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Araştırma Makalesi– Research Paper

THE ENHANCED RECOVERY AFTER SURGERY PROTOCOL IMPLEMENTATION STATUS OF THE HEALTH STAFF WORKING IN THE GYNECOLOGY-OBSTETRIC CLINICS

KADIN DOĞUM KLİNİĞİNDE ÇALIŞAN SAĞLIK PERSONELLERİNİN CERRAHİ SONRASI HIZLANDIRILMIŞ İYİLEŞME PROTOKOLLERİNİ UYGULAMA DURUMU

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Özet

Bu çalışma, kadın doğum kliniğinde çalışan sağlık personellerinin ERAS protokollerini ameliyat öncesi ve sonrası süreçte uygulama durumlarını belirlemek amacıyla yapılmıştır. Tanımlayıcı tipte olan bu çalışma Aralık 2020-Ocak 2021 tarihleri arasında, iki üniversite hastanesinde kadın doğum kliniğinde çalışan 151 sağlık personeline uygulanmıştır. Çalışmanın verileri "Kadın Doğum Kliniği Sağlık Personellerinin ERAS Protokollerini Uygulama Durumu Anketi" kullanılarak toplanmıştır. Sağlık personellerinin %86,8'i ERAS kriterlerini bilmediğini belirtmiştir. ERAS'ı bilenlerin %65'i erkek, %75'i 20-30 yaş aralığında, %65'i lisansüstü eğitim almış ve hekim, %60'ı 5 yıllık çalışan, %70'i yararlılığına inanıyor, %33,3'ü ekip içi çatışmadan ötürü uygulamada zorluk yaşadıklarını belirtmiştir. Katılımcıların cinsiyetleri, protokolle ilgili makale okuma, yararlılığına inanma ve öğrenme kaynakları ile ERAS bilme durumları arasında istatistiksel olarak anlamlı bir fark bulunmuştur ($p<0.005$). Preop dönemde sağlık personeli tarafından en sık uygulanan protokol maddeleri; %94,4 operasyon için hastayı hazırlama, %90,7 profilaktik antibiyotik uygulama ve %86,1 operasyon hakkında yazılı veya sözlü bilgilendirmedir. Postoperatif dönemde sağlık personeli tarafından en sık uygulanan protokol maddeleri; %100 yaşam bulguları takibi, %89,4 cerrahi sonrası ilk 24 saat içerisinde normal diyete geçme ve %78,1 parasetamol uygulamasıdır. Sağlık personelinde ERAS protokolleri farkındalığının yeterli olmadığı saptanmıştır.

Anahtar Kelimeler: Sağlık Personeli; ERAS; Perioperatif bakım; Obstetrik ve Jinekoloji

Abstract

This study was performed to determine Enhanced Recovery After Surgery Protocols (ERAS) protocols implementation status before and after surgery by the health personnel working in gynecology and obstetrics clinics. This descriptive quantitative study was performed in gynecology and obstetrics clinics of two university hospitals and applied to 151 health personnel between December 2020 and January 2021. Data of study were collected by "ERAS Protocols Implementation Status of Health Personnel Working in Gynecology and Obstetric Clinics Questionnaire". The health personnel's 86.8% didn't know the protocol. Those who know it were 65% men, 75% in 20-30 age range, 65% had undergraduate education and doctors, 33.3% have experienced difficulties in practice. A significant association was found between participants' gender, reading articles about the protocol, believing in usefulness, learning resources and knowing it ($p<0.005$). The items with the protocol most frequently applied by health personnel in the preoperative period were 86.1% taking informed consent from patients, 90.7% giving prophylactic antibiotics and 94.4% preparing the patient for operation. In post-op period, most frequently applied items were 100% checking vital signs, 89.4% starting normal diet within first 24 hours after surgery and 78.1% giving paracetamol. ERAS protocols awareness were found not enough in health personnels.

Keywords: Health Personnel, Enhanced Recovery After Surgery, Perioperative Care, Obstetrics and Gynecology

