PERSPECTIVES IN PALLIATIVE & HOME CARE

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PERSPECTIVES IN PALLIATIVE & HOME CARE

EDITORIAL / EDİTÖRDEN

Dear Readers,

We are together with the April issue of Perspectives in Palliative & Home Care in 2026. Perspectives in Palliative & Home Care (PPHC), is an open access, free, and interdisciplinary journal on palliative & home care, published in accordance with the principles of independent, unbiased, and double-blind peer-review. The PHHC reflects the interdisciplinary approach that is the hallmark of effective palliative and home care and addresses the many specialties related to palliative and home care. The Journal welcomes submission editorial comments, opinions, original research articles, current ongoing series and review articles.

In this issue, we present four original research articles, one case report, and one review article to our readers. The first original research article examines the relationship between cardiometabolic risk and quality of life in individuals with type 2 diabetes mellitus using a cross-sectional approach. The second article addresses the relationship between religious coping styles and levels of hopelessness in patients who have undergone colorectal cancer surgery. The third study analyzes nurses' professional attitudes in terms of various variables. The fourth research article evaluates medication adherence, self-efficacy levels, and associated factors in patients with chronic obstructive pulmonary disease presenting to the emergency department.

This issue also includes a case report detailing the palliative care process for a patient diagnosed with Chiari malformation. The review article comprehensively discusses how focusing on the individual needs of elderly patients forms the foundation of geriatric palliative care practices.

We would like to thank the authors who shared their scientific studies with the Journal of Perspectives in Palliative & Home Care and contributed to the broad perspective of the palliative and home care literature, to the members of the reviewer board who carefully and diligently evaluate the articles submitted to the journal, and to the members of the editorial board of the journal, who worked hard and diligently during this difficult process.

We offer our best regards and see you in our next issue.

With our respect

Editors

Professor Rukuye AYLAZ, PhD　　Associate Prof. Zeliha CENGİZ, PhD

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Değerli Okurlarımız,

Perspectives in Palliative & Home Care Dergisi'nin 2065 yılı Nisan sayısı ile sizlerle buluşmanın mutluluğunu yaşıyoruz. Perspectives in Palliative & Home Care (PPHC); palyatif ve evde bakım alanlarında bağımsız, önyargısız ve çift-kör hakemlik ilkeleri çerçevesinde yayın yapan, açık erişimli, ücretsiz ve disiplinler arası bir dergidir. Dergimiz, palyatif ve evde bakımın temelini oluşturan disiplinler arası yaklaşımı yansıtarak farklı uzmanlık alanlarına hitap etmektedir.

Bu sayımızda dört özgün araştırma makalesi, bir olgu sunumu ve bir derleme makalesi okurlarımızla buluşmaktadır. Özgün araştırma makalelerinin ilki, tip 2 diyabetes mellituslu bireylerde kardiyometabolik risk ile yaşam kalitesi arasındaki ilişkiyi kesitsel bir yaklaşımla incelemektedir. İkinci makale, kolorektal kanser cerrahisi geçirmiş hastalarda dini başa çıkma tarzları ile umutsuzluk düzeyi arasındaki ilişkiyi ele almaktadır. Üçüncü çalışma, hemşirelerin mesleki tutumlarını çeşitli değişkenler açısından analiz etmektedir. Dördüncü araştırma makalesi ise acil servise başvuran kronik obstrüktif akciğer hastalarında ilaca uyum, öz-etkililik düzeyleri ve ilişkili faktörleri değerlendirmektedir.

Bu sayımızda ayrıca, Chiari malformasyonu tanılı bir hastada palyatif bakım sürecini ele alan bir olgu sunumu yer almaktadır. Derleme makalesi ise yaşlı hastaların bireysel gereksinimlerine odaklanmanın, geriatrik palyatif bakım uygulamalarının temelini nasıl oluşturduğunu kapsamlı bir bakış açısıyla tartışmaktadır.

Bilimsel çalışmalarını Perspectives in Palliative & Home Care Dergisi ile paylaşarak palyatif ve evde bakım literatürüne katkı sağlayan tüm yazarlara, dergimize gönderilen makaleleri titizlikle değerlendiren hakemlerimize ve bu süreçte özveriyle çalışan yayın kurulu üyelerimize teşekkür ederiz.

Bir sonraki sayımızda görüşmek dileğiyle saygılarımızı sunarız.

Saygılarımızla

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Perspectives in Palliative & Home Care

Research Article/Araştırma Makalesi

Cardiometabolic Risk and Quality of Life in Individuals with Type 2 Diabetes Mellitus: A Cross-Sectional Study

Tip 2 Diyabetes Mellituslu Bireylerde Kardiyometabolik Risk ve Yaşam Kalitesi: Kesitsel Bir Çalışma

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ABSTRACT

Background/ Objective: This study aimed to examine the associations between cardiometabolic risk indicators and diabetes-specific quality of life in individuals with type 2 diabetes mellitus.

Material and Methods: A cross-sectional study was conducted with 370 adults diagnosed with type 2 diabetes mellitus. Cardiometabolic risk was assessed using body mass index, waist circumference, systolic blood pressure, lipid profile parameters, and the Framingham Risk Score. Diabetes-specific quality of life was measured using the Diabetes Health Profile-18. Bivariate analyses and multivariable linear regression were performed.

Results: Participants' mean age was 53.91 ± 12.29 years, mean diabetes duration was 7.97 ± 5.36 years, and mean glycated hemoglobin level was 7.27 ± 1.24%. Mean Diabetes Health Profile-18 total score was 47.88 ± 16.20, with Cronbach's alpha of 0.901. According to the Framingham Risk Score, 37.8% of participants were in the high-risk category; this proportion was 68.5% in men and 18.5% in women. Diabetes Health Profile-18 total score differed by education level ($p=0.003$), income status ($p<0.001$), employment status ($p<0.001$), presence of hypertension ($p=0.013$), presence of heart disease ($p<0.001$), and medication adherence level ($p<0.001$). In multivariable analysis, age ($p=0.001$), sex ($p=0.047$), income ($p<0.001$), employment status ($p=0.001$), heart disease ($p=0.005$), medication adherence ($p=0.004$), body mass index ($p=0.003$), total cholesterol ($p<0.001$), and Framingham Risk Score ($p=0.022$) were independently associated with DHP-18 total score, whereas glycated hemoglobin was not ($p>0.05$). The model explained 29.4% of the variance.

Conclusion: Diabetes-specific quality of life in individuals with type 2 diabetes is shaped not only by glycemic control but also by a combination of sociodemographic, clinical, and cardiometabolic factors. Although significant associations were observed with cardiometabolic indicators, the inverse direction of these relationships should be interpreted with caution. These findings suggest that patient-reported outcomes may not always align with objective clinical indicators.

Keywords: Diabetes Mellitus; cardiometabolic risk factors; quality of life; nursing.

ÖZ

Giriş/Amaç: Bu çalışmanın amacı, tip 2 diyabetes mellituslu bireylerde kardiyometabolik risk göstergeleri ile diyabete özgü yaşam kalitesi arasındaki ilişkileri incelemektir.

Gereç ve Yöntem: Kesitsel tipte yürütülen çalışmaya tip 2 diyabetes mellitus tanısı olan 370 yetişkin dahil edilmiştir. Kardiyometabolik risk; beden kitle indeksi, bel çevresi, sistolik kan basıncı, lipid profili parametreleri ve Framingham Risk Skoru ile değerlendirilmiştir. Diyabete özgü yaşam kalitesi Diabetes Health Profile-18 Ölçeği ile ölçülmüştür. Bivariate analizler ve çok değişkenli lineer regresyon analizi uygulanmıştır.

Bulgular: Katılımcıların ortalama yaşı 53.91 ± 12.29 yıl, ortalama diyabet süresi 7.97 ± 5.36 yıl ve ortalama glikozile hemoglobin düzeyi %7.27 ± 1.24'tür. Diabetes Health Profile-18 toplam puanı 47.88 ± 16.20 olup Cronbach alfa katsayısı 0.901'dir. Framingham Risk Skoru'na göre katılımcıların %37.8'i yüksek risk kategorisindedir; bu oran erkeklerde %68.5, kadınlarda %18.5'tir. Diabetes Health Profile-18 toplam puanı; eğitim düzeyi ($p=0.003$), gelir durumu ($p<0.001$), çalışma durumu ($p<0.001$), hipertansiyon varlığı ($p=0.013$), kalp hastalığı varlığı ($p<0.001$) ve ilaç tedavisine uyum düzeyi ($p<0.001$) açısından farklılık göstermiştir. Çok değişkenli analizde; yaş ($p=0.001$), cinsiyet ($p=0.047$), gelir durumu ($p<0.001$), çalışma durumu ($p=0.001$), kalp hastalığı varlığı ($p=0.005$), ilaç uyumu ($p=0.004$), vücut kitle indeksi ($p=0.003$), total kolesterol ($p<0.001$) ve Framingham Risk Skoru ($p=0.022$) DHP-18 toplam puanı ile bağımsız olarak ilişkili bulunurken, glikozillenmiş hemoglobin düzeyi ile anlamlı bir ilişki saptanmamıştır ($p>0.05$). Model, varyansın %29.4'ünü açıklamaktadır.

Sonuç: Tip 2 diyabetli bireylerde diyabete özgü yaşam kalitesi yalnızca glisemik kontrolle değil, sosyodemografik, klinik ve kardiyometabolik faktörlerin birlikte etkisiyle şekillenmektedir. Kardiyometabolik göstergelerle anlamlı ilişkiler saptanmış olmakla birlikte, bu ilişkilerin ters yönde olması dikkatle yorumlanmalıdır. Bulgular, hasta bildirimine dayalı sonuçların objektif klinik göstergelerle her zaman paralel olmayabileceğini göstermektedir.

Anahtar Kelimeler: Diyabetes Mellitus; kardiyometabolik risk faktörleri; yaşam kalitesi; hemşirelik .

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1. Introduction

Type 2 diabetes mellitus (T2DM) is a major global health challenge due to its rising prevalence and multisystem complications. In 2021, 537 million adults were living with diabetes worldwide, a number projected to reach 783 million by 2045 (International Diabetes Federation [IDF], 2021). Beyond chronic hyperglycemia, T2DM is characterized by a complex cardiometabolic profile associated with substantial cardiovascular morbidity and mortality. Current guidelines emphasize that diabetes management should extend beyond glycemic control to include comprehensive cardiovascular risk assessment (American Diabetes Association [ADA], 2024).

Hypertension, dyslipidemia, abdominal obesity, and elevated global cardiovascular risk frequently coexist in individuals with T2DM. Cardiovascular disease prevalence is markedly higher among people with diabetes (Einarson et al., 2018). Core cardiometabolic indicators in clinical practice include total cholesterol, high-density lipoprotein cholesterol (HDL cholesterol), triglycerides, blood pressure, and body mass index (BMI) (ADA, 2024). Composite algorithms such as the Framingham Risk Score (FRS) provide integrated 10-year cardiovascular risk estimation and are widely used in epidemiological and clinical research (D’Agostino et al., 2008).

Alongside biomedical risk assessment, patient-reported outcomes have become central in chronic disease management. Quality of life (QoL), defined as individuals’ perceptions of their position in life within their cultural and value systems (World Health Organization [WHO], 1995), is often adversely affected in T2DM due to symptom burden, treatment demands, and comorbidity. The Diabetes Health Profile-18 (DHP-18) is a validated diabetes-specific instrument assessing psychological distress, barriers to activity, and disinhibited eating (Meadows et al., 1996; Meadows et al., 2000).

Evidence indicates that cardiometabolic risk factors influence not only biomedical outcomes but also QoL. Comorbid conditions such as hypertension, obesity, and dyslipidemia may limit physical functioning, increase treatment burden, and heighten psychosocial stress. Nevertheless, prior research has largely emphasized glycemic indices particularly glycated hemoglobin (HbA1c) when evaluating QoL, whereas broader cardiometabolic indicators, including lipid parameters, anthropometric measures, and composite cardiovascular risk scores, have received comparatively less attention. Contemporary diabetes care models advocate multidimensional, patient-centered risk assessment extending beyond glycemic control (ADA, 2024; Marx et al., 2023).

Given that dyslipidemia and cumulative cardiovascular risk are central determinants of long-term outcomes in T2DM, clarifying their relationship with diabetes-specific QoL has both epidemiological and clinical relevance. Accordingly, this study examined the association between cardiometabolic risk indicators including lipid parameters, anthropometric measures, and the FRS and diabetes-specific QoL in individuals with T2DM. By integrating objective cardiovascular risk estimation with a validated diabetes-specific QoL measure, the study aimed to determine whether global cardiovascular risk burden explains variation in perceived disease impact beyond glycemic control alone.

Research Questions

1. What is the cardiometabolic risk profile, including FRS distribution, in adults with T2DM?

2. What are the DHP-18 total and domain score levels and internal consistency in this sample?

3. Is DHP-18 associated with sociodemographic and clinical characteristics?

4. Are cardiometabolic indicators and FRS associated with DHP-18 total score?

5. Which cardiometabolic indicators independently predict DHP-18 total score after adjustment, and does FRS explain variance beyond HbA1c?

2. Methods

Study Design

This study employed a descriptive cross-sectional design to examine the association between cardiometabolic risk factors and QoL in individuals with T2DM. Reporting of this observational study adhered to the Strengthening the Reporting of

Observational Studies in Epidemiology (STROBE) statement (von Elm et al., 2007).

Setting and Participants

This study was conducted at the Endocrinology and Metabolism Outpatient Clinic of Akdeniz University Hospital between April 10, 2016 and March 15, 2017. Adults diagnosed with T2DM and attending routine follow-up visits were eligible for participation. Inclusion criteria were age ≥18 years, diagnosis of T2DM for at least one year, ability to communicate in Turkish, cognitive capacity to participate, and provision of written informed consent. Exclusion criteria included pregnancy, current steroid therapy, acute severe illness, major psychiatric disorder impairing communication, or inability to complete the study forms. Participants were recruited using convenience sampling. Based on a 95% confidence level and 5% margin of error, the final sample comprised 370 individuals (227 women and 143 men). Clinical and laboratory data were verified through hospital records.

Data Collection Instruments

Data were collected using structured forms and validated measurement instruments described below.

Sociodemographic and Clinical Variables

Information on age, sex, education, marital status, employment, income, smoking, alcohol use, treatment modality, diabetes duration, and comorbidities was collected using a structured form (Gough et al., 2009; Leiter et al., 2011; Co et al., 2015).

Anthropometric and Cardiometabolic Indicators

Body mass index (BMI) was calculated as kg/m² using measured height and weight and interpreted according to WHO classifications (WHO, 2000). Waist circumference and systolic blood pressure were recorded. Cardiometabolic indicators included total cholesterol, HDL cholesterol, triglycerides, HbA1c, smoking status, and age (WHO, 2011).

Framingham Risk Score (FRS)

The Framingham Risk Score (FRS) was used to estimate the 10-year risk of cardiovascular disease (Wilson et al., 1998; D'Agostino et al., 2008). In this study, FRS was calculated using standard risk assessment tools based on the widely accepted Framingham risk calculation approach described in the literature. The risk calculation included age, sex, smoking status, systolic blood pressure, and lipid parameters (total cholesterol and high-density lipoprotein cholesterol). During the calculation process, these variables were entered in accordance with standard Framingham risk algorithms to obtain the 10-year cardiovascular risk percentage for each participant. The resulting FRS values were analyzed as continuous variables and were also categorized into risk groups (low, moderate, high, and very high risk) to facilitate clinical interpretation.

Diabetes Health Profile-18 (DHP-18)

Diabetes-specific QoL was assessed using the 18-item Diabetes Health Profile (DHP-18), which comprises three domains: psychological distress (6 items), barriers to activity (7 items), and disinhibited eating (5 items). Domain scores are transformed to a 0–100 scale, with higher scores indicating greater negative impact on well-being and QoL; accordingly, lower scores reflect lower perceived diabetes-related burden. The Turkish version of the DHP-18 used in this study was obtained from the official developer/institutional source. As an established and previously translated instrument, no additional linguistic validation or cultural adaptation procedures were undertaken within the scope of the present study. The development, conceptual framework, and psychometric properties of the DHP and its adaptation for use in T2DM populations have been documented in the original and subsequent validation studies (Meadows et al., 1996; Meadows et al., 2000). In the present study, the total scale demonstrated high internal consistency (Cronbach's α = 0.901), while subscale reliability varied, with lower internal consistency observed in the disinhibited eating domain.

Data Collection Procedure

Data were collected through structured face-to-face interviews and medical record review. Each interview lasted approximately 20–25 minutes. Anthropometric measurements were obtained using standard clinical procedures. Blood pressure was measured after rest with an appropriately sized cuff, and mean values were recorded when repeated measurements were required. Body mass index (BMI) was calculated as kg/m². Biochemical parameters, including HbA1c and lipid profile, were extracted from the hospital information system and verified through medical records.

Ethical Considerations

Ethical approval was obtained from the Akdeniz University Faculty of Medicine Clinical Research Ethics Committee (Date: 09 September 2015; Decision No: 186). Institutional permission to conduct the study was also secured from the Department of Endocrinology and Metabolism, Akdeniz University Hospital (Date: 01 October 2015; Document No: 26708535-900/2376). Written permission to use the Turkish version of the Diabetes Health Profile-18 (DHP-18) was obtained via e-mail from Oxford University (Isis Innovation Limited). Written informed consent was obtained from all participants. The study adhered to the Declaration of Helsinki principles.

Statistical Analysis

Data were analyzed using IBM SPSS Statistics (version 22.0; IBM Corp., Armonk, NY, USA). Continuous variables were summarized as mean ± standard deviation; categorical variables as frequency and percentage. Normality was assessed using the Shapiro–Wilk test. Group comparisons for non-normally distributed variables were conducted using Mann-Whitney U and Kruskal-Wallis tests. Categorical variables were analyzed using chi-square tests. Spearman correlation was used to assess associations between continuous cardiometabolic indicators and DHP-18 scores. A multivariable linear regression approach was used to identify independent predictors of DHP-18 total score. Variables were entered in conceptually informed blocks based on demographic, socioeconomic, clinical, and cardiometabolic relevance. In addition, variables identified as significant in bivariate analyses and those considered clinically important potential confounders were retained in the multivariable model. Results were reported as unstandardized coefficients (B), standard errors, standardized beta coefficients, and p values. Multicollinearity was evaluated using variance inflation factor (VIF). Statistical significance was set at $\alpha = 0.05$ (two-sided).

3. Results

Participant Characteristics

The study included 370 individuals with T2DM. The mean age was 53.91 ± 12.29 years (median: 54.0, IQR: 45–62), and the mean duration of diabetes was 7.97 ± 5.36 years. The mean HbA1c level was 7.27 ± 1.24% (median: 7.1, IQR: 6.5–7.9). The average BMI was 27.70 ± 3.74 kg/m², indicating an overall overweight population. The mean waist circumference was 97.31 ± 14.21 cm, and the mean systolic blood pressure was 133.44 ± 15.23 mmHg. Regarding lipid parameters, the mean total cholesterol level was 230.69 ± 87.37 mg/dL (median: 245.0, IQR: 168.5–261.75), the mean HDL cholesterol level was 41.01 ± 12.32 mg/dL (median: 40.2, IQR: 32.3–48.1), and the mean triglyceride level was 136.32 ± 40.06 mg/dL (median: 130.0, IQR: 119.9–154.0). Total cholesterol levels showed considerable variability (range: 80–674 mg/dL). Extreme values were examined, and sensitivity analyses were performed to ensure that outliers did not unduly influence the regression estimates. Of the participants, 61.4% were women (n = 227) and 38.6% were men (n = 143). Educational attainment varied, with primary school (25.4%) representing the largest category, followed by middle school (19.7%) and high school (19.5%). Most participants were married (76.5%), and 58.1% were not working. More than half of the participants (58.6%) reported that their income balanced their expenses, whereas 14.6% reported income below expenses. Clinically, hypertension was present in 58.9% of participants, heart disease in 24.3%, and kidney disease in 18.6%. Oral antidiabetic drugs were used by 78.1% of participants, 47.6% were receiving insulin therapy, and 25.1% were on combination treatment. Self-reported medication adherence was good in 37.3%, moderate in 58.4%, and poor in 4.3% of the sample. Overall, Table 1 demonstrates that the study population represents a middle-aged cohort with multiple cardiometabolic risk indicators and a high prevalence of comorbid chronic conditions, particularly hypertension.

Table 1. Baseline Characteristics and Cardiometabolic Risk Profile of the Participants (N = 370)

Characteristics	Category	n	%
Gender	Female	227	61.4
	Male	143	38.6
Education	Illiterate	36	9.7
	Primary school	94	25.4
	Middle school	73	19.7
	High school	72	19.5
	University	53	14.3

Marital status	Married	283	76.5
	Single	87	23.5
Employment status	Not working	215	58.1
	Working full time	119	32.2
	Working half day	36	9.7
Economic status	Income < expenses	54	14.6
	Income = expense	217	58.6
	Income > expenses	99	26.8
Treatments used*	Oral antidiabetic drugs only	289	78.1
	Insulin only	176	47.6
	Combined	93	25.1
Self-reported medication adherence	Good	138	37.3
	Moderate	216	58.4
	Poor	16	4.3
Other chronic diseases	Hypertension	218	58.9
	Heart disease	90	24.3
	Kidney disease	69	18.6
Current smoker	Yes	94	25.4
Current alcohol use	Yes	71	19.2

Variable	**Mean ± SD**	**Median (IQR)**	**Min–Max**
Age (years)	53.91 ± 12.29	54.0 (45–62)	24–84
T2DM duration (years)	7.97 ± 5.36	7.0 (4–11)	1–30
HbA1c (%)	7.27 ± 1.24	7.1 (6.5–7.9)	4.8–12.5
BMI (kg/m²)	27.70 ± 3.74	27.5 (25.2–30.1)	18.5–38.3
Waist circumference (cm)	97.31 ± 14.21	96.0 (87–106)	60–143
Systolic BP (mmHg)	133.44 ± 15.23	132.0 (122–142)	90–179
Total cholesterol (mg/dL)	230.69 ± 87.37	245.0 (168.5–261.75)	80–674
HDL cholesterol (mg/dL)	41.01 ± 12.32	40.2 (32.3–48.1)	20–80
Triglycerides (mg/dL)	136.32 ± 40.06	130.0 (119.9–154.0)	38–402

Note: Continuous variables are presented as mean ± standard deviation and median (interquartile range) due to non-normal distribution. Categorical variables are presented as number (percentage).
*Percentages may exceed 100% because multiple responses were allowed.

Framingham Risk Score (FRS) Categories

Table 2 presents the distribution of FRS categories by sex and for the total sample. In the overall sample, 23.0% of participants were classified as low risk (0–9), 25.7% as moderate risk (10–20), 13.5% as moderately high risk (21–32), and 37.8% as high risk (≥33). More than one-third of the study population was classified in the high-risk category (≥33). When stratified by sex, differences were observed across risk categories. Among women, 34.8% were categorized as low risk, whereas only 4.2% of men were in this category. Conversely, 68.5% of men were classified in the high-risk group (≥33), compared to 18.5% of women. The distribution of moderate and moderately high risk categories was relatively comparable between sexes. Full distribution is shown in Table 2.

