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Surgical Patients' Knowledge and Practices Regarding Non-Pharmacological Methods Used in Symptom Management

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ABSTRACT

Objective: This study aimed to determine the knowledge and practices of surgical patients regarding non-pharmacological methods used in symptom management.
Methods: This descriptive study was conducted with 172 patients hospitalised in the surgical clinics of a hospital in Mardin province of Türkiye. Data were collected face-to-face between the dates November 2022 and February 2023 with a patient characteristics form and questions about complementary and alternative therapies.
Results: It was determined that 64% of the patients were aware of spiritual therapy practices, and 45.3% of them always used these practices. Massage (54.1%), hot application (50.1%), and spiritual therapy (52.3%) were used to reduce pain; spiritual therapy (44.8%) was used to relieve fatigue and weakness; herbal treatment (16.3%) and spiritual therapy (20.3%) were used to relieve nausea and vomiting; spiritual therapy (57.0%) was used to reduce anxiety, fear, and stress; and spiritual therapy (30.9%) was used to relieve depressive mood.
Conclusion: It was found that the majority of the patients participating in the study knew non-pharmacological methods such as massage, hot-cold application and spiritual therapy, and nearly half of them believed in the effectiveness of these methods and preferred spiritual methods most frequently.
Keywords: Complementary therapies, nursing, patients.

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Introduction

Surgical treatment is a widely used method for diagnosis, treatment or symptom relief. Although the diseases are treated surgically, preoperative symptoms such as anxiety, pain, nausea and vomiting impair patients' quality of life (Bulut & Çilingir, 2020; Karaman Özlü et al., 2022). Effective management of symptoms experienced in the preoperative period provides faster recovery and a reduction of symptoms in the postoperative period (Karaman Özlü et al., 2022). In addition to pharmacological methods, non-pharmacological methods can also be applied to relieve these symptoms (Uraz & Günay, 2020). In many studies, it has been reported that non-pharmacological methods have positive results in reducing symptoms in the preoperative period (Schiff et al., 2019). It has been reported that the use of non-pharmacological methods has increased significantly in the last three decades due to their effectiveness in relieving various symptoms with minimal side effects (Kallush et al., 2018; Lopes-Júnior et al., 2020).

Non-pharmacological methods are attractive to patients for several reasons. Firstly, these approaches can empower patients by fostering a greater sense of control over their bodies and health. Secondly, they present viable therapeutic alternatives when conventional non-pharmacological interventions prove ineffective in symptom management. Lastly, they appeal particularly to patients who prefer to avoid conventional medical and surgical treatments (Deutsch et al., 2020). However, some patients are skeptical about the use of non-pharmacological methods in the preoperative period because they are unsure of their efficacy (Kallush et al., 2018). As a matter of fact, Demiraltı determined in his study that 72% of patients did not use non-pharmacological pain relief methods before total knee replacement surgery (Demiraltı, 2023).

Non-pharmacological methods include techniques that aim to prevent, promote, treat, and heal to integrate the physical, mental, and spiritual dimensions of human beings. They are primarily categorized into three main types: using natural products, practicing mind and body techniques, and engaging in body-based manipulations (Lopes-Júnior et al., 2020). The use of natural products includes traditional herbal methods, diet, vitamin and mineral supplements, and aromatherapy. Body and mind practices can be listed as meditation, yoga, music therapy, or spiritual therapy. Body-based manipulation practices include massage, acupuncture, acupressure, and reflexology (Karakuş Selçuk & Şen, 2021). Patients usually use one or more of the methods that they think are most suitable for them as a result of symptoms such as pain, gastrointestinal system symptoms (nausea, vomiting, constipation, etc.), fatigue, anxiety, and edema.

To evaluate the patient holistically in the preoperative period, nurses should ask patients about their knowledge and practices regarding the methods they use. Knowing the side effects of the method that patients think is effective and feel safe will prevent patients from performing applications that will cause negative consequences. In addition, it will facilitate the determination of the non-pharmacological method to be used in addition to drug treatments in the symptom management of patients. Within the scope of contemporary nursing, there is an increasing emphasis on the effective use of non-pharmacological methods to improve patient care outcomes and increase treatment efficacy (Okut et al., 2022). While the literature extensively supports the benefits of these approaches, there appears to be a significant gap in understanding patients' knowledge and practice of non-pharmacological methods in symptom management. This study aims to address this gap by identifying current patient practices and thus inform targeted nursing education to correct misconceptions and reinforce beneficial behaviours. Thus, by exploring this under-researched area, our findings will significantly contribute to evidence-based nursing care and empower patients to actively participate in symptom management and recovery through non-drug methods.

