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Preoperative evaluation of the knowledge and concerns of gynecology patients regarding anesthesia: A questionnaire based observational study

Jinekoloji hastalarının preoperatif anestezi ile ilgili bilgi ve endişelerinin değerlendirilmesi: Bir anket çalışması

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Abstract

Aim: Anesthesiology is an advancing discipline that is progressively recognized by the society. Preoperative patients may have concerns about anesthesia as well as surgical operations. There are various surveys on this subject, in which the knowledge of the subjects about the anesthesiologist, anesthesia, and related concerns were questioned. In this study, we aimed to determine the knowledge, experiences and concerns of our female patients who were to undergo gynecological operations regarding the anesthesiologists and anesthesia with the questionnaire we conducted, and to contribute to the literature by evaluating our results and discussing the precautions to be taken.

Methods: A questionnaire-based observational study method was used in this study. The questionnaire, which was developed by the researchers, was conducted on the patients who were referred to the anesthesiology policlinic for gynecological operations and signed the informed consent forms. The patients were questioned in terms of knowledge and concerns about the anesthesiologist and anesthesia in general.

Results: This questionnaire was conducted on 150 patients. Seventy-eight percent of our patients were educated below high-school level, while 22% had high school diplomas or higher. 93.33% percent of our patients had already experienced anesthesia and 68% knew that it was administered by a specialist. The most common causes of worry on anesthesia and the operations included inability to regain consciousness (58%), followed by postoperative pain (52%). Less frequent anxiety factors were determined as nausea and vomiting after anesthesia and prior fasting.

Conclusion: As with all segments of the society, increasing the knowledge about anesthesia in women will reduce related anxiety. We believe that this information should be provided not only in polyclinic conditions but also through visual communication tools and brochures.

Keywords: Anesthesia, Worry, Females, Questionnaire

Öz

Amaç: Anesteziyoloji günümüzde ilerlemekte olan ve toplum tarafından giderek de tanınan bir bilim dalıdır. Cerrahi öncesi hastaların cerrahi operasyonlar kadar anestezi uygulamaları konusunda da endişeleri olabilmektedir. Bu konuda yapılmış anket çalışmaları mevcuttur. Bu çalışmalarda bireylerin anestezist, anestezi hakkındaki bilgisi ve anestezi ile ilgili kaygıları sorgulanmıştır. Biz de Jinekolojik operasyon geçirecek ve anestezi uygulanacak kadın hastalarda yaptığımız anket çalışmasıyla hastalarımızın anestezi doktoru ve anestezi ile ilgili bilgi ve deneyimlerini ve endişe nedenlerini belirlemeyi amaçladık. Sonuçlarımızı değerlendirmek ve alınabilecek önlemleri de tartışarak literatüre katkıda bulunmayı da amaçladık.

Yöntemler: Bu araştırma bir anket çalışması olarak planlanmıştır. Araştırmacılar tarafından geliştirilen anket anesteziyoloji polikliniğine jinekoloji operasyonu için başvuran ve bilgilendirilmiş onamları alınan hastalar üzerinde uygulanmıştır. Anket formu ile olguların anestezist ve anestezi ile ilgili bilgi ve kaygı nedenleri sorgulanmıştır.

Bulgular: Anket çalışması toplam 150 hastaya uygulandı. Eğitim durumuna göre hastaların oranları %78 lise altı, %22 lise ve üstü saptandı. Anestezi deneyimini yaşayan hastalarımızın oranı %93.33'tür. Anestezi uygulamasının uzman doktor tarafından yapıldığı yanıtı ise %68 şeklindedir. Anestezi ve ameliyathane ile ilgili en fazla endişe veren durum %58 oranı ile uyanamama; ikinci sıklıkta endişe nedeninin de %52 oranı ile postoperatif ağrı olduğu saptandı.

Sonuç: Toplumun her kesiminde olduğu gibi kadınlarda da anestezi uygulamaları hakkında bilgiyi artırmak anestezi ile ilgili kaygı veren durumları da azaltacaktır. Bu bilgilendirmenin yalnızca poliklinik koşullarında değil görsel iletişim araçları ve broşürler yoluyla da olması gerektiğini düşünüyoruz.

Anahtar kelimeler: Anestezi, Endişe, Kadın, Anket

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Introduction

The struggle against pain in human history has been quite challenging and the point we have reached today has been gained after long wars and experiences. In this process, any surgical experience was painful for the patient, and a major challenge for the surgeon. The first treatments for pain relief were alcohol, and opium-dipped sponges.

