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Determination of Factors Affecting Postoperative Thirst Discomfort and General Comfort Levels in Abdominal Surgery Patients: A Cross-Sectional Research

Abdominal Cerrahi Hastalarında Ameliyat Sonrası Susuzluk Rahatsızlığı ve Genel Konfor Düzeylerini Etkileyen Faktörlerin Belirlenmesi: Kesitsel Araştırma

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ABSTRACT Objective: This study aimed to determine the factors affecting postoperative thirst discomfort and overall comfort levels in patients undergoing abdominal surgery. **Material and Methods:** The study was cross-sectional and was conducted with patients who underwent abdominal surgery at the General Surgery Department of Dokuz Eylül University between September 2024-January 2025. A purposive sampling method was used to determine the study group, and 150 patients who agreed to participate were included. The data were analyzed using descriptive statistics, t-test, Mann-Whitney U test, correlation, and linear regression analysis in the data analysis using the SPSS 29.0 program. **Results:** Fifty percent of the patients were female, and 50.66% had undergone upper abdominal surgery. The type of surgery, presence of cardiovascular comorbidities, endocrine comorbidities, presence of a surgical drain, urinary catheter, and constipation significantly affected the Thirst Discomfort Scale. There was a statistically significant relationship between the Thirst Discomfort Scale and variables such as duration of surgery, preoperative pain discomfort level, preoperative thirst discomfort level, postoperative pain discomfort level, and time to postoperative feeding. The type of surgery, presence of cardiovascular comorbidities, endocrine comorbidities, and constipation significantly affected the General Comfort Scale. There was also a statistically significant relationship between the General Comfort Scale and duration of surgery, preoperative pain discomfort level, preoperative thirst discomfort level, postoperative pain discomfort level, and time to postoperative feeding. Cardiovascular comorbidities, endocrine comorbidities, duration of surgery, and preoperative thirst stress level were predictors of thirst discomfort (R^2=0.64; p<0.01). Type of surgery and presence of constipation were predictors of general comfort (R^2=0.33; p<0.01). **Conclusion:** This study demonstrated that various sociodemographic and perioperative variables influenced postoperative thirst discomfort and general comfort levels in patients undergoing abdominal surgery. Cardiovascular and endocrine comorbidities, duration of surgery, and preoperative thirst stress level were significant predictors of thirst discomfort, while type of surgery and presence of constipation were identified as significant predictors of general comfort level.

Keywords: Postoperative thirst discomfort; general comfort; abdominal surgery; cross-sectional study

ÖZET Amaç: Bu çalışmanın amacı, abdominal cerrahi geçiren hastalarda ameliyat sonrası susuzluk rahatsızlığını ve genel konfor düzeylerini etkileyen faktörleri belirlemektir. **Gereç ve Yöntemler:** Çalışma kesitsel tipte olup, Eylül 2024-Ocak 2025 tarihleri arasında Dokuz Eylül Üniversitesi Genel Cerrahi Anabilim Dalı'nda abdominal cerrahi geçiren hastalar üzerinde yürütülmüştür. Çalışma grubunun belirlenmesinde amaçlı örnekleme yöntemi kullanılmış ve çalışmaya katılmayı kabul eden 150 hasta çalışmaya dâhil edilmiştir. Verilerin analizinde SPSS 29.0 programı kullanılarak tanımlayıcı istatistikler, t-testi, Mann-Whitney U testi, korelasyon ve doğrusal regresyon analizi kullanılmıştır. **Bulgular:** Hastaların %50'si kadın, %50.66'sı üst abdominal cerrahi geçirmişti. Cerrahi tipi, kardiyovasküler komorbidite, endokrin komorbidite, cerrahi dren varlığı, üriner katater varlığı ve konstipasyon varlığı Susuzluk Rahatsızlık Ölçeği'ni istatistiksel olarak anlamlı bir şekilde etkilemekteydi. Ameliyat süresi, ameliyat öncesi ağrı rahatsızlık düzeyi, ameliyat öncesi susuzluk rahatsızlık düzeyi, ameliyat sonrası ağrı rahatsızlık düzeyi ve ameliyat sonrası beslenme zamanı ile Susuzluk Rahatsızlık Ölçeği arasında istatistiksel olarak anlamlı ilişki vardı. Cerrahi tipi, kardiyovasküler komorbidite, endokrin komorbidite ve konstipasyon varlığı Genel Konfor Ölçeği'ni istatistiksel olarak anlamlı bir şekilde etkilemekteydi. Ameliyat süresi, ameliyat öncesi ağrı rahatsızlık düzeyi, ameliyat öncesi susuzluk rahatsızlık düzeyi, ameliyat sonrası ağrı rahatsızlık düzeyi ve ameliyat sonrası beslenme zamanı ile Genel Konfor Ölçeği arasında istatistiksel olarak anlamlı ilişki vardı. Kardiyovasküler komorbidite, endokrin komorbidite, ameliyat süresi ve ameliyat öncesi susuzluk stres düzeyi susuzluk rahatsızlığının yordayıcılarıydı (R^2=0.64; p<0.01). Cerrahi tipi ve konstipasyon varlığı da genel konforun yordayıcılarıydı (R^2=0.33; p<0.01). **Sonuç:** Bu çalışma, abdominal cerrahi geçiren hastalarda ameliyat sonrası susuzluk rahatsızlığının ve genel konfor düzeyinin birçok sosyodemografik ve perioperatif değişkenlerin etkilediğini gösterdi. Kardiyovasküler ve endokrin komorbiditeler, ameliyat süresi ve ameliyat öncesi susuzluk stres düzeyi Susuzluk Rahatsızlık Ölçeği'ni anlamlı bir şekilde yordarken; cerrahi tipi ve konstipasyon durumu genel konfor düzeyinin anlamlı yordayıcıları olarak belirlendi.