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1. INTRODUCTION

Enhanced Recovery After Surgery Protocols (ERAS) include recommendations for patient care before, during, and after surgery, based on current and best published evidence. It contains items such as informing the patient in detail before the operation, using effective analgesia, avoiding mechanical bowel cleansing, starting oral intake in the early period, not preferring manipulative methods such as drains, nasogastric tube, and mobilization in the early period. In studies where ERAS protocols were applied in patients undergoing gynecological and gynecological oncology operations, it was found that it increased patient satisfaction and recovery speed, provided effective pain management, shortened the length of hospital stay, decreased complication rates, recurrent hospitalizations and thus the cost of health expenditures. With the use of the ERAS program in gynecological operations, a 51.6% reduction in hospital stay after hysterectomy operation was observed (Agarwal et al., 2019, p. 605-612; Aksoy and Vefikuluçay Yılmaz, 2018, p. 2-8; Bilgiç et al., 2019, p. 114-121; Çilingir and Candaş, 2017, p. 137-143; Devoto et al., 2019, 159-197; Ferrari et al., 2019, p. 10-15; Nelson et al., 2016, p. 313-322; Nelson et al., 2019, p. 651- 668; Pache et al., 2019, p. 388-393; Wodlin and Nilsson, 2013, p. 17-27; Uğurlu et al., 2017, p. 280-288). In the study of Johnson et al. (2016, p. 39-44), the infection rate before ERAS interventions was 6% in general, while this rate decreased to 2% after the intervention. Pache et al. (2019, p. 388-393) observed that 17 thousand dollars of the total hospital cost saved in which the ERAS protocols applied group after gynecological surgery in their study. In the study conducted by Ferrari et al. (2019, p. 10-15), it was determined that the discharge from the hospital was shortened by three and a half (3.5) days in the experimental group in which the ERAS protocol was applied in women who experienced hysterectomy, endometrium and ovarian cancer.

When the literature is examined, it has been observed that during the implementation of ERAS protocols, health personnel perceive the process as difficult and complex, develop resistance to change, have difficulties in understanding the effectiveness of the protocol, lack of knowledge about the protocol, and experience various communication and role-sharing problems (Celebi and Ilce, 2019, p. 392-400; Gustafsson et al., 2019, p. 659-695; Güzel and Yava, 2019, p. 15-23; Ongun and Ak, 2020, p. 287-294; Phillips et al., 2019, p.1-8). In another study, it was stated that the ERAS protocol is applicable, but there are aspects of the process that need to be improved due to reasons such as interdisciplinary cooperation, lack of data in this area, and the inability to create environmental conditions (De Groot, 2016, p. 382- 395). In addition, it has been stated that providing comprehensive, consistent and specific hospital-specific information and application opportunities to healthcare professionals about ERAS will be beneficial in increasing the applicability of ERAS (Cohen and Gooberman-Hill, 2019, p. 1-11). Although there are many studies in the literature that include many results on the application of ERAS protocols on patients, their recovery and satisfaction, their effect on the duration of discharge, and cost-effectiveness, there are few studies examining the attitudes of healthcare professionals towards the implementation of these protocols (Güzel and Yava, 2019, p. 15-23). In the literature review, it was seen that the application of the ERAS protocol in the field of women's health and surgery could not be adequately demonstrated and it was thought that the research could contribute to this field.

The research was carried out to determine the application status of the health personnel (physician-nurse-midwife) working in the obstetrics and gynecology clinics in the pre- and postoperative period of ERAS protocols.

2. MATERIAL AND METHODS

This was a descriptive and quantitative study. STROBE checklist were used in the reporting of this study (Cuschieri, 2019, p. 31-34). The study was conducted in the gynecology and obstetrics clinics of two large training and research hospitals in 3rd largest city of the country, between December 2020 and January 2021. The universe of the study consisted of all health personnel (n=282) (physician-nurse-midwife) working in the obstetrics, gynecology, delivery room and intensive care services of the obstetrics clinics of two large training and research hospitals.

In the study, the population of the sample was calculated with the known sample formula ($n=N*t^{2*}p*q/d^2(N-1)+t^{2*}p*q= 287*(1.96)^2*0.5*0.5/ (0.05)^2*286+(1.96)^2*0.5*0.5=159$) at the 95% confidence interval and was calculated as 159 health personnel. However, since 8 of the participants in our study filled the questionnaires incompletely, the study data consisted of 151 volunteer participants.

The data of the research were collected with the "ERAS Protocols Implemantation Status of Health Personnel Working in Gynecology and Obstetric Clinics Questionnaire".

ERAS Protocols Implemantation Status of Health Personnel Working in Gynecology and Obstetric Clinics Questionnaire:
The questionnaire form was created by the researchers by scanning the relevant literature and using sample forms with the permission of the Turkish ERAS Association (ERAS Turkey Association [ETA], 2019, Online http:// eras. org.tr/page. php?id= 10&saglik Calisani=true; ETA, 2020, Online https://eras.org.tr/public/files/eras_kontrol.pdf; Nelson et al., 2016, p. 313-322; Nelson et al., 2019, p. 651- 668; Carey and Moulder, 2018, p. 137-146). The questionnaire form contains information about sociodemographic characteristics such as age, education level, title, year of work, unit worked in the clinic, types of operations that are given care in the clinic, workload / intensity status, knowledge of ERAS protocols, learning resources. It consisted of a total of 81 questions to determine the situations of applying the care that should be given before and after.

In order to determine the ERAS implementation status of the participants, they were asked to answer the statements about ERAS protocols as "Done", "Not Done", "Sometimes Done" and "I don't know". For the form created, expert opinion was taken from three faculty members of the Obstetrics and Gynecology Nursing Department. Experts were asked to rate each item using the phrases '1: irrelevant', '2: somewhat relevant', '3: highly relevant' and '4: highly relevant' and make suggestions for responses other than 'highly relevant'.

