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Research Article

Assessing Patients' Knowledge and Attitude Toward Anesthesia and Its Complications in a Tertiary Center: An Original Study

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ABSTRACT

Background: Anesthesia is a significant development of modern medicine that makes diagnostic and therapeutic procedures with unbearable pain or discomfort feasible. Like most medical procedures, anesthesia is not free of complications. It is shown that many patients suffer from anxiety due to fear of anesthesia complications before operation. Increasing patients' knowledge of these complications can help them reduce their anxiety. This study aimed to assess the patients' knowledge and attitude toward anesthesia complications and their relationship with demographic features and previous anesthesia experience to ensure a helpful and informative preoperative visit.

Methods: This is an original study conducted on patients referred to our anesthesia clinic for a preoperative visit, completing a questionnaire about demographic features, previous anesthesia experience, knowledge, and attitude toward anesthesia complications. The results were expressed as frequencies and percentages. T-test, Pearson correlation, and linear regression were used to find the significance of the study parameters.

Results: Four hundred patients entered the study. Patient demographics were as follows: 260 (65.0%) female, 251 (62.75%) high school-graduated or below, mean (SD) age 42.75± 13.62 years. 260(65.0%) patients had previous anesthesia experience. Patients' mean (SD) knowledge score was 6.83 ± 4.18 out of 19 questions and the mean (SD) attitude score was 54.26 ± 6.59. The patients were most aware of postoperative delirium (72.8%), nausea and vomiting (66.0%), feeling pain during surgery (59.5%), and death (52.3%) as general anesthesia complications. There was a significant relationship between the level of knowledge and the female sex (p-value= 0.03). University education had a significant relationship with knowledge and attitude (both p-values ≤ 0.001). There was a significant correlation between knowledge and attitude (Pearson correlation= 0.461, p-value ≤ 0.001), as well.

Conclusion: Unfortunately, the knowledge about anesthesia complications in outpatients referring to our tertiary care center was poor. Women and university-educated patients had a higher level of knowledge. In contrast, most patients had a positive attitude toward anesthesia which was significantly higher in university-educated patients. It is shown that with the increase in the level of knowledge, attitude scores increased as well.

The authors declare no conflicts of interest.

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Introduction

Anesthesia is a significant development of modern medicine that allows diagnostic and therapeutic procedures with unbearable pain or discomfort to be accomplished [1]. Millions of major surgeries are performed annually across the world usually requiring anesthesia. This amount was estimated at 234.2 million in 2004 and in an upward trend reached 312.9 million in 2012 [2-3]. Like most medical procedures, anesthesia may be accompanied by complications. It is shown that the occurrence of complications depends on the existence of comorbidities, like ischemic heart diseases, diabetes mellitus, and obstructive sleep apnea, as well [4].

According to previous studies, in the United States, anesthesia is reported as the underlying cause of approximately 34 deaths and a contributing factor in another 281 deaths each year [5]. Although this means 1.1 patients per million, research has shown that about 64.8% of patients scheduled to undergo anesthesia are afraid of not waking up after the operation [6]. Increasing patients' knowledge about anesthesia complications significantly reduces their preoperative anxiety [7-8].

Patients' knowledge about anesthesia complications is influenced by various factors such as age, sex, level of education, and previous anesthesia experience [6]. Lack of knowledge increases preoperative anxiety. The level of this anxiety is evaluated from 22.85% to 92.6% in different studies [8-12]. Sometimes the amount of anxiety caused by anesthesia is even higher than the operation itself [13-16]. This anxiety can cause multiple problems for patients, such as increased demand for anesthetics, increased incidence of nausea and vomiting, increased postoperative pain, and sleep disturbance, which can prolong both the recovery period and the hospital stay [14, 17].

Also, it is shown that children who are anxious during the induction of anesthesia have an increased likelihood of developing postoperative negative behavioral changes like nightmares, separation anxiety, and aggression toward authority [13]. Nevertheless, preoperative visits are one of the most effective methods in reassuring and reducing patients' anxiety [7, 18-21]. This study aimed to assess the patients' knowledge and attitude toward anesthesia complications to ensure a helpful and informative preoperative visit.

Methods

Study design

This is an original study conducted on patients referred to the anesthesia clinic for their preoperative visit. After a pilot study on 30 patients, the sample size was calculated as 398 people. The data was gathered from February to June 2023 from 400 patients scheduled to undergo any kind of surgical procedure under anesthesia.