Anahtar Kelimeler: Ameliyat sonrası susuzluk rahatsızlığı; genel konfor; abdominal cerrahi; kesitsel çalışma

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Surgical patients are exposed to various physiological and psychosocial stress factors during the period of perioperative. Thirst, one of these factors is an important symptom that disturbs patients at different stages of the surgical process.[1] Thirst discomfort, which causes negative emotions in surgical patients, is a condition that negatively affects the general comfort level of patients and is generally not sufficiently considered in clinical practice.[2,3] Many studies in the literature indicate that dehydration negatively affects surgical patients, causing extreme discomfort and distress.[4-9] Nascimento et al. found that the prevalence of thirst was 59%.[4] In a study evaluating the severity and discomfort of perioperative thirst, 89.6% of patients reported thirst, 87.3% of thirsty patients reported dry mouth and desire to drink water, 79.1% reported dry lips, 43.4% reported thick tongue sensation, 56.5% reported thick saliva, 75.2% reported dry throat, and 63.2% reported a bad taste in the mouth.[5] Another study determined pre-and postoperative thirst in surgical patients moderately.[7,10] Thirst was affected by perioperative thirst duration, type of surgery, duration of surgery, type of anesthesia, duration of anesthesia, duration of fasting, duration of intubation, and duration of stay in postanesthetic care unit.[9]

Another factor that stresses patients after surgery is decreased comfort. Comfort, defined as the ease that facilitates daily life, in nursing encompasses the process of identifying the comfort needs of the patient, family, or community, taking measures to address these needs, and evaluating the baseline comfort level along with the comfort level after implementation.[11,12] Kolcaba's Comfort Theory emphasizes meeting patients' comfort needs in physical, psychospiritual, environmental, and sociocultural areas.[11,13,14] In studies, surgical interventions have a direct effect on patient comfort; type of surgery, anxiety, pain, past surgical history, gender affect comfort.[15-18] Gastrointestinal surgery causes extensive tissue damage in the abdominal region by changing the structure and physiological function of the gastrointestinal system and increasing the production of inflammatory mediators. This causes pain, energy, fatigue, sleep, mental health, physical/psychosocial dysfunction, and gastrointestinal symptoms.[19] Determining the factors affecting thirst discomfort and comfort levels, especially in patients undergoing abdominal surgery, is critical for improving patient care. This study aimed to determine the factors affecting postoperative thirst discomfort and overall comfort levels and to examine the relationship between these variables in patients undergoing abdominal surgery.

MATERIAL AND METHODS

TYPE OF RESEARCH

This research was conducted descriptive and cross-sectional study.

PLACE AND TIME OF THE STUDY

The study population was recruited by face-to-face interviews with patients who underwent abdominal surgery in the general surgery inpatient clinic of Dokuz Eylül University in İzmir province in western Türkiye between September 2024-January 2025.

SAMPLE OF THE STUDY

The sample included patients who underwent abdominal surgery. The required sample size was determined using G*Power power analysis. Based on Cohen's guidelines for effect size interpretation, a correlation coefficient of 0.30 was considered moderate, and the minimum sample size was calculated as 138.[20] Patients were eligible if they received general anesthesia, were over 18 years old, agreed to participate in the study, underwent elective abdominal surgery, and had at least 6-8 hours pass after surgery. Patients were excluded if they experienced severe postoperative complications such as bleeding, used diuretics, steroids, or opioid analgesics postoperatively, or had advanced chronic kidney failure, heart failure, diabetes mellitus, or malignant cancer. Participation in the study was voluntary. The sample included patients who underwent upper abdominal surgeries such as gastrectomy, cholecystectomy, and hepatectomy, as well as lower abdominal surgeries including colectomy, appendectomy, and hernia repair. Patients who refused to participate or did not complete all questionnaire forms were excluded. Ultimately, the study was conducted with 150 patients.