After expert opinions, the Scale Scope Validity Index (S-CVI) was calculated. The SCV-I was found to be .96 (the minimum recommended value is .90) (Polit and Beck, 2006, p. 1-554). As a result of the analysis, it was seen that the questionnaire was applicable. A pilot study was conducted to determine the intelligibility of the questionnaire items for healthcare personnel. The sample of the pilot study consisted of 20 gynecological health personnel and it

was seen that there was no problem in understanding the questionnaire items. The data used in the pilot study were excluded from the study.

2.1. Data Collection and Analysis

Data collection forms were distributed and health personnel were expected to fill in the forms themselves to prevent the bias. However, due to the COVID-19 outbreak, if requested as a plan B, the questionnaires were sent to the staff via Google survey via the e-mail addresses of the secretariat of the relevant department of the hospital and the nursing services directorate. Filling the form took an average of 20 minutes.

Descriptive statistics (frequency and percentage) of sociodemographic data are given in the study. In the analyzes that will investigate the relationship between categorical variables; Pearson's Chi-Square test was used when the sample size assumption was met, and Fisher's Exact test was used when it was not. The acceptable theoretical error rate was taken as α: 0.05. Analyzes were performed in IBM SPSS Statistics 25 program.

2.2. Limitations

Since the research was conducted only in the obstetrics clinics of two university hospitals in the city, the results cannot be generalized for the health care services provided in all hospitals in our country. The fact that such a study has not been conducted before has made it difficult to discuss the research data. The use of online method while collecting data due to the Covid-19 pandemic limited the research.

2.3. Ethical Aspect of The Research

Ethics committee approval was obtained for the research from Non-Interventional Research Evaluation Commission of a state university (Decision no: 2020/27-14; Date: 09.11.2020). Institutional permissions were obtained from the obstetrics and gynecology departments of the two related university hospitals to conduct the research. Permission to conduct the research was obtained from the City Provincial Health Directorate (decision no: 2020/27, date: 26.11.2020). Written and verbal informed consent was obtained from the health personnel included in the study by giving information about the purpose of the study.

3. RESULTS

The introductory characteristics of the health personnel working in the obstetrics clinic included in the study are given in Table 1.

Table 1. Introductory characteristics of the health personnel working in the obstetrics and gynecology clinics

Introductory Features	n	%
Age Range of Health Personnel		
20-30 years	99	65.6
31-40 years	29	19.2
41-55 years	23	15.2
Gender of Health Personnel		
Woman	88	58.3
Man	63	41.7
Educational Status of Health Personnel		
Undergraduate	62	41.1
Graduate	89	58.9
Hospital where the research was carried out		
X University Hospital	33	21.9
Y Training and Research Hospital	118	78.1
Title of Health Personnel		
Nurse - midwife	64	42.4
Physician	87	57.6
Years of Health Personnel Worked		
5 years and below	92	60.9
6 years and below	59	39.1
The Unit Where Health Personnel Work		
Obstetrics service	89	58.9
Delivery room/intensive care unit etc.	62	41.1
Workload of Health Personnel		
Too much	143	94.7
Normal	8	5.3
Knowledge of ERAS Protocols		
Yes	20	13.2
No	131	86.8
Beliefs in the Usefulness of ERAS		
Yes	28	18.5
No	123	81.5
Total	151	100.0

A statistically significant relationship was found between the gender of health personnel, reading articles about the ERAS protocol, believing in the usefulness of the protocol, and learning resources and knowing the protocol ($p<0.05$) (Table 2).

Table 2. The ERAS protocols knowledge of health personnel according to their descriptive characteristics