This study aimed to determine the knowledge and practices of surgical patients regarding non-pharmacologic methods used in symptom management.

Research questions

Q_1: What is the level of knowledge of surgical patients about the non-pharmacologic methods they use in symptom management?

Q_2: How often do surgical patients use non-pharmacological methods for symptom management?

Q_3: For which symptoms do surgical patients use non-pharmacological methods?

Methods

Research Type

This study was carried out using a descriptive design.

The Population/Sample of the Research

The population of the study consisted of 10,000 adult patients (the annual average number of patients hospitalized in the clinics where the study was conducted)

in a training and research hospital and a state hospital. The sample was calculated as at least 162 patients with a 5% margin of error and 80% power using the Open Epi (https://www.openepi.com/SampleSize/SSPropor.htm) online program. Day surgery patients and patients who developed complications were not included in the study. The study was completed with 172 patients who met the inclusion criteria and volunteered to participate in it.

Data Collection

The data were collected by the researchers through face-to-face interviews in the rooms of patients in the surgical clinics of the hospitals where the study was conducted between November 2022 and February 2023. The average time to complete the forms was 30 minutes.

Data Collection Tools

The data were collected using the Descriptive Characteristics Form and the Questionnaire on Non-Pharmacological Methods.

Descriptive *Characteristics Form:* In this form, which was created by the researchers by reviewing the literature, there are 14 questions about demographic data (age, gender, marital status, educational status, income level, occupation, etc.) and non-pharmacological methods they use in symptom management (sources of information about these methods, their belief in the effectiveness of these methods).

Questionnaire on Non-pharmacological Methods: In this form, which was created by the researchers by reviewing the literature, there are 51 questions about the patients' knowledge of non-pharmacological methods used in symptom management, the frequency of application, and the symptoms in which they are used (Genç et al., 2024; Tanrıverdi & Kılıç, 2023).

Data Analysis

Statistical analysis of the data was performed using the Statistical Package for Social Sciences (IBM SPSS Corp., Armonk, NY, USA) 26.0 package program. Mean, standard deviation, number and percentage distributions were calculated in the analysis of the study data.

Ethical Considerations

Ethical approval (Decision Number 2022/12-16, Date: 13.10.2022) was granted by the Research Ethics Committee of Mardin Artuklu University to conduct the study. In addition, clinical study permission was obtained from the Provincial Directorate of Health of the Governorship of Mardin (Decision NumberE-37201737-949, Date: 25.11.2021). During the data collection process, patients who volunteered to participate in the study were informed about the research and their written informed consent was obtained. In addition, this study was conducted in accordance with the Principles of the Declaration of Helsinki.

Results

It was detected that the average age of the patients participating in the study was 46.9±19.7, 51.2% were women, 70.9% were single, 50.6% were elementary school graduates, 63.4% had income equal to their expenses, 37.2% lived in the county, and 64.5% were not working. It was determined that 62.8 of the patients did not smoke, 97.7% did not drink alcohol, 69.2% did not ha a chronic disease, and 35.8% had Diabetes Mellitus. It was determined that 38.4% of the patients were hospitalized in the general surgery clinic, 53.5% had surgery before, 30.8% were previously hospitalized in the general surgery clinic, 34.3% received information regarding the non-pharmacological methods from their environment-family, and 49.4% believed the effectiveness of non-pharmacological methods (Table 1).

