.2996.

[2] H. H. Kyu et al., "Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990-2017: A systematic analysis for the Global Burden of Disease Study 2017," *The Lancet*, vol. 392, no. 10159, pp. 1859–1922, 2018, doi: 10.1016/S0140-6736(18)32335-3.

[3] R. S. Herbst, J. V. Heymach, and S. M. Lippman, "Molecular Origins of Cancer Lung Cancer," N. Engl. J. Med., vol. 359, pp. 1–169, 2008, doi: 10.1056/NEJMra0802710.

[4] A. R. Jazieh, R. Al Sudairy, N. Abu-Shraie, W. Al Suwairi, M. Ferwana, and H. Murad, "Erlotinib in wild type epidermal growth factor receptor non-small cell lung cancer: A systematic review," *Ann. Thorac. Med*., vol. 8, no. 4, pp. 204–208, 2013, doi: 10.4103/1817-1737.118503.

[5] G. Pilkington, A. Boland, T. Brown, J. Oyee, and A. Bagust, "A systematic review of the clinical effectiveness of first-line chemotherapy for adult patients with locally advanced or metastatic non-small cell lung cancer," *BMJ*, pp. 359–367, 2015, doi: 10.1136/thoraxjnl-2014-205914.

[6] J. H. Schiller et al., "Comparison of Four Chemotherapy Regimens for Advanced Non–Small-Cell Lung Cancer," *N. Engl. J. Med*., vol. 346, no. 2, pp. 92–98, 2002, doi: 10.1056/NEJMoa011954.

[7] M. Cullen, "Lung cancer 4: Chemotherapy for non-small cell lung cancer: the end of the beginning," *Thorax*, vol. 58, no. 4, pp. 352–356, Apr. 2003, doi: 10.1136/thorax.58.4.352.

[8] K. A. Olaussen and S. Postel-Vinay, "Predictors of chemotherapy efficacy in non-small-cell lung cancer: A challenging landscape," *Ann. Oncol.*, vol. 27, no. 11, pp. 2004–2016, 2016, doi: 10.1093/annonc/mdw321.

[9] S. S. Ramalingam, T. K. Owonikoko, and F. R. Khuri, "Lung cancer: New biological insights and recent therapeutic advances," *CA. Cancer J. Clin*., vol. 61, no. 2, pp. 91–112, 2011, doi: 10.3322/caac.20102.

[10] L. Osmani, F. Askin, E. Gabrielson, and Q. K. Li, "Current WHO Guidelines and the Critical Role of Immunohistochemical Markers in the Subclassification of Non-Small Cell Lung Carcinoma (NSCLC). Moving from Targeted Therapy to Immunotherapy," *Semin. Cancer Biol*., vol. 52, no. Pt 1, pp. 103–109, 2018, doi: 10.1016/j.semcancer.2017.11.019.

[11] G. A. Masters et al., "Systemic therapy for stage IV non-small-cell lung cancer: American society of clinical oncology clinical practice guideline update," *J. Clin. Oncol.*, vol. 33, no. 30, pp. 3488–3515, 2015, doi: 10.1200/JCO.2015.62.1342.

[12] A. Vergnenègre et al., "Cross-market cost-effectiveness analysis of erlotinib as first-line maintenance treatment for patients with stable non-small cell lung cancer," *Clin. Outcomes Res.*, vol. 4, no. 1, pp. 31–37, 2012, doi: 10.2147/CEOR.S25923.

[13] A. Lange, A. Prenzler, M. Frank, H. Golpon, T. Welte, and J. M. von der Schulenburg, "A systematic review of the cost-effectiveness of targeted therapies for metastatic non-small cell lung cancer (NSCLC)," *BMC Pulm. Med*., vol. 14, no. 1, 2014, doi: 10.1186/1471-2466-14-192.

[14] D. F. Cella and J. D. Patel, "Improving health-related quality of life in non-small-cell lung cancer with current treatment options," *Clin. Lung Cancer*, vol. 9, no. 4, pp. 206–212, 2008, doi: 10.3816/CLC.2008.n.030.

[15] P. J. Neumann and J. T. Cohen, "QALYs in 2018-advantages and concerns," *JAMA*, vol. 319, no. 24, pp. 2473–2474, 2018, doi: 10.1001/jama.2018.6072.

[16] M. R. Gold, D. Stevenson, and D. G. Fryback, "HALYs and QALYs and DALYs, oh my: Similarities and differences in summary measures of population health," *Annu. Rev. Public Health*, vol. 23, pp. 115–134, 2002, doi: 10.1146/annurev.publhealth.23.100901.140513.

[17] J. Brazier et al., "Identification, review, and use of health state utilities in cost-effectiveness models: An ISPOR Good Practices for Outcomes Research Task Force Report," *Value Health*, vol. 22, no. 3, pp. 267–275, 2019, doi: 10.1016/j.jval.2019.01.004.

[18] J. Brazier, D. Papaioannou, A. Cantrell, and S. Paisley, "Identifying and reviewing health state utility values for populating decision models," in Evidence-Based Decisions and Economics: Health Care, Social Welfare, Education and Criminal Justice, I. Shemilt, K. Marsh, M. Mugford, C. Donaldson, and L. Vale, Eds. *Wiley-Blackwell*, 2010, pp. 93–105, doi: 10.1002/9781444320398.ch14.

[19] R. Ara and J. E. Brazier, "Populating an economic model with health state utility values: Moving toward better practice," *Value Health*, vol. 13, no. 5, pp. 509–518, 2010, doi: 10.1111/j.1524-4733.2010.00700.x.