		Knowledge of ERAS protocols					
		Yes		No			
Demographic features		**n (20)**	**%**	**n (131)**	**%**	**X^2**	**P**
Age	20-30 years	15	75.0	84	64.1	1.715$^{\Omega}$	.491
	31-40 years	4	20.0	25	19.1		
	41-55 years	1	5.0	22	16.2		
Hospital	X hospital	6	30.0	27	20.6	.896	.344
	Y hospital	14	70.0	104	79.4		
Gender	Woman	7	35.0	81	61.8	5.138	**.023***
	Man	13	65.0	50	38.2		
Education	Undergraduate	7	35.0	55	42.0	.350	.554
	Graduate	13	65.0	76	58.0		
Title	Nurse-midwife	7	35.0	57	43.5	.515	.473
	Pyhsician	13	65.0	74	56.5		
Work years	5 years and below	12	60.0	80	61.1	.008	.927
	6 years and below	8	40.0	51	38.9		
Working unit	Obstetrics service	10	50.0	79	60.3	.761	.383
	Delivery room / IC service	10	50.0	52	39.7		
Workload	Too much	20	100.0	123	93.9	.360$^{¥}$	.598
	Normal	0	0.0	8	6.1		
ERAS Related Article Reading	Reader	9	45.0	0	0.0	54.915$^{¥}$	**.000***
	Illiterate	11	55.0	131	100.0		
ERAS Disbelief in its usefulness	Believer	14	70.0	14	10.7	40.412	**.000***
	Unbeliever	6	30.0	117	89.3		
Operations Applied in Clinic	Minor intervention	3	15.0	25	19.1	2.926$^{\Omega}$	.838
	Anterior-posteror colposcopy	3	15.0	12	9.2		
	TVT/ TOT/ Mesh	3	15.0	9	6.9		
	Minimal laparoscopic surgery	2	10.0	13	9.9		
	Laparatomy	1	5.0	8	6.1		
	Major operation	2	10.0	19	14.5		
	All	6	30.0	45	34.4		
ERAS Learning Sources	Undergraduate education	4	20.0	0	0.0	-*	**.000***
	Previously worked hospital	4	20.0	0	0.0		
	From congress	11	55.0	0	0.0		
	Reading the article etc.	1	5.0	0	0.0		
Beneficial Situations of ERAS	Shortens discharge time	5	33.3	1	7.1	5.694$^{\Omega}$	.500
	Decreases the infections	2	13.3	1	7.1		
	Quickens the recovery	2	13.3	3	21.4		
	Reduces the complicatio	2	13.3	3	21.4		
	Patient satisfaction increases	2	13.3	3	21.4		
	The cost reduces	2	13.3	1	7.1		
	I don't know	0	0.0	2	14.3		
Difficulties in Application of ERAS	Conflict within the team	5	33.3	5	35.7	5.500$^{\Omega}$	.224
	Communication accidents	3	20.0	3	21.4		
	Lack of material	4	26.7	3	21.4		
	Shortage of information	3	20.0	0	0.0		
	Not reading instructions	0	0.0	3	21.4		

*p<0,05, $^{\Omega}$Fisher's Exact test, $^{¥}$Yates test

In the preoperative period, the most frequently applied ERAS protocol items were dressing the patient before the operation, removing the materials such as metal, prosthesis and nail polish, 90.7% prophylactic antibiotic application and 86.1% giving written or verbal information about the operation (Table 3).

Table 3. The application of ERAS protocols by health personnel in the preoperative period

ERAS Applications	Done		Not Done		Sometimes		Do Not Know	
	n	%	n	%	n	%	n	%
1st Fasting after 00.00 at night	151	100.0	0	0.0	0	0.0	0	0.0
2nd Dressing and removing materials	147	97.4	0	0.0	0	0.0	4	2.6
3rd Prophylactic antibiotic administration	137	90.7	5	3.3	3	2.0	6	4.0
4th Giving written or verbal information	130	86.1	2	1.3	14	5.0	5	3.3
5th Checking the suitability of the compression stockings	125	82.8	15	9.9	10	6.6	1	0.7
6th Giving information about discontinuing blood thinners 7 days before	122	80.8	4	2.6	20	13.2	5	3.3
7th Anemia assessment	112	74.2	6	4.0	28	18.5	5	3.3
8th Information to quit smoking and alcohol at least 4 weeks before	106	70.2	8	5.3	31	20.5	6	4.0
9th Teaching and dressing the use of compression stockings	106	70.2	15	9.9	18	11.9	12	7.9
10th Using 4% chlorhexidine gluconate or povidone-iodine for vaginal cleansing	102	67.5	15	9.9	24	15.9	10	6.6
11th Teaching the getting out of bed techniques by showing them	98	64.9	5	3.3	26	17.2	22	14.6
12th Stopping the use of HRT and OCS	96	63.6	21	13.9	23	15.2	11	7.3
13th Teaching breathing exercises with Woldayn/spirometer	91	60.3	14	9.3	26	17.2	20	13.2
14th Cleaning the skin with alcohol solutions	82	54.3	23	15.2	30	19.9	16	10.6
15th Teaching the coughing exercise	78	51.7	18	11.9	28	18.5	27	17.9
16th Teaching in-bed active passive exercises	71	47.0	18	11.9	35	23.2	27	17.9
17th Maintaining the patient's blood sugar level at 140-180 mg/dL	65	43.0	25	16.6	39	25.8	22	14.6
18th Warning the patients not to shave any hair or to use epilation device instead of shaving	45	29.8	37	24.5	45	29.8	24	15.9
19th Routine enema administration	44	29.1	90	59.6	17	11.3	0	0.0
20th Using non-pharmacological methods to reduce the patient's anxiety	41	27.2	40	26.5	41	27.2	29	19.2
21st Nutrition support app	40	26.5	46	30.5	41	27.2	24	15.9
22nd Patients taking a shower	39	25.8	61	40.4	34	22.5	17	11.3
23rd Shaving the surgical area	30	19.9	78	51.7	28	18.5	15	9.9
24th LMWH for thromboembolism prophylaxis	20	13.2	97	64.2	22	14.6	12	7.9
25th Premedication with a long-acting sedative drug	15	9.9	82	54.3	37	24.5	17	11.3
26th Allowing patients to consume clear diet/fluids up to 2 hours before surgery	9	6.0	110	72.8	26	17.2	6	4.0
27th Allowing patients to consume soft foods up to 6 hours before surgery	6	4.0	124	82.1	17	11.3	4	2.6
28th IV carbohydrate loading/ 400 ml oral, in the morning 3 hours before surgery.	2	1.3	136	90.1	8	5.3	5	3.3