Table 1.
Descriptive Characteristics of Patients (n=172)

Descriptive characteristics	Min-max	Mean±SD
Age	18-97	46.9 ± 19.7
	n	%
Gender		
Female	88	51.2
Male	84	48.8
Marital status		
Married	50	29.1
Single	122	70.9
Educational status		
Literate	2	1.2
Elementary school	87	50.6
High school	51	29.7
University or more	32	18.5
Income level		
Income more than the expense	9	5.2
Income equals expenses	109	63.4
Income less than the expense	54	31.4
Residency		
Province	63	36.6
County	64	37.2
Village	45	26.2
Working status		
Working	61	35.5
Not working	111	64.5
Smoking status		
Yes	64	37.2
No	108	62.8

Alcohol use status		
Yes	4	2.3
No	168	97.7
Presence of chronic disease		
Yes	53	30.8
No	119	69.2
Type to chronic disease (n=53)*		
Diabetes Mellitus	19	35.8
Hypertension	15	28.3
Diabetes Mellitus+ hypertension	7	13.2
COPD or asthma	10	18.9
Thyroid diseases	2	3.8
Clinic where surgery was performed		
General surgery	66	38.4
Neurosurgery	22	12.8
Orthopedics	30	17.4
Ear, nose, throat	19	11.5
Urology	35	20.3
Surgery experience		
Yes	92	53.5
No	80	46.5
Previous surgery type		
None	80	46.5
General surgery	53	30.8
Neurosurgery	11	6.4
Orthopedics	13	7.6
Ear, nose, throat	8	4.7
Urology	7	4.1
Sources of information about non-pharmacological methods		
None	6	3.5
In-service training program	3	1.7
Congress, seminar, symposium	2	1.2
Television-radio, newspaper-magazine	49	28.5
Internet	53	30.8
Environment-family	59	34.3
Belief in the effectiveness of the non-pharmacological methods		
Definitely yes	85	49.4
Definitely no	5	2.9
I partially agree	42	24.4
No idea	40	23.3

It was found that 64.5% of the patients did not know relaxation exercises, 96.5% reflexology, 90.1% acupuncture, 100.0% acupressure, 94.2% therapeutic touch, 93.6% art therapy, 87.2% aromatherapy, and 74.4% yoga. It was determined that 62.2% of the patients knew massage, 59.3% hot application, 58.1% cold application, and 64.0% spiritual therapy practices (Table 2).

Table 2.
Patients' Knowledge About Non-Pharmacological Methods (n=172)

Non-pharmacological methods	I know		I partially know		I don't know	
	n	%	n	%	n	%
Relaxation exercises	24	14.0	23	13.4	125	72.7
Reflexology	2	1.2	4	2.3	166	96.5
Acupuncture	6	3.5	11	6.4	155	90.1
Acupressure	-	-	-	-	172	100.0
Therapeutic touch	2	1.2	8	4.7	162	94.2
Herbal treatment	72	41.9	49	28.5	51	29.7
Music	13	7.6	28	16.3	131	76.2
Massage	107	62.2	18	10.5	47	27.3
Hot application	102	59.3	19	11.0	51	29.7
Cold application	100	58.1	20	11.6	52	30.2
Art therapy	3	1.7	8	4.7	161	93.6
Spiritual therapy	110	64.0	10	5.8	52	30.2
Aromatherapy	7	4.1	15	8.7	150	87.2
Cupping	75	43.6	14	8.1	83	48.3
Leech therapy	45	26.2	19	11.0	108	62.8
Vacuum treatment	42	24.4	15	8.7	115	66.9
Yoga	16	9.3	28	16.3	128	74.4

*More than one answer was given

It was determined that 98.3% of the patients never used reflexology, 98.8% acupuncture, 100.0% acupressure, 97.1% therapeutic touch, 99.4% art therapy, 98.8% aromatherapy, 99.4% leech therapy, and 98.8% yoga. It was found that 45.3% of the patients always used spiritual therapy practices (Table 3).

Discussion

As a result of this study conducted to determine the knowledge and practices of non-pharmacological methods used by surgical patients in symptom management, it was determined that approximately half of the patients believed that non-pharmacological methods were effective (Table 1). In addition, it was determined that most of the patients knew massage, hot-cold application, and spiritual therapy as non-pharmacological methods (Table 2). Öztürk Birge and Mollaoğlu found that most of the patients hospitalized in internal and surgical clinics used non-pharmacological methods and believed in the effectiveness of the methods (Öztürk Birge & Mollaoğlu

2018), and Dedeli and Karadakovan found that most of the participants used non-pharmacological methods and used these methods to be healthy in their study with elderly individuals (Dedeli & Karadakovan, 2011). In addition, it has been determined that surgical patients (Wang et al., 2003), patients diagnosed with cardiovascular disease (Uçar & Canbolat, 2021) and breast cancer patients use at least one complementary method (Can et al., 2012; Gül et al., 2014; Yeşil et al., 2018). Research findings support literature. This situation shows that patients in different diagnostic groups prefer non-pharmacological methods similarly. Our study supports the idea that the use of non-pharmacological methods is a common tendency regardless of the type of disease.