[20] C. A. Brauer, A. B. Rosen, D. Greenberg, and P. J. Neumann, "Trends in the measurement of health utilities in published cost-utility analyses," *Value Health*, vol. 9, no. 4, pp. 213–218, 2006, doi: 10.1111/j.1524-4733.2006.00116.x.

[21] S. E. Wolowacz et al., "Estimating health-state utility for economic models in clinical studies: An ISPOR Good Research Practices Task Force Report," *Value Health*, vol. 19, no. 6, pp. 704–719, 2016, doi: 10.1016/j.jval.2016.06.001.

[22] M. T. Muchadeyi, K. Hernandez-Villafuerte, and M. Schlander, "Quality appraisal for systematic literature reviews of health state utility values: A descriptive analysis," *BMC Med. Res*. Methodol., vol. 22, no. 1, pp. 1–20, 2022, doi: 10.1186/s12874-022-01784-6.

[23] M. Hernández Alava, A. Wailoo, F. Wolfe, and K. Michaud, "A comparison of direct and indirect methods for the estimation of health utilities from clinical outcomes," *Med. Decis. Mak*., vol. 34, no. 7, pp. 919–930, 2014, doi: 10.1177/0272989X13500720.

[24] M. Meregaglia, E. Nicod, and M. Drummond, "The estimation of health state utility values in rare diseases: Overview of existing techniques," *Int. J. Technol. Assess. Health Care*, vol. 36, no. 5, pp. 469–473, 2020, doi: 10.1017/S0266462320000665.

[25] P. Balázs, *Comparative analysis of health state utility measurement methods*, Corvinus University of Budapest Comparative, 2023.

[26] D. Arnold, A. Girling, A. Stevens, and R. Lilford, "Comparison of direct and indirect methods of estimating health state utilities for resource allocation: Review and empirical analysis," *BMJ*, vol. 339, no. 7717, pp. 385–388, 2009, doi: 10.1136/bmj.b2688.

[27] J. Fox-Rushby and J. Cairns, "Measuring and valuing consequences," in *Economic Evaluation*, J. Fox-Rushby and J. Cairns, Eds., *London School of Hygiene & Tropical Medicine*, 2005, pp. 83–150.

[28] G. Kobelt, *Health Economics: An Introduction to Economic Evaluation*, Office of Health Economics, London, 2013.

[29] D. Arnold, A. Girling, A. Stevens, and R. Lilford, "Comparison of direct and indirect methods of estimating health state utilities for resource allocation: Review and empirical analysis," *BMJ*, vol. 339, no. 7717, pp. 385–388, 2009, doi: 10.1136/bmj.b2688.

[30] P. Blinman, M. King, R. Norman, R. Viney, and M. R. Stockler, "Preferences for cancer treatments: An overview of methods and applications in oncology," *Ann. Oncol.*, vol. 23, no. 5, pp. 1104–1110, 2012, doi: 10.1093/annonc/mdr559.

[31] E. F. Blom, K. ten Haaf, and H. J. de Koning, "Systematic review and meta-analysis of community- and choice-based health state utility values for lung cancer," *Pharmacoeconomics*, vol. 38, no. 11, pp. 1187–1200, 2020, doi: 10.1007/s40273-020-00947-x.

[32] D. Moher et al., “Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement,” *PLoS Med*., vol. 6, no. 7, 2009, doi: 10.1371/journal.pmed.1000097.

[33] J. P. Higgins and S. Green, Eds., *Cochrane Handbook for Systematic Reviews of Interventions*.: John Wiley & Sons, Chichester, UK, 2008.

[34] Qatar Computing Research Institute, "Rayyan," http://rayyan.qcri.org/. Accessed May 31, 2024.

[35] D. Papaioannou, J. Brazier, and S. Paisley, “Systematic searching and selection of health state utility values from the literature,” *Value Health*, vol. 16, no. 4, pp. 686–695, 2013, doi: 10.1016/j.jval.2013.02.017.

[36] R. Klein et al., “Cost-Effectiveness of Pemetrexed Plus Cisplatin as First-Line Therapy for Advanced Nonsquamous Non-Small Cell Lung Cancer,” *J. Thorac. Oncol.*, vol. 4, no. 11, pp. 1404–1414, 2009, doi: 10.1097/JTO.0b013e3181ba31e0.

[37] A. S. Wang et al., “A Trial-Based Cost-Effectiveness Analysis of Erlotinib Alone versus Platinum-Based Doublet Chemotherapy as First-Line Therapy for Eastern Asian Nonsquamous Non-Small-Cell Lung Cancer,” *PLoS One*. 2013;8(3):e55917. doi:10.1371/journal.pone.0055917.

[38] P. Y. Balçik and B. Şahin, “Cost-effectiveness analysis of pemetrexed and gemcitabine treatment for advanced nonsmall cell lung cancer in Turkey,” *Turkish J. Med. Sci*., vol. 46, no. 1, pp. 152–158, 2016, doi: 10.3906/sag-1408-4.

[39] C. Limwattananon, S. Limwattananon, O. Waleekhachonloet, and T. Rattanachotphanit, “Cost-effectiveness analysis of policy options on first-line treatments for advanced, non-small cell lung cancer in Thailand,” *Lung Cancer*, vol. 120, no. March, pp. 91–97, 2018, doi: 10.1016/j.lungcan.2018.04.003.