29th IV carbohydrate loading/ 800 ml oral between 20-24 at night	0	0.0	131	86.8	10	6.6	10	6.6
Total	151	100.0	151	100.0	151	100.0	151	100.0

The most frequently applied ERAS protocol items in the postoperative period are monitoring of 100% vital signs every 15 minutes in the first hour, then hourly and every 4-6 hours when stable, 89.4% switching to a normal diet within the first 24 hours after surgery, and 78.1% paracetamol administration (Table 4).

Table 4. The application of ERAS protocols by health personnel in the postoperative period

ERAS Applications	**Done**		**Not Done**		**Sometimes**		**Do Not Know**	
	n	**%**	**N**	**%**	**N**	**%**	**N**	**%**
1st Monitoring the patient's vital signs	151	100.0	0	0.0	0	0.0	0	0.0
2nd Switching to normal diet within the first 24 h	135	89.4	1	0.7	12	7.9	3	2.0
3rd Making intervention if the hourly urine output is 30 cc or less.	124	82.1	2	1.3	17	11.3	8	5.3
4th Paracetamol administration	118	78.1	8	5.3	20	13.2	5	3.3
5th Lifting the bed sills to avoid the risk of the patient falling	118	78.1	2	1.3	16	10.6	15	9.9
6th Following the patient's first gas output	117	77.5	18	11.9	9	6.0	7	4.6
7th Performing pain assessment	116	76.8	4	2.6	23	15.2	8	5.3
8th Discharge of the patients on the 2nd day	115	76.2	7	4.6	24	15.9	5	3.3
9th Antiemetic administration	115	76.2	6	4.0	24	15.9	6	4.0
10th Prophylactic antibiotic administration	114	75.5	5	3.3	22	14.6	10	6.6
11th Administration of LMWH	104	68.9	23	15.2	19	12.6	5	3.3
12th Intervention if the patient does not get the first gas in 8 hours	103	68.2	26	17.2	15	9.9	7	4.6
13th Listening to bowel sounds before feeding	82	64.3	20	13.2	38	25.2	11	7.3
14th Having the patient walked at the latest 8 hours after operation	96	63.6	21	13.9	27	17.9	7	4.6
15th Evaluation of nausea and vomiting risks	95	62.9	18	11.9	29	19.2	9	6.0
16th Ensuring the patient is walked out no later than 8 hours after operation	94	62.3	23	15.2	20	13.2	14	9.3
17th Keeping the blood sugar level below 200mg/dl	90	59.6	12	7.9	37	24.5	12	7.9
18th Getting patient up and sit on a chair at 4 h	79	52.3	49	32.5	18	11.9	5	3.3
19th Removal of the nasogastric tube in the operating room	79	52.3	16	10.6	38	25.2	18	11.9
20th Supporting mobilization for at least 4 h on first day	78	51.7	22	14.6	36	23.8	15	9.9
21st Discontinuation of IV fluids 24 hours	76	50.3	30	19.9	29	19.2	15	9.9
22nd Intervention if the first defecation of the patients does not occur within 4 days	73	48.3	29	19.2	36	23.8	13	8.6
23rd Providing pre-discharge training	73	48.3	20	13.2	38	25.2	20	13.2
24th Use of non-pharmacological methods in pain management	67	44.4	17	11.3	37	24.5	30	19.9
25th Performing bladder gymnastics while removing the urinary catheter	65	43.0	25	16.6	42	27.8	19	12.6
26th Ensuring patients chew gum	60	39.7	50	33.1	30	19.9	11	7.3
27th Making active/passive ROM exercises	60	39.7	50	33.1	30	19.9	11	7.3