Table 2. Distribution of Framingham Risk Score Categories by Sex (N = 370)

FRS Category	Women n (%)	Men n (%)	Total n (%)
0–9	79 (34.8)	6 (4.2)	85 (23.0)
10–20	73 (32.2)	22 (15.4)	95 (25.7)
21–32	33 (14.5)	17 (11.9)	50 (13.5)
≥33	42 (18.5)	98 (68.5)	140 (37.8)

Note: FRS categories were classified according to the Framingham Risk Score variable in the dataset (0–9, 10–20, 21–32, ≥33).

Diabetes Health Profile-18 (DHP-18) Total and Domain Scores

Table 3 presents the distribution and internal consistency of the Diabetes Health Profile-18 (DHP-18) total and domain scores in individuals with T2DM. To ensure consistency with non-parametric analyses and improve interpretability, all domain scores were transformed to a 0–100 scale, and both mean ± standard deviation and median (interquartile range, IQR) values are reported. The mean (± SD) scores were 46.72 ± 18.94 for psychological distress, 41.67 ± 18.52 for barriers to activity, and 47.87 ± 15.53 for disinhibited eating. The median (IQR) values were 50.00 (33.33–61.11), 44.44 (33.33–61.11), and 46.67 (40.00–60.00), respectively. The overall DHP-18 total score was 47.88 ± 16.20, with a median (IQR) of 48.15 (35.19–59.26). The overall internal consistency of the scale was high (Cronbach's α = 0.901). Subscale reliability coefficients were acceptable for psychological distress (α = 0.804) and barriers to activity (α = 0.853), whereas the disinhibited eating domain demonstrated relatively low internal consistency (α = 0.556). This lower reliability indicates potential heterogeneity within this domain; therefore, domain-level findings should be interpreted with caution, and greater emphasis was placed on the total DHP-18 score in the interpretation of results.

Table 3. DHP-18 Total and Subscale Scores and Internal Consistency (N = 370)

Subscale	Mean ± SD (0–100)	Median (IQR) (0–100)	Cronbach's α
Psychological distress (6 items)	46.72 ± 18.94	50.00 (33.33–61.11)	0.804
Barriers to activity (7 items)	41.67 ± 18.52	44.44 (33.33–61.11)	0.853
Disinhibited eating (5 items)	47.87 ± 15.53	46.67 (40.00–60.00)	0.556
DHP-18 total (0–100)	47.88 ± 16.20	48.15 (35.19–59.26)	0.901

Note: DHP-18 total score ranges from 0 to 100; higher scores indicate poorer QoL.

Bivariate Associations Between DHP-18 Total Score and Sociodemographic and Cardiometabolic Variables

Table 4 presents the bivariate associations between sociodemographic, clinical, and cardiometabolic variables and the DHP-18 total score. Significant differences in DHP-18 scores were observed across education levels (p = 0.003). However, post-hoc analyses indicated that this difference was limited to a single pairwise comparison, with higher scores among literate individuals compared to primary school graduates (p = 0.041), while all other comparisons were not statistically significant. Income status was significantly associated with DHP-18 scores (p < 0.001). Participants with income equal to or below expenses exhibited higher DHP-18 scores than those with income exceeding expenses, indicating greater perceived QoL impairment in economically disadvantaged groups. Post-hoc comparisons confirmed that individuals with income exceeding expenses had significantly lower scores than both other groups (p < 0.001), whereas no significant difference was observed between the income-equal and income-below-expenses groups. Similarly, employment status was significantly associated with DHP-18 scores (p < 0.001). Participants who were not working had higher scores compared to those working full time, and post-hoc analyses indicated that this difference was primarily driven by lower DHP-18 scores among full-time workers compared to non-working individuals (p < 0.001), while other pairwise comparisons were not significant. Regarding clinical variables, participants without hypertension had higher DHP-18 scores than those with hypertension (p = 0.013), and individuals without heart disease had higher scores compared to those with heart disease (p < 0.001). Medication adherence was also significantly associated with DHP-18 scores (p < 0.001), with higher scores observed among participants reporting good adherence compared to those with moderate or poor adherence. For continuous variables, BMI (r = -0.235, p < 0.001), waist circumference (r = -0.133, p = 0.010), systolic blood pressure (r = -0.163, p = 0.002), total cholesterol (r = -0.333, p < 0.001), triglycerides (r = -0.105, p = 0.043), and FRS (r = -0.158, p = 0.002) were negatively correlated with DHP-18 scores. Given that higher DHP-18 scores indicate poorer QoL, these results indicate that higher levels of cardiometabolic risk indicators were associated with lower reported QoL impairment, consistent with the direction of associations observed in subsequent multivariable analyses. In contrast, HDL cholesterol showed a positive correlation (r = 0.203, p < 0.001). Age, duration of diabetes, and HbA1c were not significantly associated with DHP-18 total score.

Table 5. Multivariable Linear Regression Analysis of Factors Associated with DHP-18 Total Score (N = 370)

Variable	B	Standard Error	Standardized Beta	p
Age	0.272	0.081	0.150	0.001
Sex	3.182	1.597	0.090	0.047
Education	-0.483	0.624	-0.038	0.439
Income	6.199	1.225	0.265	<0.001
Employment status	3.081	0.914	0.157	0.001
Hypertension	3.259	1.713	0.096	0.058
Heart disease	5.286	1.880	0.140	0.005
Medication adherence	-3.968	1.357	-0.136	0.004
BMI	-0.603	0.203	-0.151	0.003
Total cholesterol	-0.036	0.009	-0.205	<0.001
FRS	-0.070	0.030	-0.113	0.022

Notes: Dependent variable: DHP-18 total score (0–100). The overall model was statistically significant ($R^2 = 0.294$, Adj. $R^2 = 0.272$, $p < 0.001$). Durbin–Watson = 1.57.

Multivariable Linear Regression Analysis

A multivariable linear regression analysis including demographic, socioeconomic, clinical, and cardiometabolic variables was conducted to examine factors associated with diabetes-specific QoL. The overall model was statistically significant ($p < 0.001$) and explained approximately 29% of the variance in DHP-18 total scores ($R^2 = 0.294$). In the final model, age (B = 0.272, p = 0.001), sex (B = 3.182, p = 0.047), income (B = 6.199, $p < 0.001$), employment status (B = 3.081, p = 0.001), and heart disease (B = 5.286, p = 0.005) were positively associated with DHP-18 total score, whereas medication adherence (B = -3.968, p = 0.004), BMI (B = -0.603, p = 0.003), total cholesterol (B = -0.036, $p < 0.001$), and FRS (B = -0.070, p = 0.022) were negatively associated. Multicollinearity diagnostics indicated no significant concern (all VIF values < 5). These findings indicate that both sociodemographic and clinical variables, in addition to cardiometabolic indicators, were independently associated with DHP-18 total score. Regression coefficients and standard errors are presented in Table 5.

Table 4. Factors Associated with DHP-18 Total Score: Bivariate Comparisons and Correlations (N = 370)
Panel A. DHP-18 Total Score According to Categorical Variables (Non-parametric tests)

Variable	DHP Total Mean ± SD	Test	p
Education level		Kruskal–Wallis	0.003
– Illiterate	43.52 ± 16.01		
– Primary school	52.76 ± 17.06		
– Middle school	46.47 ± 15.26		
– High school	49.61 ± 14.28		
– University or higher	45.07 ± 16.55		
Income status		Kruskal–Wallis	<0.001
– Income exceeds expenses	40.98 ± 17.31		
– Income equals expenses	50.03 ± 15.27		
– Income below expenses	51.92 ± 14.07		
Employment status		Kruskal–Wallis	<0.001
– Working full time	42.61 ± 15.82		
– Working part time	49.02 ± 14.92		
– Not working	50.61 ± 15.97		
Hypertension		Mann–Whitney U	0.013
– Yes	45.94 ± 15.06		
– No	50.67 ± 17.37		
Heart disease		Mann–Whitney U	<0.001
– Yes	41.77 ± 12.54		
– No	49.85 ± 16.76		
Medication adherence		Kruskal–Wallis	<0.001
– Good	52.74 ± 16.13		
– Moderate	45.29 ± 15.52		
– Poor	40.97 ± 16.14		

Panel B. Correlations Between Continuous Cardiometabolic Variables and DHP-18 Total Score (Spearman)

Variable	Spearman r	p
Age	0.096	0.066
Duration of diabetes	0.097	0.063
Glycated hemoglobin	-0.033	0.521
Body mass index	-0.235	<0.001
Waist circumference	-0.133	0.010
Mean systolic blood pressure	-0.163	0.002
Total cholesterol	-0.333	<0.001
High-density lipoprotein cholesterol	0.203	<0.001
Triglycerides	-0.105	0.043
Framingham risk score	-0.158	0.002

Note: Higher DHP-18 total scores indicate poorer diabetes-specific QoL. Non-parametric tests were used due to non-normal distribution of variables.

4. Discussion

The present cohort consisted of middle-aged individuals with T2DM, with mean anthropometric and clinical values consistent with an overweight profile and multiple cardiometabolic risk indicators. The coexistence of hypertension, dyslipidemia, and increased adiposity is widely recognized as a major contributor to cardiovascular morbidity in individuals with T2DM (Einarson et al., 2018). Contemporary standards of care emphasize that cardiovascular risk reduction requires integrated management of glycemic control, blood pressure, lipid parameters, and weight status rather than focusing on glucose control alone (ADA, 2024). In the present sample, the substantial prevalence of hypertension together with the observed lipid profile indicates a clinically meaningful cardiometabolic burden. Current guidelines recommend risk-based lipid management and individualized cardiovascular prevention strategies, particularly for individuals with T2DM who are already at elevated baseline risk (ADA, 2024; Marx et al., 2023). The cardiometabolic characteristics identified in this cohort are consistent with prior evidence demonstrating persistent clustering of cardiovascular risk factors in real-world populations with T2DM, despite advances in pharmacological therapy (Einarson et al., 2018). Collectively, these findings underscore the importance of comprehensive, multifactorial cardiovascular risk assessment in routine diabetes care, extending beyond glycemic indicators alone.

The distribution of FRS categories in this cohort demonstrates substantial variability in estimated cardiovascular risk among individuals with T2DM. Although diabetes itself is recognized as a high-risk condition, formal risk stratification remains important for tailoring the intensity of preventive interventions. In the present study, more than one-third of participants were classified in the highest risk category. Notably, a markedly higher proportion of men were categorized as high risk compared with women. Sex-based differences in cardiovascular risk are well documented, with men generally exhibiting higher short- to intermediate-term risk estimates, particularly when traditional risk factors are incorporated into composite scoring systems (ADA, 2024; Marx et al., 2023). The observed distribution of risk categories demonstrates substantial heterogeneity in estimated cardiovascular risk within this diabetic cohort and underscores the necessity of individualized risk stratification rather than assuming uniform cardiovascular risk across all patients with T2DM.

The DHP-18 is a diabetes-specific instrument assessing psychological distress, barriers to activity, and disinhibited eating. Scores are transformed to a 0-100 scale, with higher values indicating poorer diabetes-related QoL (Meadows et al., 2000). In this study, the total scale showed high internal consistency, consistent with prior validation research (Jelsness-Jørgensen et al., 2018; Benazizi et al., 2021). The disinhibited eating subscale demonstrated relatively low internal consistency (Cronbach's α = 0.556), which is below commonly accepted thresholds. This finding suggests potential heterogeneity among items within this domain and may limit the reliability of subscale-specific interpretations. Similar challenges have been reported in previous studies, where variability in eating behavior constructs may reduce internal consistency (Benazizi et al., 2021). Therefore, findings related to this subscale should be interpreted with caution, and greater emphasis should be placed on the total DHP-

18 score rather than domain-level analyses. Accordingly, interpretations in the present study were primarily based on the total DHP-18 score, and domain-level findings were not emphasized due to the limited reliability of this subscale. The mean total score was comparable to values reported in other T2DM populations, indicating a measurable yet variable impact of diabetes on QoL (Jelsness-Jørgensen et al., 2018).

The findings indicate that diabetes-specific QoL was associated with both socioeconomic and cardiometabolic factors. Significant differences in DHP-18 scores across education, income, and employment status underscore the influence of social determinants on perceived disease burden. Participants with lower educational attainment and disadvantaged economic status reported higher DHP-18 scores, reflecting poorer diabetes-specific QoL. These results align with prior evidence showing that socioeconomic disadvantage may increase treatment burden, limit access to supportive resources, and adversely affect psychosocial adaptation in T2DM (Sendekie et al., 2023; Gebremariam et al., 2022).

Post-hoc analyses provided further insight into the group-level differences underlying these associations. Specifically, individuals with income exceeding expenses demonstrated significantly lower DHP-18 scores than both balanced-income and lower-income groups, whereas no significant difference was observed between the latter two groups. Similarly, full-time employment was associated with lower DHP-18 scores compared with not working. These findings suggest that more favorable socioeconomic conditions were associated with lower perceived diabetes-specific burden in this sample. In contrast, differences across education levels were limited, with only a single significant comparison observed between illiterate individuals and primary school graduates. Overall, these results indicate that income and employment status, rather than education alone, may play a more prominent role in shaping diabetes-specific QoL in this population.

Regarding clinical variables, several cardiometabolic indicators were significantly associated with DHP-18 total score. Given that higher DHP-18 scores represent poorer QoL, the observed negative associations indicate that higher levels of BMI, total cholesterol, and FRS were associated with lower reported QoL impairment. This inverse pattern is counterintuitive from a clinical perspective, where greater cardiometabolic risk would typically be expected to correspond to worse patient-reported outcomes. Importantly, these findings reflect the actual direction of the observed data and are not attributable to scoring, coding, or analytical errors. In cross-sectional settings, such inverse associations may reflect complex and potentially non-linear relationships between biomedical risk and patient perception. Individuals with higher cardiometabolic risk may receive more intensive clinical management, including pharmacological treatment, closer monitoring, and lifestyle interventions, which could influence perceived disease burden. Additionally, adaptation processes and response shift phenomena may affect how individuals evaluate their quality of life over time. Accordingly, these findings should be interpreted as indicative of complex interactions between clinical status and patient-reported outcomes rather than a direct or causal relationship. These unexpected inverse associations were consistently observed across both bivariate and multivariable analyses, supporting the internal consistency of the findings. Furthermore, cross-sectional analyses do not establish causality, and relationships between biomedical markers and perceived QoL are often complex and non-linear (Mishra et al., 2024). Diabetes-specific instruments such as the DHP-18 assess psychosocial and behavioral dimensions that may not directly parallel objective clinical parameters, which may partly explain these discrepancies (Benazizi et al., 2021; Jelsness-Jørgensen et al., 2018).

The multivariable linear regression model explained approximately 29% of the variance in DHP-18 total score, indicating a moderate and statistically significant contribution of the included variables to diabetes-specific QoL. Comparable effect sizes have been reported in studies examining patient-reported outcomes in T2DM, reflecting the inherently multidimensional nature of QoL constructs (Sendekie et al., 2023; Mishra et al., 2024). A key methodological strength of this study is the adjustment for potential confounding variables. Socioeconomic and clinical factors such as education, income, employment status, hypertension, heart disease, and medication adherence were identified as relevant in bivariate analyses and were therefore included in the regression model to reduce confounding bias. After adjustment, both sociodemographic (age, sex, income, and employment status) and clinical variables (heart disease and medication adherence), as well as cardiometabolic indicators (BMI, total cholesterol, and FRS), were independently associated with DHP-18 total score. These findings indicate that diabetes-specific QoL is shaped by a combination of social, clinical, and metabolic factors rather than cardiometabolic risk alone. Notably, income and employment status emerged as strong positive predictors of DHP-18 scores, suggesting that socioeconomic position plays an important role in perceived disease burden. Similarly, the presence of heart disease was associated with higher DHP-18 scores, indicating greater perceived impact among individuals with comorbid conditions. In contrast, better medication adherence was associated with lower DHP-18 scores, reflecting reduced perceived burden. Cardiometabolic indicators such as BMI, total cholesterol, and FRS remained negatively associated with DHP-18 scores, indicating that higher levels of these variables were associated with lower reported QoL impairment. This inverse pattern is counterintuitive and should be interpreted cautiously. These findings suggest that patient-reported outcomes may not directly align with objective clinical indicators and may instead reflect complex interactions between disease severity, treatment intensity, healthcare utilization, and individual perception. However, given the cross-sectional design, these associations should not be interpreted as causal, and residual confounding due to unmeasured factors (e.g., psychological status or healthcare access) cannot be excluded. Overall, the results support the view that diabetes-specific QoL is a multidimensional construct influenced by socioeconomic context, comorbidity burden, and cardiometabolic profile.

Taken together with the post-hoc findings, these results suggest that socioeconomic influences on QoL are not uniform across categories but are driven by specific subgroup differences, particularly those related to income level and employment status. This highlights the importance of examining within-group variability rather than relying solely on overall group comparisons.

Although the explanatory power was limited, this magnitude is consistent with research in chronic disease contexts, where psychosocial and contextual variables substantially contribute to outcome variability. The findings therefore indicate that diabetes-specific QoL cannot be inferred solely from glycemic indicators; rather, broader cardiometabolic burden particularly lipid abnormalities and cumulative cardiovascular risk appears to play a measurable, though partial, role. Contemporary guidelines advocating comprehensive, patient-centered diabetes management support integrating cardiometabolic risk assessment with QoL evaluation (ADA, 2024; Marx et al., 2023).

The findings support routine integration of cardiovascular risk stratification with assessment of diabetes-specific QoL. In clinical practice, lipid management and global cardiovascular risk evaluation may influence not only long-term outcomes but also perceived disease burden. Incorporating validated patient-reported outcome measures such as the DHP-18 into outpatient diabetes management may facilitate more comprehensive care planning. Rather than focusing exclusively on HbA1c targets, multidisciplinary diabetes care including nursing-led monitoring and education should address broader cardiometabolic risk profiles alongside patient-reported experiences, consistent with contemporary patient-centered diabetes management models. Importantly, the coexistence of inverse associations across both cardiometabolic and socioeconomic variables reinforces the complexity of interpreting patient-reported outcomes in cross-sectional studies and underscores the need for cautious, context-aware interpretation.

Strengths and Limitations

This study has several strengths. First, it included a relatively large clinical sample of adults with T2DM (N = 370), enhancing statistical stability. Second, objective cardiometabolic indicators—including lipid parameters, anthropometric measures, blood pressure, and a composite cardiovascular risk score—were examined alongside a validated diabetes-specific patient-reported outcome measure. This integrative approach enabled simultaneous evaluation of biomedical risk burden and perceived disease impact within the same cohort. Third, the DHP-18 total scale demonstrated high internal consistency, supporting the reliability of the overall QoL assessment. Finally, multivariable regression analysis allowed assessment of independent associations beyond bivariate relationships.

Several limitations should be acknowledged. First, the cross-sectional design precludes causal inference and limits the ability to establish temporal relationships. Second, the single-center setting may restrict the generalizability of the findings to broader populations. Although the overall DHP-18 scale demonstrated strong internal consistency, one subscale showed relatively low reliability, warranting cautious interpretation of domain-specific results.

The regression model explained a modest proportion of variance, suggesting that unmeasured psychosocial and contextual factors may play a substantial role in diabetes-specific QoL. Although key sociodemographic and clinical confounders were included in the model, residual confounding due to unmeasured variables (e.g., psychological factors, healthcare access, or health literacy) cannot be excluded. In addition, reliance on self-reported measures may have introduced reporting bias. The data were collected prior to recent advances in diabetes management and cardiovascular risk reduction strategies. Therefore, changes in treatment approaches, including newer pharmacological therapies and updated clinical guidelines, may limit the applicability of the findings to current clinical practice. Additionally, the relatively low internal consistency observed in one subscale (disinhibited eating) may limit the interpretability of domain-specific findings. Finally, although the FRS was calculated using standard risk assessment tools, the specific model variant could not be fully verified retrospectively, which may limit reproducibility.

5. Conclusions

This study indicates that diabetes-specific QoL in adults with T2DM is associated with a combination of sociodemographic, clinical, and cardiometabolic factors, rather than glycemic control alone. Age, sex, income, employment status, heart disease, medication adherence, BMI, total cholesterol, and FRS emerged as independent predictors, highlighting the multifactorial nature of QoL in this population. Notably, unexpected inverse associations were observed between several cardiometabolic indicators and DHP-18 scores, indicating that higher levels of cardiometabolic risk were associated with lower reported QoL impairment. These findings do not suggest a protective effect of higher cardiometabolic risk; rather, they point to complex, potentially non-linear relationships between objective clinical indicators and patient-reported outcomes. The absence of a significant association between HbA1c and DHP-18 further supports the notion that biochemical control and perceived disease impact may represent partially distinct constructs. Taken together, these results underscore that diabetes-specific QoL cannot be inferred solely from biomedical markers and may instead reflect a combination of clinical status, treatment-related factors, and individual perception. Given the cross-sectional design, these associations should be interpreted with caution and should not be considered causal. Future longitudinal studies are needed to clarify the directionality of these relationships and to better understand the psychosocial and clinical mechanisms underlying diabetes-specific QoL. Overall, integrating cardiometabolic risk assessment with patient-reported outcome measures may contribute to more comprehensive and patient-centered diabetes management.

Conflict of Interest

The authors declare no conflict of interest.

Author Contributions

Conceptualization/Design: EY, HB; Data Collection: EY; Data Analysis and Interpretation: EY, HB; Drafting of the Manuscript: EY, HB; Critical Revision of the Content: EY, HB; Final Approval and Accountability: EY, HB; Technical and Material Support: –; Supervision: EY, HB.

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Research Article/Araştırma Makalesi

Investigation of the Relationship Between Religious Coping Styles and Hopelessness Levels in Patients Who Have Undergone Colorectal Cancer Surgery

Kolorektal Kanser Cerrahisi Geçirmiş Hastalarda Dini Başa Çıkma Tarzları ve Umutsuzluk Düzeyi Arasındaki İlişkinin İncelenmesi

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ABSTRACT

Background/ Objective: The study population consisted of patients who had undergone colorectal cancer surgery and were hospitalized in the general surgery department of a hospital, and the sample comprised those who met the inclusion criteria. The sample size was determined as 113 based on power analysis. Data were collected between June 2020 and January 2023 using the Personal Information Form, the Beck Hopelessness Scale, and the Religious Coping Styles Scale. Data were analyzed using SPSS version 26.

Material and Methods: The study population consisted of patients who underwent colorectal cancer surgery at a hospital, and the sample comprised 113 patients who met the inclusion criteria. Data were collected using a Personal Information Form, the Beck Hopelessness Scale, and the Religious Coping Styles Scale, between June 2020 and January 2023. SPSS 26 software was used for data analysis.