[40] L. She et al., “Cost-effectiveness analysis of pembrolizumab versus chemotherapy as first-line treatment in locally advanced or metastatic non-small cell lung cancer with PD-L1 tumor proportion score 1% or greater,” *Lung Cancer*, vol. 138, no. September, pp. 88–94, 2019, doi: 10.1016/j.lungcan.2019.10.017.

[41] H. Hu et al., “Cost-effectiveness analysis of nivolumab plus ipilimumab versus chemotherapy as first-line therapy in advanced non-small cell lung cancer,” *Front. Oncol*., vol. 10, pp. 1–11, 2020, doi: 10.3389/fonc.2020.01649.

[42] E. Parody-Rúa and C. A. Guevara-Cuellar, “Cost-Effectiveness of the Addition of Bevacizumab to First-Line Chemotherapy With Carboplatin and Paclitaxel in Patients With Non–Small Cell Lung Cancer (NSCLC),” *Value Health Reg. Issues*, vol. 23, pp. 93–98, 2020, doi: 10.1016/j.vhri.2020.04.005.

[43] S. C. Yang, N. Kunst, C. P. Gross, J. D. Wang, W. C. Su, and S. Y. Wang, “Cost-Effectiveness of Nivolumab Plus Ipilimumab With and Without Chemotherapy for Advanced Non-Small Cell Lung Cancer,” *Front. Oncol*., vol. 11, pp. 1–9, 2021, doi: 10.3389/fonc.2021.760686.

[44] L. Wang et al., “Cost-Effectiveness Analysis of Cemiplimab Versus Chemotherapy as First-Line Treatment in Advanced NSCLC with PD-L1 Expression Levels of at Least 50%,” *Adv. Ther*., vol. 38, no. 8, pp. 4354–4365, 2021, doi: 10.1007/s12325-021-01828-1.

[45] R. W. Chu, A. Vegas García, C. Hickey, D. G. Power, and C. Gorry, “Cost-Effectiveness of First-Line Pembrolizumab Monotherapy Versus Chemotherapy in High Programmed Death-Ligand 1 Advanced Non–Small Cell Lung Cancer in the Irish Healthcare Setting,” *Value Health*, vol. 26, no. 3, pp. 402–410, 2023, doi: 10.1016/j.jval.2022.10.012.

[46] B. Nafees, M. Stafford, S. Gavriel, S. Bhalla, and J. Watkins, “Health state utilities for non-small cell lung cancer,” *Health Qual. Life Outcomes*, vol. 6, pp. 1–15, 2008, doi: 10.1186/1477-7525-6-84.

[47] J. J. Carlson, L. P. Garrison, S. D. Ramsey, and D. L. Veenstra, “The potential clinical and economic outcomes of pharmacogenomic approaches to EGFR-tyrosine kinase inhibitor therapy in non-small-cell lung cancer,” *Value Heal.*, vol. 12, no. 1, pp. 20–27, 2009, doi: 10.1111/j.1524-4733.2008.00415.x.

[48] M. Reck et al., “Nivolumab plus ipilimumab versus chemotherapy as first-line treatment in advanced non–small-cell lung cancer with high tumour mutational burden: patient-reported outcomes results from the randomised, open-label, phase III CheckMate 227 trial,” *Eur. J. Cancer*, vol. 116, pp. 137–147, 2019, doi: 10.1016/j.ejca.2019.05.008.

[49] C. Chouaid et al., “Cost Analysis of Erlotinib Versus Chemotherapy for First-Line Treatment of Non–Small-Cell Lung Cancer in Frail Elderly Patients Participating in a Prospective Phase 2 Study (GFPC 0505),” *Clin. Lung Cancer*, vol. 14, no. 2, pp. 103–107, 2013, doi: 10.1016/j.cllc.2012.04.006.

[50] Center for the Evaluation of Value and Risk in Health, Tufts Medical Center, "Cost-Effectiveness Analysis (CEA) Registry," [Online]. Available: https://cevr.tuftsmedicalcenter.org/databases/cea-registry.

[51] S. C. Yang, C. W. Kuo, W. W. Lai, C. C. Lin, W. C. Su, S. M. Chang, et al., "Dynamic Changes of Health Utility in Lung Cancer Patients Receiving Different Treatments: A 7-Year Follow-Up," *J. Thorac. Oncol.*, vol. 14, no. 11, pp. 1892–1900, Nov. 2019, doi: 10.1016/j.jtho.2019.07.007.

[52] J. R. Brahmer et al., “Health-related quality-of-life results for pembrolizumab versus chemotherapy in advanced, PD-L1-positive NSCLC (KEYNOTE-024): a multicentre, international, randomised, open-label phase 3 trial,” *Lancet Oncol.*, vol. 18, no. 12, pp. 1600–1609, 2017, doi: 10.1016/S1470-2045(17)30690-3.