28th	Urinary catheter remaining in patients for more than 24 hours	57	37.7	46	30.5	33	21.9	15	9.9
29th	Having the patients sit in a chair while taking their meals	55	36.4	40	26.5	33	21.9	23	15.2
30th	Giving the patient stable crystalloid solutions instead of 0.9% NaCl	53	35.1	43	28.5	34	22.5	21	13.9
31st	Starting to give water/liquid at 2. hour	40	26.5	69	45.7	30	19.9	12	7.9
32nd	Starting to give solid food at 4. hour	39	25.8	60	39.7	41	27.2	11	7.3
33rd	Administration of magnesium oxide	39	25.8	64	42.4	32	21.2	16	10.6
34th	Making coughing exercise every 2 hours	39	25.8	37	24.5	51	33.8	24	15.9
35th	Making the patient walk 5 minutes in 5 hours	36	23.8	81	53.6	19	12.6	15	9.9
36th	Positioning the patient every 2 hours and massaging by applying a moisturizing cream	30	19.9	53	35.1	42	27.8	26	17.2
	Total	151	100.0	151	100.0	151	100.0	151	100.0

As a result of our study, it was determined that the awareness of ERAS protocols among health personnel was insufficient. It was determined that men's knowledge of ERAS protocols was higher than women's. Half of those who believe in the usefulness of the protocol and all those who read the article about the protocol know the protocol. Health workers learned the protocol mostly through participation in congresses. It was determined that the most frequently expressed opinion regarding ERAS protocols among the health personnel participating in our study was to establish standardization in care and to increase in-service training. Similar to our study, in the study of Çelebi and Ilce (2019, p. 193), Gustafsson et al. (2019, p. 675), Güzel and Yava (2019, p. 20), and Ongun and Ak (2020, p. 290), the majority of the participants especially women and nurses (86.8%- 70.4%) stated that they did not have sufficient knowledge about ERAS in perioperative care, (98.3%) did not receive training about ERAS, and (88.9%-18.6%) the protocols were not applied in the clinic. It is thought that health personnel should be informed in order to increase the application rate of ERAS protocols in the clinic.

4. DISCUSSION

4.1. The ERAS Protocol Items for The Preoperative Period

Some of the ERAS protocol items that are stated to be applied by health personnel in the preoperative period are discussed below.

4.1.1. Obtaining Written or Verbal Consent About the Operation

In our study, the majority of the health personnel stated that they informed the patients about the operation in the preoperative period. In the study of Harrison, Iniesta & Cain et al. (2019, p. A154), it was reported that an up-to-date protocol was needed due to misunderstanding and forgetting of information during informing, and there were problems

between informing and implementation on some issues such as smoking cessation. In the study of Wodlin and Nilsson (2013, p. 17-27), it was shown that preoperative information increases the patient's self-confidence, reduces anxiety and tension, and contributes to the healing processes. In the 2018 update of the ERAS protocol, the moderate level of evidence for providing education and counseling was increased to the level of stronger evidence (Gustafsson et al., 2019, p. 659-695).

4.1.2. Checking the Suitability of Compression Stockings and Teaching Their Use

In our study, the majority of the health personnel stated that they performed the practices of checking the suitability of the compression stockings for the patient and helping them to put on the stockings. It is thought that the reason for the high rate of wearing compression stockings in the preoperative period is that nurses have a high level of knowledge and experience in this regard, and physicians encourage the purchase and use of compression stockings by informing patients about this issue. In the study of Sachdeva, Dalton and Lees (2014, p. 1-78), there is high-quality evidence that compression stockings alone are effective in reducing the risk of DVT in patients who have undergone general and orthopedic surgery with or without other methods for thrombosis prophylaxis when clinically appropriate. Among the mechanical protective methods used for the prevention of deep vein thrombosis, the most commonly used method is antiembolic stockings. Nurses are key healthcare professionals in the care of patients wearing these stockings. Socks have important roles such as evaluation and dressing (Akyüz and Tunçbilek, 2018, p. 96-104).

4.1.3. Giving Information on Stopping the Use of Blood Thinning Drugs Seven Days Before

In our study, more than three quarters of the participants stated that the administration of blood thinning drugs to the patients was stopped in the preoperative period. Discontinuation of blood thinners before the operation is a decision that must be made together with cardiologists and surgeons. Conventional blood thinners such as Comodin should be discontinued 5 days before and surgery should be considered when the patient's INR (International Correction Ratio) is below 1.5. In new-generation blood thinners (Xarelto and Eliquis, etc.), drug use should be stopped 3 days before (Turkish Republic Ministry of Health [TR-MoH], 2020, Online, https://kosuyolueah.saglik.gov.tr/TR,366082/ameliyat-doneminde-kan-sulandirici-ve-inceltici-kullanimi.html.). In our study, the rate of discontinuation of blood thinners was found to be high, and it is thought that the reason for this is the evaluation of the bleeding risk of the patient in the operations and a very important cause of mortality.