Results: 48.67% of the patients participating in the study were aged over 64 years, and 63.70% were male. The median score for positive religious coping was 23.0, for negative religious coping was 10.0, and for the Beck Hopelessness Scale was 5. A moderate negative correlation was found between the Beck Hopelessness Scale score and the positive religious coping subdimension score ($r = -0.49$), whereas a moderate positive correlation was found between the Beck Hopelessness Scale score and the negative religious coping subdimension score ($r = 0.51$). Multiple linear regression analysis showed that positive ($B = −0.104$, $p < 0.001$) and negative ($B = 0.434$, $p < 0.001$) religious coping independently predicted Beck Hopelessness scores.

Conclusion: The results of the study indicate that religious coping styles are significantly associated with levels of hopelessness in patients who have undergone colorectal cancer surgery.

Keywords: Coping skills; intestinal neoplasms; hope; nursing.

ÖZ

Giriş/Amaç: Kanser tanısı ve cerrahi tedavi süreci hastalarda psikososyal sorunlara ve umutsuzluk duygularında artışa yol açabilmektedir. Bu süreçte bireyler farklı başa çıkma stratejileri kullanmakta olup, dini başa çıkma önemli bir rol oynayabilmektedir. Bu araştırma, kolorektal kanser cerrahisi geçirmiş hastaların dini başa çıkma tarzları ile umutsuzluk düzeyleri arasındaki ilişkiyi belirlemek amacıyla tanımlayıcı ve ilişkisel olarak gerçekleştirildi.

Gereç ve Yöntem: The study population consisted of patients who had undergone colorectal cancer surgery and were hospitalized in the general surgery department of a hospital, and the sample comprised those who met the inclusion criteria. The sample size was determined as 113 based on power analysis. Data were collected between June 2020 and January 2023 using the Personal Information Form, the Beck Hopelessness Scale, and the Religious Coping Styles Scale. Data were analyzed using SPSS version 26.

Bulgular: Araştırmaya katılan hastaların %48.67'si 64 yaşın üzerinde, %63.70'i erkektir. Araştırma sonucunda olumlu dini başa çıkma tarzı ortanca puanı 23.0, olumsuz dini başa çıkma tarzı ortanca puanı 10.0 ve Beck Umutsuzluk Ölçeği ortanca puanı 5 olarak belirlendi. Araştırma sonucunda Beck Umutsuzluk Ölçeği puan ortalaması ile olumlu dini başa çıkma tarzı alt boyut puan ortalaması arasında negatif yönde orta düzeyde(r:-0.49), Beck Umutsuzluk Ölçeği ile olumsuz dini başa çıkma tarzı alt boyut ortalaması arasında ise pozitif yönde orta düzeyde(r:0.51) ilişki saptandı. Çok değişkenli doğrusal regresyon analizi, olumlu ($B = −0.104$, $p < 0.001$) ve olumsuz ($B = 0.434$, $p < 0.001$) dini başa çıkma yöntemlerinin Beck Umutsuzluk puanlarını bağımsız olarak tahmin ettiğini gösterdi.

Sonuç: Araştırma sonucu, kolorektal kanser ameliyatı geçiren hastalarda dini başa çıkma biçimlerinin umutsuzluk düzeyleriyle anlamlı ilişkili olduğunu göstermektedir.

Anahtar Kelimeler: Başa çıkma yöntemleri; bağırsak neoplazileri; umut; hemşirelik.

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1. Introduction

It is reported that approximately 2 million people worldwide were diagnosed with colorectal cancer (CRC) annually and 9.39% of cancer-related deaths in both genders occur due to CRC (Aktas & Kocasli, 2020). CRC patients experience many physiological problems such as bleeding, embolism, surgical site infection, changes in bowel habits, stoma complications, etc. during the diagnosis and treatment process. These problems lead to significant psychological outcomes such as low self-esteem, social isolation, disturbed body image, depression, and hopelessness (Yu & Tang, 2021; Alacacioglu et al., 2010; Song et al., 2022).

Hopelessness has been identified as an important predictor of depression, anxiety, and suicidal behavior (Atan et al., 2020). Many negative physical and behavioral symptoms can be observed in hopeless individuals. Some of these symptoms can be listed as decreased appetite, disturbed sleep pattern, feeling tired and helpless, decreased expression of emotions, withdrawal from social environment, and loss of will to live (Ho et al., 2012). In the literature, it is emphasized that maintaining hope in patients with a life-affecting diagnosis such as cancer is effective on physical and mental health (Atan et al., 2020; Ho et al., 2012). Hope also seems to be an effective parameter in cancer patients' compliance with diagnosis and treatment (Nierop-van Baalen et al., 2020; Mahendran et al., 2016).

Individuals experiencing hopelessness can use coping mechanisms to fight disease and adapt to treatment (Yazgan, E., & Demir, A. 2019). It seems that religious coping is one of the leading strategies used in coping with hopelessness (Harbali, S. M., & Koç, Z.,2022; Cufta,M., 2014). Religious coping mechanism is the use of faith in the process of coping with problems and stress (Cufta, M. 2014). Religious beliefs can serve as a harbor against life's difficulties and strengthen the ability to withstand negative emotions such as hopelessness. Some studies showed that religious coping behaviors were associated with better physical and mental health, and a faster recovery process (Cufta, M. 201; Ayik & Karabulutlu, 2020). Studies have also shown that religious coping and hope are interrelated with hopelessness (De Berardis et al., 2020; Guz, 2012; Costa et al., 2019) investigated the relationship between religious and spiritual coping and hope in cancer patients and concluded that patients with high levels of positive religious coping also had high levels of hope. Similar results were found in the study conducted by Sabancioglu and Yilmaz Taskin (Sabanciogullari, S., & Yilmaz, F. T., 2021). It is known that CRC patients use different methods to cope with challenges. Shaour et al. (2019), concluded that CRC patients used many different coping methods such as confronting the problem, denying the situation, or fatalistic thinking (Sharour, L. A., Omari, O. A., Malak, M. Z., Salameh, A. B., Yehia, D., Subih, M., & Alrshoud, M., 2019). Kang and Son, examined the coping strategies of CRC patients in different age groups and found that patients using maladaptive coping strategies had higher depression and anxiety scores (Kang, Y., & Son, H.,2019). A literature search was conducted in PubMed, Web of Science, Scopus, and Google Scholar using the keywords “colorectal cancer”, “surgery”, “religious coping”, “hopelessness”, and related terms. Studies published between 2000 and 2024 were screened. Although studies addressing religious coping and hopelessness separately were identified, no study specifically examining their relationship in patients undergoing colorectal cancer surgery was found. Therefore, this study aimed to explore this relationship.

2. Methods

Type of the Research

This descriptive and correlational study was conducted to determine the relationship between religious coping styles and hopelessness levels of patients who have undergone colorectal cancer surgery.

Place and Time of the Research

The study was conducted in the general surgery inpatient unit of a university hospital between June 2020 and January 2023.

The Population and Sample of the Research

The study population consisted of 208 patients who underwent CRC surgery at the hospital where the research was conducted. The sample size was determined through power analysis and calculated as 113 participants with an effect size of 0.40, a significance level of 0.05, and a power of 0.95. The study was completed with 113 patients selected using a convenience sampling method, which is a type of non-probability sampling.

The Inclusion Criteria

Individuals aged over 18 years who had undergone CRC surgery for the first time were included in the study.

The Exclusion criteria

Individuals diagnosed with a psychiatric disorder or having communication problems were excluded from the study.

Data Collection

Data were collected on weekdays between August 2020 and May 2022. The researcher visited the patients once between postoperative days 4 and 7 to inform them about the study. Patients who agreed to participate were administered the data collection forms through face-to-face interviews, during which the researcher read the questions aloud and recorded their responses. It took an average of 15 minutes to answer the questions.

Data Collection Tools

Personal Information Form, Religious Coping Styles Scale, and Beck Hopelessness Scale were used to collect the data.

Personal Information Form: The researcher-developed patient information form was prepared based on a comprehensive review of the relevant literature. The items were designed to assess the sociodemographic and clinical characteristics of the participants in line with the study objectives. Prior to data collection, the form was reviewed for clarity and comprehensibility, and necessary revisions were made (De Berardis et al., 2020; Guz, 2012; Ho et al., 2012; Koenig, H. G., & Carey, L. B., 2024).

Religious Coping Style Scale (RCSS): The Religious Coping Style Scale was based on the Brief RCOPE developed by Pargament et al. and adapted into Turkish by Ekşi (2001). The four-point Likert-type scale consists of two sub-dimensions: positive religious coping and negative religious coping, each including seven items. Higher scores indicate greater use of the respective coping style. In the Turkish validity and reliability study, the Cronbach's alpha coefficients were reported as 0.64 for positive religious coping and 0.63 for negative religious coping. In the present study, the Cronbach's alpha coefficients were 0.81 and 0.74, respectively. (Pargament, K. I., Kennell, J., & Hathaway, W.,1988; Ekşi, H. 2001)

Beck Hopelessness Scale (BHS): The Beck Hopelessness Scale, developed by Beck et al. (1974). Its Turkish validity and reliability were established by Seber et al. (1993) in psychiatric patients and subsequently evaluated by Durak and Palabiyikoglu (1994) in both clinical and non-clinical populations.The scale consists of true–false items. Specific items are scored as 1 point depending on the response, while the others are scored as 0. Total scores range from 0 to 20, with higher scores indicating greater hopelessness. The internal consistency coefficient was reported as 0.86 in the original study, and Cronbach's alpha was 0.83 in the present study. (Beck, A. T., Weissman, A., Lester, D., & Trexler, L., 1974; Durak, A., & Palabiyikoglu, R., 1994; Seber, G., Dilbaz, N., Kaptanoglu, C., & Tekin, D.,1993).

Data Analysis

Data were analyzed using SPSS version 26.0. Normality was assessed using the Kolmogorov–Smirnov and Shapiro–Wilk tests. As the data were not normally distributed, quantitative variables were presented as median (IQR) and analyzed using the Mann–Whitney U and Kruskal–Wallis tests. Categorical variables were expressed as frequencies and percentages. Associations between variables were examined using Spearman correlation analysis. Correlation coefficients between 0.30 and 0.70 were considered to indicate a moderate relationship. Multiple linear regression was performed to determine whether positive and negative religious coping predicted hopelessness. Statistical significance was set at $p < 0.05$.

Ethical Considerations

Ethical approval (Decision No: 2020/1040) and institutional permission (E.54343) were obtained from the İnönü University Clinical Research Ethics Committee prior to the study. Verbal informed consent was obtained from all participants. The patients were informed that their data would be kept confidential, that participation was voluntary, and that they could withdraw from the study at any time without any consequences. Due to the early postoperative condition of the patients, written consent was not deemed feasible, and the consent procedure was conducted in accordance with the ethics committee approval.

3. Result

In this section the statistical results of the study, conducted to determine the relationship between religious coping styles and hopelessness levels in patients who have undergone colorectal cancer surgery, were presented.

Table 1. Sociodemographic and Medical Characteristics of Patients

Variables		n (%)
Age (years)	18-40	10 (8.85)
	41-63	48 (42.48)
	>64	55 (48.67)
Gender	Female	41 (36.28)
	Male	72 (63.70)
Educational status	Illiterate	21 (18.58)
	Primary/secondary school	65 (57.52)
	High school	20 (17.70)
	Graduate or higher	7 (6.19)
Marital status	Married	93 (82.30)
	Single	20 (17.70)
Employment status	Working	24 (21.24)
	Not working	89 (78.76)
Income status	Higher than expenses	3 (2.65)
	Equal to expenses	61 (53.98)
	Lower than expenses	49 (43.36)
Type of disease	Colon cancer	76 (67.26)
	Rectum cancer	37 (32.74)
Presence of stoma	Present	75(66.37)
	Absent	38 (33.63)
Presence of metastasis	Present	71 (62.83)
	Absent	42 (37.17)
I attribute the onset of my illness to psychological attributions	Yes	69 (61.06)
	No	44 (38.94)
I attribute the onset of my disease to risk factors	Yes	48 (42.48)
	No	65 (57.52)
I attribute the onset of my illness to incident/chance	Yes	68 (60.18)
	No	45 (39.82)
I attribute the onset of my illness to other factors	Yes	20 (17.70)
	No	93 (82.30)
Apart from medical practices, I use other practices to feel well	Yes	102 (90.27)
	No	11 (9.73)
I use prayer/salaat to feel good about myself	Yes	101 (89.38)
	No	12 (10.62)
I give votive offerings to feel good	Yes	35 (30.97)
	No	78 (69.03)
I use other practices to feel good	Yes	24 (21.24)
	No	89 (78.76)
Opinion on fulfilling religious rituals sufficiently	Yes	58 (51.33)
	Partly	47 (41.59)
	No	8 (7.08)

Descriptive statistics of mean scores of the patients participated in the study were given in Table 2.

Table 2. Descriptive Statistics Of Patients Related To Scale Scores.

	Median (Min.-Max.)	Mean ± SD
Positive Religious Coping Style	23 (9-28)	22.46±3.533
Negative Religious Coping Style	10 (7-20)	9.885±2.635
Beck Hopelessness Scale	5 (0-18)	5.513±3.785

Min: Minimum, Max: Maximum SD: Standard deviation

The comparison of socio-demographic characteristics of patients participating in the study and the median score of the Religious Coping Styles Scale were presented in Table 3. Patients who were married and without metastasis had significantly higher positive religious coping scores ($p<0.05$). Patients who did not attribute the onset of disease to psychological attributions had higher positive religious coping ($p<0.05$). Patients giving votive offerings to feel better, apart from medical practices, had higher positive religious coping scores ($p<0.05$). Smilarly, patients fulfilling religious rituals were found to have a significant level of positive coping ($p<0.05$).

Table 3. Comparison of Socio-Demographic and Clinical Characteristics in Terms of Median Score of Religious Coping Style

Variables*		**Positive Religious Coping Style (Min.-Max.)**	**P**	**Negative Religious Coping Style (Min.-Max.)**	**P**
Age (years)***	18-40	23.5 (17-28)	0.1441	10.5 (7-19)	0.2004
	41-63	24 (15-28)		9 (7-17)	
	>64	23 (9-27)		10 (7-20)	
Gender**	Female	24 (14-27)	0.639	10 (7-20)	0.74
	Male	23 (9-28)		9.5 (7-17)	
Educational status***	Illiterate	23 (16-27)	0.4486	10 (7-20)	0.8512
	Primary-secondary school	24 (9-28)		9 (7-19)	
	High school	23 (16-28)		10 (7-14)	
	Graduate or higher	22 (15-24)		10 (7-15)	
Marital status**	Married	23 (9-28)	**0.031**	10 (7-20)	0.486
	Single	21 (11-25)		9 (7-16)	
Employment status**	Working	23.5 (15-28)	0.331	8.5 (7-15)	0.229
	Not working	23 (9-27)		10 (7-20)	
Income status***	Higher than expenses	22 (20-28)	0.9982	$10^{a,b}$ (7-15)	**0.0086**
	Equal to expenses	24 (14-28)		8^{a} (7-19)	
	Lower than expenses	23 (9-28)		$10^{a,b}$ (7-20)	
Type of disease**	Colon cancer	23 (14-28)	0.108	9.5 (7-19)	0.938
	Rectum cancer	24 (9-28)		10 (7-20)	
Presence of stoma**	Present	23 (9-28)	0.145	10 (7-20)	**<0.001**
	Absent	24 (14-28)		8 (7-19)	
Presence of metastasis**	Present	23 (9-28)	**0.035**	10 (7-17)	**0.006**
	Absent	24 (14-28)		8.5 (7-20)	
History of receiving preoperative treatment **	Present	23 (9-28)	0.405	10 (7-20)	**0.004**
	Absent	23 (14-28)		9 (7-19)	
I attribute the onset of my disease to risk factors **	Yes	23.5 (15-28)	0.68	9 (7-17)	0.583
	No	23 (9-28)		10 (7-20)	
I attribute the onset of my illness to incident/chance**	Yes	23 (11-27)	**0.053**	10 (7-20)	0.508
	No	24 (9-28)		9 (7-16)	
I attribute the onset of my illness to other factors **	Yes	23.5 (9-28)	0.655	10 (7-16)	0.758
	No	23 (11-28)		9 (7-20)	
Apart from medical practices, I use other practices to feel well **	Yes	23 (15-28)	**0.005**	9 (7-20)	0.119
	No	17 (9-28)		10 (9-14)	
I use prayer/salaat to feel good about myself**	Yes	23 (15-28)	**0.002**	9 (7-20)	**0.049**
	No	17 (9-28)		10 (9-15)	
I give votive offerings to feel good **	Yes	24 (19-27)	**0.003**	8 (7-14)	**0.005**
	No	23 (9-28)		10 (7-14)	
I use other practices to feel good**	Yes	24 (19-28)	**0.098**	10.5 (7-16)	0.085
	No	23 (9-28)		9 (7-20)	
Opinion on fulfilling religious rituals sufficiently ***	Yes	24^{a} (18-28)	**<0.001**	9 (7-20)	0.1552
	Partly	21^{b} (15-28)		10 (7-16)	
	No	18^{b} (9-26)		9.5 (7-17)	

*: Variables were expressed as median (Min.-Max.). **Mann-Whitney U test ***: Kruskal Wallis test

a,b: Different letters indicate statistical significance. ****$p<0.05$; There is a statistically significant relationship between the variable

a,b: Different superscript letters (a, b) indicate statistically significant differences between groups, whereas groups sharing the same letter are not significantly different.

Negative religious coping was found to be statistically significant in patients with high income levels among the patients participating in the study. Patients with stoma, metastasis, or receiving preoperative treatment were found to have higher negative religious coping. Negative religious coping was found to be statistically lower in patients who attributed the emergence of the disease to psychological attributions (p<0.05). It was found that negative coping was higher in patients not using prayer/salaat or votive offerings to feel better (p<0.05) (Table 3).

Table 4. Comparison of Hopelessness Median Score in Terms of Sociodemographic and Medical Characteristics

Variables *		Hopelessness (Min.-Max.)	P
Age (years)* **	18-40	4.5 (0-12)	**0.0023**
	41-63	4 (0-16)	
	>64	6 (0-18)	
Gender **	Female	4 (0-18)	0.156
	Male	5 (0-16)	
Educational status* **	Illiterate	6 (0-18)	0.1932
	Primary-Secondary school	5 (0-16)	
	High school	3 (0-12)	
	Graduate or higher	6 (1-13)	
Marital status **	Married	5 (0-18)	**0.027**
	Single	7.5 (1-14)	
Employment status **	Working	3 (0-11)	**0.001**
	Not working	5 (0-18)	
Income status* **	Higher than expenses	$2^{a,b}$ (1-6)	**0.0039**
	Equal to expenses	4^{a} (0-16)	
	Lower than expenses	7^{b} (0-18)	
Type of disease **	Colon cancer	5 (0-16)	0.742
	Rectum cancer	5 (0-18)	
Presence of stoma **	Present	6 (0-18)	**<0.001**
	Absent	3.5 (0-13)	
Presence of metastasis **	Present	6 (0-16)	**<0.001**
	Absent	4 (0-18)	
History of receiving preoperative treatment **	Present	6 (0-18)	**0.009**
	Absent	4 (0-16)	
I attribute the onset of my illness to psychological attributions **	Yes	5 (0-18)	**0.009**
	No	4.5 (0-12)	
I attribute the onset of my disease to risk factors **	Yes	4 (0-16)	0.156
	No	5 (0-18)	
I attribute the onset of my illness to incident/chance **	Yes	5 (1-18)	0.258
	No	4 (0-16)	
I attribute the onset of my illness to other factors **	Yes	5 (0-13)	0.675
	No	5 (0-18)	
Apart from medical practices, I use other practices to feel well **	Yes	5 (1-18)	**0.043**
	No	8(0-16)	
I use prayer/salaat to feel good about myself **	Yes	5 (0-18)	**0.037**
	No	7.5 (0-16)	
I give votive offerings to feel good **	Yes	4 (0-9)	**0.002**
	No	6 (0-18)	
I use other practices to feel good **	Yes	4 (1-14)	0.337
	No	5 (0-18)	
Opinion on fulfilling religious rituals sufficiently* **	Yes	4^{a} (0-18)	**0.0093**
	Partly	6^{b} (0-16)	
	No	9^{b} (0-16)	

*: Variables were expressed as median (Min.-Max.). **Mann-Whitney U test ***: Kruskal Wallis test

a, b, : Different superscript letters (a, b) indicate statistically significant differences between groups, whereas groups sharing the same letter are not significantly different.

Among participants, hopelessness scores were found to be higher statistically significant in those over 64 years of age, single, not working, and having lower income than expenses (p<0.05). Hopelessness was found to be higher in patients receiving preoperative treatment, having stoma or metastasis (p<0.05). It was observed that patients attributing the onset of disease to psychological attributions experienced more hopelessness. Smilarly, it was observed that patients not using any methods to feel better other than medical practices experienced more hopelessness (p<0.05). In addition, it was found that patients, not using prayer/salaat, giving votive offerings, or not fulfilling religious rituals to feel better, had significantly higher hopelessness scores than those who did. (p<0.05) (Table 4).

Table 5. Results of Correlation Analysis Between Scores of Scales

		Beck Hopelessness	Positive Religious Coping Style	Negative Religious Coping Style
Beck Hopelessness Scale	r	1	-0.49	0.51
	p	-	<0.001	<0.001
Positive Religious Coping Style	r	-0.49	1	-0.27
	p	<0.001	-	0.003
Negative Religious Coping Style	r	0.51	-0.27	1
	p	<0.001	0.003	-

r: Spearman rank correlation coefficient

Table 5 showed the negative and moderate relationship between Beck Hopelessness Scale and Positive Religious Coping Subscale scores (r: -0.49). Hopelessness scores were moderately and positively correlated with negative religious coping scores (r = 0.51) (Table 5).

Table 6. Results of Multiple Linear Regression Analysis

Variables	Beta	Linear Regression Analysis		
		B (%95 CI)	t	p-value
Hopelessness	β0	2.336 [1.367-3.306]	4.776	**<0.001**
Positive Religious Coping Style	β1	-0.104 [-0.147--.061]	4.831	**<0.001**
Negative Religious Coping Style	B2	0.434 [0.283-0.585]	5.706	**<0.001**

CI: Confidence interval, Beta: Regression coefficient

The multiple linear regression model revealed that positive religious coping (B = −0.104, p < 0.001) and negative religious coping (B = 0.434, p < 0.001) independently predicted Beck Hopelessness scores. The related regression equation is expressed as follows Increasing the positive religious coping score by one point reduces the Beck hopelessness score by -0.104 points. A one-point increase in negative religious coping score increases Beck hopelessness score by 0.434 points (Table 6).

4. Discussion

The results of the study also showed that patients performing religious rituals had higher positive religious coping scores. Previous studies have shown that cancer patients frequently turn to religious or spiritual practices to cope with illness (Yilmaz Karabulutlu et al., 2019; Nejat et al., 2017; Martins et al., 2020; Rohde et al., 2017). Religious beliefs may help patients make sense of illness and support psychological adaptation during the treatment process.