It was determined that approximately half of the patients participating in the study always used spiritual therapy. It was determined that the patients used hot-cold applications, massage, and herbal treatments when necessary (Table 3). When the literature is examined, it is seen that the most frequently used non-pharmacological method by patients in studies conducted with different patient groups is prayer (Sayılan & Topçu, 2020; Can et al., 2012; Gül et al., 2014; Yeşil et al., 2018; Uçar & Canbolat, 2021; Wang et al., 2003). In contrast, James et al. reported that the most frequently used non-pharmacological methods in Sub-Saharan Africa are herbal treatments and prayer (James et al., 2018). While Öztürk Birge and Mollaoğlu reported that the most frequently used methods by patients in internal and surgical clinics were hot-cold application and massage (Öztürk Birge & Mollaoğlu, 2018), Kurt et al. reported that the most frequently used method by breast cancer patients was herbal treatment (Kurt et al., 2013). Aktaş and Kıyak also determined that most patients with irritable bowel syndrome who used non-drug methods preferred herbal treatments. They determined that patients used massage, exercise, and hot applications in small amounts (Aktaş & Kıyak, 2020). Karadağ Arlı, in her study with postoperative patients, determined that only a small percentage of patients used prayer, while the majority used more than one non-pharmacological method together (massage, music, prayer, deep breathing, etc.) (Karadag Arli, 2023). The fact that the most frequently used non-pharmacological method by the patients in our study was spiritual therapy is like this tendency observed in different patient groups. However, the fact that herbal treatment, massage, and hot-cold applications were more commonly preferred in some studies suggests that cultural differences, type of disease, and individual belief systems may be effective in method selection.

Table 3.
Frequency of Patients' Use of Non Pharmacological Methods (n=172)

Non-pharmacological methods	Always		When it is necessary		Sometimes		Rarely		Never	
	n	%	n	%	n	%	n	%	n	%
Relaxation exercises	4	2.3	12	7.0	10	5.8	13	7.6	133	77.3
Reflexology	-	-	1	0.6	-	-	2	1.2	169	98.3
Acupuncture	-	-	1	0.6	-	-	1	0.6	170	98.8
Acupressure	-	-	-	-	-	-	-	-	172	100.0
Therapeutic touch	-	-	-	-	-	-	5	2.9	167	97.1
Herbal treatment	8	4.7	35	20.3	18	10.5	29	16.9	82	47.7
Music	6	3.5	6	3.5	3	1.7	3	1.7	154	89.5
Massage	4	2.3	38	22.1	21	12.2	32	18.6	77	44.8
Hot application	2	1.2	43	25.0	21	12.2	24	14.0	82	47.7
Cold application	1	0.6	38	22.1	25	14.5	19	11.0	89	51.7
Art therapy	1	0.6	-	-	-	-	-	-	171	99.4
Spiritual therapy	78	45.3	21	12.2	6	3.5	4	2.3	63	36.6
Aromatherapy	-	-	-	-	1	0.6	1	0.6	170	98.8
Cupping	1	0.6	3	1.7	1	0.6	8	4.7	159	92.4
Leech therapy	-	-	-	-	-	-	3	1.7	169	98.3
Vacuum treatment	-	-	1	0.6	-	-	2	1.2	169	98.3
Yoga	-	-	1	0.6	-	-	1	0.6	170	98.8

It was determined that patients used massage, hot application, and spiritual therapy for pain management; spiritual therapy to relieve weakness and fatigue; herbal treatment and spiritual therapy to relieve nausea and vomiting; and spiritual therapy to reduce anxiety, fear, stress, and depressive mood (Table 4).