Joseph Priestley's description of oxygen in 1774 and his discovery of nitrous oxide in 1776 were turning points in the history of anesthesia. Horace Wells also performed painless tooth extraction using nitrous oxide in 1844. In 1913, Karl Connell developed the anesthesia machine [1,2]. The period of modern anesthesia developed between 1920 and 1940 and since 1937 "Anesthesiology" has been accepted as a scientific discipline globally [2].

Anxiety is a common emotional disorder among patients. There have been several studies related to anxiety for various types of diagnoses [3,4]. Since the 1970s, studies have been conducted on the level of knowledge on anesthesiologists and anesthesia applications, onto which research regarding patient satisfaction, measurement of preoperative anxiety and causes were added during later years [5-7]. With this in mind, we aimed to determine the knowledge and experiences of our female patients, who play significant roles in the upbringing of new generations, about anesthesiologists and anesthesia, and their causes of concern. Our purpose was to contribute to the literature by evaluating our results and discussing the precautions to be taken.

Materials and methods

The study was conducted after the approval of the local ethics committee (Bursa Yüksek Ihtisas Training and Research Hospital, Health Sciences University Ethical Committee of Clinical Research, 2011-KAEK-25 2019/06-11) was obtained, and consisted of patients who were to undergo elective gynecological operations under anesthesia in Bursa Yüksek İhtisas Training and Research Hospital. GPower 3.1 program was used to determine sample size, which revealed that 80 participants were needed for 0.5 effect size. Hence, we included 150 patients who were referred to our polyclinic for pre-anesthesia examination. Female patients who were older than 18 years with informed consent were included in the survey. The exclusion criteria included refusing to participate, a history of emergency surgery or a known psychiatric disorder, and lack of literacy.

Previous experience, information on the duties of anesthesiologists and causes of concern related to anesthesia were questioned in patients who were referred to the anesthesia outpatient clinic for preoperative examination. Participants were given a questionnaire which was developed by the researchers and were able to answer the questions without any influences. The questionnaire (Table 1), namely, Preoperative Evaluation of The Knowledge and Concerns of Gynecology Patients Regarding Anesthesia, was developed by the researchers based on the literature view [8-10]. A pilot study was done with 15 participants to evaluate the questionnaire's clarity. A revision was made due to feedbacks. The participants were told that they did not need to sign their names on the questionnaire, that their answers would not affect the service they would receive and were asked to express their real thoughts.

Statistical analysis

SPSS 21.0 (Statistic Inc. version Chicago, IL, USA) software was used for statistical analysis of the data. Descriptive statistics were expressed as mean (standard deviation) for continuous variables, and number of patients (%) for nominal variables. The results were considered statistically significant within a 95% confidence interval when *P*- value <0.05.

Table 1: Items of the questionnaire

Questionnaire
Gender:
Age:
Educational Level: □Below High School □High School Degree and Above
Do you have a previous experience of anesthesia?
a) Yes b) No
Is there a family member who underwent anesthesia?
a) Yes b) No
Did you have any problems related to anesthesia?
a) Yes b) No
Do you know why you were referred to the anesthesia polyclinic?
a) Yes b) No
Were you informed about anesthesia?
a) Yes b) No
Who administers anesthesia in the operation rooms?
a) Specialist b) Technician c) Nurse d) No idea
Where does an anesthesiologist work?
a) Operating rooms b) Operating rooms, polyclinics, and intensive care units c) No idea
Do you know what the definition of an anesthesiologist is?
a) Follows weakness and vital signs of the patient b) Administers anesthesia to the patient c) No idea
What anesthetic method/s do you know?
a) General b) Local/Regional c) General/Local/Regional d) No idea
Circle the most suitable option which reflects your anxiety and concern level about anesthesia
a) Not anxious b) A little anxious c) Anxious d) Very anxious
Circle the most suitable option which reflects your anxiety and concern level about inability to regain consciousness
a) Not anxious b) A little anxious c) Anxious d) Very anxious
Circle the most suitable option which reflects your anxiety and concern level about fasting before anesthesia
a) Not anxious b) A little anxious c) Anxious d) Very anxious
Circle the most suitable option which reflects your anxiety and concern level about postoperative pain
a) Not anxious b) A little anxious c) Anxious d) Very anxious
Circle the most suitable option which reflects your anxiety and concern level about nausea/vomiting after anesthesia
a) Not anxious b) A little anxious c) Anxious d) Very anxious

Results

A total of 150 patients were surveyed. The mean age of the patients was 45.37 (10.79) years. All our patients were female. Among them, 78% were educated below high school, and 22% had high school degrees and above. Approximately 93% had previous anesthesia experience and 76% experienced it through a family member. Ninety-four of the cases stated that they did not experience any problems during general anesthesia while 6% stated that they did. Eighty-eight percent knew why they were referred to the anesthesia clinic while 12% did not. 54% patients stated that they were informed before referral to our clinic while 46% stated they were not (Table 2).