Maintaining hope is an important psychological resource for patients facing the difficult diagnostic and treatment process of colorectal cancer. Previous studies indicate that religious beliefs may play an important role in sustaining hope among patients with serious illnesses (Atlas & Hart, 2023; Kavak Budak et al., 2021). Therefore, this study discussed the relationship between religious coping styles and hopelessness in patients undergoing colorectal cancer surgery. The findings of the present study showed that positive religious coping was used more frequently than negative religious coping among the participants. Similar results have been reported in previous studies investigating religious coping in cancer patients (Sabancioglulları & Yilmaz Taskin, 2021; Holt et al., 2017; Khodaveirdyzadeh et al., 2016; King et al., 2021). Studies conducted specifically with colorectal cancer patients also reported that positive religious coping was more commonly used than negative coping strategies ((Harbali, S. M., & Koç, Z.,2022). These findings are consistent with previous research (Fekih-Romdhane et al., 2021; Yilmaz Karabulutlu et al., 2019). However, it should be noted that many of these studies were conducted in different patient groups, such as individuals with breast cancer or those receiving chemotherapy, whereas the present study focused on patients undergoing colorectal cancer surgery. Differences in disease type, treatment process, and symptom burden may influence coping styles.

Hopelessness is a common psychological response among cancer patients and may negatively affect their ability to cope with illness-related challenges (Dogan & Ozkan, 2020). In this study, patients undergoing colorectal cancer surgery were found to experience mild levels of hopelessness. Similar findings have been reported in other studies involving cancer patients (Dogan & Ozkan, 2020; Kavak Budak et al., 2021; Yıldırım et al., 2009). However, unlike many previous studies including patients receiving treatments such as chemotherapy, this study focused on surgical patients. Surgical treatment may be perceived as curative, which may help explain the lower levels of hopelessness observed. Differences observed between studies may be related to variations in sample characteristics as well as cultural, social, and religious factors.

The findings also indicated that positive religious coping scores were higher among married patients, those without metastasis, those who did not attribute the disease to psychological causes, those who used prayer or votive offerings to feel better, and those who reported fulfilling their religious rituals. In contrast, negative religious coping scores were higher among patients with higher income, stoma, metastasis, history of preoperative treatment, and those who attributed the disease to psychological causes. Similar studies have reported higher positive religious coping levels among patients who are married or living with family (Sabanciogulları & Yilmaz Taskin, 2021; Shaheen et al., 2016; Zwingmann et al., 2006). Family support may contribute to more positive coping strategies during the illness process. Another finding of the study was that patients with metastasis had higher negative religious coping scores. Similar results were reported by Aslan et al. (Aslan, G., Bakan, AB., & Kilic, D., 2021). The prolonged treatment process and uncertainty associated with metastatic disease may increase feelings of helplessness and negative religious thoughts.

Another important finding of this study is that elderly patients, single individuals, unemployed people, and those with low income levels had higher hopelessness scores. Similar results have been reported in studies conducted with cancer patients (Pehlivan et al., 2012). Lack of social support and financial difficulties may contribute to increased hopelessness during the disease process. Furthermore, a significant relationship was found between religious coping styles and hopelessness. Positive religious coping was associated with lower levels of hopelessness, whereas negative religious coping was associated with higher levels. Although no previous study has specifically examined this relationship in patients who have undergone colorectal cancer surgery, studies conducted with cancer patients in general have reported similar findings (Costa et al., 2019; Sabanciogullari & Yilmaz Taskin, 2021; Tao et al., 2022). Furthermore, patients who used practices such as prayer or votive offerings to feel better had higher positive religious coping scores. Patients who did not use such practices had higher negative religious coping scores. Similar results were reported by Silva et al. (Silva et al., 2019). Religious practices may provide emotional comfort and strengthen patients' coping capacity. These findings should be interpreted in light of the methodological strengths of the study. The sample size was determined through power analysis, and the predictive relationships between variables were examined using multiple regression analysis, which enhances the robustness of the findings.

Although the Cronbach's alpha coefficients reported in the Turkish adaptation were below the commonly accepted threshold, the higher reliability coefficients obtained in this study indicate that the scale performed more consistently in the present sample. This difference may be attributed to sample-specific characteristics or contextual factors.

Study Limitations

This study has several limitations. First, the single-center design limits the generalizability of the findings to populations with different cultural or religious characteristics. Second, the cross-sectional design precludes causal inferences. Third, the use of self-report measures may have introduced response bias. Finally, the Cronbach's alpha coefficients reported in the Turkish adaptation of the scale were below the commonly accepted threshold of 0.70, which may indicate relatively lower internal consistency in the original validation; however, higher reliability coefficients were obtained in the present study.

5. Conclusions

In conclusion, patients who used positive religious coping styles experienced lower levels of hopelessness, whereas those who used negative religious coping styles experienced higher levels of hopelessness. These findings suggest that patients' coping styles should be taken into account in nursing interventions aimed at reducing hopelessness. Furthermore, greater emphasis should be placed on religious coping in both in-service training programs and nursing education. Promoting positive religious coping strategies may be beneficial. In line with patients' religious and cultural characteristics, appropriate spiritual care practices, such as religious activities and spirituality-based programs, can be implemented. Future studies should use longitudinal designs to clarify causal relationships and include intervention studies testing spiritual care or religious coping–based programs. Cross-cultural studies and research with larger samples are also recommended.

Conflict of Interest

There is no conflict of interest in this study.

Author Contributions

CY: Idea/concept, Design, Data collection, Data processing, Literature review, Writing of the article

RD: Idea/concept, Design, Literature review, Analysis and Interpretation, Writing of the article, Critical control

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Research Article/Araştırma Makalesi

Analysis of Nurses' Professional Attitudes in Terms of Certain Variables

Hemşirelerin Mesleki Tutumlarının Bazı Değişkenler Açısından Analizi

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ABSTRACT

Background/ Objective: Nurses' attitudes towards their profession influence their behavior in healthcare delivery. By evaluating nurses' attitudes towards their profession, the factors affecting their adaptation to the profession and their expectations should be determined. The aim of this research is to examine the attitudes of working nurses towards their profession according to their sociodemographic and work-life characteristics.

Material and Methods: This study is a descriptive research. The study was conducted with 267 nurses between May 30- July 31, 2025. Data were collected using a Personal Information Form and the Attitudes Towards the Nursing Profession Scale (ATNPS). The Shapiro-Wilk test determined that the data were normally distributed. Descriptive statistics, independent samples t-tests, One-Way ANOVA tests, and linear regression analysis were used to analyze the data.

Results: A significant difference was found between the nurses' education level, their earnings as nurses, and the mean total scores of the Attitude Towards the Nursing Profession Scale ($p<0.05$). The linear regression model was found to be statistically significant ($F(6.260)=9.99$, $p<.001$, $R^2=.19$). The model determined that approximately 18.74% of the variance in the Attitude Towards the Nursing Profession Scale (ATNS) score was explained by gender, education level, nursing experience, liking to work as a nurse, and financial income variables. It was determined that nurses had a high mean score on the Attitude Towards the Nursing Profession Scale.

Conclusion: It was determined that nurses had a high level of attitude towards the profession, and that female nurses, older nurses, and nurses with more professional experience had more positive attitudes towards the profession.

Keywords: Nurse; nursing; professionalism; attitude.

ÖZ

Giriş/Amaç: Hemşirelerin mesleğe yönelik tutumları, sağlık hizmeti sunumundaki davranışlarını etkiler. Hemşirelerin mesleklerine yönelik tutumları değerlendirilerek, mesleğe uyumlarını etkileyen faktörler ve beklentileri belirlenmelidir. Bu araştırmada amaç; çalışan hemşirelerinin mesleğe yönelik tutumlarını sosyodemografik ve iş yaşam özelliklerine göre incelemektir.

Gereç ve Yöntem: Bu çalışma tanımlayıcı tipte bir araştırmadır. Çalışma 30 Mayıs-31 Temmuz 2025 tarihleri arasında 267 hemşire ile yürütülmüştür. Veriler Kişisel Bilgi Formu ve Hemşirelik Mesleğine Yönelik Tutum Ölçeği (HMYTÖ) kullanılmıştır. Shapiro-Wilk testi ile verilerin normal dağılıma uygun olduğu belirlenmiştir. Verilerin analizinde tanımlayıcı istatistikler, bağımsız gruplarda t, One Way ANOVA testleri ve doğrusal regresyon analizi kullanılmıştır.

Bulgular: Hemşirelerin eğitim düzeyi, hemşire olarak yeterli maddi kazanç elde etme durumları ile Hemşirelik Mesleğine Yönelik Tutum Ölçeği toplam puan ortalamaları arasındaki farkın anlamlı olduğu bulunmuştur ($p<0,05$). Doğrusal regresyon modeli istatistiksel olarak anlamlı bulunmuştur ($F\ (6,260)=9,99$, $p<\ ,001$, $R^2=,19$). Model, Hemşirelik Mesleğine Yönelik Tutum Ölçeği (HMYTÖ) puanındaki varyansın yaklaşık %18,74'ünün cinsiyet, eğitim durumu, hemşirelik deneyimi, hemşire olarak çalışmayı sevme durumu ve maddi kazanç değişkenleri ile açıklandığı belirlenmiştir. Hemşirelerin hemşirelik Mesleğine Yönelik Tutum Ölçeği puan ortalamasının yüksek düzeyde olduğu belirlenmiştir.

Sonuç: Hemşirelerin mesleğe yönelik tutum düzeylerinin yüksek, kadın, yaşı daha ileri ve mesleki deneyimi fazla olan hemşirelerin mesleğe yönelik tutumlarının daha olumlu olduğu belirlendi.

Anahtar Kelimeler: Hemşire; hemşirelik; profesyonellik; tutum.

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1. Introduction

Nursing is a professional occupation that meets the physical, social, and psychological needs of individuals, families, and communities and provides the necessary care in line with these needs (Sümen et al., 2022). Nurses constitute the largest group of healthcare professionals and play a crucial role in delivering effective healthcare services in any healthcare setting (Torabizadeh & Darari, 2019).

Nurses' attitudes towards their profession are one of the fundamental components of the nursing profession, profoundly affecting its development (Zhang et al., 2025), and are also among the most important determinants of professional success and satisfaction (Çayır Yılmaz & Kurtgöz, 2023). Nurses' attitudes towards their profession are crucial in achieving professional status for the nursing profession and in providing quality service to society. (Ünaldı Baydın, Tural Büyük, & Pazarlı, 2021; Li ve ark., 2019; Saatçi & Ünsal, 2024). Nurses having a positive attitude towards their profession enables them to provide dedicated and compassionate service to patients, to take pride in their profession, and to maintain both internal and external factors (Lanithottam & Jacob, 2019). Nurses who have a negative attitude towards their profession and are dissatisfied with their jobs experience more psychological problems such as tension, stress, and high anxiety, which prevents them from focusing on their work. Nurses' inability to focus on their work will affect the availability of nursing services, leading them to exhibit behaviors such as complaining about their jobs, colleagues, and institutions, absenteeism, and laziness (Saatçi & Ünsal, 2024; Rekisso et al., 2022).

In the nursing profession, exhibiting a professional attitude is crucial for increasing efficiency, providing quality care, and establishing professional standards (Çakı & Sönmez, 2020; Danacı et al., 2018). Nurses' professional attitudes encompass factors such as their ability to utilize professional knowledge and skills, professional ethical values, respect for patient rights, effective communication skills, honesty, confidentiality, and respect for colleagues (Bilgen & Korkmaz, 2024). Nurses' professional attitudes improve the quality of healthcare services and also contribute to increased professional status, unity and solidarity among professionals, and patient satisfaction (Cao ve ark., 2023; Uzelli et. al., 2017). Nurses' attitudes towards their profession influence their behavior in healthcare delivery. Therefore, considering that nurses spend more time with patients, their attitudes towards their profession should be evaluated to determine the factors affecting their adaptation to the profession and their professional expectations (Saatçi & Ünsal, 2024). Accordingly, the aim of this research is to examine the attitudes of working nurses towards their profession based on their sociodemographic and work-life characteristics.

Research Questions

1. What are the sociodemographic and work-life characteristics of nurses?

2. Is there a difference between the total mean scores of nurses' attitudes toward the nursing profession and their sociodemographic and work-life characteristics?

3. What are the attitude levels of nurses towards the nursing profession?

4. Is there a relationship between nurses' sociodemographic and work-life characteristics and their attitudes towards the nursing profession?

2. Methods

Type of Research Population and Sample

This study is a descriptive type of research. The population of the study consisted of nurses working in State Hospitals in Turkey. The sample size of the study was determined through an a priori power analysis performed with G*Power version 3.1.9.4. The existing research was reviewed, and the expected confidence intervals for the "Attitude Scale Towards the Nursing Profession" were determined (Çalmaz & Avcı Aydın, 2024; Tarhan, Kılıç & Yıldız, 2016). With a confidence interval of $\alpha=0.05$, the power of the test ($1-\beta$) was calculated as 0.99, the effect size as $d=0.258$, and the sample size as 238. The study was completed with 267 nurses who agreed to participate. Snowball sampling method was used in the study.

Data Collection Tools

Data were collected using the "Personal Information Form and Attitude Scale Towards the Nursing Profession". The Personal Information Form consists of 6 questions covering some characteristics related to work life (age, education, years of experience in the profession, liking working as a nurse, following current publications/journals/congresses related to nursing, finding the financial income earned as a nurse sufficient). Completing the digital form takes approximately 10-15 minutes.

Attitudes Towards the Nursing Profession Scale (ATNPS): Developed by Çoban in 2010. The scale has three sub-dimensions: "Characteristics of the Nursing Profession", "Preference for the Nursing Profession", and "Attitude Towards the General State of the Nursing Profession". Each sub-dimension can be used separately. The scale consists of 40 items and is a five-point Likert type (1=strongly disagree-5=strongly agree). The sub-dimension of "Attitude Towards the General State of the Nursing Profession" is scored between a minimum of 40 and a maximum of 200 points. Higher scores obtained from the scale indicate a higher level of positive attitudes toward the nursing profession (Çoban ve Kaşıkçı, 2011). In the validity and reliability study of the scale, the Cronbach's Alpha coefficient is 0.91. The Cronbach's alpha coefficient for this study was determined to be 0.85.

Data Collection

Data for this study was collected digitally between May 30, 2025, and July 31, 2025. The link to the digital survey form used to collect the data was shared on multiple social media platforms. The first page of the web-based survey included an informed consent statement indicating that participation in the research was voluntary, as well as information about the purpose of the study and inclusion criteria. Answering each question in the survey was mandatory, and a cookie control method was applied to prevent multiple entries by the same person.

Data Analysis

The SPSS 25.0 statistical program was used for data analysis. In the statistical analysis, the suitability of the data to a normal distribution was evaluated with the Shapiro-Wilk test, and it was determined that the data were normally distributed. In the study, percentages, arithmetic means, standard minimum, and maximum values were used to determine the descriptive characteristics of the participants. One Way ANOVA test and Independent samples t-test were used to compare the socio-demographic characteristics of the participants with their scale score mean, and linear regression analysis was used to determine the effect of socio-demographic and work-life characteristics on attitudes towards the nursing profession. Internal consistency was measured using Cronbach's alpha coefficient, and the significance level was set at $p < 0.05$.

Ethical Considerations

Ethical approval was obtained from the Osmaniye Korkut Ata University Health Sciences Research Ethics Committee (Ethics approval date: 23.05.2025 Ethics No: E.234344) to conduct the research. Before data collection, participants were informed about the research and stated that participation was voluntary on the first page of the web-based survey. Participants who gave their informed consent completed the online survey form and answered the questions.

3. Result

In the study, the average age of the nurses was 25.94±7.67. It was determined that 55.1% of the nurses were female, 69.7% had a bachelor's degree, 33.2% had worked as nurses for 1-5 years, 82.4% liked working as a nurse, and 89.9% did not find the financial income they earned as a nurse sufficient (Table 1).

Table 1. Distribution of nurses according to socio-demographic and work-life characteristics (n = 267)

	n	%
Gender		
Male	120	44.9
Female	147	55.1
Education		
High school/Associate degree	52	21.8
Bachelor's Degree	187	69.7
Postgraduate	28	8.5
Experience in the profession		
≤1 year	54	20.2
> 1 – 5 years	86	33.2
6 – 10 years	84	31.5
≥ 11 years	43	15.1
Enjoyment of working as a nurse		
Yes	220	82.4
No	47	17.6
Do you find your income as a nurse sufficient?		
Yes	27	10.1
No	240	89.9
Total	**267**	**100**

A statistically significant relationship was found between nurses' perceptions of their education and financial earnings as nurses and their mean ATNPS scores ($p<0.05$). Further analysis revealed a significant correlation between high school/associate degree and bachelor's degree levels, as well as between high school/associate degree and postgraduate levels. No statistically significant relationship was found between nurses' gender, years of experience in the profession, and their love for the nursing profession and their mean ATNPS scores ($p>0.05$). The mean ATNPS score was determined to be 141.03±4.57 (Table 2).

Table 2. Distribution of mean ATNPS scores of nurses according to their socio-demographic and work-life characteristics (n = 267)

	$\bar{X}$±SD	Test/Importance
Gender		
Male	140.69±2.68	*t=-1.116 p=0.266
Female	141.17±2.90	
Education		
High school/Associate degree	140.02±3.26	**F=5.215 **p=0.006**
Bachelor's Degree	141.19±2.65	
Postgraduate	142.33±2.47	
Experience in the profession		
≤1 year	140.57±3.30	F=1.736 p=0.161
> 1 – 5 years	140.74±3.07	
6 – 10 years	141.14±2.39	
≥ 11 years	141.93±2.51	
Enjoyment of working as a nurse		
Yes	141.10±2.82	t=0.934 p=0.351
No	140.55±2.96	
Do you find your income as a nurse sufficient?		
Yes	141.14±2.81	t=-2.870 **p=0.005**
No	128.25±2.31	
	$\bar{X}$±SD	**Min. -Maks.**
Age (years)	31.88±6.52	22-51
Experience in the profession (years)	6.12±4.91	1-25
ATNPS	141.03±4.57	31-45

* t=Independent samples t-test, **F=One Way ANOVA test, p < 0.05. Attitudes Towards Nursing Profession Scale

The linear regression model was found to be statistically significant (F (6,260) = 9.99, p < .001, R² = .19). The model explains approximately 18.74% of the variance in the Attitudes Towards Nursing Profession Scale (ATNPS) scores with the variables of gender, education level, nursing experience, liking to work as a nurse, and financial income. Gender significantly predicted the ATNPS score. It was determined that being female increased attitude scores compared to being male (B = 0.95, t (260) = 2.46, p = .015). It was determined that age significantly and positively predicted the ATNPS score, and a one-unit increase in age increased the attitude score by an average of 0.12 points (p = .017). Educational status is also a significant predictor of the ATNPS score.

It was found that undergraduate graduates had higher attitude scores than high school/associate degree graduates (B = 1.68, t (260) = 3.77, p < .001), and postgraduate graduates had the highest scores (B = 2.60, t (260) = 3.34, p < .001). It was found that nursing experience did not have a significant effect on the ATNPS score (B = 0.05, t (260) = 1.28, p = .201). Similarly, disliking working as a nurse (compared to liking it) had no significant effect on attitude scores (B = −0.86, t (260) = −1.68, p = .095). In contrast, perceived material gain significantly predicted the ATNPS score (B = 3.78, t (260) = 5.06, p < .001). It was determined that a one-unit increase in perceived material gain corresponded to an average increase of 3.78 units in the total ATNPS score (Table 3).

Table 3. Results of linear regression analysis regarding the predictors of the total ATNPS score

Variables	*B*	*SE*	95.00% CI	β	*t*	*p*
(Intercept)	31.27	1.50	[28.31, 34.22]	-	20.82	**< .001**
Gender (female)	0.95	0.39	[0.19, 1.71]	0.14	2.46	**.015**
Age	0.12	0.05	[0.02, 0.22]	0.15	2.41	**.017**
Education status (bachelor's degree)	1.68	0.45	[0.80, 2.56]	0.24	3.77	**< .001**
Education status (postgraduate)	2.60	0.78	[1.07, 4.13]	0.21	3.34	**< .001**
Duration of Employment in the Profession	0.05	0.04	[-0.02, 0.12]	0.07	1.28	.201
Do you like your job? (No)	-0.86	0.51	[-1.87, 0.15]	-0.10	-1.68	.095
Sufficient Financial Income from the Profession	3.78	0.75	[2.31, 5.26]	0.29	5.06	**< .001**

Note: F (6,260) = 9.99, p < .001, R2 = .19. The unstandardized regression equation created based on the regression coefficients is as follows: ATNPS = 31.27 + 0.95 × gender (female) + 1.68 × education level (undergraduate) + 2.60 × education level (postgraduate) + 0.12 × age + 0.05 × length of service in the profession − 0.86 × liking the profession (no) + 3.78 × financial gain. In the equation, the reference categories are male gender, high school/associate degree education level, and liking the profession (yes).

4. Discussion

Determining nurses' attitudes towards their profession improves the quality of healthcare services by enabling the prediction of professional behaviors (Tarhan et al., 2016). Therefore, the findings of this research, which we conducted to determine the attitudes of working nurses towards their profession, have been discussed in line with the relevant literature.

It was determined that as educational level of nurses increased, their average ATNPS scores increased significantly. Similar to current study, Tarhan et al. also found that nurses with higher educational levels had higher average ATNPS scores. The quality and content of nursing education can influence professional attitudes (Tarhan ve ark., 2024).

In contrast to this study findings, studies by Saatçi and Ünsal, and Açıksöz et al., showed no significant difference between the educational level and attitudes towards the profession among nurses (Saatçi & Ünsal, 2024; Açıksöz et. al., 2023). This difference may stem from the personal characteristics, professional attitudes, and working conditions of the nurses participating in this study. It was found that as the nurses' working time (in years) increased, their average ATNPS scores increased significantly. Similar to this study, previous research has indicated that nurses with longer working time (in years) have higher professional attitudes (Çakı & Sönmez, 2020; İşçi & Altuntaş, 2019). It is believed that as years of service increase among nurses, experience, job satisfaction, self-confidence, and the development of professional identity positively influence their professional attitude.

The study found that nurses who believed they were earning sufficient income had higher average ATNPS scores than those who did not believe they were earning sufficient income. Studies have shown that nurses who feel their income is adequate have a positive attitude towards their profession (Rekisso ve ark., 2021; Yaşar & Adalıoğlu, 2024). The findings of this study are consistent with the literature. The financial satisfaction of the nurses participating in the study may increase their job satisfaction, positively influencing their attitudes towards the profession.