DATA COLLECTION TOOL

In collecting the data, the "Sociodemographic and perioperative variables characteristics form", "Thirst Discomfort Scale" and "Short General Comfort Questionnaire", which were created by the researchers by scanning the relevant literature, were used.

Sociodemographic and Perioperative Variables Characteristics Form: This form consists of 23 questions that are based on the literature and include sociodemographic and perioperative data related to the surgical procedure.[1,2,4,7,9,10,14,15,21] In addition to basic sociodemographic data such as the patient's age and sex, the form also includes clinical information such as the name of the surgery, its duration, and the patient's current comorbidities. The patient was also asked to rate their preoperative and postoperative pain discomfort level and preoperative thirst stress level on a scale of 0 to 10.[22] In addition, the parameters of the patient's medication at the beginning of the surgical process, the duration of fasting and the time to start feeding are included.

Thirst Discomfort Scale: This scale is a 12-item, 5-point Likert-type scale developed by Çiftçi et al. in 2023 to evaluate thirst-related discomfort in surgical patients. The scale has 3 sub-dimensions: "intraoral movements", "psychological movements", and "extraoral movements", and the possible scores are between 12-60.[3] As the score obtained from the scale increases, the thirst discomfort level of the patients increases. This study calculated the total Cronbach alpha coefficient of the Thirst Discomfort Scale as 0.92.

Short General Comfort Questionnaire: This form is a 28-item, 6-point Likert-type scale developed by Çıtlık Sarıtaş et al. in 2018 to measure the comfort levels of patients. The scale has 3 sub-dimensions: "relief", "ease", and "transcendence", and the possible scores are between 1-6.[23] A high score indicates a high level of comfort. This study calculated the total Cronbach alpha coefficient of the General Comfort Scale as 0.69.

STATISTICAL ANALYSIS

Data was analyzed using SPSS 29.0. Descriptive statistics were used to summarize the data, including numbers, percentages, means, and standard deviations. The t-test, Mann-Whitney U test, and correlation analysis were applied to examine the relationships between dependent variables and sociodemographic and perioperative variables. The strength of the correlations was interpreted as follows: 0.00=no correlation, 0.01-0.29=low, 0.30-0.70=moderate, 0.71-0.99=high, and 1.00=perfect correlation. Variables significantly influencing thirst discomfort and general comfort levels were analyzed using a multiple linear regression model. A Type 1 error rate of $p<0.05$ was considered statistically significant.

ETHICAL CONSIDERATIONS

Before collecting the data, the head of the general surgery department of the university hospital to which the patients included in the sample were affiliated gave written permission. Written approval was obtained from the Ethics Committee of Dokuz Eylül University to which the authors and the hospital were affiliated (date: August 28, 2024; no: 2024/28-26). Informed consent was obtained from all patients included in the study**.** The study was conducted in accordance with the principles of the Declaration of Helsinki.

RESULTS

Among the abdominal surgery patients included in the study, 50% were female. Fifty point sixty six percent of the patients had undergone upper abdominal surgery, 26.66% had cardiovascular comorbidities, and 13.33% had endocrine comorbidities. Additionally, 49.33% of the patients had surgical drains, 12.00% had urinary catheters, 16.00% had nausea and vomiting, and 18.00% had constipation (Table 1). Comparisons of these variables with the thirst distress and General Comfort Scales are presented in Table 1. Type of surgery ($p=0.026$), presence of cardiovascular comorbidity ($p<0.001$), endocrine comorbidity ($p=0.042$), presence of surgical drain ($p<0.001$), presence of urinary catheter ($p<0.001$) and presence of constipation ($p=0.008$) affected the Thirst Discomfort Scale statistically significantly. Gender and presence of nausea and vomiting were not variables that affected the Thirst Discomfort Scale statis-

TABLE 1: Comparison of sociodemographic and perioperative variables in relation to the Thirst Discomfort Scale and the short general comfort questionnaire (n=150)