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Review Article

THE ROLES OF PSYCHIATRIC NURSES IN THE SOCIAL REHABILITATION OF SUBSTANCE USE DISORDERS

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Abstract: *Social rehabilitation among substance use disorders is an essential part of mental health services provided to individuals. This concept refers to combining various activities to increase individuals' ability to reintegrate into society. The rehabilitation process is aimed at supporting individuals with substance use disorders, improving their problem-solving skills, and increasing their social adaptation. These services are often provided by organizations that offer addiction treatment and rehabilitation. These institutions operate in hospital environments, and a multidisciplinary team provides treatment services. Psychiatric nurses are part of the treatment team, play an active role in observation and communication, and spend the most time with the individuals. Examining the roles of psychiatric nurses in this field is critical in terms of the treatment and systemic organization of individuals with substance use disorders. Therefore, in this article, the responsibilities of psychiatric nurses who play an active role in the social rehabilitation of individuals with substance use disorders will be reviewed.*

Keywords*: Rehabilitation, psychiatric nursing, social rehabilitation, substance use, substance use treatment center.*

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1. Introduction

Substance use disorder is a chronic brain disease characterized by compulsive use, craving, loss of control, and continued use despite negative consequences [1]. While this disease is considered an addiction in DSM-IV, it is named a substance use disorder in DSM-V [2]. Substance use disorders have become a significant public health problem not only because of their biopsychosocial complications in individuals but also because of the high cost of prevention programs, unpredictable and unmeasurable socioeconomic damages affecting all segments of society, and irreversible consequences [3,4].

For the individual with a substance use disorder, addiction treatment, which aims for a life without substance use, is a complex and time-consuming struggle. Success in this struggle is possible with the support, dedication, and discipline that follow the vital reform the individual realizes by ultimately moving away from substance use [5]. The recovery process that begins with the patient's application to the treatment center includes interdisciplinary physical, psychological, and social interventions [6].

The term ‘rehabilitation’ is derived from the Latin word ‘*habi*t' meaning 'to make possible again.' The French word '*réhabiliter*’ is also used, meaning ‘the reintegration of a person who has been excluded from society due to illness or other reasons’ [7]. Rehabilitation studies on alcohol and substance abuse have their origins in the United States. In addition to the use of alcohol in their social routines, Native Americans were faced with the problem of addiction due to the alcohol brought with them by European

immigrants [8]. This problem brought the community leaders together to struggle, and they stated that they could achieve success with the power of faith. In their rituals, tribal members formed a ceremonial area in the form of a circle to get rid of addiction and to get away from evil spirits [9].

Nowadays, the rehabilitation of these people begins to take place immediately after the withdrawal symptoms phase, especially after the detox step [10]. The rehabilitation stage of substance addiction becomes the most crucial step of the treatment stages that aim to reintegrate individuals into society and help them become productive and influential individuals in a positive way [11]. Repairing close relationships damaged by the impairment in social functioning caused by substance use has a strong effect on the completion of the treatment and rehabilitation process [12]. It has been found that individuals with substance use disorder who do not receive support after detoxification have recently experienced relapse [13].

Rehabilitation practices are categorized into physical, psychological, and social dimensions. Physical rehabilitation consists of activities aimed at normalizing and improving the physiological functionality of the person and aiming to maintain daily life activities with maximum capacity by increasing their physical functionality [14]. Psychiatric rehabilitation includes various psychiatric interventions aiming to improve the quality of life and coping skills and prevent disability in severe mental disorders [14,15]. Social rehabilitation aims to improve the individual's familial, social, and occupational functionality, reintegrate into society, and increase the welfare level of society [14,16].

2. Rehabilitation Models in Substance Use Disorder Treatment

There are three rehabilitation models for substance use disorders as follows.

Inpatient Rehabilitation: It defines the inpatient treatment process that includes psychopharmacological interventions after detoxification and aims to help the patient gain functionality while continuing to stay away from the substance [13]. This model is designed for patients who cannot maintain their well-being in the field of life. It is suitable for patients who receive pharmacological intervention but are not in the withdrawal process [17]. The range of this service varies in different countries of the world [9].

Intensified Outpatient Rehabilitation: This model is offered to patients who avoid inpatient treatment but want to benefit more intensively from standard outpatient rehabilitation services [18]. This service area is primarily aimed at patients with comorbid substance use disorder. In these units, between inpatient services and outpatient rehabilitation centers, patients who do not require detoxification but need pharmacotherapy management to receive services [19].

Outpatient Rehabilitation: In the regulation on "Addiction Counseling, Detoxification, and Rehabilitation Centers" published by the Ministry of Health in 2019, outpatient rehabilitation is defined as "a treatment process that includes outpatient, pharmacological and psychosocial treatments after detoxification and aims to restore the person's functionality and social recovery in addition to continuing to stay away from the addictive substance." In the same regulation, the nurse is defined as "as part of the treatment team, "to carry out all kinds of medical care of the patient according to the physician's treatment plan, to provide training to patients, to carry out routine patient follow-ups, to keep records of treatments and to fulfill other duties assigned to them by the relevant legislation" [20].

Within the scope of recovery-based rehabilitation activities in the United Kingdom (U.K.), social welfare organizations in the field of substance use disorders are supported and expanded. Some rehabilitation programs in the U.K. are as follows: hospital services are provided by different organizations in line with the patient's active substance use status and current needs [21]. In Germany, as in the U.K., rehabilitation services are provided by various organizations with different designs. Many projects and studies have been carried out to overcome the problems arising from the diversity and multiplicity of organizations (inter-agency fragmentation, bureaucratic barriers, weak inter-agency

cooperation, etc.) [22]. In Russia, the state program 'Combating Illicit Drug Trafficking' was launched in 2014 to prepare patients for social rehabilitation. This program coordinates activities with employment services, non-governmental organizations, and regional educational institutions. If the patient completes the rehabilitation phase, they are re-included in social life [23].