4.1.4. Carbohydrate Balance in Patients

In our study, all of the health personnel stated that the patients were starved for a long time. Carbohydrate loading is not known to the majority of healthcare professionals. It provides approximately half of the blood sugar regulation. Consumption of soft foods up to six hours before the operation and giving liquid foods up to two hours before the operation three-quarter, which are the recommendations given by American Collage of Obstetricians and Gynecologists [ACOG] (2018, p. 120-130) for obstetric and gynecological surgical procedures, are not implemented by the majority. Insulin resistance develops in response to almost any surgical

stress. Insulin resistance is reduced by about half when patients undergoing elective surgery are treated IV with glucose or a carbohydrate-rich beverage rather than fasting overnight. Thanks to this application, the length of stay in the hospital is reduced. In addition, if carbohydrates are given as a pre-operative beverage, pre-operative thirst, hunger and anxiety are also significantly reduced. In summary, prevention or treatment of insulin resistance prevents surgical stress. The degree of recommendation for preoperative carbohydrate drink support is strong, but the level of evidence is very low (Gustafsson et al., 2019, p. 659- 695; Nelson et al., 2016, p. 313- 322). In our study, it was determined that the health personnel did not apply these recommendations to a large extent, and it is thought that this will prolong the complication rate, recovery and hospital stay of the patients. It is thought that the reason why health personnel do not apply carbohydrate loading practice is that they do not have sufficient knowledge about the subject and these practices are not integrated into the care protocols of the clinic. In the preoperative period, the nutritional level of the patients was found to be low compared to the ERAS protocol, and it is thought that this situation is due to the fact that traditional anesthesia techniques and views continue to be applied in clinics, lack of knowledge and ERAS applications are not implemented in all hospitals by publishing the Ministry of Health protocol.

4.1.5. Routine Enema Application

Half of the participants in our study stated that enemas were not routinely applied in the clinic. In the meta-analysis study of Rollins & Lobo (2016, p. 465- 476), it was shown that the use of mechanical bowel preparation does not affect the incidence of postoperative complications compared to no preoperative preparation. As stated in the review of Bilgiç et al. (2019, p. 114-121), routine enema application reduces patient comfort and increases the risk of dehydration. It also causes the development of postoperative ileus. Guidelines recommend avoiding mechanical bowel cleansing before the operation (Nelon et al., 2016, p. 313- 322). In our study, it is thought that half of the reason why routine enema was not applied was due to the lack of knowledge of the health personnel and their orders by the doctor.

4.2. The ERAS Protocol Items for The Postoperative Period

Some of the ERAS protocol items that are stated to be applied by health personnel in the postoperative period are discussed below.

4.2.1. Frequent and Literature-Compliant Follow-up of Patient Vital Findings

In our study, all of the health personnel stated that the vital signs of the patients were followed up in accordance with the ERAS protocol after the operation. In the postoperative period, nurses should monitor vital signs every 15 minutes in the first hour and hourly thereafter in order to diagnose complications such as bleeding and DVT that may reduce peripheral circulation in patients undergoing surgery in the early period and to take necessary interventions. When the patients' vital/vital signs are stable, follow-up is recommended every four to six hours (Bilgiç at al., 2019; p. 114-121). In our study, it was observed that the follow-

up of vital signs was considered important by all health personnel working in obstetrics clinics in terms of maintaining the postoperative health status of the patient.

4.2.2. Postoperative Pain Assessment of the Patient

In our study, three quarters of the health personnel stated that pain assessment was made and paracetamol (pharmacological) was used in pain management, while less than half of them stated that non-pharmacological methods were used. It is recommended to use non-steroidal anti-inflammatory drugs (NSAIDs) together with acetaminophen for postoperative analgesia. NSAID use reduces complications such as bleeding in the postoperative period. In addition, gabapentin and dexamethasone can be used for postoperative analgesia. Opioid (narcotic) pain relievers should be avoided as they can cause nausea, sedation and an increased risk of addiction (Bish et al., 2019, p. 1372- 1376; Kalogera and Dowdy, 2019, p. 656-665). If multimodal postoperative analgesics are used in accordance with the protocol, they successfully reduce opioid use both in the hospital and after discharge (Rungsiprakarn et al., 2015, p. 1-33). In a meta-analysis study, it was found that 7% of patients continued to use opioids for three more months after opioid use in the postoperative period in the USA (Lawal et al., 2020, p. 1-19). In a meta-analysis of 14 randomized controlled trials on meditation practices in pain management, these practices were found to improve patients' physiological and cognitive function, fatigue, emotional well-being, etc. It has been found to increase and decrease pain (Deng, 2019, p. 343-348). In our study, it is pleasing that nurses attach importance to pain assessment as the fifth vital value in pain management and treat patients with non-pharmacological methods before pharmacological methods. In parallel with the ERAS recommendation, nurses apply analgesics appropriately in pain management. It is thought that the use of analgesia in physician orders should be left to the autonomy of the nurse with the phrase "if necessary" and the presence of forms in which nurses can specify the non-pharmacological methods applied as interventions can take pain management further.