				Thirst Discomfort Scale			Thirst Discomfort" Scale		
Variables		**n**	**%**	**Mean rank**	**Test statistics**	**p value***	**$\bar{X}$±SD**	**Test statistics**	**p value**
Sex	Female Male	75 75	50.00 50.00	74.13 75.18	U=2765.00	0.858	4.34±0.43 4.34±0.42	t=0.00	1.000
Surgical type	Upper abdominal surgery Lower abdominal surgery	76 74	50.66 49.34	67.73 83.48	U=2221.50	**0.026**	4.44±0.42 4.23±0.40	t=3.18	**<0.001**
Cardiovascular comorbidity	Yes No	40 110	26.66 73.34	109.69 63.07	U=881.00	**<0.001**	4.15±0.45 1.41±0.39	t=-3.14	**<0.001**
Endocrine comorbidity	Yes No	20 13	13.33 86.67	90.35 73.22	U=932.50	**0.042**	4.17±0.34 1.36±0.43	t=-2.19	**0.037**
Presence of a surgical drain	Yes No	74 76	49.33 50.67	86.38 64.91	U=2007.00	**<0.001**	4.27±0.40 4.40±0.44	t=-1.74	0.083
Presence of urinary catheter	Yes No	18 132	12.00 88.00	106.14 71.32	U=636.50	**<0.001**	4.24±0.47 4.35±0.40	t=-0.89	0.381
Presence of nausea and vomiting	Yes No	24 126	16.00 84.00	89.90 72.76	U=1166.50	0.076	4.27±0.49 4.35±0.41	t=-0.68	0.499
Presence of constipation	Yes No	27 123	18.00 82.00	95.72 71.06	U=1114.50	**0.008**	4.00±0.43 4.41±0.39	t=-4.53	**<0.001**

*p<0.05. SD: Standard deviation

tically significantly (p>0.05). Type of surgery (p<0.001), cardiovascular comorbidity (p<0.001), endocrine comorbidity (p=0.037) and presence of constipation (p<0.001) affected the General Comfort Scale statistically significantly. Gender, presence of surgical drain, urinary catheter and nausea and vomiting affected the General Comfort Scale statistically significantly (p>0.05) (Table 1).

The mean age of the patients was 59.12±14.95 years, and the mean length of surgery was 145.20±105.53 minutes. The preoperative fasting time was 26.90±11.10 hours. The mean preoperative pain distress score was 3.34±3.78, and the thirst stress score was 3.32±3.37. The postoperative pain distress score was 5.32±2.79, postoperative thirst discomfort level (0-10) was 5.25±2.63 and until postoperative feeding was 46.40±47.35 hours (Table 2). The correlations between these variables and the thirst distress and General Comfort Scales are presented in Table 2. There was a low-level significant correlation between the length of surgery (p<0.001) and the Thirst Discomfort Scale, a moderate-level significant correlation between the preoperative pain discomfort (p<0.001) and the Thirst Discomfort Scale; There was a high significant relationship between preoperative thirst stress level (p<0.001) and Thirst Discomfort Scale, a moderate relationship between postoperative pain discomfort (p<0.001) and Thirst Discomfort Scale, and a low significant relationship between postoperative feeding time (p<0.001) and Thirst Discomfort Scale. No significant relationship was found between age, preoperative fasting duration, and the Thirst Discomfort Scale (p>0.05). There was a low significant relationship between length of surgery (p=0.007) and General Comfort Scale, a moderately significant relationship between preoperative pain discomfort level (p<0.001) and General Comfort Scale, a moderately significant relationship between postoperative pain discomfort level (p<0.001) and General Comfort Scale, and a low significant relationship between postoperative feeding time (p<0.001) and General Comfort Scale. No significant relationship was found between age and preoperative fasting time and general comfort (p>0.05) (Table 2).

TABLE 2: Association between sociodemographic and perioperative variables, Thirst Discomfort Scale, and Short General Comfort Questionnaire (n=150)

				Thirst Discomfort Scale		Short General Comfort Questionnaire	
Variables	**n**	**%**	**X̄±SD**	**Test statistics**	**p value***	**Test statistics**	**p value**
Years	150	100.00	59.12±14.95	r=0.03	0.799	r=-0.13	0.113
Length of surgery (minutes)	150	100.00	145.20±105.53	r=0.30	**<0.001**	r=-0.14	**0.007**
Preoperative fasting time (hour)	150	100.00	26.90±11.10	r=0.13	0.137	r=-0,12	0.116
Preoperative pain discomfort level (0-10)	150	100.00	3.34±3.78	r=0.56	**<0.001**	r=-0.32	**<0.001**
Preoperative thirst stress level (0-10)	150	100.00	3.32±3.37	r=0.76	**<0.001**	r=-0.37	**<0.001**
Postoperative pain discomfort level (0-10)	150	100.00	5.32±2.79	r=0.54	**<0.001**	r=-0.35	**<0.001**
Postoperative thirst discomfort level (0-10)	150	100.00	5.25±2.63	r=0.59	**<0.001**	r=-0.38	**<0.001**
Postoperative feeding time (hour)	150	100.00	46.40±47.35	r=0.26	**<0.001**	r=-0.22	**<0.001**

*p<0.05. SD: Standard deviation

The mean total thirst distress score was 26.90±11.10. The subscale scores were 12.17±5.19 for intraoral movements, 8.40±4.02 for psychological movements, and 5.89±3.12 for extraoral movements. The overall general comfort score was 4.24±0.42. Subscale scores were 4.24±11.10 for relief, 4.64±0.56 for ease, and 4.15±0.52 for transcendence (Table 3).