Of all patients, 68% stated that anesthesiologists administered anesthesia in the operation rooms ($P<0.001$), 16% stated that it was the technicians, 2% stated it was the nurses and 14% of patients had no idea (Figure 1). Sixty-six percent stated that anesthesiologists worked in the operating rooms only ($P<0.001$), while 12% wrote that they worked in the polyclinics and intensive care units along with the operating rooms. Twenty-two percent had no idea. The following answers were given question regarding the job of the anesthesiologist in the operation rooms: Follows wakefulness and vital signs (44%), administers anesthesia to the patient (42%), no idea (14%) ($P=0.829$).

Regarding the information of anesthetic methods, 56% knew about general anesthesia, 24% had information on local/regional anesthesia, 16% knew about both and 4% had no

idea (Figure 2). General anesthesia was the significantly most commonly known among all (P<0.001).

The most common cause of concern regarding anesthesia was inability to regain consciousness (58%), followed by postoperative pain. The causes of concern and rates are presented in Table 3. Chi-square tests measuring anxiety levels regarding anesthesia revealed that there were significant differences between anxiety levels (P<0.001).

Table 2: Evaluation of patients' anesthetic histories and general information on anesthesia

	Yes		No		*P*-value
	n	%	n	%	
Do you have a previous experience of anesthesia?	140	93.33	10	6.67	<0.001
Is there a family member who underwent anesthesia?	114	76	36	24	<0.001
Did you have any problems related to anesthesia?	9	6	141	94	<0.001
Do you know why you were referred to the anesthesia polyclinic?	132	88	18	12	<0.001
Were you informed about anesthesia?	81	54	69	46	0.424

Table 3: Evaluation of causes of concern and anxiety levels regarding anesthesia and the operation

	Not anxious		A little anxious		Anxious		Very anxious	
	n	%	n	%	n	%	n	%
Regarding anesthesia	23	15.33	24	16	31	20.67	72	48
Regarding inability to regain consciousness	24	16	18	12	21	14	87	58
Regarding prior fasting	45	30	69	46	27	18	9	6
Regarding postoperative pain	15	10	28	18.67	29	19.33	78	52
Regarding nausea/vomiting after anesthesia	14	9.33	104	69.33	25	16.67	7	4.67

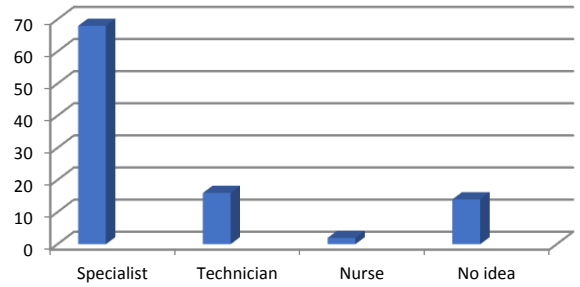

Figure 1: The answers of the question regarding who administers anesthesia

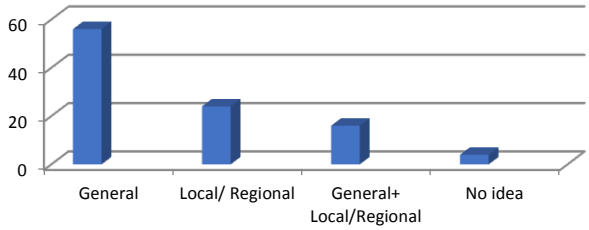

Figure 2: Answers to the question about knowledge of anesthesia methods

Discussion

Preoperative evaluation, a clinical examination which is the responsibility of the anesthesiologist, is performed prior to the anesthesia in the patient to be operated [11]. However, there is little information about the anesthesiologist and various studies have shown that people believe that the anesthesiologist is not a medical doctor [8,9].

In a study conducted on 800 patients in 1991, Shevde et al. [5] reported the rate of knowing the role of the anesthesiologist as 68%. In another study, the rate of knowing that the anesthesiologist was a specialist was found to be 58%, and it was reported that this rate was lower compared to other specialties [12]. This can be attributed to the pre-operative exposure of patients to a complex environment. Many patients do not remember the anesthesiologist because they encounter a large number of hospital staff [13,14].