In Italy, addiction rehabilitation is carried out in cooperation with state institutions and social communities. Following the guidance of public institutions, connections are also established with private organizations [22]. Alcoholics Anonymous, Narcotics Anonymous, and San Patrignano, one of the therapeutic communities carrying out religion-based programs, is the largest rehabilitation community in Europe. Peer-supported social activities are carried out in this community, which provides free service [24]. The Access to Recovery (ATR) program was implemented in the USA in 2008. With this program, patients are provided with a service purchase voucher and can choose between treatment units. Patients can receive intensive program services according to their needs [22].

There are 125 addiction treatment centers in Turkey, 53 inpatient and 72 outpatient, with a capacity of 1192 beds. According to January 2024 data, 70 outpatient detoxification centers [25]. These centers are units where social rehabilitation activities are carried out. For this purpose, the first institution in our country to open a rehabilitation area for individuals with substance use disorders is the "Bağ Evi," which operates in Bakırköy Prof. Dr. Mazhar Osman Mental Health and Neurological Diseases Training and Research Hospital [26]. Psychiatric nurses are essential in a multidisciplinary team working in Addiction Counselling, Detoxification, and Rehabilitation Centers. They are the team members who spend the most time with the patient and both evaluate and transmit data about the patient thanks to their observation skills [27,28]. Accordingly, this article aims to review the responsibilities of psychiatric nurses who play an active role in the social rehabilitation of individuals with substance use disorders.

3. Social Rehabilitation

For individuals with substance use disorders, the biological and psychological rehabilitation stages begin with the support the patient receives from treatment centers. Inadequate utilization at these two stages may cause the individual to transition to the active use stage [29]. The psychological and social rehabilitation that follows biological rehabilitation are two sides of the same coin. It aims to strengthen the individual's social and individual skills so that they can question themself in the context of some concepts such as trust, understanding, questioning, communication, social principles, concepts, and ethics [30].

Social rehabilitation means correcting certain social living conditions that hinder the patient's integration into society and routines to prepare the individual to return to everyday life as a valid member of society. The patient may need guidance from a professional team to create an appropriate social integration space in the community where they live. For this reason, the routine in which the patient presents their daily-weekly flow, shares their wishes, crises, and legal-economic-social-medical problems, and continues with the ability to adapt has made significant contributions to social recovery [31].

The aims of addiction social rehabilitation can be listed as follows;

- To increase the effectiveness of biopsychological interventions
- Ensuring that the patient realizes their communication potential
- Develop time management and planning skills
- This will enable the individual to recognize the social space where they will not be harmed and maintain communicative activities in this space.
- To develop anger control and healthy coping skills in the face of adverse events
- Developing or regaining manual skills

- Improving attention and concentration
- To enable the individual to gain the ability to assess risk for new social networks and environments, taking into account past negative experiences
- Reducing the risk of relapse
- To enable the individual to acquire and maintain social roles
- Preventing and reducing the loss of workforce and criminal behavior [11,29,32,33].

4. Psychiatric Nurses in Social Rehabilitation

Psychiatric nurses play vital roles in providing support to individuals with substance use disorders, managing treatment plans, and promoting social cohesion. These roles come together to support individuals' transition to a healthier and more balanced life in the process of combating addiction. Psychiatric nurses play an essential role in coordinating a comprehensive treatment approach, taking into account the biopsychosocial needs of the individual. Nurses should evaluate the social problems experienced by the individual due to substance addiction (social support level, social relationships, roles, etc.) and ensure participation in social skills groups such as anger management, problem-solving, and communication [11].

The roles of psychiatric nurses in the social rehabilitation of addiction are as follows:

5. Evaluation

Psychiatric nurses should have the ability to assess how addiction affects the patient and their environment during the treatment and counseling process. Risk assessments in nursing practice include systematic history-taking, therapeutic communication, and data evaluation in various areas, including mental health and developmental perspectives [34].

Psychiatric nurses observe and periodically evaluate the patient's adaptation to the rehabilitation program, communication with the treatment team and other patients during the time spent in the rehabilitation center, request management, daily self-care activities, and role and responsibility awareness. The evaluation outputs are shared with other professionals in the treatment team at team meetings. The critical observations for the patient's treatment are communicated to the relevant professional. They also share observational outputs about the patient with the patient and their family in a way that contributes to development.

During the daily good morning meetings and individual interviews, the patient discussed problems in their social life that may cause relapse. This offers the patient the opportunity to evaluate themselves. In addition, by ensuring the socialization of individuals, therapeutic group activities that will increase their self-esteem and entrepreneurship will be organized, and they will be observed by encouraging their participation [6,35].

5.1. Consulting

Counseling is the cornerstone of addiction treatment. Psychiatric nurses provide emotional support to individuals struggling with addiction. They conduct one-to-one interviews with patients, focus on their emotional needs and problems, and apply methods to increase their motivation. They help patients recognize their addiction-related habits and problems. This helps start and continue with individual or group sharing [36]. In addition to recovery interventions that help recreate healthy behaviors, the psychiatric nurse counsels the patient to develop coping methods when a dangerous situation arises

5.2. Communication with Family and Community

The active addiction process leads to the patient's detachment from the network of family and social relationships. The rehabilitation process aims to reintegrate the patient into social life by improving the relationship between the two parties [37]. Psychiatric nurses can communicate effectively with the families of individuals struggling with addiction and become a channel of communication for them to understand each other. This strengthens the individual's social support system and the continuity of social ties. This bond maintained in remission helps the individual with substance use disorder to regain the trust of their family and society. Thus, the individual gains a new opportunity to understand the importance and willingness to recover [38]. In this direction, the psychiatric nurse evaluates the family within the scope of care service and includes them in the care process.