Table 4.
The Most Commonly Used Non-Drug Methods for Common Postoperative Symptoms (n=172)

Non-pharmacological methods	Pain		Weakness-fatigue		Nausea-vomiting		Lack of appetite		Constipation		Diarrhea		inability to urinate		cough-difficulty breathing		Bleeding		Edema		Anxiety, fear, stress		Depressed mood	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Relaxation exercises	26	15.2	20	11.6	5	2.9	-	-	-	-	-	-	-	-	-	-	-	-	5	2.9	22	12.8	6	3.5
Reflexology	3	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acupuncture	2	1.2	2	1.2	1	0.6	-	-	-	-	-	-	-	-	-	-	-	-	1	0.6	2	1.2	-	-
Acupressure	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Therapeutic touch	5	2.9	2	1.2	2	1.2	-	-	-	-	-	-	-	-	-	-	-	-	1	0.6	2	1.2	-	-
Herbal treatment	66	38.4	54	31.4	28	16.3	4	2.3	3	1.7	-	-	-	-	27	15.7	-	-	24	14.0	50	29.1	6	3.5
Music	10	5.8	10	5.8	6	3.5	2	1.2	-	-	-	-	-	-	-	-	-	-	-	-	22	12.8	11	6.4
Massage	93	54.1	62	36.1	15	8.7	7	4.1	-	-	-	-	-	-	5	2.9	-	-	12	7.0	25	14.5	8	4.7
Hot application	87	50.1	41	23.9	7	4.1	1	0.6	-	-	-	-	-	-	21	12.2	-	-	3	1.7	8	4.7	2	1.2
Cold application	75	43.6	32	18.6	3	1.7	2	1.2	-	-	-	-	-	-	4	2.3	2	1.2	3	1.7	2	1.2	3	1.7
Art therapy	1	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiritual therapy	90	52.3	77	44.8	35	20.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	57.0	53	30.9
Aromatherapy	2	1.2	2	1.2	1	0.6	1	0.6	-	-	-	-	-	-	-	-	-	-	1	0.6	2	1.2	1	0.6
Cupping	13	7.6	5	2.9	1	0.6	-	-	-	-	-	-	-	-	-	-	-	-	1	0.6	2	1.2	-	-
Leech therapy	3	1.7	-	-	-	-	-	-	-	-	-	-	-	-	1	0.6	-	-	-	-	-	-	-	-
Vacuum treatment	3	1.7	2	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yoga	2	1.2	2	1.2	1	0.6	1	0.6	-	-	-	-	-	-	-	-	-	-	1	0.6	2	1.2	1	0.6

When the literature was examined, it was determined that patients with stone disease used healing water and mind-body applications to reduce pain (Akpınar et al., 2024), and patients with irritable bowel syndrome used herbal treatments to reduce pain and stress (Aktaş & Kıyak, 2020). It was determined that patients in the postoperative period also generally used multiple methods to reduce pain (Karadag Arli, 2023). In our study, the preferences of patients for psychological and psychological collection, especially spiritual therapy, are similar to the symptom selection method selection seen in different patient groups. However, the fact that herbal treatment, water healing or multiple methods are more prominent in some patient groups suggests that the type of symptoms, the process of individuals, personal experiences and cultural beliefs may change the method choice.

Study limitations

This study was conducted only with patients in training and research hospital and a state hospitalin southeastern Türkiye; thus, the results cannot be generalized to the entire society. The present results may serve as a source for future research conducted with patients of different cultural backgrounds.

Conclusion and Recommendations

This study was conducted to determine the knowledge and practices of surgical patients regarding non-pharmacological methods used in symptom management. It was found that the majority of the patients who participated in the study were familiar with non-pharmacological methods such as massage, hot-cold application, and spiritual therapy, and nearly half of them believed in the effectiveness of these methods and most frequently preferred spiritual methods. It was found that patients mostly used massage, hot application, and spiritual therapy for pain; spiritual therapy for weakness and fatigue; herbal and spiritual therapy for nausea and vomiting; and spiritual therapy for anxiety, fear, stress, and depressive mood. More research should be conducted on the different types of spiritual therapy and their effectiveness. Nurses should provide counseling and support to patients about the use of non-pharmacological methods. Further studies should be conducted to obtain strong evidence on the efficacy and safety of non-pharmacologic methods in the symptom management of surgical patients.

Ethics Committee Approval: The research was carried out with the approval of the ethics committee of Mardin Artuklu University Health Sciences Scientific Research and Publication Ethics Committee (Decision no: 2022/12-16, Date: 13.10.2022).
Informed Consent: Consent was obtained from the patients participating in the study.
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