This study revealed that the nurses participating in the study had a high level of positive attitudes towards their profession. Similar to our findings, studies by Saatçi and Ünsal (Saatçi & Ünsal, 2024) and Aydın and Büyükbayram, conducted with nurses, also found that nurses had high attitudes towards their profession (Aydın & Büyükbayram, 2020). Choosing and enjoying one's profession willingly, achieving professionalism in the field, material and moral satisfaction, a suitable working environment, and professional solidarity can all have an impact on the outcome.

Current study found that gender affects attitudes towards the nursing profession, with female nurses having more positive attitudes towards the profession than male nurses. The literature includes studies that support the findings of the current study, indicating that women have more positive attitudes towards the nursing profession (Yüksel & Yılmaz, 2022; Gol, 2018; Ayaz-Alkaya & Terzi, 2022; Mahmoud ve ark., 2019). We believe that the compatibility of women's gender roles with the nursing profession, the suitability of the female gender for the nursing profession, and women's quicker adoption of their professional roles may have an impact on the outcome.

In the study, it was determined that increasing age and years of professional experience had an effect on attitudes toward the profession, and that nurses who were older and had greater professional experience had more positive attitudes toward the nursing profession. Similarly, in the study conducted by Şenol and Uğurlu, age was reported to affect professional attitude, with professional attitudes becoming more positive as age increased (Şenol & Uğurlu, 2019). Cayllahua Curiñaupa et al. found in their study conducted in Peru that experienced nurses had a more positive attitude toward their profession. The finding we obtained is consistent with the literature. As age and professional experience increase among nurses, the growth in professional knowledge, skills, self-confidence, and professional commitment may positively influence their professional attitudes.

Limitations

The limitations of the study include the fact that data was collected digitally between specific dates. Another limitation is that, since the data is based on the participants' own opinions, the findings cannot be generalized to all nurses.

5. Conclusions

This study found that nurses with higher professional attitudes, higher education levels, longer years of experience in the profession, and who perceived their financial earnings as sufficient, had more positive attitudes towards their profession. It was determined that gender, age, and professional experience positively influenced professional attitudes.

Based on the findings obtained, in-service trainings should be organized to inform nurses about professional behaviors and their importance. Strategies should be developed to ensure that nurses have a positive attitude toward their profession. The professional attitudes of nurses working in healthcare institutions should be evaluated periodically.

Programs should be developed to support the professional experience of young nurses with little professional experience. Nurses should be encouraged to participate in scientific research, and their participation in scientific meetings and professional courses should be ensured.

Conflict of Interest

The authors declare that they have no conflict of interest.

Author Contributions

All authors contributed to the concept and design of the study.

Material preparation, data collection, and analysis were carried out by Filiz POLAT and Fatma KARASU. The first draft of the article was written by Filiz POLAT and Fatma KARASU, and all authors commented on previous versions of the article. All authors have read and approved the final article.

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Research Article/Araştırma Makalesi

Medication Adherence and Self-Efficacy and Associated Factors among Patients with Chronic Obstructive Pulmonary Disease Presenting to the Emergency Department: A Cross-Sectional Study

Acil Servise Başvuran Kronik Obstrüktif Akciğer Hastalarında İlaca Uyum ve Öz-Etkililik Düzeyleri ile İlişkili Faktörler: Kesitsel Bir Çalışma

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ABSTRACT

Background/ Objective: Medication adherence and self-efficacy are key determinants of effective chronic obstructive pulmonary disease management. Evidence on their combined assessment among patients presenting to emergency departments is limited. This study aimed to evaluate medication adherence and self-efficacy levels, examine the relationship between these variables, and identify factors associated with medication adherence among patients with COPD presenting to the emergency department.

Material and Methods: This cross-sectional study included 235 patients with chronic obstructive pulmonary disease who presented to the adult emergency department of a tertiary training and research hospital in Türkiye between January and October 2020. Data were collected via face-to-face interviews using a Personal Information Form, the Medication Adherence Report Scale, and the COPD Self-Efficacy Scale. Normality was assessed using the Shapiro–Wilk test. Appropriate non-parametric tests, Spearman correlation, and multiple linear regression were applied to model medication adherence as the dependent variable ($p<0.05$).

Results: The mean age was 69.4±11.24 years and 69.4% of participants were male. The mean medication adherence score was 22.9±3.10, while the mean self-efficacy total score was 1.7±0.54 (mean score on a 1–5 scale). Medication adherence showed a statistically significant weak positive correlation with self-efficacy ($r=0.245$; $p<0.001$). In multivariate regression, employment status (being employed) negatively affected medication adherence, whereas living with a spouse or children and higher self-efficacy positively influenced adherence.

Conclusion: Among chronic obstructive pulmonary disease patients presenting to the emergency department, medication adherence was generally good, whereas self-efficacy was low. Routine nursing assessment of both adherence and self-efficacy, accompanied by individualized education, may support stronger disease management.

Keywords: Chronic Obstructive Lung Disease; medication adherence; self-efficacy; hospital emergency service; nursing.

ÖZ

Giriş/Amaç: İlaç uyumu ve öz-etkililik, kronik obstrüktif akciğer hastalığının etkili yönetiminde temel belirleyicilerdir. Acil servise başvuran hastalarda bu iki değişkenin birlikte değerlendirilmesine ilişkin kanıtlar sınırlıdır. Bu çalışma, acil servise başvuran kronik obstrüktif akciğer hastalarında ilaç uyumu ve öz-etkililik düzeylerini değerlendirmeyi, bu değişkenler arasındaki ilişkiyi incelemeyi ve ilaç uyumu ile ilişkili faktörleri belirlemeyi amaçlamıştır.

Gereç ve Yöntem: Bu kesitsel çalışmaya, Ocak–Ekim 2020 tarihleri arasında Türkiye'de üçüncü basamak bir eğitim ve araştırma hastanesinin erişkin acil servisine başvuran 235 kronik obstrüktif akciğer hastası dahil edilmiştir. Veriler, Kişisel Bilgi Formu, Medication Adherence Report Scale ve COPD Self-Efficacy Scale kullanılarak yüz yüze görüşmelerle toplanmıştır. Normal dağılım Shapiro–Wilk testi ile değerlendirilmiştir. Uygun non-parametrik testler, Spearman korelasyonu ve çoklu doğrusal regresyon analizi, bağımlı değişken olarak ilaç uyumunu modellemek üzere uygulanmıştır ($p<0.05$).

Bulgular: Katılımcıların yaş ortalaması 69.4±11.24 olup %69.4'ü erkektir. Ortalama ilaç uyum puanı 22.9±3.10, ortalama öz-etkililik toplam puanı ise 1.7±0.54 (1–5 arası ölçek ortalaması) olarak bulunmuştur. İlaç uyumu ile öz- etkililik arasında istatistiksel olarak anlamlı, zayıf düzeyde pozitif korelasyon saptanmıştır ($r=0.245$; $p<0.001$). Çok değişkenli regresyon analizinde çalışma durumu (çalışıyor olmak) ilaç uyumunu olumsuz etkilerken, eş veya çocuklarla birlikte yaşamak ve daha yüksek öz-etkililik ilaç uyumunu olumlu yönde etkilemiştir.

Sonuç: Acil servise başvuran KOAH hastalarında ilaç uyumu genel olarak iyi, öz- etkililik ise düşüktür. İlaç uyumu ve öz-etkililiğin rutin hemşirelik değerlendirmelerinde birlikte ele alınması ve bireyselleştirilmiş eğitim ile desteklenmesi, hastalık yönetimini güçlendirebilir.

Anahtar Kelimeler: Kronik Obstrüktif Akciğer Hastalığı; tedavi uyumu; öz-yeterlik; hastane acil servisi; hemşirelik.

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1. Introduction

Chronic obstructive pulmonary disease (COPD) is a progressive and heterogeneous respiratory disorder characterized by persistent airflow limitation, chronic respiratory symptoms, and recurrent exacerbations. It represents a major global public health challenge and is associated with substantial morbidity, mortality, and healthcare utilization. Current epidemiological data indicate that COPD affects millions of individuals worldwide and remains one of the leading causes of death globally (Global Initiative for Chronic Obstructive Lung Disease [GOLD], 2024; World Health Organization [WHO], 2023). The global burden of COPD is expected to continue increasing due to population aging, sustained exposure to environmental and occupational risk factors, and continued tobacco use (GBD Chronic Respiratory Disease Collaborators, 2020; WHO, 2023).

COPD imposes a considerable clinical and economic burden on health systems. The disease is associated with frequent exacerbations, hospital admissions, reduced functional capacity, and impaired quality of life. In addition, COPD commonly coexists with cardiovascular disease, metabolic disorders, and psychiatric conditions, complicating clinical management and increasing healthcare costs (Pham et al., 2024; Almagro et al., 2024). The complexity and heterogeneity of COPD require long-term, multidimensional disease management strategies that extend beyond pharmacological treatment alone (GOLD, 2024). In advanced stages, COPD is increasingly recognized as a condition requiring palliative-oriented symptom management and integrated care planning, including continuity across settings and support for complex symptom burden (GOLD, 2024; Holland et al., 2024; Janssen et al., 2023).

Pharmacological therapy remains a cornerstone of COPD management. Evidence-based treatment strategies aim to reduce symptoms, prevent exacerbations, and improve functional status (GOLD, 2024). However, optimal treatment outcomes depend heavily on sustained medication adherence. Despite the availability of effective pharmacotherapies, adherence to COPD medication remains suboptimal in real-world settings. Previous studies indicate that medication adherence among patients with COPD is often suboptimal in routine clinical practice. Reported adherence rates vary widely across studies, generally ranging between approximately 20% and 60% depending on the population and measurement method used (Montes de Oca et al., 2017; Moradkhani et al., 2021). Poor adherence has been associated with increased exacerbations, higher hospitalization rates, and poorer clinical outcomes. In addition, self-efficacy levels among COPD patients are frequently reported to be moderate or low, particularly among individuals experiencing recurrent exacerbations or functional limitations (Kaptein et al., 2014; Lenferink et al., 2017). Poor adherence has been associated with inadequate symptom control, increased exacerbation frequency, higher hospitalization rates, reduced quality of life, and increased mortality risk (GOLD, 2024; Vauterin et al., 2024; Bryant et al., 2013). Multiple factors contribute to non-adherence, including treatment complexity, socioeconomic conditions, comorbidities, and patient-related behavioral factors. Medication adherence also has broader implications for long-term disease control and healthcare utilization, particularly in advanced disease and complex care needs (GOLD, 2024; Mäkelä et al., 2013).

Self-efficacy is a central psychological construct influencing health behavior and chronic disease management. It refers to individuals' confidence in their ability to perform behaviors necessary to manage disease-related challenges (Bandura, 1997). In COPD, self-efficacy is closely linked to symptom monitoring, medication use, physical activity, and healthcare utilization. Higher self-efficacy is associated with better disease control, improved functional outcomes, and reduced hospitalization risk (Kaptein et al., 2014). Conversely, low self-efficacy may contribute to ineffective self-management and poor treatment adherence (Bandura, 1997). Self-efficacy is also a key mechanism underpinning successful self-management interventions, particularly in care models where patients must independently manage symptoms, treatment routines, and exacerbation warning signs (Zwerink et al., 2014).

Emergency departments play a critical role in the care of patients with COPD, particularly during acute exacerbations (GOLD, 2024). Frequent emergency visits are often associated with inadequate disease control, poor symptom management, and limited self-management capacity. Although medication adherence and self-efficacy are recognized as key determinants of disease outcomes, these factors are rarely examined together in patients presenting to emergency settings (Kaptein et al., 2014; Vestbo et al., 2009). Moreover, limited evidence exists regarding how these behavioral and psychological determinants interact specifically in high-risk patients who transition repeatedly between acute care, community-based management, and supportive care pathways. This represents an important gap for nursing-led assessment and intervention planning.

Understanding their interaction may provide important insights into behavioral and psychosocial determinants of COPD management and support the development of targeted nursing interventions. Clarifying this relationship is particularly relevant for palliative and home care practice, where early identification of patients with low self-management capacity may help prevent recurrent exacerbations, reduce emergency utilization, and support continuity of person-centered care. Understanding these factors is particularly important for nursing practice, as nurses play a key role in assessing and supporting patient self-management in acute care settings. Therefore, this study aimed to examine medication adherence and self-efficacy levels, evaluate their relationship, and identify factors independently associated with medication adherence among patients with COPD presenting to an emergency department to inform nursing assessment and supportive care planning.

Research Questions

1. What are the medication adherence levels of patients with COPD presenting to the emergency department?

2. What are the self-efficacy levels of these patients?

3. Is there a relationship between medication adherence and self-efficacy?

4. Which sociodemographic and disease-related factors are associated with medication adherence and self-efficacy?

2. Methods

Study Design

This study employed a cross-sectional observational design. Reporting followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines (Appendix S1).

Setting and Participants

The study was conducted in the adult emergency department of a tertiary-level training and research hospital in Türkiye. Data were collected between January and October 2020. This period coincided with the early phase of the COVID-19 pandemic in Türkiye, which began to substantially affect emergency department utilization after March 2020. Participants were recruited using a consecutive sampling approach. The required sample size was calculated as 235 patients with COPD using the Raosoft sample size calculator (power 80%, α=0.05, 95% confidence level).

Patients were eligible for inclusion if they had a confirmed diagnosis of COPD, were aged 18 years or older, had no communication barriers such as severe hearing or speech impairment, and were able to understand and respond to the interview questions. Cognitive eligibility was assessed through clinical judgment by the researcher based on patients' orientation to person, place, and time and their ability to comprehend and respond to interview questions. Written informed consent was obtained from all participants.

Patients presenting with severe respiratory distress, altered consciousness, or other clinical conditions that could impair communication were not approached until their condition had clinically stabilized. Accordingly, data collection was performed only when patients were clinically stable and able to participate in the interview. Eligible COPD patients presenting to the emergency department during the study period were approached consecutively for participation. Among the patients approached, seven declined participation. Data collection continued until the predetermined sample size was reached. Ultimately, 235 patients who met the inclusion criteria and completed the assessment were included in the final analysis. No participant who consented to participate was excluded due to incomplete data.

Because the study period coincided with the early phase of the COVID-19 pandemic, emergency department utilization patterns and patient profiles may have differed from those observed in non-pandemic periods. Changes in admission patterns, triage priorities, and infection-control measures during the pandemic may have influenced the characteristics of patients presenting to the emergency department. Therefore, the findings should be interpreted with caution when generalizing to routine emergency department populations outside pandemic conditions.

Data Collection Instruments

Personal Information Form

The Personal Information Form was developed by the researchers based on a review of relevant literature (Coultas et al., 2005; Cihangir, 2007; Kaşikçi, 2007; Metin, 2011). The form was designed to collect both sociodemographic and disease-related characteristics of the participants. Sociodemographic variables included age, sex, educational level, marital status, occupation, employment status, economic status, and household composition. Disease-related variables included duration of COPD diagnosis, treatment modalities and medications used, regular health check-ups, hospitalization history, emergency department visits in the previous year (number/reasons), and vaccination status (influenza in the previous year; pneumococcal within five years).

Medication Adherence Report Scale (MARS)

Medication adherence was assessed using the Medication Adherence Report Scale (MARS), developed by Horne and Weinman (2002). The scale consists of five items that evaluate the frequency of non-adherent medication behaviors. Responses are rated on a 5-point Likert scale ranging from 5 (never) to 1 (always). Total scores range from 5 to 25, with higher scores indicating better medication adherence and lower scores indicating poorer adherence. The scale has a single-factor structure and has demonstrated acceptable validity and reliability in previous studies, with a reported Cronbach's alpha of 0.85 (Horne & Weinman, 2002). The Turkish version of the scale was validated by Şen et al. (2019), with an internal consistency coefficient of 0.78. In the present study, the internal consistency of the MARS was high (Cronbach's α = 0.87).

COPD Self-Efficacy Scale (CSES)

Self-efficacy was assessed using the COPD Self-Efficacy Scale (CSES), originally developed by Wigal et al. (1991). The scale consists of 34 items that evaluate patients' confidence in their ability to manage or avoid respiratory distress across five domains: Negative Affect, Intense Emotional Arousal, Physical Exertion, Weather/Environmental Factors, and Behavioral Risk Factors. Each item is rated on a 5-point Likert scale ranging from 1 (not at all confident) to 5 (completely confident). Subscale scores are calculated by summing item responses within each domain. The overall scale score is obtained by averaging the total score across all items. Higher scores indicate greater confidence in managing respiratory symptoms.

The original scale demonstrated strong psychometric properties, with test–retest reliability of r = 0.77 and internal consistency of 0.95 (Wigal et al., 1991). The Turkish version was validated by Kara and Mirici (2002), reporting a test–retest reliability of r = 0.89 and internal consistency of 0.94. In the present study, the internal consistency of the CSES was excellent (Cronbach's α = 0.94).

Data Collection Procedure

Data were collected from patients who presented to the emergency department and met the study inclusion criteria. Eligible patients were informed about the purpose and procedures of the study, and written informed consent was obtained from those who agreed to participate. Data were collected using a structured questionnaire that included the Personal Information Form, the Medication Adherence Report Scale, and the COPD Self-Efficacy Scale. To minimize the potential influence of acute symptoms such as severe dyspnea, pain, hypoxia, or distress on patients' responses, interviews were conducted only after the patients were clinically stabilized following initial emergency department evaluation and treatment. Data were collected using a consecutive sampling approach. The primary researcher was an emergency department nurse working in the study setting, which enabled recruitment of eligible patients across different work shifts. Therefore, data collection was conducted during day, evening, and night shifts, including weekdays and weekends, allowing access to patients presenting to the emergency department at different times. The questionnaires were administered through face-to-face interviews conducted by the researcher to ensure standardized data collection. Each assessment required approximately 15–20 minutes to complete. Questionnaires were checked immediately after completion to minimize missing data.

Ethical Considerations

Ethical approval for the study was obtained from the Akdeniz University Faculty of Medicine Clinical Research Ethics Committee (Date: 20.03.2019; Decision No: 294). Institutional permission was also obtained from the Health Sciences University Akdeniz Training and Research Hospital Adult Emergency Department (Date: 02.05.2019). Permission to use the COPD Self-Efficacy Scale and the Medication Adherence Report Scale was obtained from the original authors via e-mail. All participants were informed about the purpose and procedures of the study, and written informed consent was obtained prior to data collection. Participation was voluntary, and confidentiality of all personal data was strictly maintained. The study was conducted in accordance with the principles of the Declaration of Helsinki.

Statistical Analysis

Data were analyzed using IBM SPSS Statistics version 23.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were presented as mean ± standard deviation, median (minimum–maximum), or frequency and percentage, as appropriate. Normality of continuous variables was assessed using the Shapiro–Wilk test. Because the total and subscale scores of the COPD Self-Efficacy Scale and the total scores of the Medication Adherence Report Scale were not normally distributed, nonparametric statistical methods were applied. Sociodemographic and disease-related variables included in the analyses were selected based on previous literature indicating their potential association with medication adherence and self-efficacy in patients with COPD. The Mann–Whitney U test was used for comparisons between two independent groups, and the Kruskal–Wallis test was used for comparisons among three or more groups. When significant differences were identified, Bonferroni–Dunn post hoc tests were performed. Spearman's rank correlation analysis was conducted to examine the relationships between medication adherence and self-efficacy scores. Multiple linear regression analysis was performed to identify variables independently associated with medication adherence. Internal consistency reliability of the measurement instruments was evaluated using Cronbach's alpha coefficients. All statistical tests were two-tailed, and statistical significance was set at $p < 0.05$.

3. Result

Participant Characteristics

A total of 235 patients with COPD were included in the study. The sociodemographic and clinical characteristics of the participants are presented in Table 1. The mean age of participants was 69.4±11.24 years (range: 32–96), and the majority were male (69.4%). Nearly half of the participants were primary school graduates (48.5%), and most were married (63.8%). The majority were retired (60.8%) and not working (89.8%). More than half reported income lower than expenses (51.9%), and most lived with a spouse or children (81.7%). The median duration of COPD was 60 months (range: 1–540), with a mean duration of 92.5±85.23 months. Most patients used inhaler or nebulizer therapy (79.6%) and bronchodilators (73.6%), while 43.8% received oxygen therapy. More than half attended regular check-ups (57.0%).

A large proportion had visited the emergency department in the previous year due to COPD (95.3%), with a median of four visits (range: 1–50) and a mean of 5.3±5.44 visits. Vaccination coverage was low; 72.3% had not received influenza vaccination and 83% had not received pneumococcal vaccination. In addition, based on self-reported medication adherence, 68.5% of participants rated their adherence as good, 28.9% as moderate, and 2.6% as poor (Table 1).

Table 1. Sociodemographic and clinical characteristics of participants (n=235)

Characteristics	Category	n	%
Age (years)	Mean±SD		69.4±11.24
	Median(min-max)		70 (32-96)
Gender	Male	163	69.4
	Female	72	30.6
Education		46	19.5
	Primary school	114	48.5
	Middle school	35	14.9
	High school	26	11.1
	University	14	6.0
Marital status	Married	150	63.8
	Single	85	36.2
Occupation	Retired	143	60.8
	Housewife	65	27.7
	Self-employment	27	11.5
Employment status	Not working	211	89.8
	Working full time	13	5.5
	Working half day	11	4.7
Economic status	Income < expenses	122	51.9
	Income = expense	97	41.3
	Income > expenses	16	6.8
Living arrangement	Spouse or children	192	81.7
	Alone	33	14.0
	Relative or friend	8	3.4
	Caregiver	2	0.9
COPD duration (months)	Mean±SD		92.5±85.23
	Median(min-max)		60 (1-540)
Treatments used*	Oxygen	103	43.8
	BIPAP	10	4.3
	CPAP	8	3.4
Medications used**	Inhaler/Nebulizer	187	79.6
	Bronchodilator	173	73.6
	Steroid	93	39.6
	Mucolytic/Expectorant	73	31.1
	Analgesic/Anti-inflammatory	19	8.1
	Other drugs***	168	71.5
Self-reported medication adherence	Good	161	68.5
	Middle	68	28.9
	Bad	6	2.6
Regular check-up	Yes	134	57.0
	No	101	43.0
Hospitalization in last year (COPD)	None	69	29.4
	Once	54	23.0
	Twice	46	19.6
	Three or more	66	28.0
ED visit in last year due to COPD	Yes	224	95.3
	No	11	4.7

Number of ED visits (last year)	Mean±SD		5.3±5.44
	Median(min-max)		4 (1-50)
Reason for ED visit*	Shortness of breath	226	96.2
	Sputum	128	54.5
	Cough	125	53.2
	Other	11	4.7
Influenza vaccination (past year)	Yes	65	27.7
	No	170	72.3
Pneumococcal vaccination (past five years)	Yes	40	17.0
	No	195	83.0

Notes: COPD: chronic obstructive pulmonary disease; BIPAP: bilevel positive airway pressure; CPAP: continuous positive airway pressure; ED: emergency department. *For multi-response items, totals may exceed 100%.