In our study, the mean age of the patients was 45.37(10.79) years. The fact that 92% of our patients had previous experiences with anesthesia and 76% had experiences with a family member can be attributed to the lack of young patients. Despite the high rate of anesthesia experience, the question of who administers anesthesia in the operating room was not answered with "a specialist physician" by 32%. Only 68% gave the answer of an anesthesiologist. A statistically significant majority of the patients knew why they came to the anesthesia outpatient clinic. We thought that the high rate of prior anesthesia experience was effective in this result.

Various studies have been conducted on questioning the working places of anesthesiologists and results have been shared in the literature [9]. Demir et al. [9] argued that most of the patients knew that the anesthesiologist also worked outside the operating room (polyclinic, intensive care, pain treatment). In other studies, it was found that the patients thought that the anesthesiologists would only work in the operating room and did not know about other work areas, such as the intensive care unit, pain clinic, and interventional procedures [15-17]. The reasons may include the fact that anesthesia is a newly-recognized branch compared to other sciences, the anesthesiologists usually work as consultant physicians outside the operating room and consequently, they are rarely seen and recognized, and finally, that new working areas of the anesthesiologists have recently been added. In a different study, it was questioned whether the anesthesiologist had any other duties outside the operating room, and 19.6% patients responded "Yes" while 80.4% responded "No" [18]. In our study, 66% of our patients gave the response "operating room" while 22% of the patients stated that they had no idea. Only 12% of the patients reported knowing about outpatient clinics and intensive care units in addition to the operating room. These results are incompatible with the results of Demir et al. [9] and consistent with other study results.

We believe that the socioeconomic and educational level of the survey population are key factors in these differences. In their study, Tuba et al. [8] concluded that the accuracy of the answers given to the questions about the anesthesiologist and anesthesia increased with the level of education.

In our study, 78% were educated below high school, 22% had high school diplomas and above. This situation and the fact that the non-operating working areas are known at a rate of 12% makes the education level important, in accordance with the study performed by Tuba et al. [8].

In their study, Hariharan et al. [19] questioned the work performed by the anesthesiologist in the operating room, and 75% answered with consciousness follow-up and 62.8%, with vital signs follow-up. In our study, 44% stated that anesthesiologists follow wakefulness and vital signs, 42% stated that they administer anesthesia to the patients,14% had no idea.

It is reported that general anesthesia, which is one of the anesthesia methods, is more widely known than local and regional anesthesia [9]. In addition, Demir et al. [9] state that women's knowledge level is higher than that of men's. The knowledge about general anesthesia was significantly higher in our patient group compared to local and regional anesthesia methods.

Patients are often anxious prior to anesthesia and operation. Concerns about surgical intervention and anesthesia

practice adversely affect the intraoperative period as well as postoperative recovery process [11]. In preoperative evaluation, diagnosis, general condition, comorbidities, medications, laboratory results and anesthesia risk are determined, and physical examination is performed. In addition, the psychological state of the patient is evaluated, and it is aimed to reduce the anxiety by giving information [11].

When the causes of anxiety related to anesthesia and operating room were questioned in our patients, it was found that the most worrying situation was the fear of not being able to regain consciousness. The second most frequent cause of anxiety was postoperative pain. Similar to these results, there are also reports in the literature that indicate fear of not being able to regain consciousness and postoperative pain are important causes of anxiety [6,18,19].

In their study in 1998, Chew et al. [6] reported pain as the most important cause of anxiety, while Hume et al. [20] reported waking up during surgery as an important cause of concern. While postoperative pain continues to be a cause of anxiety today, we believe that waking up during surgery is not a cause of concern due to the development of anesthetic agents.

Weis et al. [21] showed that the detailed information provided to the patients decreased anxiety in the preoperative and postoperative periods and that the recovery in the postoperative period was faster and less painful.

Different studies measuring preoperative patient satisfaction, causes and degrees of anxiety conclude that providing information is useful [11,22]. The introduction of the anesthesiologist and the information provided about anesthesia applications during preoperative examination plays a key role.

Increased treatment costs shorten the duration of hospital stay. Also, the fact that anesthesiologists do not visit the patients after the surgery prevents postoperative encounter. This is caused by the increased workload of anesthesiologists, like all healthcare workers, and because postoperative visits are not routine procedures.

Limitation

The limitation of our study is the lack of a postoperative survey conducted on the same patients. It is our belief that planning future studies in this regard will highly contributes to the literature.

Conclusion

This study shows that preoperative process is highly stressful for most patients. The lack of information about the above-mentioned concepts may be considered as one of the reasons of observed anxiety. Patients may be informed about anesthesiologists and their applications to reduce stress. Pre-operative visits and visual communication tools and brochures may reduce the anxiety of patients regarding anesthesia and related processes. It is also expected to contribute positively to the recognition of the rapidly developing branch of anesthesiology and the anesthesiologists.

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