According to predictive modeling, several variables significantly affected the Thirst Discomfort Scale. Cardiovascular comorbidities were identified as a significant negative predictor of the Thirst Discomfort Scale (p=0.011), while endocrine comorbidities significantly increased the Thirst Discomfort Scale (p<0.001). Preoperative thirst stress level (p<0.001) and length of surgery (p=0.041) were found to be predictors of Thirst Discomfort Scale. On the other hand, type of surgery, surgical drainage, presence of a urinary catheter, preoperative and postoperative pain discomfort level, and postoperative feeding time were not significant predictors (p>0.05). The regression model explained 64% of the variance in Thirst Discomfort Scale (R^2=0.64) (Table 4).

TABLE 3: Mean total and subscale scores of Thirst Discomfort Scale and Short General Comfort Questionnaire

Scales	**X̄±SD**
Thirst Discomfort Scale	26.90±11.10
Intraoral movements	12.17±5.19
Psychological movements	8.40±4.02
Extraoral movements	5.89±3.12
Short General Comfort Questionnaire	4.24±0.42
Relief	4.24±11.10
Ease	4.64±0.56
Transcendence	4.15±0.52

SD: Standard deviation

TABLE 4: Regression analysis of sociodemographic and perioperative variables in relation to the Thirst Discomfort Scale

	Thirst Discomfort Scale				
	B	**Sh.**	**β**	**t value**	**p value***
Constant	2.81	6.09	-	0.46	0.645
Surgical type	2.26	1.21	0.10	1.85	0.065
Cardiovascular comorbidity	-4.22	1.64	-0.16	-2.56	0.011
Endocrine comorbidity	7.03	1.91	0.21	3.67	<0.001
Presence of a surgical drain	-0.09	1.21	-0.00	-0.07	0.941
Presence of urinary catheter	2.14	1.92	0.06	1.11	0.267
Length of surgery (minutes)	0.01	0.00	0.14	2.06	0.041
Preoperative pain discomfort level (0-10)	0.08	0.20	0.03	0.42	0.670
Preoperative thirst stress level (0-10)	2.21	0.25	0.67	8.81	<0.001
Postoperative pain discomfort level (0-10)	0.37	0.25	0.09	1.43	0.153
Postoperative feeding time (hour)	-0.01	0.01	-0.07	-1.11	0.269
R	0.801				
R^2	0.642				
F	24.920				
p value	**<0.001**				
Durbin Watson	1.208				

*p<0.05

TABLE 5: Regression analysis of sociodemographic and perioperative variables in relation to the short general comfort questionnaire

	Short General Comfort Questionnaire				
	B	Sh.	β	t value	p value*
Constant	4.08	0.30	-	13.24	<0.001
Surgical type	-0.13	0.06	-0.15	-2.21	0.035
Cardiovascular comorbidity	0.09	0.08	0.10	1.14	0.254
Endocrine comorbidity	-0.07	0.10	-0.00	-0.06	0.946
Presence of constipation	0.33	0.08	0.30	4.12	<0.001
Length of surgery (minutes)	0.00	0.00	-0.02	-0.29	0.768
Preoperative pain discomfort level (0-10)	-0.06	0.01	-0.05	-0.54	0.587
Preoperative thirst stress level (0-10)	-0.01	0.01	-0.07	0.58	0.562
Postoperative pain discomfort level (0-10)	-0.02	0.01	-0.14	-1.62	0.107
Postoperative feeding time (hour)	0.00	0.00	-0.04	-0.45	0.647
Thirst Discomfort Scale	-0.00	0.00	-0.09	-0.83	0.407
R	0.575				
R^2	0.331				
F	6.875				
p value	**<0.001**				
Durbin Watson	1.638				

*p<0.05

Regarding general comfort, some variables were found to be significant predictors. The type of surgery had a negative effect on general comfort scores (p=0.035), while constipation had a significant positive effect (p<0.001). However, other factors, including cardiovascular and endocrine comorbidities, the length of surgery, the level of pre- and postoperative pain discomfort level, the preoperative thirst stress level, and the postoperative feeding time were not significantly associated with general comfort (p>0.05). The regression model explained 28% of the variance in general comfort scores (R^2=0.33) (Table 5).

DISCUSSION

This study aimed to evaluate the factors influencing postoperative thirst discomfort and general comfort levels in patients undergoing abdominal surgery. The findings indicate that multiple sociodemographic and perioperative variables significantly impact thirst discomfort and general comfort, highlighting the complex interplay between physiological, psychological, and procedural factors in surgical patient care.