Medication Adherence Levels

The mean Medication Adherence Report Scale (MARS) score was 22.9±3.10, indicating generally good adherence; 81.3% of patients were in the high-adherence range. Medication adherence scores were compared according to participants' sociodemographic characteristics such as age, gender, education level, marital status, employment status, economic status, and living arrangement (Table 2). Adherence differed by employment status (p=0.032), with lower scores among patients not working (20.1±5.06) than those working full-time (22.4±3.11) or half day (23.1±2.87). Living arrangement was also associated with adherence (p=0.022): patients living with a spouse/children (23.1±2.79) or alone (22.3±3.98) scored higher than those living with a relative/friend/caregiver (19.9±3.98). Patients attending regular check-ups had higher adherence than those who did not (23.4±2.61 vs 22.2±3.54; p=0.003). Self-reported adherence aligned with MARS scores (p<0.001): good (23.7±2.39), moderate (21.4±3.31), and poor (16.0±2.61). Patients presenting with sputum or cough had lower adherence (sputum: p=0.026; cough: p=0.027) (Table 2).

Table 2. Comparison of Medication Adherence Scores according to participant characteristics

Characteristics	Group	$\bar{X}$±SD	Median (min-max)	Test statistics	p value
Employment status	Not working	20.1±5.06	20(10-25)^{a}	KWH=6.874**	**0.032**
	Working full time	22.4±3.11	23(16-25)^{a,b}		
	Working half day	23.1±2.87	25(11-25)^{b}		
Living arrangement	Alone	22.3±3.98	25(11-25)^{a}	KWH=7.591**	**0.022**
	Spouse or children	23.1±2.79	24.5(10-25)^{a}		
	Relative, friend or caregiver	19.9±3.98	20.5(14-25)^{b}		
Regular check-up	Yes	23.4±2.61	25(14-25)	U=5307.5*	**0.003**
	No	22.2±3.54	23(10-25)		
Self-reported adherence	Good	23.7±2.39	25(14-25)^{a}	KWH=58.587**	**<0.001**
	Middle	21.4±3.31	22(10-25)^{b}		
	Bad	16.0±2.61	16.5(11-18)^{c}		
Reason for ED visit (sputum)	No	23.5±2.38	25(10-25)	U=5766*	**0.026**
	Yes	22.3±3.49	24(11-25)		
Reason for ED visit (cough)	No	23.6±2.15	25(12-25)	U=5798.5*	**0.027**
	Yes	22.2±3.61	24(10-25)		

Notes: KWH: Kruskal–Wallis H test; U: Mann–Whitney U test. Superscript letters indicate statistically significant pairwise differences (Bonferroni–Dunn post hoc), as reported in the source table.

Self-Efficacy Levels

The mean total COPD Self-Efficacy Scale (CSES) score was 1.7±0.54, indicating low self-efficacy overall. To meet the table limit, Table 3 reports only the CSES total score and Physical Exertion; other subscales are not shown. The mean Physical Exertion score was 1.2±0.43. Self-efficacy differed by marital status (CSES total: p=0.003; Physical Exertion: p=0.001) and economic status (CSES total: p=0.008). Patients not receiving oxygen therapy had higher total and Physical Exertion scores (CSES total: p=0.007; Physical Exertion: p<0.001). Patients not receiving BiPAP or CPAP had higher total self-efficacy (BiPAP: p=0.008; CPAP: p=0.019), with no significant Physical Exertion differences. Patients without hospitalization in the previous year had higher total and Physical Exertion self-efficacy (CSES total: p=0.006; Physical Exertion: p=0.026). CSES total scores were higher among those reporting good medication adherence (p<0.001). Physical Exertion scores were higher in males (p=0.012), while total scores did not differ significantly by gender (p=0.084). Self-efficacy was lower among patients presenting with shortness of breath (CSES total: p=0.010; Physical Exertion: p=0.046) and cough (CSES total: p=0.026; Physical Exertion: p=0.005) (Table 3).

Table 3. COPD Self-Efficacy (total and physical exertion domain) by key sociodemographic and clinical variables

Variable	Group	CSES Total Mean ± SD	CSES Total Median (min–max)	p	Physical Exertion Mean ± SD	Physical Exertion Median (min–max)	p
Gender	Female	1.6 ± 0.53	1.5 (1–3.94)	0.084	1.1 ± 0.39	1.0 (1–3.2)	0.012
	Male	1.7 ± 0.54	1.6 (1–4.59)		1.2 ± 0.42	1.0 (1–3.4)	
Marital status	Married	1.7 ± 0.57	1.6 (1–4.59)	0.003	1.2 ± 0.46	1.0 (1–3.4)	0.001
	Single	1.5 ± 0.47	1.4 (1–3.32)		1.1 ± 0.29	1.0 (1–2.2)	
Occupation	Housewife	1.5 ± 0.50	1.4 (1–3.26)	0.044	1.2 ± 0.38	1.0 (1–3.0)	0.069
	Retired	1.7 ± 0.55	1.6 (1–4.59)		1.2 ± 0.38	1.0 (1–3.4)	
	Self-employment	1.8 ± 0.53	1.6 (1–2.76)		1.4 ± 0.59	1.0 (1–3.0)	
Economic status	Income < expenses	1.6 ± 0.44	1.5 (1–3.32)	0.008	1.1 ± 0.30	1.0 (1–2.2)	0.058
	Income = expenses	1.7 ± 0.58	1.6 (1–4.59)		1.2 ± 0.44	1.0 (1–3.4)	
	Income > expenses	1.9 ± 0.75	1.9 (1.1–3.94)		1.5 ± 0.75	1.0 (1–3.2)	
Oxygen therapy	Yes	1.6 ± 0.54	1.5 (1–4.59)	0.007	1.1 ± 0.33	1.0 (1–3.4)	<0.001
	No	1.7 ± 0.53	1.7 (1–3.94)		1.3 ± 0.45	1.0 (1–3.2)	
BIPAP	Yes	1.3 ± 0.34	1.2 (1–1.94)	0.008	1.0 ± 0.00	1.0 (1–1)	0.065
	No	1.7 ± 0.54	1.5 (1–4.59)		1.2 ± 0.42	1.0 (1–3.4)	
CPAP	Yes	1.3 ± 0.38	1.2 (1–2.03)	0.019	1.1 ± 0.21	1.0 (1–1.6)	0.414
	No	1.7 ± 0.54	1.5 (1–4.59)		1.2 ± 0.42	1.0 (1–3.4)	
Self-reported adherence	Good	1.8 ± 0.55	1.7 (1–4.59)	<0.001	1.2 ± 0.42	1.0 (1–3.4)	0.081
	Middle	1.5 ± 0.45	1.3 (1–3.06)		1.2 ± 0.40	1.0 (1–3.0)	
	Bad	1.3 ± 0.27	1.2 (1–1.76)		1.0 ± 0.00	1.0 (1–1)	
Hospitalization (last year)	None	1.8 ± 0.57	1.7 (1–3.94)	0.006	1.3 ± 0.48	1.0 (1–3.2)	0.026
	Once	1.8 ± 0.56	1.6 (1.06–3.32)		1.2 ± 0.46	1.0 (1–3.0)	
	Twice	1.6 ± 0.46	1.5 (1–3.06)		1.1 ± 0.23	1.0 (1–2.0)	
	Three or more	1.5 ± 0.50	1.4 (1–4.59)		1.1 ± 0.38	1.0 (1–3.4)	
Reason for ED visit	Shortness of breath: No	2.1 ± 0.57	2.2 (1.38–3.0)	0.010	1.3 ± 0.36	1.2 (1–2.0)	0.046
	Shortness of breath: Yes	1.6 ± 0.53	1.5 (1–4.59)		1.2 ± 0.42	1.0 (1–3.4)	
	Cough: No	1.7 ± 0.54	1.6 (1–3.94)	0.026	1.3 ± 0.46	1.0 (1–3.2)	0.005
	Cough: Yes	1.6 ± 0.53	1.5 (1–4.59)		1.1 ± 0.36	1.0 (1–3.4)	

Notes: CSES: COPD Self-Efficacy Scale. Two-group comparisons: Mann–Whitney U; ≥3 groups: Kruskal–Wallis. To satisfy the journal’s table limit, the table reports the CSES total score and the Physical Exertion domain (a clinically salient domain in COPD); full subscale results can be provided as supplementary material if requested.

Relationship Between Medication Adherence and Self-Efficacy

A weak positive correlation was found between MARS total and CSES total scores (r=0.245, p<0.001). MARS was positively correlated with Negative Affect (r=0.167, p=0.010), Intense Emotional Arousal (r=0.255, p<0.001), Weather/Environmental (r=0.206, p=0.001), and Behavioral Risk (r=0.198, p=0.002), but not Physical Exertion (r=0.122, p=0.062). Age was weakly negatively correlated with CSES total (r=−0.158, p=0.015) and with Negative Affect and

Physical Exertion (both p=0.002). Disease duration showed small negative correlations with Intense Emotional Arousal (p=0.023) and Physical Exertion (p=0.043), while the association with CSES total was not significant (p=0.060). Emergency department visits in the previous year were negatively associated with CSES total and all reported domains (p≤0.009) but were not significantly correlated with MARS total (r=−0.086, p=0.202) (Table 4).

Table 4. Spearman correlations between medication adherence, self-efficacy, and clinical variables (n=235)

Panel A. Medication adherence (MARS) vs COPD self-efficacy (CSES)

CSES domain/total	r	p value
Negative Affect	0.167	0.010
Intense Emotional Arousal	0.255	<0.001
Physical Exertion	0.122	0.062
Weather/Environmental	0.206	0.001
Behavioral Risk	0.198	0.002
CSES Total	0.245	<0.001

Panel B. Age, COPD duration, and ED visits vs MARS and CSES

Outcome	Age r	Age p	COPD duration r	COPD duration p	ED visits r	ED visits p
MARS Total	0.069	0.294	-0.023	0.731	-0.086	0.202
CSES Total	-0.158	0.015	-0.123	0.060	-0.296	<0.001
Negative Affect	-0.196	0.002	-0.041	0.536	-0.260	<0.001
Intense Emotional Arousal	-0.058	0.375	-0.148	0.023	-0.227	0.001
Physical Exertion	-0.205	0.002	-0.132	0.043	-0.175	0.009
Weather/Environmental	-0.117	0.074	-0.118	0.071	-0.249	<0.001
Behavioral Risk	-0.128	0.050	-0.104	0.113	-0.268	<0.001

Notes: Spearman correlation test. MARS: Medication Adherence Report Scale; CSES: COPD Self-Efficacy Scale; ED: emergency department.

Multivariate Regression Analysis

Multiple linear regression identified employment status (β=−0.159, p=0.018), living with a spouse/children (β=0.167, p=0.009), and self-efficacy (CSES mean; β=0.210, p=0.001) as independent predictors of medication adherence. Regular check-up was not significant in the multivariable model (β=0.121, p=0.062), and age and male gender were not significant. Model fit: R=0.357, R²=0.127, p<0.001 (Table 5).

Table 5. Multivariate linear regression analysis of factors affecting medication adherence in patients with COPD (n=235)

Predictor	B	SE	β	t	p value	VIF	95% CI (Lower)	95% CI (Upper)
Constant	19.599	1.703		11.51	<0.001		16.244	22.954
Age	0.007	0.018	0.026	0.397	0.692	1.138	-0.029	0.043
Male gender	-0.349	0.428	-0.052	-0.816	0.415	1.065	-1.192	0.494
Employment status	-1.620	0.678	-0.159	-2.391	0.018	1.153	-2.955	-0.285
Living with spouse/children	1.333	0.505	0.167	2.641	0.009	1.043	0.339	2.327
Regular check-up	0.755	0.402	0.121	1.877	0.062	1.086	-0.037	1.548
CSES mean score	1.203	0.362	0.210	3.327	0.001	1.037	0.491	1.916

Notes: Multiple linear regression predicting medication adherence (MARS). Model fit: R=0.357, R²=0.127, p<0.001.

4. Discussion

This study examined medication adherence, self-efficacy, and their relationship among patients with COPD presenting to an emergency department. The findings indicate that although medication adherence was generally high, self-efficacy levels were low. A weak but significant positive association between medication adherence and self-efficacy was identified, and several sociodemographic and clinical factors were found to influence adherence behavior.

One of the most notable findings of this study is the coexistence of relatively good medication adherence with low self-efficacy. This pattern suggests that adherence behavior alone may not fully reflect patients' perceived capacity for disease self-management. Self-efficacy represents confidence in managing symptoms and treatment demands rather than compliance with prescribed regimens alone (Bandura, 1997). This distinction is well recognized in chronic disease self-management theory, where behavioral execution (e.g., medication taking) and perceived capability (self-efficacy) are conceptually related but functionally distinct constructs. In chronic respiratory diseases, patients may adhere to medication routines while still experiencing uncertainty or lack of control over symptom management, particularly during acute exacerbations or emergency presentations. Empirical research in COPD confirms that self-management capacity depends not only on adherence but also on confidence in symptom monitoring, early exacerbation recognition, and coping with dyspnea-related distress (Kaptein et al., 2014). Therefore, adherence without self-efficacy may reflect externally regulated behavior rather than autonomous disease management.

The low self-efficacy observed in this study may be explained by the acute care context. Emergency department admission often reflects disease instability, symptom escalation, and perceived loss of control. Acute exacerbations are associated with anxiety, dyspnea-related distress, and functional limitation, all of which may undermine confidence in disease management. Previous research demonstrates that frequent exacerbations and hospitalizations are associated with impaired health status and reduced self-management capacity in COPD (Lenferink et al., 2017; Zwerink et al., 2014). Moreover, repeated acute care use has been shown to reinforce illness-related vulnerability and diminish perceived control over symptoms, particularly in patients with severe airflow limitation or high symptom burden (Celli & Wedzicha, 2019). The negative association observed between self-efficacy and emergency department utilization in this study supports this interpretation and suggests a reciprocal relationship in which poor self-efficacy contributes to acute care use, while acute events further erode confidence in disease control.

The positive association between medication adherence and self-efficacy is consistent with theoretical and empirical models of chronic disease self-management. Self-efficacy influences motivation, persistence, and health behavior adoption, including medication-taking behavior (Bandura, 1997). Systematic reviews of COPD self-management interventions indicate that improvements in self-efficacy are a central mechanism through which behavioral interventions enhance adherence, symptom control, and health outcomes (Zwerink et al., 2014). In COPD specifically, higher self-efficacy has been associated with improved functional status, reduced exacerbations, and better quality of life (Kaptein et al., 2014; Lenferink et al., 2017). Although the association identified in the present study was weak, its persistence after adjustment for sociodemographic variables suggests that psychological capability contributes independently to treatment behavior.

Employment status was negatively associated with medication adherence. This finding may reflect structural and environmental barriers affecting treatment routines. Working individuals may face time constraints, irregular medication schedules, competing responsibilities, and occupational exposures that interfere with consistent treatment behaviors. Behavioral adherence models emphasize the role of contextual barriers, including work demands, daily routine disruption, and competing priorities, in shaping medication-taking behavior (Bryant et al., 2013). Thus, adherence should be interpreted not only as a patient-level behavior but also as a function of environmental opportunity and role demands.

Living arrangements were also significantly associated with medication adherence. Patients living with a spouse or children demonstrated higher adherence compared with those living alone or with non-family caregivers. This finding aligns with extensive evidence demonstrating the role of social support in chronic disease management. Family members often provide practical assistance, emotional support, and treatment reminders that facilitate adherence behaviors (DiMatteo, 2004). In COPD populations, caregiver involvement has been associated with improved treatment engagement and reduced risk of exacerbation-related healthcare use (Zwerink et al., 2014). These findings support the view that adherence is socially embedded rather than solely individual.

Clinical indicators of disease severity, including oxygen therapy and hospitalization history, were inversely associated with self-efficacy. Patients requiring oxygen therapy or experiencing repeated hospitalizations reported lower confidence in managing their disease. This finding is consistent with clinical models of COPD progression, which link increasing symptom burden, physical limitation, and treatment dependence with reduced perceived control (GOLD, 2024; Celli & Wedzicha, 2019). Dependence on medical technologies and recurrent acute events may reinforce illness identity and reduce perceived autonomy, thereby weakening self-efficacy.

The study also revealed low vaccination rates among participants. Insufficient uptake of influenza and pneumococcal vaccination has been widely reported in COPD populations and remains a major concern, as vaccination is a key preventive strategy for exacerbation reduction (GOLD, 2024). Low vaccination coverage may reflect gaps in preventive care integration, limited patient education, or missed opportunities during healthcare encounters.

From a clinical perspective, these findings highlight the importance of comprehensive behavioral assessment in COPD management, particularly in acute care settings. Medication adherence alone does not capture patients' readiness for self-management. Emergency encounters provide an important opportunity to evaluate self-efficacy, reinforce education, and initiate behavioral interventions. Structured self-management programs that include action planning, symptom monitoring training, and confidence-building strategies have demonstrated clinically meaningful reductions in hospitalizations and improvements in quality of life (Zwerink et al., 2014). Therefore, integrating self-efficacy assessment into routine clinical evaluation may help identify patients at risk of poor disease control despite adequate pharmacological adherence.

Strengths and Limitations

This study's strengths include the simultaneous assessment of medication adherence and self-efficacy in COPD patients presenting to an emergency department, use of validated instruments, face-to-face data collection, a relatively large single-center sample, consecutive sampling, and multivariate analysis to identify independent predictors. Limitations include the cross-sectional design, which precludes causal inference; the single-center setting, which limits generalizability; reliance on self-reported medication adherence, which may introduce reporting bias, including recall and social desirability bias; the absence of clinical disease severity indicators (e.g., GOLD stage or FEV1), which may have influenced the observed associations; and data collection in 2020 during the COVID-19 period, which may have influenced healthcare utilization patterns. Another limitation of the study is that data collection occurred during the COVID-19 pandemic period. Changes in emergency department admission patterns, patient behavior, and healthcare delivery during the pandemic may have influenced the representativeness of the sample and the characteristics of COPD patients presenting to emergency services. Therefore, the external validity of the findings may be limited when generalizing to non-pandemic healthcare contexts.

5. Conclusions

COPD patients presenting to the emergency department may demonstrate relatively good medication adherence despite low self-efficacy, indicating that adherence alone does not fully reflect self-management capacity. Self-efficacy independently predicts medication adherence, while sociodemographic and contextual factors also influence treatment behavior. Lower self-efficacy is associated with greater disease burden, suggesting that clinical instability may reduce perceived control. Emergency visits should therefore be used not only for acute stabilization but also for behavioral assessment and intervention. Routine screening of adherence and self-efficacy, supported by nurse-led education and self-management support, may improve patient outcomes and reduce recurrent healthcare utilization. Future prospective and interventional studies using objective adherence measures and standardized disease severity indicators are needed to clarify causal relationships and guide scalable interventions.

Conflict of Interest

The authors declare no conflict of interest.

Author Contributions

Conceptualization: KD, HB; Study Design: KD, HB; Data Collection: KD; Literature Review: KD, HB; Data Analysis and Interpretation: KD, HB; Manuscript Preparation: KD, HB; Critical Review: HB.

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Perspectives in Palliative & Home Care

Olgu Sunumu/Case Report

Chiari Malformasyonu ve Palyatif Bakım: Bir Olgu Sunumu

Chiari Malformasyonu ve Palyatif Bakım: Bir Olgu Sunumu

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ÖZ

Giriş/Amaç: Chiari malformasyonu inferior serebellar yapıların foramen magnum seviyesinde yarattığı fonksiyonel obstrüksiyon ve fıtıklaşma ile karakterize ciddi nörolojik bir bozukluktur. Bu çalışmada foramen magnum dekompresyon cerrahisi sonrası nörolojik kötüleşme yaşayan ve bu nedenle palyatif bakım ihtiyacı oluşan hastanın palyatif bakım süreci ele alınmıştır.

Olgu Sunumu: Bir eğitim ve araştırma hastanesinin palyatif bakım kliniğinde yatan 28 yaşında kadın hastanın foramen magnum dekompresyon ameliyatı öyküsü bulunmaktadır. Ameliyattan sonra taburcu edilen hasta erken dönemde sağ ekstremitelerde ve dilde kasılmaların daha şiddetli başlaması, beslenmede azalma, yutmada güçlük ve konuşma bozukluğu yaşaması nedeniyle uzun dönemde takip edilmiştir. Uzun dönem takipte perkütan endoskopik gastrostomi takılan hasta, şikayetlerinin artması nedeniyle 22.08.2024 tarihinde palyatif bakım kliniğine alınmıştır. Kliniğe yatırılan hastanın hiç konuşamadığı, sağ ve sol elinde spastisite, sağ kolunda ve bacaklarında kontraktür geliştiği, her 4 ekstremitede kas gücü kaybı yaşadığı, destekle yürüyebildiği, 2. evre basınç yarası oluştuğu, uyku örüntüsünde bozulma yaşadığı, ağrısının, kabızlığının ve beslenme yetersizliğinin olduğu belirlenmiştir. Hasta Callista Roy'un adaptasyon modeli kullanılarak değerlendirilmiştir. Aynı zamanda hastaya fizyoterapist tarafından proprioseptif nöromüsküler fasilitasyon teknikleri, yatak içi mobilite ve pozisyonlama egzersizleri, boyun mobilizasyonu için chin tuck egzersizi uygulanmış; solunum, yutma, mobilite ve ambulasyon egzersizlerine yönelik eğitim verilmiştir. Yapılan hemşirelik ve fizyoterapi uygulamaları sonucunda basınç yarası 1. evreye gerilemiş, kabızlığı giderilmiş, ağız hijyeni sağlanmış, ağrısında azalma olmuştur. Ancak hastanın kontraktürlerinde azalma sağlanamamıştır, uyku bozukluğu, beslenme yetersizliği ve güvenli çevreyi sağlama/sürdürme ile ilgili riskleri devam etmektedir.

Sonuç: Hastanın semptomlarında önemli bir düzeyde azalma olduğu belirlenmiştir. Multidisipliner bir ekip yaklaşımı ile hastanın uyum yeteneğine odaklı semptom yönetiminin sağlanması ve hemşirelik sınıflama sistemlerinin kullanılması planlanan ve uygulanan hemşirelik bakımını geliştirmede önemli rol oynamıştır.

Anahtar Kelime: Chiari malformasyonu; cerrahi; palyatif bakım; hemşirelik; fizyoterapi.

ABSTRACT

Background/Objective: Introduction: Chiari malformation is a severe neurological disorder characterised by functional obstruction and herniation of the inferior cerebellar structures at the level of the foramen magnum. In this study, the palliative care process of a patient who experienced neurological deterioration after foramen magnum decompression surgery and therefore needed palliative care was addressed.