Ethical considerations

The study was approved by the Medical Ethics Committee of Tehran University of Medical Sciences with the ethics code IR.TUMS.IKHC.REC.1400.347. Written informed consent was obtained from all patients and/or their legal executors. Patients were reassured that all information remains confidential and they can leave the study anytime without any consequences.

The questionnaire

All patients who participated in this study completed a questionnaire about their demographic features, previous anesthesia experience, anesthesia complications, and their attitudes toward anesthesia and its complications. In this study, we evaluated patients' knowledge and attitude toward anesthesia complications and their relationship with age, sex, previous anesthesia experience, and educational status. The relationship between knowledge and attitude was assessed, as well.

(Appendix 1) shows the questions related to patients' knowledge about anesthesia complications and the questions related to patients' attitudes are shown in (Appendix 2). Attitude was defined as an enduring, learned predisposition to behave in a consistent way toward a given class of objects, or a persistent mental and/or neural state of readiness to react to a certain class of objects, not as they are but as they are conceived to be [22].

After reviewing the literature and evaluating various questionnaires, unfortunately, we could not find a questionnaire according to our aims of study. We developed a new questionnaire by incorporating questions from previous studies [1, 23-27] and the opinions of the anesthesiologists at our center.

To ensure the reliability of the questionnaire, a primary study was conducted on a sample of 30 patients, and the reliability was checked using the test-retest method. In this method, the questionnaire was completed two times by each participant within 2 weeks intervals. The reliability coefficient was checked by the interclass correlation coefficient (ICC) method to ensure that the questionnaire would get the same results in the same conditions.

To assess the internal consistency of the questionnaire, Cronbach's alpha coefficient was calculated as 0.719, indicating good internal consistency. Also, to ensure the validity of the questionnaire, meetings were held with the presence of eight members of the anesthesiology faculty of Tehran University of Medical Sciences (Expert Group) regarding the questions which resulted in the approval of the questionnaire.

Study population and data gathering

All patients with mental health and over 15 years entered the study. To overcome the limitation in illiterate and visually impaired patients, the exact content of the

questionnaire was read to them by the study executor. Patients who did not answer the whole questionnaire were excluded from the study.

Statistical analysis

The correct answer to all questions about anesthesia knowledge was yes. So, if the patient marked the answer yes, he got one point. The no or no opinion answers got zero points. The no-opinion option was added to reduce the probability of random answers. Each patient obtained a score between 0 to 19.

The answer to the questions about patients' attitudes toward anesthesia was based on a Likert scale. Scoring was as follows: strongly disagree 1 point, disagree 2 points, no opinion 3 points, agree 4 points, and strongly agree 5 points. Since we had 14 questions about attitude, each patient scored from 14 to 70.

We used SPSS software for data analysis. Knowledge and attitude scores were reported as mean ± standard deviation and frequencies. To evaluate the relationship between knowledge and attitude with qualitative values like sex, educational status, and previous anesthesia experience the T-test was used. The correlations between knowledge and attitude with age and their own were calculated by the Pearson correlation. Linear regression was used to control confounding factors. For better understanding, data were shown in tables and graphs. A p-value of less than 0.05 was considered significant.

Results

Demographic data

Overall, 400 patients with a mean (SD) age of 42.75 ± 13.62 years participated in this study. 140 (35.0%) patients were male and 260 (65.0%) were female. the educational status of 251 (62.75%) patients was a high-school graduate or below and 149 (37.25%) patients had university degrees. 260 (65.0%) patients had previous anesthesia experience and 43 thought they had anesthesia-related complications. The information about patients' demographics and previous anesthesia experience is shown in (Table 1).

Table 1- Patients' demographics and anesthesia experience

Variables	Frequency	Percent
Age		
< 20 years	15	3.8
20 – 40 years	171	42.8
40 – 60 years	164	41.0
≥ 60 years	50	12.5
Sex		
Male	140	35.0
Female	260	65.0
Educational status		
Illiterate to high-school graduate	112	28.0
High-school graduate	139	34.7
Bachelor's degree	95	23.8
Master/doctoral degree	54	13.5
Anesthesia experience		
Yes	260	65.0
No	140	35.0
Previous anesthesia type		
General anesthesia	181	45.3
Spinal anesthesia	32	8.0
Both	47	11.7
Previous anesthesia complication		
Yes	43	10.75
No	357	89.25

Knowledge

General anesthesia

The patients' mean (SD) knowledge score was 5.2 ± 3.2 out of 14 questions, which is equivalent to 37.1%. The most common side effects that patients were aware of are as follows: post-operative delirium (72.8%), nausea and vomiting (66.0%), feeling pain during operation (59.5%), and death (52.3%). Also, the complication that patients were least aware of was the probability of dental damage due to general anesthesia. Patients' knowledge about each complication is demonstrated in (Table 2).