The results demonstrate that thirst discomfort is a prevalent and significant issue among postoperative patients. The results show that thirst discomfort is an essential problem among postoperative patients. In this study, the mean total thirst discomfort score was 26.90±11.10, without categorizing the level due to the absence of predefined scale cutoffs. In another study, similar to our results, the thirst discomfort score was determined as moderate (7.3 on a scale of 0 to 14).[5] In another study of abdominal surgery patients, more than half reported moderate to severe dryness of the lips, tongue, palate, and throat, inadequate salivation, and a desire to drink water.[10] No significant difference was observed in thirst discomfort scores between male and female patients, indicating that gender does not play a determining role in the perception of thirst after surgery, contrary to Erturhan Türk and Erkan's study. However, patients undergoing upper abdominal surgery experienced higher thirst discomfort than those with lower abdominal surgery. This could be attributed to the more significant physiological stress and inflammatory response associated with upper abdominal surgery procedures, which may lead to increased metabolic demands and fluid shifts that exacerbate thirst symptoms.[1,5] Interestingly, cardiovascular comorbidities were associated with lower thirst discomfort scores, which may be explained by altered autonomic regulation of fluid balance or differential perioperative hydration management.[6] In contrast, endocrine comorbidities significantly increased thirst discomfort, suggesting that metabolic and hormonal factors contribute to thirst perception.[8] Additionally, while a surgical drain or a urinary catheter did not significantly impact thirst discomfort, patients experiencing constipation exhibited lower thirst discomfort scores. This finding could indicate an altered perception of discomfort due to systemic physiological responses, potentially linked to fluid retention and electrolyte balance changes in constipated patients.[7] In this study, increasing length of surgery significantly predicted increased thirst discomfort, supporting previous findings that long surgical procedures intensify fluid losses, delay hydration and increase metabolic stress.[9] Additionally, preoperative pain discomfort levels and preoperative thirst stress levels were all positively

correlated with postoperative thirst discomfort, underscoring the necessity of effective perioperative symptom management. Similarly, postoperative pain was strongly associated with increased thirst discomfort, suggesting a bidirectional relationship between pain and hydration-related distress. Delayed postoperative feeding time was also linked to increased thirst discomfort, highlighting the importance of early oral intake in mitigating excessive thirst.[3] Thirst discomfort varies according to patient groups and characteristics.

In this study, it was determined that the patients had a mean general comfort score of 4.24±0.42. In another study, the mean early comfort scale score for general surgery patients was reported to be 4.96±0.49 (1-6).[15] Similarly, in another study conducted on general surgery patients, the general comfort level was reported to be moderate.[18] The study found that gender did not significantly affect the general comfort level. This finding suggests that the perception of comfort is affected by factors such as individual pain tolerance, psychosocial support, and quality of care rather than biological factors.[15,16] It was found that the general comfort levels of patients who underwent upper abdominal surgery were lower than those who underwent lower abdominal surgery. Since the upper gastrointestinal system is responsible for functions such as eating and swallowing, this group of patients was considered riskier in terms of postoperative comfort. It is stated in the literature that upper abdominal surgeries cause more discomfort in the postoperative period and complicated the general recovery process.[3,17] Constipation has been found to have a significant adverse effect on general comfort. Constipation in the postoperative period can negatively affect patient comfort by increasing abdominal distension, pain, and general discomfort. It is also emphasized in the literature that constipation is a factor that reduces patient satisfaction and comfort level.[18,24,25] Therefore, preventing and managing constipation should be considered an important intervention area to increase general comfort. When the effects of other perioperative and postoperative variables on general comfort were examined, it was found that factors such as surgery duration, preoperative and postoperative pain, thirst discomfort, and delayed feeding did not significantly affect general comfort. However, it is thought that comfort cannot be explained only by physiological discomfort but is affected by more subjective and multidimensional factors such as anxiety, movement restriction, and environmental factors. Kolcaba's Comfort Theory also supports these findings and emphasizes that patient comfort is a broad concept that includes physical, psychospiritual, sociocultural, and environmental dimensions.[13,14]

The findings of this study underscore the need for targeted interventions to manage postoperative thirst discomfort and enhance general comfort in surgical patients. Preoperative assessment of pain, thirst discomfort, and stress levels can help identify high-risk patients who may benefit from early hydration strategies and stress-reduction interventions. Optimizing intraoperative fluid management and implementing early postoperative feeding protocols may help mitigate excessive thirst discomfort.

Given the impact of constipation on both thirst discomfort and general comfort, proactive management strategies, such as early mobilization, adequate hydration, and bowel regulation protocols, should be integrated into postoperative care plans. Furthermore, surgical teams should consider the differential impact of various surgical procedures on patient comfort, tailoring perioperative care accordingly to enhance patient outcomes.