Case Report: A 28-year-old woman hospitalised in the palliative care clinic of a training and research hospital had a history of foramen magnum decompression surgery. The patient who was discharged after the operation was followed up in the long term due to the onset of more severe contractions in the right extremities and tongue in the early period, decreased feeding, difficulty in swallowing and speech disorder. The patient, who underwent percutaneous endoscopic gastrostomy in the long-term follow-up, was admitted to the palliative care clinic on 22.08.2024 due to increased complaints. It was determined that the patient could not speak at all, developed spasticity in the right and left hand, contracture in the right arm and legs, loss of muscle strength in all 4 extremities, could walk with support, developed stage 2 pressure ulcer, had deterioration in sleep pattern, pain, constipation and malnutrition. The patient was assessed using Callista Roy's adaptation model. At the same time, proprioceptive neuromuscular facilitation techniques, in-bed mobility and positioning exercises, chin tuck exercise for neck mobilisation were applied to the patient by the physiotherapist; training was given for respiratory, swallowing, mobility and ambulation exercises. As a result of nursing and physiotherapy interventions, the pressure ulcer regressed to stage 1, constipation was eliminated, oral hygiene was provided, and pain decreased. However, the patient's contractures could not be reduced, sleep disturbance, nutritional inadequacy and risks related to providing/sustaining a safe environment persist.

Conclusions: It was determined that there was a significant decrease in the patient's symptoms. Providing symptom management focused on the patient's adaptability with a multidisciplinary team approach and using nursing classification systems played an important role in improving the planned and implemented nursing care.

Keywords: Chiari malformation; surgery; palliative care; nursing; physiotherapy.

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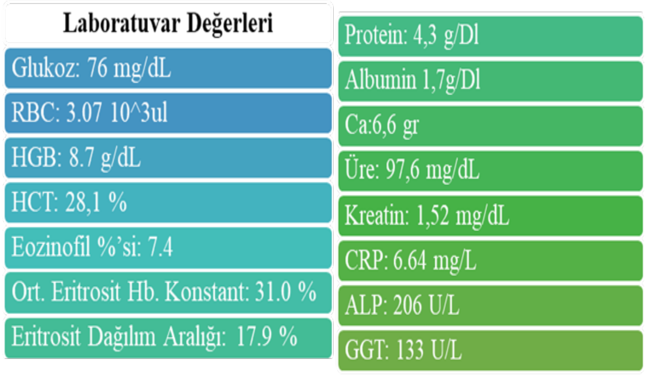
1. Giriş

Chiari malformasyonu; serebellumun ya da beyin sapının foramen magnumdan aşağı yönlü uzanarak spinal kanala inmesi durumudur ve nadir görülmektedir (Ezgü & Özer, 2025; Humphrey, 2019; Rosenblum et al., 2022). Posterior fossanın yapısal düzenlemesindeki kusurlardan kaynaklanan bu durum rombensefalondaki çeşitli anatomik anomaliler grubu olarak tanımlanmaktadır (Erdoğan & Sarıca, 2021; Ezgü & Özer, 2025). Malformasyona hidrosefali, siringomiyeli ve spinal disrafizm gibi çeşitli gelişimsel defektlerde eşlik edebilmekte (Doğu & Akdemir, 2022; Rosenblum et al., 2022) ve posterior fossa yapısının etkilenmesinin yanında üst servikal kord ve kafa tabanı kemikleri arasındaki yapısal bütünlük olumsuz etkilenmektedir (Ezgü & Özer, 2025). Chiari malformasyonun yetişkinlerde görülme sıklığı 1000 doğumda 1 civarındadır ve kadınlarda daha sık görüldüğü bildirilmektedir (Kular & Karsonovich, 2025). Malformasyon genellikle bilgisayarlı tomografi ya da manyetik rezonans görüntüleme yöntemi kullanılarak tanılanmaktadır (Humphrey, 2019). Hastaların çoğunluğu; öksürme, ıkınma, gülme gibi valsalva manevralarını takiben paroksismal ve kısa süreli baş ağrısı, sırtta, omuzlarda, bacaklarda radiküler olmayan ağrı, disfaji, nistagmus, diplopi, motor ve duyu kayıpları gibi semptomlar yaşamaktadırlar (Doğu & Akdemir, 2022; Erdoğan & Sarıca, 2021; Lo et al., 2023). Chiari malformasyonunun yetişkinlerdeki öncelikli tedavisi cerrahidir ve foromen magnumu içeren oksipital kraniektomi, laminektomi ya da duraplasti, tonsil rezeksiyonu ya da foromen magnum dekompresyon cerrahisi uygulanabilmektedir (Doğu & Akdemir, 2022; Ezgü & Özer, 2025). Cerrahi tedavinin esas amacı servikomedüller bileşkedeki baskıyı ortadan kaldırmak, anatomik boşlukların normale dönmesini sağlamak ve foramen magnum düzeyinde yeniden normal beyin omurilik sıvı akışını sağlamaktır (Ezgü & Özer, 2025; Humphrey, 2019). Chiari malformasyonunun cerrahi tedavisi sonrasında semptom kontrolünün sağlanması, nörolojik izlemin sürdürülmesi, komplikasyonların önlenmesi ve hastanın fonksiyonel durumunun iyileştirilmesi çok önemlidir (Humphrey, 2019). Bununla birlikte bakımın sistematik ve bütüncül bir yaklaşımla sunulabilmesi için hemşirelik kuramlarının bakıma entegre edilmesi önerilmektedir. Bu doğrultuda bireyin değişen gereksinimlerine vermiş olduğu yanıtların değerlendirildiği, uyum sürecinin desteklenmesinin hedeflendiği kuramların kullanılması önemlidir (Baksi Şimşek & Sarıkaya, 2015; Ezgü & Özer, 2025; Humphrey, 2019). Ek olarak chiari malformasyonunun cerrahi tedavisi sonrasında palyatif bakım ihtiyacı sıklıkla karşılaşılan bir durum değildir. Bu nedenle bu çalışmada foramen magnum dekompresyon cerrahisi sonrası uzun dönemde hastalığın doğal seyrine bağlı olarak nörolojik kötüleşme yaşayan ve bu nedenle palyatif bakım ihtiyacı oluşan hastanın palyatif bakım süreci ele alınmıştır. Sürecin multidisipliner bir ekip yaklaşımı ile hastanın uyum yeteneğine odaklı semptom yönetimi sağlanarak yürütülmesi amaçlanmıştır.

2. Olgu Sunumu

Bir eğitim ve araştırma hastanesinin palyatif bakım kliniğinde distoni ve beslenme bozukluğu tanısıyla yatan 28 yaşında, kadın hasta A.E.'nin 29.06.2022'de Chiari malformasyonu tanısıyla foramen magnum dekompresyon ameliyatı öyküsü bulunmaktadır.

Hasta A.E. başlangıçta sağ orta parmağında şiddetli ağrı ve kasılma şikâyeti ile ortopedi polikliniğine başvurmuş, sorunun nörolojik bir durum olması ihtimali ile nöroloji polikliniğine yönlendirilmiş. Hasta bir sınava hazırlık sürecinde olduğu gerekçesiyle nöroloji polikliniğine muayene olmayı ertelemiş ve bu dönemde şikayetlerine konuşmada yavaşlama, yürüme sırasında gözlerde kayma ve ışığa duyarlılık eklenmiş. Hasta nöroloji polikliniğine başvurduğunda fizik muayene sonrasında kendisine sorunun strese bağlı olarak ya da parmağı aşırı kullanması nedeniyle oluşabileceği söylenmiş ve manyetik rezonans görüntüleme yaptırılmış. Görüntülemenin ardından hasta Chiari malformasyonu tip-1 tanısı ile beyin cerrahi polikliniğine yönlendirilmiş. Beyin cerrahi tarafından hastaya ameliyat önerilmiş ve hasta 29.06.2022'de foramen magnum dekompresyon ameliyatı ve duraplasti geçirmiş. Hasta eski fonksiyonel durumuna ve mobilizasyonuna kavuşmuş olarak hastaneden taburcu edilmiş. Ameliyattan iki ay sonra sağ elinde, sağ ayağında ve dilinde şiddetli kasılmaların başlaması, hiç beslenememesi ve konuşamaması nedeniyle hasta tekrar hastaneye başvurmuş. Hastaya Sormodren, Lioresal ve Rivotril başlanmış. Tedavi devam ederken şikayetlerinin şiddeti artmış, etkilenen bölgelere sol el eklenmiş ve tamamen konuşamama durumu oluşmuş. Hastaneye başvurunun ardından yutma testi yapılmış ve beslenememe şikayetleri artan hastaya oral alım tamamen etkilendiği için perkütan endoskopik gastrostomi (PEG) takılmış ve taburculuk yapılmış. Süreci evde sürdüren hasta kişisel fonksiyonlarını sürdürmede ve mobilizasyonda büyük sorunlar yaşayarak tekrar hastaneye başvurmuş. Hasta 22.08.2024 tarihinde palyatif bakım kliniğine alınmış. Kliniğe yatırılan hastanın sağ ve sol el parmaklarında, sağ kolunda ve bacaklarında kontraktür geliştiği, hiç konuşamadığı, basınç yarası oluştuğu, yardımla yürüyebildiği, şiddetli ağrısı (NRS skoru 7) ve beslenme yetersizliği olduğu belirlenmiştir. ECOG performans skoru 3 olarak belirlenen hastanın, sıvı-elektrolit dengesizliği yaşadığı belirlenmiştir. Hasta PEG ile beslenmekte, boşaltımı ihtiyacı foley kateter ve hasta alt bezi ile karşılanmaktadır. Hastanın tedavisinde intravenöz yolla uygulanan pantoprazol, deksketoprofen trometamol etken maddeli ilaçlar, PEG ile uygulanan essitalopram, baklofen, klonazepam, bornaprin hidroklorür etken maddelerini içeren ilaçlar ve standart enteral beslenme solüsyonu bulunmaktadır. Hastaya ait laboratuvar değerleri ve sistem tanılaması ise aşağıda yer almaktadır.



Laboratuvar Değerleri
Glukoz: 76 mg/dL
RBC: 3.07 10^3ul
HGB: 8.7 g/dL
HCT: 28,1 %
Eozinofil %'si: 7.4
Ort. Eritrosit Hb. Konstant: 31.0 %
Eritrosit Dağılım Aralığı: 17.9 %
Protein: 4,3 g/Dl
Albumin 1,7g/Dl
Ca:6,6 gr
Üre: 97,6 mg/dL
Kreatin: 1,52 mg/dL
CRP: 6.64 mg/L
ALP: 206 U/L
GGT: 133 U/L

Şekil 1. Laboratuvar Değerleri

Hemşirelik Değerlendirmesi

Hasta Callista Roy'un adaptasyon modeli kullanılarak değerlendirilmiştir.

1. Fizyolojik Uyum Alanı

Fizyolojik alan; temel gereksinimleri ve kompleks süreçleri içeren dokuz uyum alanını içermektedir (Baksi Şimşek & Sarıkaya, 2015).

a. Oksijenasyon ve Dolaşım: Fizik muayene sonucu elde edilen veriler, kan basıncı 90/50 mmHg, kalp hızı 68 bpm, sıcaklık 36.3 ◦C, solunum hızı 22 bpm, oksijen satürasyonu %93, kapiller dolum süresi 2 sn.

b. Beslenme: Fiziksel değerlendirmede stomatit yoktu, dudak mukozası nemliydi, yutma refleksi iyi değildi, dişler temizdi, bağırsak sesleri 4 kadranda 4 kez/dakika sıklığında duyuluyordu, asit yoktu, PEG ile beslenmekte, vücut kitle indeksi ise 19,1'di.

c. Eliminasyon: Foley kateter ve alt bezi kullanımı mevcut, bağırsak hareketleri azalmış ve konstipasyon mevcut, idrar çıkışı 0,6 mL/kg/saat.

d. Aktivite ve Dinlenme: Hastanın sağ ve sol elinde spastisite, sağ kolunda ve bacaklarında kontraktür, her 4 ekstremitede kas gücü kaybı mevcuttur ve destekle yürüyebilmektedir. Uyku örüntüsünde bozulma vardır.

e. Korunma: Sakrumda 2. evre bir basınç yarası vardır.

f. Duyular: Hemşirelik değerlendirmesi sırasında hasta her iki elinin de sert olduğundan, sağ elinin nesneyi kavrayamadığından, şiddetli ağrı hissettiğinden ve boynundan omzuna kadar ağrılar olduğundan şikayet etti (NRS skoru 7). Hasta basınç yarası bölgesinde ağrıdan yakındı. Toplam ağrı skoru NRS ile 7 idi.

g. Sıvı, Elektrolit Dengesi: Hastanın protein değeri 4,3 g/Dl, Kalsiyum değeri 6,6 gr, üre 97,6 mg/dL, sıvı-elektrolit dengesizliği mevcut, sıvı dengesi +150 cc.

h. Nörolojik Fonksiyon: Bilinç açık, koopere, kelime çıkışı yok, hasta sakin, insan, yer ve zaman oryantasyonu iyi, sağ ve sol elde spastisite ve her 4 ekstremitede yaygın 4/5 kas gücü mevcut, bilateral horizontal nistagmus mevcut.

i. Endokrin Fonksiyon: Daha önce diabetes mellitus ya da endokrin hastalık öyküsü yok, tokluk kan şekeri 104 g/dl.

2. Benlik Kavramı Uyum Alanı

Benlik kavramı uyum alanı; bireyin kendisi ile ilgili (fiziksel özellikler, fonksiyonlar, cinsellik, sağlık/hastalık durumları, karakter özellikleri, değerleri, beklentileri, ahlaki-etik-manevi özellikler) inanç ve hislerinin bütününü içermektedir (Baksi Şimşek & Sarıkaya, 2015). Hasta endişe duyduğunu ve konuşamadığı, günlük aktiviteleri sürdüremediği ve desteğe ihtiyaç duyduğu için eksik, başarısız hissettiğini yazarak ifade etti.

Hemşirelik Bakımının Planlanması ve Sunumu

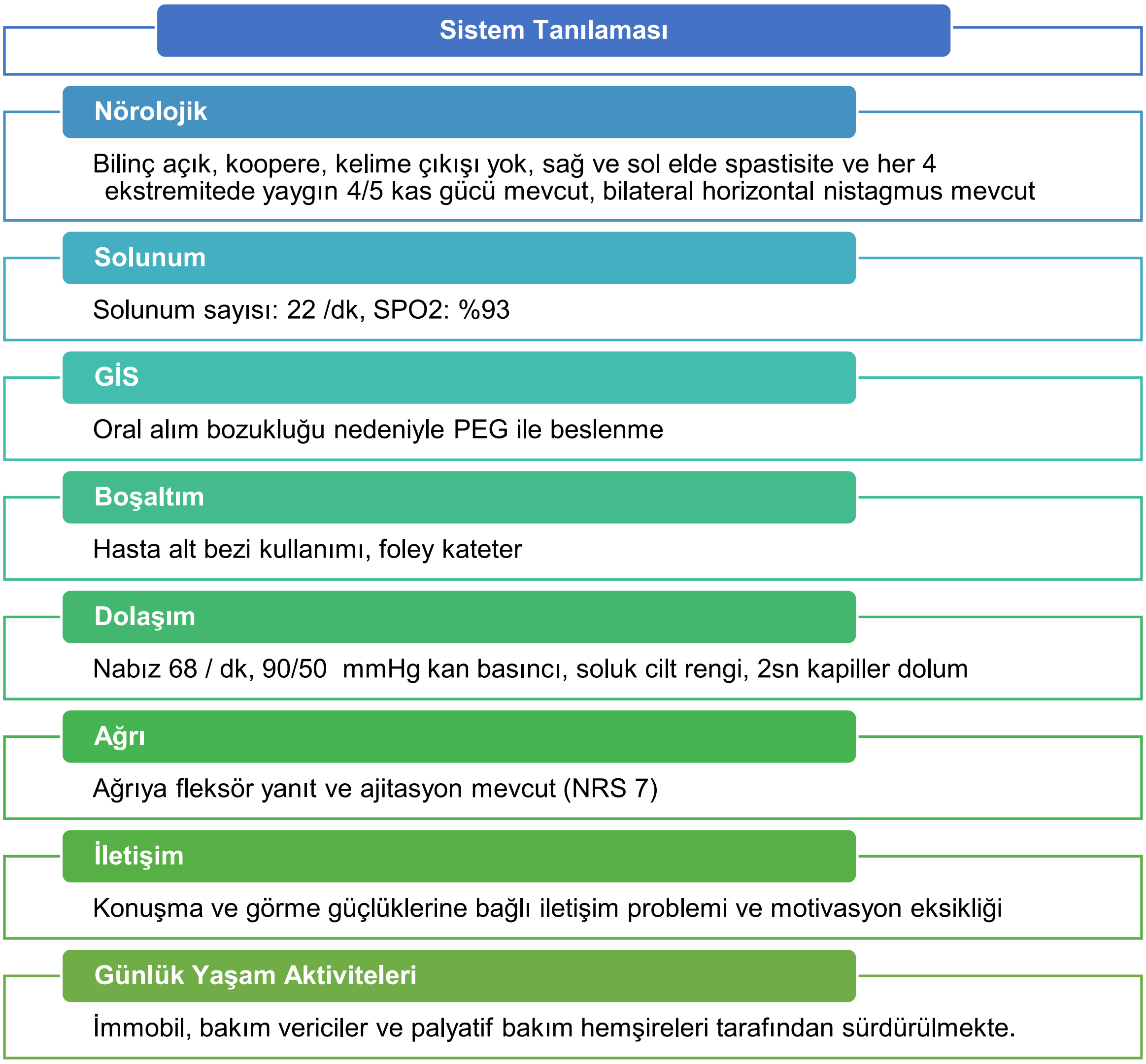
Hastanın durumu için en uygun olan hemşirelik tanıları seçildi ve bir bakım planı oluşturmak için kullanıldı. Öncelikli tanılara ilişkin hemşirelik bakımı örneği aşağıda yer almaktadır.

Hemşirelik Tanısı 1: Kontraktürlere, immobilizasyona ve yatak yaralarına bağlı **"Ağrı"**

Hedeflenen NOC Çıktıları: Hastanın ağrısının azaldığını/geçtiğini ve rahatladığını sözlü veya sözsüz olarak ifade etmesi, ağrı yönetiminin ve konforun sağlanması, günlük aktivitelerin ağrı nedeniyle kısıtlanmaması.

Hemşirelik Girişimleri NIC: Ağrı Yönetimi (Kod: 1400)

- Ağrının yeri, süresi, şiddeti ve ağrıyı etkileyen faktörler belirlenmelidir.
- Hastaya ağrı kontrolüne yönelik farmakolojik olmayan çeşitli periferal, kognitif-davranışsal teknikler uygulanmalıdır.



Sistem Tanılaması

Nörolojik

Bilinç açık, koopere, kelime çıkışı yok, sağ ve sol elde spastisite ve her 4 ekstremitede yaygın 4/5 kas gücü mevcut, bilateral horizontal nistagmus mevcut

Solunum

Solunum sayısı: 22 /dk, SPO2: %93

GİS

Oral alım bozukluğu nedeniyle PEG ile beslenme

Boşaltım

Hasta alt bezi kullanımı, foley kateter

Dolaşım

Nabız 68 / dk, 90/50 mmHg kan basıncı, soluk cilt rengi, 2sn kapiller dolum

Ağrı

Ağrıya fleksör yanıt ve ajitasyon mevcut (NRS 7)

İletişim

Konuşma ve görme güçlüklerine bağlı iletişim problemi ve motivasyon eksikliği

Günlük Yaşam Aktiviteleri

İmmobil, bakım vericiler ve palyatif bakım hemşireleri tarafından sürdürülmekte.

Şekil 2. Sistem Tanılaması

- Yatak yaralarına yönelik hemşirelik girişimleri uygulanarak pansumanları yapılmalıdır.
- Hastanın analjezik ihtiyacı değerlendirilmeli, hekim istemine göre analjezik tedavisi uygulanmalı ve sonuçları-etkinliği değerlendirilmelidir.
- Vücudunun rahatlaması için uyku düzeni sağlanmalı, hasta uyumak için teşvik edilmelidir.

Hemşirelik Tanısı 2: Chiari malformasyonunun oluşturduğu nörolojik etki ile ilişkili çiğnemede, yutmada güçlük ve algının yavaşlamasına bağlı **"Yutmada Bozulma"**

Hedeflenen NOC Çıktıları: Hastanın gıdaları ağız içinde tutabilmesi, çiğneme yapabilmesi, aspirasyon yaşamaması, beslenmeyi tolere edebilmesi.

Hemşirelik Girişimleri NIC: Yutma Tedavisi (Kod: 1860)

- Bireyin yutma işlevindeki yeteneği değerlendirilmelidir.
- Uygun pozisyonun verilmelidir özellikle beslenme esnasında dik oturması sağlanmalıdır. Beslenme Sonrasından 30 dakika dik oturur pozisyonu sürdürmesi sağlanmalıdır.
- Dil ve konuşma terapistiyle iletişime geçilerek müdahalenin planlanması sağlanmalıdır.
- Hastanın ailesine yutma egzersizleri konusunda eğitim verilmelidir.
- Aspirasyon belirtileri izlenmelidir.
- Aldığı-çıkardığı takibi, deri turgoru takibi yapılmalıdır, mukoz membranlar izlenmeli ve gerektikçe ağız bakımı yapılmalıdır.

Hemşirelik Tanısı 3: Hastanın yutma bozukluğunun olmasına ve PEG ile beslenmesine bağlı olarak beslenmede dengesizlik "**Gereksiniminden Az Beslenme"**

Hedeflenen NOC Çıktıları: Hastanın günlük metabolik gereksinimine göre ve aktivite düzeyi ile uyumlu (yeterli ve dengeli) beslenmesinin sağlanması.

Hemşirelik Girişimleri NIC: Beslenme Yönetimi (Kod: 1400), Ağız Sağlığını İyileştirme (Kod: 1730).

- Aspirasyon riski ortadan kaldırılmalıdır.
- PEG beslenmesi sırasında uygun pozisyon sağlanmalıdır.
- Diyetisyen konsültasyonu ile hastanın gerekli /yeterli günlük kalori gereksinimi belirlenmelidir.
- Hastanın tıbbi durumuna, beden kitle indeksine ve yaşına uygun diyet (mama) sağlanmalıdır.
- Yeterli sıvı alımı sağlanmalıdır.
- Günlük PEG bakımı yapılmalıdır.

Hemşirelik Tanısı 4: Hastanın oral yol ile sıvı ve besin alamaması ve PEG ile beslenmesine bağlı olarak **"Oral Mukoz Membranda Bozulma Riski"**

Hedeflenen NOC Çıktıları: Oral membran bütünlüğünün korunması, oral hijyeninin sürdürülmesi, mukozal membranın pembe, nemli olması ve oral mukozit bulgularının olmaması.

Hemşirelik Girişimleri NIC: Ağız Sağlığını Sürdürme (Kod: 1710), Ağız Sağlığını Geliştirme (Kod: 1720)

- Oral kavite (dudaklar, dil, mukoza, diş ve diş etleri) değerlendirilmelidir.
- Rutin ağız bakımı yapılmalı ve bakıma katılımı desteklenmelidir.
- Nem durumunun dengelenmesi amacıyla dudaklar krem ile nemlendirilmelidir.
- Oral mukozit belirti ve bulguları açısından hasta gözlemlenmelidir.
- Yeterli sıvı alımı sağlanmalıdır.