Table 2- Patients' knowledge of anesthesia complications

Complication	Frequency	Percent
General anesthesia		
Postoperative delirium	291	72.8
Nausea and vomiting	264	66.0
Feeling pain during the operation	238	59.5
Death	209	52.3
Severe allergic reactions	199	49.8
Recalling memories of operation	158	39.5
Sore throat	121	30.3
Brain injury	111	27.8
Cardiac damage	102	25.5
Pulmonary problems	101	25.3
Oral ulcers	93	23.3
Exacerbation of underlying diseases	92	23.0
Visual problems	59	14.8
Dental damage	43	10.8
Spinal anesthesia		
Headache	202	50.5
Damage to the nerves of the lower limb or spinal cord	167	41.8
Urinary retention	147	36.8
Nervous system infection	85	21.3

Death	49	12.3

Spinal anesthesia

We evaluated patients' knowledge about headaches, the possibility of death, urinary retention, nervous system infection, and damage to the nerves of the lower limb and spinal cord as spinal anesthesia complications. We found out that the highest level of knowledge among the mentioned complications was for headache (50.50%) and then damage to the nerves of the lower limb and spinal cord (41.75%). The lowest level of knowledge was for the possibility of death following spinal anesthesia with 12.3% correct answers. The average (SD) knowledge of the patients regarding the complications of spinal anesthesia was estimated at 1.3 ± 1.6, which is equivalent to 32.0%. Table 2 shows the patients' knowledge of the mentioned complications in detail.

The relationship between knowledge and independent variables

Based on the evaluation, the patients' knowledge about anesthesia complications had a mean (SD) score of 6.83 ± 4.18. A significant relationship was observed between knowledge and patients' sex, with women exhibiting a significantly higher mean knowledge score compared to men (p-value = 0.03). However, no significant relationship was found between knowledge and previous anesthesia experience (p-value = 0.19).

Furthermore, when examining the relationship between knowledge and educational status, it was found that patients who graduated from high school or above had significantly higher knowledge scores compared to those with lower educational levels (p-value ≤ 0.001). Additionally, it was demonstrated that the mean knowledge score increased with higher educational levels. Notably, patients with a master's or doctoral degree had significantly higher knowledge scores compared to patients with a bachelor's degree (p-value = 0.02). (Figure 1) presents the mean knowledge scores across different educational subgroups.

Upon evaluating the relationship between age and knowledge, no significant correlation was found, as the Pearson correlation coefficient was calculated as -0.114, indicating a near-zero correlation (p-value = 0.022). (Figure 2), which illustrates the relationship between knowledge and age, further supports this finding, showing a dispersed pattern with no clear correlation.

To control the effect of confounding variables, linear regression analysis was performed. All variables that exhibited a significant or near significant relationship with knowledge in the linear regression analysis (p-value ≤ 0.2) were included in the model. These variables included age (p-value = 0.02, beta = -0.035), sex (p-value = 0.03, beta = 0.933), educational level (p-value ≤ 0.001, beta = 2.375), and previous anesthesia experience (p-value = 0.19, beta = -0.570). The results of the regression model are presented in (Table 3).

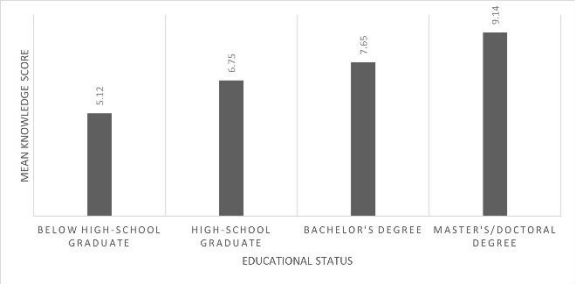

Figure 1- Mean knowledge score in educational subgroups

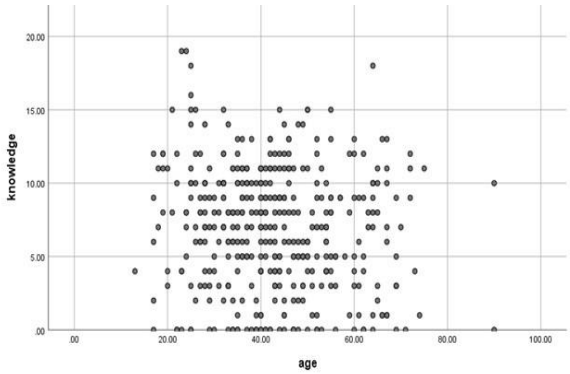

Figure 2- The correlation between age and knowledge

Table 3- The linear regression model of the knowledge and attitude by controlling the effect of confounding variables.