This study has certain limitations. First, the cross-sectional design limits the ability to establish causal relationships between the identified factors and thirst discomfort or general comfort. Longitudinal studies tracking changes in thirst discomfort and comfort over time could provide deeper insight into the progression and persistence of these symptoms. Second, the study was conducted in a single institution, which may limit the generalizability of the findings. Future studies with more extensive, multicenter samples must validate these results across diverse patient populations. Additionally, incorporating qualitative methods could provide a more comprehensive understanding of patients' subjective experiences of thirst, discomfort, and comfort.

CONCLUSION

This study showed that various sociodemographic and perioperative factors affect postoperative thirst discomfort and general comfort in abdominal surgery patients. Thirst discomfort is affected by surgery type, cardiovascular comorbidity, endocrine comorbidity, surgical drain, urinary catheter, and constipation status. There is also a relationship between surgery duration, perioperative pain level, thirst stress, feeding time, and thirst discomfort. Cardiovascular comorbidity, endocrine comorbidity, surgery duration, and thirst stress are essential predictors of postoperative thirst discomfort. The General Comfort Scale is affected by surgery type, cardiovascular comorbidity, endocrine comorbidity, and constipation status. There is a relationship between surgery duration, perioperative pain level, thirst stress, feeding time, and general comfort. Surgery type and constipation status are predictors of general comfort. These findings emphasize the importance of comprehensive perioperative assessment and individualized nursing interventions to address thirst and comfort needs. Strategies such as early identification of at-risk patients, optimization of hydration and pain management, early postoperative feeding, and proactive prevention of constipation may improve symptom relief and patient comfort in the postoperative period.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

REFERENCES

1. Nascimento LAD, Garcia AKA, Conchon MF, Aroni P, Pierotti I, Martins PR, et al. Advances in the management of perioperative patients' thirst. AORN J. 2020;111(2):165-79. PMID: 31997333.
2. Arslankılıç Ç, Göl E. Kolcaba'nın konfor kuramının cerrahi operasyon geçiren hastalarda kullanımı: sistematik derleme [The use of Kolcaba's comfort theory in patients undergoing surgical operation: a systematic review]. Türkiye Sağlık Bilimleri ve Araştırmaları Dergisi. 2020;3(1):34-44. https://dergipark.org.tr/tr/pub/tusbad/issue/56037/734313
3. Çiftçi B, Yıldız GN, Avşar G, Köse S, Aydın E, Doğan S, et al. Development of the Thirst Discomfort Scale: a validity and reliability study. Am J Crit Care. 2023;32(3):176-83. PMID: 37121897.
4. Nascimento LAD, Nakaya TG, Conchon MF, Garcia AKA, Pierotti I, Serato VM, et al. Prevalence, intensity and discomfort of thirst in surgical patients in the immediate post-operative period [Prevalência, intensidade e desconforto da sede no paciente cirúrgico no pós-operatório imediato]. Rev SOBECC. 2019;24(2):85-90. https://doi.org/10.5327/Z1414-4425201900020006
5. Pierotti I, Fracarolli IFL, Fonseca LF, Aroni P. Evaluation of the intensity and discomfort of perioperative thirst. Esc Anna Nery. 2018;22(3). doi: 10.1590/2177-9465-EAN-2017-0375
6. Serato VM, Fonseca LF, Birolim MM, Rossetto EG, Mai LD, Garcia AKA. Package of menthol measures for thirst relief: a randomized clinical study. Rev Bras Enferm. 2019;72(3):600-8. English, Portuguese. PMID: 31269122.
7. Rızalar S, Aydemir A, Yıldızeli Topçu S. Cerrahi hastalarının ameliyat öncesi ve sonrasında açlık ve susuzluk düzeylerinin incelenmesi [Investigation of fasting and thirst levels of surgical patients in preoperative and postoperative periods]. Sağlık ve Yaşam Bilimleri Dergisi. 2019;1(2):32-6. doi:10.33308/2687248X.201912153
8. Xue Y, Wang Q, Zhao H, Pan R, Xia Y, Wang H, et al. The efficacy and safety of modified ultraearly oral hydration for alleviating thirst in patients after thoracoscopic surgery: a prospective randomized controlled trial. BMC Anesthesiol. 2024;24(1):105. PMID: 38504189; PMCID: PMC10949755.
9. Seyhan Ak E, Türkmen A, Sinmaz T, Biçer ÖS. Evaluation of thirst in the early postoperative period in patients undergoing orthopedic surgery. J Perianesth Nurs. 2023;38(3):448-53. PMID: 36586782.
10. Erturhan Türk K, Erkan S. Abdominal cerrahi geçiren hastalarda susama semptomları ve etkileyen faktörlerin belirlenmesi [Determination of thirst symptoms and related factors in patients undergoing abdominal surgery]. Mersin Üniversitesi Sağlık Bilimleri Dergisi. 2024;17(3):445-55. doi:10.26559/mersinsbd.1462775
11. Kolcaba KY. A theory of holistic comfort for nursing. J Adv Nurs. 1994;19(6):1178-84. PMID: 7930099.
12. Çınar Yücel Ş. Kolcaba'nın Konfor Kuramı [Kolcaba's Comfort Theory]. Ege University Faculty of Nursing Journal. 2011;27(2):79-88. https://dergipark.org.tr/tr/download/article-file/825497
13. Arslankılıç Ç, Göl E. Kolcaba'nın Konfor kuramının cerrahi operasyon geçiren hastalarda kullanımı: sistematik derleme [The use of Kolcaba's comfort theory in patients undergoing surgical operation: a systematic review]. Türkiye Sağlık Bilimleri ve Araştırmaları Dergisi. 2020;3(1):34-44. https://dergipark.org.tr/tr/download/article-file/1202153
14. Kubat Bakır G, Yurt S. Cerrahi operasyon geçiren hastaların konfor düzeyinin değerlendirilmesi [Evaluation of the comfort level of the post-surgical patients]. Toplum ve Sağlık. 2020;20(3):158-65. https://ssyv.org.tr/wp-content/uploads/2020/12/18-Cerrahi-Operasyon-Geciren-Hastalarin-Konfor-Duzeyinin-Degerlendirilmesi.pdf