Social rehabilitation aims at the functional integration of the individual into their environment. The psychiatric nurse is a professional motivator in the patient's social life in which the patient is readjusted in practical activities (education, social routines, parenting/child care, economic gain) [39]. Research has shown that if the small environment, i.e., family, friends, neighbors, and co-workers, continues to see the person in remission as an active addict, it can cause the person to feel more psychological pain [40]. The most critical difficulties in the social integration of individuals with substance use disorders are the stigmatization in the community due to the problems arising from active use. The participation of these individuals in the field of social activity and the roles they will take after social rehabilitation can reduce the stigmatization of patients [39]. In this direction, the psychiatric nurse advocates for the patient to be accepted as an "individual" in the society in which the patient lives and continues educational activities on stigmatization to change society's perspective on addiction [31,32].

5.3. Education and Awareness

Nurses use a variety of methods to raise awareness and educate individuals and society about what addiction is, how it develops, its effects, and the risks and harms associated with addiction. This addiction education activity may include not only substance-related addictions but also other types of behavioral addictions such as gambling, shopping, etc. Within healthy life skills, the psychiatric nurse covers stress management, communication skills, emotion regulation, healthy eating, regular exercise, and avoiding harmful habits in good morning meetings and individual interviews. As relapse prevention interventions, they address topics such as recognizing risky situations, establishing positive support systems, avoiding harmful environments, and crisis intervention. Emphasizes the importance of healthy relationships. It informs the patient on how to establish or strengthen support systems. Educational activities enable the patient to gain self-esteem and self-confidence as much as possible and to know the reality in which the patient lives [40].

To gain acceptable social perception capacity in the fight against addiction, it is one of the duties of the psychiatric nurse to develop a positive perspective and instill social acceptance dynamics for rehabilitation activities through cooperation between family, educational institutions, non-governmental organizations, and media [40]. In the social rehabilitation of individuals with substance use disorders, it is necessary to involve social organizations in efforts to combat substance use and training activities [41].

5.4. Planning and Implementing Care

The nurse creates and implements an individualized care plan based on the patient's needs. This plan includes psychosocial, physical, and mental health interventions, such as nutrition, exercise, medication, therapy, and support groups. These interventions are carried out and evaluated according to the determined care needs [28,42].

5.5. Social Cohesion and Rehabilitation

Substance use destroys family processes and leads to additional substance-related crimes and public safety risks [43]. The community rehabilitation process aims to increase "social cohesion," which ensures that the person's physical, mental, social, and economic status reaches the best level to ensure the integration of the addicted individual with the community in which they live [44]. Social rehabilitation allows patients to trust and respect themselves, gain self-confidence, and create an integrated social identity [45]. Psychiatric nurses closely monitor and support individuals' adaptation to society and return to their everyday lives in the rehabilitation center and through family observation outputs. Social adaptation is a process that may include finding a job, education, and access to other social resources, including the family. Because in active substance use, the family also has to leave the network of social relationships due to addiction [37]. During the treatment process, the patient receives social adaptation and acceptance training. It is aimed at helping the patient regain the trust of their family and society. The patient's behavior toward this goal proves their seriousness and willingness for recovery and normalization [38].

5.6. Crisis Intervention

Crises encountered in the fight against addiction require rapid identification and effective intervention. Therefore, in a crisis, the psychiatric nurse makes an objective assessment, identifies the need for support, provides a safe environment, creates a supportive space, and gets help if the situation management is profound. After the interventions during the crisis, it helps the individual with substance use disorder to recover and make sense of the crisis. It makes a plan in cooperation with the patient to prevent similar situations after the crisis, supports the patient in developing coping strategies, and processes the themes that every crisis is temporary and an opportunity for development [46].

6. Conclusion and Recommendations

Social rehabilitation includes some interventions that will increase the harmony of the individual with substance use disorder with the community and prepare the individual to return to life as a valid member of society [32].

The participation of psychiatric nurses, who take an active role in this intervention area, in the process by knowing their duties and responsibilities is essential for the treatment institution, the patient with substance use disorder, their family, and society. In summary, psychiatric nurses serving in addiction rehabilitation centers:

- Show a supportive attitude toward increasing the patient's potential and communication skills.
- Explain to the patient in a non-judgmental and non-encouraging language the characteristics of the environment in which they were adapted during the period of active substance use.
- Support the patient in exploring and pursuing legitimate areas of social motivation.
- Define their daily roles within the program, make observations
- Consider the patient's social complaints in addition to biopsychological problems and share them with the multidisciplinary team for appropriate intervention
- Evaluate the patient's ability to communicate and adapt with other people receiving treatment services and the treatment team
- Provide support and counseling for the revision of the patient's professional or academic life, which the patient cannot maintain due to active substance use.

Ethical Statement:

This paper is exempt from the Institutional Ethics Committee review since it does not involve human subjects.

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There is no conflict of interest to declare.

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The contribution of the authors is equal.

References

[1] Umberger, W., Gaddis, L., "The science of addiction through the lens of opioid treatment for chronic noncancer pain" *Pain Management Nursing,* 21(1), 57-64, 2020. DOI: 10.1016/j.pmn.2019.09.001

[2] Köroğlu, E., Amerikan Psikiyatri Birliği,. Ruhsal Bozuklukların Tanısal ve Sayımsal El Kitabı (DSM-5), Tanı Ölçütleri El Kitabı, Hekimler Yayın Birliği, Ankara 2014.