4.2.3. Management of Nausea and Vomiting in the Patient

In our study, more than half of the health personnel evaluated the patients in terms of nausea and vomiting, and three-quarters stated that antiemetics were used to reduce the nausea of the patients. When the literature is reviewed, it is recommended to evaluate risk groups for the management of nausea and vomiting, to prefer propofol in the intraoperative process and to avoid nitrite oxide, to combine at least two types of anematic drugs, to apply minimal fasting time, to load carbohydrates, and to avoid opioid painkillers (Evidence Level: A, Recommendation: Low) (ACOG, 2018, p. 120-130; Nathan, 2020, p. 410; Henson et al., 2020, p. 905-914). As stated in the study of Henson et al. (2020, p. 910), agents such as corticosteroids, olanzapine and cannabinoids can be used in the management of nausea and vomiting (Level of Evidence: Low). In our study, it is thought that the reason why health personnel did not evaluate or treat nausea and vomiting was that the autonomy of the nurses could not be fully demonstrated, that the physicians did not order the antiemetic treatment when necessary, or that the health personnel did not pay attention to it.

4.2.4. Early Mobilization

In our study, half of the health personnel stated that they seated the patients in a chair four hours after the operation, and about a quarter of them walked for five minutes, more than half of them stated that they walked no later than eight hours after the operation, and half of them mobilized for four hours on the first postoperative day. In the study conducted by Uğurlu, Kula Şahin, Seçginli and Eti Aslan (2017, p. 280-288), the duration of hospital stay was found to be five and a half days in patients who underwent ERAS protocols and early mobilization (standing up in the first 24 hours postoperatively), while it was 11 days in the group not applied. Getting up in the early period causes a positive change in the general health of the patients. In the light of the data in our study, it was determined that only about half of the patients were encouraged about early mobilization. The reasons for this situation are that the importance of early mobilization is not understood and taught to patients by health personnel, inadequacies in clinical physical conditions, patients' unwillingness to mobilize due to post-operative pain experience, and the inadequacy of the number of health personnel per patient (Economic Cooperation and Development Organization [OECD]) countries are less is thought to be.

4.2.5. Prevention of Ileus

In our study, one-third of the healthcare professionals stated that they applied magnesium oxide to the patients in the postoperative period, three-quarters chewed gum, followed the patient's first gas discharge, and intervened if more than half did not pass the first gas and if the first defecation did not occur within four days, half of them stated that the nasogatric tube was removed at the end of the surgery. According to the study of Tan, Zang and Wu (2020, p. 642-645), nutritional therapy, optimized surgical and anesthetic therapy, personalized fluid management, timely psychosocial intervention, active anti-inflammation, and traditional Chinese medicine treatment can effectively reduce ileus formation. In a meta-analysis study by Liu, Jiang, Xu and Jin (2017, p. 107-115), in which they evaluated the effect of chewing gum on bowel motility, it was found that chewing gum accelerates gas output, increases bowel motility, reduces the length of hospital stay and the risk of postoperative ileus. It was found that nausea, vomiting and bloating had no effect on hospital readmission.

The main mechanism of action of laxatives is to affect the nerves that stimulate bowel movements. Laxatives contain large volumes of sugar molecules that cannot be digested compared to bulkers. It has a water-retaining and mass/volume-increasing effect. Volume regulators were found to be more effective, especially in pregnant women (Level of Evidence: Moderate) (Rungsiprakarn et al., 2015, p. 1-33). In our study, the rate of intervention in bowel motility of health personnel after gynecological or obstetric operation was found above the average. This situation; In some operations (cesarean section, CAP, etc.) patients are not wanted to be constipated, so they are given drugs after the operation (duphalac, etc.), solid food cannot be started immediately due to the fact that each physician starts feeding their patient with a different diet order, and patients are forced to defecate due to inadequacies in ambulation or fluid intake. It is thought to be due to situations such as the delay of outputs.

5. CONCLUSION

As a result of our study, it will be possible to standardize the care of patients who have undergone gynecological and obstetric operations and to increase in-service training, as indicated by the inadequacy of knowledge and application of the ERAS protocol in health personnel working in Gynecology & Obstetrics clinics. The low rate of knowledge and application of ERAS protocols by healthcare professionals may be due to the intensity in

working conditions and the difficulties they experience in reading articles and following up-to-date information. Patient care quality and job satisfaction of healthcare professionals can be increased by periodically repeating the trainings in which information about the ERAS protocol will be shared. In addition, the ERAS protocol can be promoted by the Ministry of Health to all hospitals and disseminated by publishing instructions for its implementation. The participation of health personnel in congresses, symposiums, courses and information meetings related to ERAS should be encouraged. The number of healthcare workers per patient in clinics should be increased. Meetings between multidisciplinary teams, joint decision-making mechanisms and planning are needed to embed the innovations in the ERAS protocol into clinical patient care practices. The clinical staff should be given the space and time to develop innovative initiatives in line with the ERAS protocols by the clinic managers. Thus, the possibilities of health personnel to follow the innovations related to ERAS and to develop clinical applications will increase.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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