Model	Unstandardized coefficient B	Std. Error	Sig.
Knowledge			
(Constant)	2.797	1.699	0.101
Anesthesia experience	-0.652	0.439	0.138
Age	-0.017	0.016	0.267
Sex	0.946	0.436	0.031
Education	2.385	0.463	0.000
Attitude			
(Constant)	46.383	1.117	0.000
Knowledge	0.674	0.072	0.000
Education	1.905	0.669	0.005

Despite controlling the effects of the other variables in the model, a significant relationship between knowledge and sex (p-value = 0.03, beta = 0.946), as well as the educational level (p-value ≤ 0.001, beta = 2.385), was observed. Specifically, women had a knowledge score of 0.94 higher than men with the same age, educational level, and previous anesthesia experience. Furthermore, patients who were high-school graduates or higher had 2.38 more knowledge points compared to other patients, while keeping age, gender, and previous anesthesia experience constant.

Interestingly, despite the initial significant relationship between age and knowledge, after controlling for confounding factors such as sex, educational level, and previous anesthesia experience, no significant

relationship was found between these two variables (p-value = 0.26, beta = -0.017).

Attitude

Patients' attitude toward anesthesia and its complications

Out of the total respondents, 380 individuals, accounting for 95.0%, agreed or strongly agreed with the necessity of sharing information about their underlying diseases with their anesthesiologist. Furthermore, according to the opinion of 244 respondents (61.0%), underlying disease increase the possibility of anesthesia complications. A significant number of respondents, 325 individuals (81.25%), acknowledged that the type and dosage of anesthesia drugs may vary depending on factors such as age and weight.

Regarding anesthesia complications, 250 patients (62.5%) believed that the likelihood of complications is influenced by the type of surgery they undergo. Furthermore, 261 patients (65.25%) believed that anesthesia complications are more likely to occur in longer surgeries. Additionally, 290 patients (72.5%) believed that anesthesia complications can persist for several days after the operation.

When it comes to the role of the anesthesiologist, 293 respondents (73.25%) mentioned that the incidence of anesthesia complications is related to the anesthesiologist's experience. Moreover, 276 individuals (69.0%) agreed or strongly agreed that having sufficient information about anesthesia complications before surgery increases their satisfaction after the procedure.316 individuals (79.0%) stated that getting to know the anesthesiologist before surgery reduces their preoperative anxiety.

Overall, 277 patients (69.25%) mentioned that the anesthesia method used for the patient is related to the occurrence of anesthesia complications. Moreover, 250 patients (62.5%) agreed or strongly agreed that the presence of drug, psychotropic, and alcohol addiction is associated with an increased risk of anesthesia complications.

Also, 249 individuals (62.25%) did not have an opinion about the relationship between body position during anesthesia and anesthesia complications. Similarly, 252 patients (63.0%) stated that they have no opinion regarding the relationship between a history of infection with COVID-19 and anesthesia complications. Furthermore, 270 patients (67.5%) mentioned that they had no opinion regarding the relationship between COVID-19 vaccination and anesthesia complications. The results of attitude questions are shown in Appendix 2 in detail.

The relationship between attitude and independent variables

Overall, the patients' mean (SD) attitude score was 54.26 ± 6.59 out of a total of 70 points. When examining the relationship between attitude and various independent variables, it was determined that there was no significant association between attitude and sex (p-value = 0.2) or previous anesthesia experience (p-value = 0.61).

However, a noteworthy positive linear relationship was observed between attitude and educational level. Patients with a high-school graduate or higher educational background had an average attitude score that was 2.6 points higher compared to those with lower educational levels (p-value ≤ 0.001). This finding is depicted in (Figure 3), which displays the mean attitude scores across different educational subgroups.

Furthermore, a negative but non-significant relationship was identified when assessing the correlation between age and attitude (Pearson correlation = -0.56, P value = 0.26). (Figure 4) provides a visual representation of this correlation between age and attitude.