[3] Park, J., "Addiction becomes normal in the late twentieth century". *History of the Present*, 11(1), 53-79, 2021. https://doi.org/10.1215/21599785-8772454

[4] Al-Ghamdi, RS., Morsy, N., "Nurses' knowledge about substance abuse and withdrawal symptoms among patients in Al-Amal hospital-Jeddah". *EJBLS*, 2, 19-26, 2019. DOI:10.18502/ijps. v15i2.2691

[5] Inanlou, M., Bahmani, B, Farhoudian, A, Rafiee F, "Addiction recovery: A systematized review". *Iranian Journal of Psychiatry*, 15(2), 172, 2020. DOI:10.18502/ijps. v15i2.2691

[6] Sağlık Bakanlığı. Hemşirelik yönetmeliğinde değişiklik yapılmasına dair yönetmelik. (2024, Apr 8). [Online]. Available: https://www.resmigazete.gov.tr/eskiler/2011/04/20110419-5.htm

[7] Abay, AR., Çölgeçen, Y., "Psikiyatrik sosyal hizmet- koruyucu, tedavi edici ve rehabilite edici ruh sağlığı alanında sosyal çalışmacıların rolü", *OPUS Uluslararası Toplum Araştırmaları Dergisi*, 9, 2147-2185, 2018. DOI: https://doi.org/10.26466/opus.484950

[8] National Drug Strategy, "National Drug Strategy 2001-2008 Rehabilitation (Report of a Working Group on Drugs Rehabilitation)" , Dublin, Department of Community, Rural and Gaeltacht Affairs, 2007.

[9] McCarty, D., Braude, L., Lyman, DR., Dougherty, RH., Daniels,AS., Ghose,.SS., et al. "Substance abuse intensive outpatient programs: assessing the evidence", *Psychiatr Serv*, 65, 718-726, 2014. DOI: https://doi.org/10.1176/appi.ps.201300249

[10] Adejoh, SO., Temilola, OM., Adejuwon, FF., "Rehabilitation of drug abusers: the roles of perceptions, relationships and family supports". *Soc Work Public Health*, 33(5), 289–298, 2018 DOI: 10.1080/19371918.2018.1469063

[11] Ulaş, E., Ekşi, H., "Inclusion of family therapy in the rehabilitation program of substance abuse and its efficacious implementation" *The Family Journal*, 27(4), 443-451,2019. https://doi.org/10.1177/1066480719871968

[12] Inanlou, M., Bahmani, B, Farhoudian, A. Rafiee F,. "Addiction recovery: A systematized review". *Iranian Journal of Psychiatry*, 15(2), 172, 2020. DOI:10.18502/ijps. v15i2.2691

[13] Adejoh, SO., Temilola, OM., Adejuwon, FF., "Rehabilitation of drug abusers: the roles of perceptions, relationships and family supports". *Soc Work Public Health*, 33(5), 289–298, 2018 DOI: 10.1080/19371918.2018.1469063

[14] Forman, RF., Nagy, PD., "Substance Abuse: Clinical Issues in Intensive Outpatient Treatment" Rockville MD, U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment, 2006.

[15] Reif, S., George, P, Braude, L., Dougherty, RH., Daniels, AS., Ghose, SS., et al. "Residential treatment for ındividuals with substance use disorders: assessing the evidence". Psychiatr *Serv*, 65, 301-312, 2014. DOI: https://doi.org/10.1176/appi.ps.201300242

[16] EMCDDA (European Monitoring Center for Drug and Drug Addiction) European Drug Report 2019: Trends and Developments. Luxembourg, Publications Office of the European Union, 2019.

[17] Humphreys, K., Lembke, A., "Recovery-oriented policy and care systems in the U.K. and USA" *Drug Alcohol Rev*, 33, 13-18,2014. DOI: https://doi.org/10.1111/dar.12092

[18] Allamani, A., "Views and models about addiction: differences between treatments for alcohol-dependent people and for illicit drug consumers in Italy". *Subst Use Misuse*, 43, 1704-1728, 2008. DOI: https://doi.org/10.1080/10826080802285489

[19] Molina-Fernandez, A., Manual on Drug Rehabilitation and Recovery of Drug Users. Madrid, Triple R, 2017

[20] Bağımlılık danışma, arındırma ve rehabilitasyon merkezleri hakkında yönetmelik (2024, Apr 8). [Online]. Available: https://www.resmigazete.gov.tr/eskiler/2019/03/20190310-2.htm

[21] Sinclair, D. L., Chantry, M., De Ruysscher, C., Magerman, J., Nicaise, P., & Vanderplasschen, W. "Recovery-supportive interventions for people with substance use disorders: a scoping review". *Frontiers in Psychiatry*, *15*, 1352818, 2024.DOI: https://doi.org/10.3389/fpsyt.2024.1352818

[22] Gossop, M., Marsden, J., Stewart, D., Kidd, T., "The National Treatment Outcome Research Study (NTORS): 4–5-year follow-up results", *Addiction*, 98, 291-303,2003. DOI: https://doi.org/10.1046/j.1360-0443.2003.00296.x

[23] Tumalavicius, V., "Ensuring the secure and sustainable development of the society: countering drug trafficking at the global level", *Access Journal*, *4*(3), 409-418, 2023. DOI: https://doi.org/10.46656/access.2023.4.3(6)

[24] Devlin, A. M., & Wight, D., "Mechanisms and context in the San Patrignano drug recovery community, Italy: a qualitative study to inform transfer to Scotland", *Drugs: Education, prevention and policy*, *28*(1), 85-96, 2021.