15. Aydıngülü N, Arslan S. Cerrahi geçiren hastaların erken dönem konfor düzeyleri [Comfort levels of patients at early postoperative period]. KSÜ Tıp Fak Der. 2021;16(3):401-6. doi:10.17517/ksutfd.811420

16. Büyükünal Şahin P, Rızalar S. Ameliyat geçiren hastalarda konfor düzeyi ve etkileyen faktörlerin incelenmesi [Perianesthesia comfort levels of the patients undergone operation and it's affecting factors]. HSP. 2018;5(3):404-13. doi:10.17681/hsp.395018

17. Çetinkaya F, Torcu B. Genel cerrahi kliniğindeki hastaların ameliyat sonrası konfor ve anksiyete düzeylerinin değerlendirilmesi [Evaluation of postoperative comfort and anxiety levels of patients in the general surgery clinic]. Hemşirelik Bilimi Dergisi. 2024;7(3):320-8. doi:10.54189/hbd.1425547

18. Tosun H, Ödül Özkaya B, Uz F, Gül A. Cerrahi girişim uygulanan hastalarda ağrı ve konfor ilişkisi [The relationship between pain and comfort in patients with surgical interference]. Online Türk Sağlık Bilimleri Dergisi. 2022;7(1):47-52. doi: 10.26453/otjhs.988106

19. Çiftçi H, Korkut S. Comfort after abdominal surgery: systematic review. Göbeklitepe Medical Science Journal. 2024;7(15). doi: 10.55433/gsbd.256

20. Cohen J. The effect size. Statistical Power Analysis for the Behavioral Sciences. 2nd ed. New York: Lawrence Erlbaum Associates, Publishers; 1988. p.77-83.

21. Lin R, Li H, Chen L, He J. Prevalence of and risk factors for thirst in the intensive care unit: an observational study. J Clin Nurs. 2023;32(3-4):465-76. PMID: 35199411; PMCID: PMC10078651.

22. Taherdoost H. What is the best response scale for survey and questionnaire design: review of different lengths of rating scale/attitude scale/Likert scale. Int J Acad Res Manag. 2019;8(1):1-10. Available from: https://hal.science/hal-02557308

23. Çıtlık Sarıtaş C, Çevik Aktura S, Özden G. Genel Konfor Ölçeği kısa formunun Türkçe geçerlik ve güvenirlik çalışması . Diyabet, Obezite ve Hipertansiyonda Hemşirelik Forumu Dergisi. 2018;10(2):16-22. https://www.researchgate.net/publication/336717805_Genel_Konfor_Olcegi_Kisa_Formunun_Turkce_Gecerlik_ve_Guvenirlik_Calismasi

24. Celik B, Bilik Ö. Postoperative constipation incidence and effects of selected risk factors on constipation development in elderly patients with hip fracture. Orthop Nurs. 2022;41(6):397-405. PMID: 36413664.

25. Soysal GE, Çelebi E. The effect of postoperative pain on comfort in patients undergoing abdominal surgery: the effect of postoperative pain on patient comfort. J Surg Med. 2024;8(6):99-10. https://jsurgmed.com/article/view/7774