Hemşirelik Tanısı 5: Foley sonda, İntravenöz Katater ve PEG varlığına bağlı olarak **"Enfeksiyon Riski"**

Hedeflenen NOC Çıktıları: Enfeksiyonun oluşmaması, belirti ve bulgularının gözlenmemesi, bireysel hijyenin sağlanması ve sürdürülmesi.

Hemşirelik Girişimleri NIC: Enfeksiyondan Koruma (Kod: 6550), Enfeksiyon Kontrolü (Kod: 6540)

- Hasta odasının birey başına uygun m2 alana sahip olması sağlanmalıdır.
- Kurum enfeksiyon protokolüne uyulmalıdır.
- Ziyaretçi sayısı sınırlanmalıdır.
- Sağlık ekibi üyelerinin, hasta yakınlarının ve ziyaretçilerin uygun el yıkama yöntemlerini uygulaması sağlanmalıdır.
- Kişisel koruyucu ekipman (eldiven, maske vb.) kullanılmalıdır.
- Enfeksiyon belirti ve bulguları gözlemlenmelidir.
- Foley sonda, intravenöz katater ve PEG bağlantıları kontrol edilmeli, uygun aseptik yöntemler kullanılmalı ve düzenli pansuman sağlanmalıdır.
- Basınç yarası pansumanı aseptik koşullarda ve düzenli uygulanmalıdır.
- Derin solunum ve öksürme teşvik edilmelidir.
- Beslenme solüsyonları uygun koşullarda saklanmalıdır.

Hemşirelik Tanısı 6: Yetersiz Fiziksel Aktivite, Oral Alımın Olmaması ile İlişkili 3 Günden Fazla Defekasyona Çıkamamaya Bağlı **"Konstipasyon"**

Hedeflenen NOC Çıktıları: Düzenli boşaltımın gerçekleştirilmesi, gaitanın yumuşak, kıvamlı ve yeterli miktarda olması, bağırsak seslerinin normal olması, abdominal ya da rektal ağrı ya da rahatsızlığın olmaması.

Hemşirelik Girişimleri NIC: Bağırsak Yönetimi (Kod: 0430), Konstipasyon/Fekal Tıkaç Yönetimi (Kod: 0450)

- Bağırsak boşaltımı dışkının sıklığı, rengi, kıvamı ve miktarı açısından izlenmelidir.
- Bağırsak sesleri dinlenmelidir.
- Son defekasyon tarihi kaydedilmelidir.
- Tıkaç varlığı değerlendirilmelidir.
- Konstipasyona neden olan faktörler tanımlanmalıdır.
- Uygun laksatif yöntemler kullanılmalıdır.
- Besin ve sıvı alımı düzenlenmelidir.
- Kilo takibi düzenli olarak yapılmalıdır.

Egzersiz ve Fizyoterapi Uygulaması

Fizyoterapist tarafından yapılan değerlendirme ile; 9 ay önce dil ve göz kaslarına botoks yapıldığı, disfaji ve konuşamama durumunun mevcut olduğu, dil hareketinin olmadığı, oturma pozisyonunda ağzında tükürük biriktiği, distoni gözlendiği, sağ tarafta sol tarafa göre daha fazla güçsüzlük yaşandığı ve spastisitenin mevcut olduğu, sağ kolunda ve bacaklarında ki kontraktürlere bağlı olarak ağrı yaşandığı, özellikle sağ ekstremitelerin distal eklemlerinde limitasyonların arttığı ve hastanın desteksiz yürüyemediği gözlenmiştir. Değerlendirmeye bağlı olarak; proprioseptif nöromüsküler fasilitasyon teknikleri, yatak içi mobilite ve pozisyonlama egzersizleri, kas kontraktürlerini azaltmak için germe hareketleri, ayakta denge hareketleri ve yürüme egzersizi, boyun mobilizasyonu için chin-tuck egzersizi ve boyun güçlendirme için ekstansiyon, lateral fleksiyon ve rotasyon uygulanmış; solunum, yutma, mobilite ve ambulasyon egzersizlerine yönelik tekrarlayan görev odaklı eğitim (büzük dudak ve balon şişirme egzersizi, triflo çalışması) verilmiştir.

Sonuçların Değerlendirilmesi

Yapılan hemşirelik ve fizyoterapi uygulamaları sonucunda basınç yarası 1. evreye gerilemiş, kabızlığı giderilmiş, ağız hijyeni sağlanmış, ağrısında azalma olmuştur. Ancak hastanın kontraktürlerinde azalma sağlanamamıştır, yutma ve konuşamama problemleri, uyku bozukluğu, beslenme yetersizliği ve güvenli çevreyi sağlama/sürdürme ile ilgili riskleri devam etmektedir.

Etik Boyut

Hastadan ve hasta yakınlarından bilgilendirilmiş onam alınmıştır.

3. Tartışma

Chiari malformasyonu; cerrahi tedavi sonrasında bile nörolojik semptomların yanı sıra hastanın günlük yaşam aktivitelerini ve yaşam kalitesini etkileyebilen kronik bir tabloya yol açabilmektedir (Humphrey, 2019; Nishikawa et al., 2022; Pattisapu et al., 2023). Bu çalışmada foramen magnum dekompresyon cerrahisi sonrası nörolojik kötüleşme yaşayan ve bu nedenle palyatif bakım ihtiyacı oluşan hastanın palyatif bakım süreci ele alınmıştır. Hemşirelik müdahalelerinin palyatif bakım ilkeleri doğrultusunda yapılandırılmasının gerekli olduğu düşünülmektedir. Bu kapsamda hasta Callista Roy'un adaptasyon modeli kullanılarak değerlendirilmiştir. Bakımın planlanması ve sunumunda NANDA-I Taksonomi II'de yer alan tanılara, tanılara uygun NIC girişimlerine ve NOC çıktılarına yer verilmiştir, bu kısımda ise olguya ilişkin bulguların literatür ile karşılaştırılması yer almaktadır.

Foramen magnum dekompresyon cerrahisi sonrası hastanın ağrı ihtiyaçları karmaşık olabilir, bu durumda hastanın ağrısı profesyonel bir hemşire tarafından en iyi şekilde değerlendirilmeli ve yönetilmelidir (Humphrey, 2019). Özellikle oksipital bölgede lokalize olan ve günlük aktiviteleri sınırlayan bu şiddetli ağrı, bireyin fonksiyonel kapasitesini ve psikolojik durumunu olumsuz etkilemektedir (Humphrey, 2019; Lo et al., 2023). Bu olguda hastanın şiddetli baş ağrısı olduğu ve kontraktürlere bağlı olarak sağ kolunda ve bacaklarında ağrı yaşadığı saptanmıştır. Bu kapsamda ağrının sistematik değerlendirilmesi, farmakolojik ve farmakolojik olmayan yöntemlerle tedavi edilmesi ve tedavi etkinliğinin izlenmesi önem taşımaktadır. Palyatif bakım yaklaşımında da ağrı kontrolü semptom yönetiminin temel bileşenlerinden biri olarak kabul edilmektedir (El-Sayed, 2025). Chiari malformasyonu hastaların çoğunluğu; disfaji, nistagmus, diplopi, motor ve duyu kayıpları gibi ağır semptomlar yaşamaktadırlar (Doğu & Akdemir, 2022; Erdoğan & Sarıca, 2021; Lo et al., 2023). Bu olguda hastanın disfaji ve konuşamama durumunun olduğu, dil hareketinin olmadığı, distoni gözlendiği, ekstremitelerde güçsüzlük yaşandığı ve spastisitenin mevcut olduğu, eklemlerde kontraktürler geliştiği ve hastanın desteksiz yürüyemediği saptanmıştır. Bu kapsamda hastanın bütüncül değerlendirilmesi, multidisipliner ekip yaklaşımının benimsenmesi ve tedavi etkinliğinin takibi önem taşımaktadır. Özellikle dil- konuşma terapisti, fizyoterapist ve hemşire ortak müdahalesi hastanın çok yönlü ihtiyaçlarının karşılanmasını ve bakımın iyileştirilmesini sağlayacaktır (El-Sayed, 2025; Humphrey, 2019). Bir çalışma Chiari malformasyonu hastalarının yaklaşık %96'sının ağır semptomlar nedeniyle artık yapamadıkları veya yapmaktan zevk almadıkları en az bir fiziksel bir aktivite olduğunu bildirmiştir (Meeker et al., 2015). Hastaların fonksiyonel durumunun düzenli olarak değerlendirilmesi, düşme riskinin azaltılarak güvenli mobilizasyonun desteklenmesi ve bireyin günlük yaşam aktivitelerinde bağımsızlığının arttırılması önem taşımaktadır (Humphrey, 2019). Ek olarak hastanın eğitimsel ihtiyaçları hemşireler tarafından; semptom yükünün azaltılması, fonksiyonelliğin korunması, psikososyal desteğin sürdürülmesi ve yaşam kalitesinin iyileştirilmesi hedefleri etrafında yapılandırılmalıdır (Baksi Şimşek & Sarıkaya, 2015; Humphrey, 2019; Meeker et al., 2015).

Sunulan olgu, nöroşirurjik cerrahi sonrasında gelişebilen uzun dönem bakım gereksinimlerinin yönetiminde palyatif bakım hemşireliği yaklaşımlarının önemini ortaya koymakta ve klinik uygulamalarda bütüncül ve multidisipliner bakım modellerinin gerekliliğini vurgulamaktadır.

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Perspectives in Palliative & Home Care

Review Article/Derleme Makalesi

A Focus On The İndividual Requirements Of Older Patients Forms The Basis Of Geriatric Palliative Care Practices

Yaşlı Hastaların Bireysel Gereksinimlerine Odaklanma: Geriatrik Palyatif Bakım Uygulamalarının Temeli

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ABSTRACT

Background/ Objective: In aging societies, the growing number of older adults and the complexity of their health problems have made traditional medical approaches increasingly insufficient. In this context, Geriatric Palliative Care (GPC) has gained increasing importance as a care model specifically tailored to the needs of older patients. By integrating the principles of geriatrics and palliative care, GPC offers a comprehensive approach aimed at improving the quality of life and comfort of older individuals. The core components of this approach include the assessment and effective management of symptoms, the management of multiple chronic conditions, support for end-of-life decision-making processes, and the coordination of care across different healthcare services. Rather than focusing solely on curative treatment, this model prioritizes the relief of suffering and distress, helping patients spend the remaining period of their lives in the best possible conditions. However, several challenges remain in the implementation of GPC. The limited availability of evidence-based research, the complexity of end-of-life decision-making, and difficulties in ensuring effective care coordination represent some of the major barriers in this field. Addressing these challenges requires further scientific research, improved education for healthcare professionals, and strengthened interdisciplinary collaboration.

Conclusion: Geriatric palliative care represents an important approach to meeting the increasingly complex healthcare needs of older adults. The further development and wider implementation of this care model may significantly contribute to improving the quality of life and comfort of older individuals.

Keywords: Geriatrics; palliative care; interdisciplinary approach.

ÖZ

Giriş/Amaç: Yaşlanan toplumlarda yaşlı nüfusun artması ve bu grupta görülen karmaşık sağlık sorunları, geleneksel tıbbi yaklaşımların yetersiz kalmasına yol açmaktadır. Bu bağlamda, yaşlı bireylere özgü bir bakım modeli olan Geriatrik Palyatif Bakım (GPC) giderek daha fazla önem kazanmaktadır. GPC, geriatri ve palyatif bakımın temel ilkelerini bir araya getirerek yaşlı hastaların yaşam kalitesini ve konforunu artırmayı hedefleyen bütüncül bir yaklaşım sunmaktadır. Bu yaklaşımın temel bileşenleri arasında semptomların değerlendirilmesi ve etkin yönetimi, çoklu kronik hastalıkların yönetimi, yaşam sonu karar süreçlerinin desteklenmesi ve bakımın farklı sağlık hizmetleri arasında koordinasyonunun sağlanması yer almaktadır. Küratif tedaviden ziyade hastanın acı ve sıkıntılarının azaltılmasına odaklanan bu model, bireyin kalan yaşam süresini mümkün olan en iyi koşullarda geçirmesine katkı sağlamayı amaçlamaktadır. Bununla birlikte GPC'nin uygulanmasında bazı önemli güçlükler bulunmaktadır. Kanıta dayalı çalışmaların sınırlı olması, yaşam sonu karar verme süreçlerinin karmaşıklığı ve bakım koordinasyonunun sağlanmasındaki güçlükler bu alandaki başlıca zorluklar arasında yer almaktadır. Bu sorunların aşılabilmesi için daha fazla bilimsel araştırmaya, sağlık profesyonellerine yönelik eğitime ve disiplinler arası iş birliğinin güçlendirilmesine ihtiyaç duyulmaktadır.

Sonuç: Geriatrik palyatif bakım, yaşlı hastaların giderek artan sağlık gereksinimlerini karşılamada önemli bir yaklaşım olarak öne çıkmaktadır. Bu bakım modelinin geliştirilmesi ve sağlık sistemlerinde daha yaygın biçimde uygulanması, yaşlı bireylerin yaşam kalitesinin ve konforunun artırılmasına önemli katkı sağlayabilir.

Anahtar Kelimeler: Geriatri; palyatif bakım; disiplinler arası yaklaşım.

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1. Introduction

As in the rest of the world, it is anticipated that the increase in life expectancy and end-of-life morbidities in Turkey may pose major challenges in healthcare (Jagger et al., 2011). It is known that all older people spend the last twenty years of their lives with at least one chronic multimorbid disease burden, increased functional dependency, cognitive decline and frailty (Guthrie et al., 2012). In the end of life, complex treatment decisions, symptom management, psychosocial problems and easily overlooked mental distress are frequently encountered. This means that a geriatric approach to palliative care is required (Lazris, 2019). Geriatric palliative care (GPC), which has been developing in recent years, is attracting increasing interest day by day.

In aging societies, the need for both geriatric medicine and palliative care services is increasing. Geriatrics and palliative care are different but overlapping medical specialties (Pacala, 2014). Both specialties must cooperate closely. The GPC that emerged as a result of this cooperation is accepted as an interdisciplinary care field that has the synergy and care ethics of both. In today's medical world, where specialties are increasingly narrowing and fragmented, we need an integrative approach that evaluates the patient's life situation by looking at the overall picture. Therefore, the GPC field will be useful in providing a different care service that facilitates the transition from the goal of functional recovery to comfort-oriented goals in functional areas in the older, in addition to covering different goals of care (Jox et al., 2012).

When the concept of GPC emerges, two main elements must be well defined. The first of these is Geriatric Medicine. Geriatric medicine is a medical specialty that focuses on the health care of older people. It was developed as a response to the multimorbidity of the older patient population, which is increasing in number today (G. Ellis & N. Sevdalis, 2019). GPC mainly focuses on the prevention of health problems that increase in frequency with age, the evaluation of emerging disorders and the organization of necessary treatments. In addition to all these, it is a field of medicine that includes physical and mental functions, social status and spiritual dimensions in the older. The complexity of older health is one of the distinguishing features of geriatric medicine (Marengoni et al., 2016). The main goals in geriatrics are to maintain and restore functional abilities in the older and to improve quality of life and social participation. The most common pathologies in older patients are frailty and multiple active chronic diseases (Rodriguez-Manas & Fried, 2015). Geriatrics benefits from multidimensional and interdisciplinary assessments. As a result, GPC structures the ideal care approach around the patient's problems and preferences, encouraging collaboration among multiple health services (Tinetti, 2016).

Unlike geriatrics, palliative care provides health services to patients of all ages. This type of care is a specialty area where special needs are met before death in a broad sense (nutrition, pain, hydration, etc.). Modern palliative care emerged approximately 50 years ago as a system of care that combines professional virtues such as care, compassion, and empathy as a counter-reform movement against health services that ignore dying and incurable patients (Kubler-Ross, 1975); FO, 2014.; Saunders et al., 1995; Voumard et al., 2018). Palliative care is based on a holistic treatment approach that adopts a multi-professional team approach and combines the physical needs of patients as well as their psychosocial and spiritual conditions at the same level. Geriatrics and palliative care are similar in these features. The main purpose of palliative care is to prevent symptoms that are likely to develop or to treat existing symptoms rather than treating the primary disease until death in individuals with a serious and life-threatening disease. This approach aims to increase the patient's quality of life and reduce suffering.

The main purpose of GPC, which emerged from the elements of geriatric medicine and palliative care, is to create an approach that aims to provide a more comfortable and peaceful experience for older people with serious and life-threatening diseases in the last period of their lives. Geriatric medicine defines the special care goals of the older patient population for their life expectancy and existing chronic diseases. However, GPC is at a different level. GPC introduces a new inter-specialty approach. GPC reflects the combination of geriatric medicine and palliative care.

Geriatric Palliative Management

Symptom Management

The most important goals of geriatric palliative care are the assessment and management of symptoms (Tookman, 2000.). Different symptoms may be prominent in patients receiving palliative care for different diseases. For example, people with cancer, heart disease, chronic obstructive pulmonary disease or kidney disease often report pain, shortness of breath and fatigue (Solano et al., 2006). With advancing age, problems such as cognitive impairment, bladder and bowel control problems, visual and hearing impairment and dizziness increase significantly. Palliative care needs may also arise in these patients. Diarrhea, constipation, weight loss, pain, depression, delirium, dyspnea and pain are the most common special and priority conditions requiring palliative care in older patients. It is very important to know many symptoms that determine the need for palliative care due to aging and increasing diseases, and especially in terms of appropriate pharmacological and care practices in this age group. In geriatric cases, regardless of the cause, the priority in palliative care is symptom and treatment approaches and their good management is a very important issue.

Multimorbidity and Polypharmacy

In addition to symptom control in older patients, another important problem is the management of multiple chronic diseases. Aggressive treatment approaches in chronic diseases in the older cause them to consume many medications, see multiple specialists, and spend part of their remaining life in the hospital (Jennings & Morrissey, 2013). These aggressive treatment approaches do not cure the disease or prolong life in older patients, but they also lead to deterioration in quality of life. In addition, a large part of this care provided imposes a great burden on the patient and health care expenses.

Decision-Making and Advance Care Planning

When discussing geriatric palliative care, two issues should come to the forefront. First, it should be determined which medical conditions would benefit from a palliative approach rather than aggressive treatments defined as “life-prolonging.” Another important issue is to focus on what the patient and their relatives want. Even if certain interventions applied to patients increase their chances of survival, the cost of this intervention to the patient, their relatives, and their quality of life may discourage them from performing this intervention. In many cases in the older, there is no clear line between palliative care and life-prolonging care in terms of clinically meaningful outcomes. It is important to provide patients with accurate information about the risks and benefits of their options and to support a palliative approach in line with their decisions.

Care Coordination

Geriatric palliative care should aim to relieve the older of disease-related symptoms, pain, stress, and anxiety, regardless of the diagnosis. The aim in GPC should focus on improving the quality of life of the patient and their family. In general medical practice, we are more interested in evaluating and correcting the patient's laboratory results. However, the aim in geriatric palliative care should be to provide compassionate care to the older. Aggressive medical care can lead to side effects in older people with multiple chronic diseases or frailty. Therefore, older people should be treated slowly and carefully, focusing more on symptom management and a gentle approach to care.

In addition, ensuring coordination between healthcare settings is essential for maintaining continuity and quality of care in this population.

Key Challenges In Geriatric Palliative Care

There are several challenges to conducting GPC. The first and perhaps most important of these is the difficulty of conducting methodologically sound and ethically justified studies of evidence-based care and educational interventions. In many pharmacological studies, geriatric patients with multiple comorbidities are excluded from the study. This situation significantly limits the applicability of large-scale study results to the population requiring GPC. Older patients are excluded from the study due to their high dropout/dropout rates, considering factors such as cognitive problems (complexity of informed consent) and short life expectancy. This situation causes difficulties in developing GPC treatment protocols.

Another important challenge is that the vast majority of older patients who need to make end-of-life decisions do not have decision-making capacity (Silveira et al., 2010). The end-of-life decision-making process in older patients is complex. The most important problems in this process are primarily communication barriers. In addition, it becomes difficult due to many factors such as deterioration in the patient's cognitive level, lack of memory, the interests of the patient and/or their guardians, and patients who do not have decision-making capacity (Kuehlmeyer et al., 2015). Ensuring coordination of geriatric care is another important issue. Ensuring coordination is important when providing palliative care. Lack of coordination leads to inadequate management of resources, thus weakening the health system, and consequently decreasing the quality of care. There is ample evidence regarding high-cost interventions, hospitalizations, and emergency room visits implemented in the last months of the lives of the older, leading to failures in care coordination (Smith et al., 2012; Unroe & Meier, 2013).

In GPC, patient care should be coordinated inside and outside the hospital (Strijbos et al., 2013). It should include the planning of the treatment processes of patients who receive geriatric palliative care after discharge and the transition to home care programs. In addition, the use of new technologies such as the creation of an electronic file system and the development of remote examination systems such as telemedicine can be provided with developing technical support.

In the light of all this information, the aim of GPC is to develop palliative care management and strategies supported by studies for the older population with multiple comorbidities and life-limiting diseases, and to ensure that a large number of patients in need benefit. The most important limitations in the provision of this service are that scientifically high-level, ethically sound research projects should be developed, especially for frail older patients. Increasing clinical studies should facilitate the decision-making of healthcare professionals and improve care coordination. End-stage older patients constitute an extremely vulnerable group. At this stage of life, close trust relationships become decisive, and this affects the attitudes and responsibilities expected from professional caregivers.

2. Conclusions

- Geriatric Palliative Care (GPC) is a specialty that combines the experience, knowledge and strengths of geriatric medicine and palliative care, which emerged to respond to the psychosocial conditions and limitations of older adults with serious and life-limiting illnesses and symptoms.

- The main difficulty of GPC is that clinical research opportunities are low in patients who are primarily frail, have multiple comorbidities and have impaired cognitive functions. Therefore, due to the scarcity of studies conducted in this patient group, it is difficult to plan care in advance. Deciding on health services for this group and ensuring the coordination of care are among the priority tasks for health care professionals.

- An approach based on care ethics and practical wisdom should be developed in order to help health care professionals understand the needs of the frail elderly patient group and their families and provide care according to these needs.

Clinical Implications

- Frailty assessment should be integrated into routine clinical decision-making in older patients requiring palliative care.

- Symptom relief and quality of life should take precedence over aggressive disease-oriented treatments in patients with limited life expectancy.

- Deprescribing strategies should be actively considered in the management of multimorbid older adults.

- Advance care planning should be initiated early and involve both patients and caregivers.

- Effective care coordination between healthcare settings is essential to optimize outcomes and reduce unnecessary hospitalizations.

Conflict of Interest

The author declares no conflict of interest.

Author Contributions

Concept: F.D.Y.; Design: F.D.Y.; Data Collection And/Or Processing: F.D.Y.; Analysis And/Or Interpretation: F.D.Y.; Literature Review: F.D.Y.; Writing: F.D.Y.; Critical Review: F.D.Y.

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