[25] Ayakta Arındırma Merkezi Verileri (2024, Apr 8). [Online]. Available: https://khgmsaglikhizmetleridb.saglik.gov.tr/TR-43004/ayakta-ve-yatakli-bagimlilik-arindirma-merkezleri-listesi.html

[26] Bakırköy Prof. Dr. Mazhar Osman Ruh Sağlığı ve Sinir Hastalıkları Eğitim ve Araştırma Hastanesi, Bağ Evi (2024, Apr 8). [Online].Available: https://bakirkoyruhsinireah.saglik.gov.tr/TR-346319/bag-evi.html

[27] Dikeç, G., Kutlu, FY., "Dezavantajlı gruplar olarak bağımlıların psikososyal sorunları", Yılmaz M (editör). Dezavantajlı Gruplar ve Ruh Sağlığı. Ankara: Türkiye Klinikleri 50-55,2020.

[28] Şimşek, N., "Madde kullanım bozukluğu olan birey ve ailesinin hemşirelik bakımı". *Psikiyatri Hemşireliği Dergisi*, 1(2), 96-99,2010. https://doi.org/10.17681/hsp.34389

[29] Dunn, DS., "Understanding the Experience of Disability: Perspectives from Social and Rehabilitation Psychology". Oxford University Press, 2019

[30] Denzin, NK., Johnson, JM., The Alcoholic Society: Addiction Recovery of the Self, 2017

[31] Birtel, MD., Wood, L., Kempa, NJ., "Stigma and social support in substance abuse: Implications for mental health and well-being". *Psychiatry Research*, 252, 1-8, 2017. https://doi.org/10.1016/j.psychres.2017.01.097

[32] Caputo, A., "The experience of therapeutic community: Emotional and motivational dynamics of people with drug addiction following rehabilitation", *Int J Ment Health Addiction*, 17(1), 151-165, 2019. DOI:10.1007/s11469-018-0008-4

[33] Georgakas, P., "Truth and lies about the social rehabilitation of drug addiction", *Annals of General Psychiatry*", 9, S20 - S20, 2010. https://doi.org/10.1186/1744-859X-9-S1-S20

[34] Dikeç, G., Ata, EA., Psikiyatri Hemşireliği Cep Kitabı. Ankara Nobel Tıp Kitabevi, 2024

[35] Evli, M., Albayrak, E., "Madde bağımlılığında hemşirelik". *ERÜ Sağlık Bilimleri Fakültesi Dergisi*, 7(2), 10-14;2020.

[36] Iversen, L,. "Drugs: A very Short Introduction United States of America". Oxford University Press, 2016.

[37] Potrikeeva, OL., Suprun, NG., Ispulova, SN., Oleinik, EV., Slepukhina, GV., Degtyarev, AA., "Social rehabilitation of drug addicts in Russia: Problems of organization at the current stage and prospects for further development", *Man in India*, 97(11), 489-500, 2017.

[38] Kruse, CS., Lee, K., Watson, JB., Lobo, LG., Stoppelmoor, AG., Oyibo, SE., "Measures of effectiveness, efficiency, and quality of telemedicine in the management of alcohol abuse, addiction, and rehabilitation: a systematic review". *J Med Internet Res*, 22(1), e13252, 2020. DOI: 10.2196/13252

[39] Manning, RM., Greenwood, RM., "Recovery in homelessness: The influence of choice and mastery on physical health, psychiatric symptoms, alcohol and drug use, and community integration". *Psychiatric Rehabilitation Journal*, 42(2), 147-157, 2019. DOI: 10.1037/prj0000350

[40] Englander, H., Weimer, M., Solotaroff, R., "Planning and designing the Improving Addiction Care Team (IMPACT) for hospitalized adults with substance use disorder", *Journal of Hospital Medicine*. 12(5), 339-342, 2017. DOI: 10.12788/jhm.2736

[41] Lin, W., Zhou, W., "Factors associated with the physical and mental health of drug users participating in community-based drug rehabilitation programmes in China", *Health & social care in the community*, 28(2), 584-590, 2020. DOI: 10.1111/hsc.12891

[42] Karakaş, SA., Ersöğütçü, F., "Madde bağımlılığı ve hemşirelik", *Sağlık Bilimleri ve Meslekleri Dergisi*, 3(2), 133-139, 2016. https://doi.org/10.17681/hsp.34389

[43] Yu, X Y., "Research on the prevention and control of drug hazards in the perspective of risk society", Beijing: Chinese People's Public Security University, 2023.

[44] Jack, HE., Oller, D., Kelly, J., Magidson, JF., Wakeman, SE., "Addressing substance use disorder in primary care: The role, integration, and impact of recovery coaches". *Substance Abuse*, 39(3):307-314, 2018. DOI: 10.1080/08897077.2017.1389802

[45] Tanekenov, A., Fitzpatrick, S., Johnsen, S., "Empowerment, capabilities and homelessness: The limitations of employment-focused social enterprises in addressing complex needs Housing". *Theory and Society*, 35(1):137-155, 2018. DOI:10.1080/14036096.2017.1290676

[46] Gnanapragasam, A., Paul, D., Sebastian, J., Sathiyaseelan, M., "Nursing management of patients with psychiatric emergencies". *Indian Journal of Continuing Nursing Education*, 22, 80 – 92, 2021. DOI: 10.4103/ijcn.ijcn_40_21