The results of the linear regression analysis revealed that the only variable demonstrating a significant or nearly significant relationship (P value ≤ 0.2) with attitude was educational level (beta = 3.505, P value ≤ 0.001). Controlling the impact of patients' knowledge level about anesthesia complications, it was observed that patients with a high-school graduate or higher educational background had an average attitude score approximately 2 points higher than those who were illiterate or had below a high-school graduate education (Beta = 1.905, P value = 0.005). Table 3 displays the outcomes of the linear regression model.

The relationship between knowledge and attitude

Analyzing the correlation between knowledge and attitude, a strong and positive correlation between these two variables was observed (Pearson correlation = 0.461, p-value ≤ 0.001). This implies that as the knowledge score of the patients increases, their attitude score also tends to rise. This correlation is visually depicted in (Figure 5).

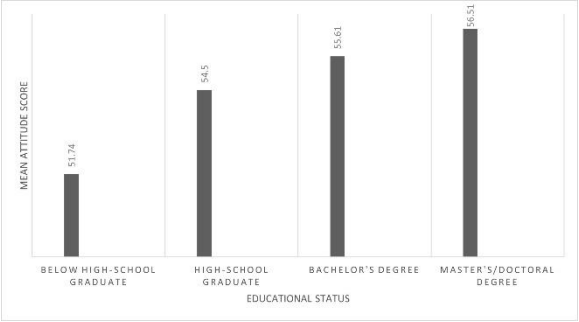

Figure 3. Mean attitude score in educational subgroups

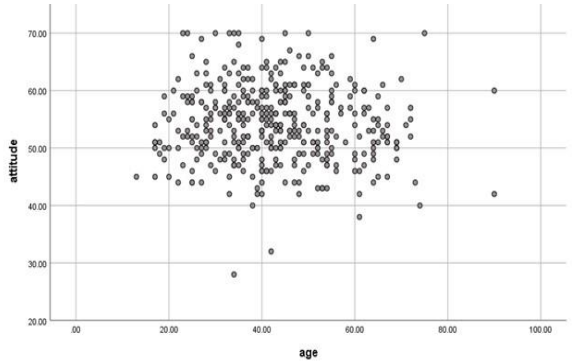

Figure 4. The correlation between age and attitude

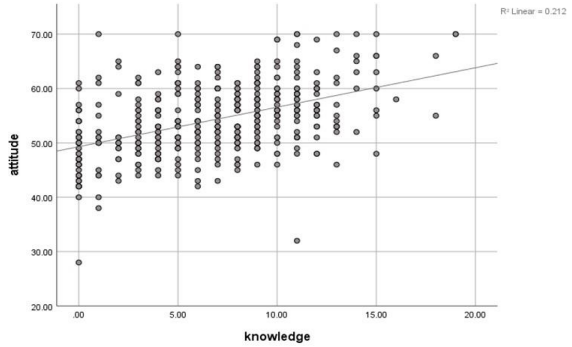

Figure 5. The correlation between knowledge and attitude.

To explore the impact of confounding variables on the correlation between knowledge and attitude, a linear regression analysis was conducted. After examining the relationship between attitude and all independent variables, it was found that only education level (p-value ≤ 0.001, beta = 3.505) and knowledge (p-value ≤ 0.001, beta = 0.726) exhibited significant or close to significant associations (p-value ≤ 0.2) with attitude.

To control the influence of confounding variables, both education level and knowledge were included in the model. Even after controlling the effect of education, a significant relationship between attitude and knowledge persisted (p-value ≤ 0.001, beta = 0.674). This suggests that by controlling the effect of educational level, each 1-point increase in knowledge score is associated with a corresponding 0.64 increase in attitude score. The results of the linear regression model regarding attitude are presented in (Table 3).

Discussion

The purpose of this study was to assess patients' knowledge and attitude regarding anesthesia complications, as well as examine the relationship between these variables with demographic characteristics and prior anesthesia experience during the preoperative visit to provide a useful and informative preoperative visit in the hope of reducing patients' anxiety. Additionally, the association between knowledge and attitude was explored.

Unfortunately, the findings revealed that patients had poor knowledge concerning anesthesia complications. This lack of knowledge about anesthesia has also been observed in other studies [23-24, 27]. For instance, a study conducted in India in 2018, which included 400 patients referred for preoperative visits, found that one-third of the patients did not have any knowledge about anesthesia. Additionally, 75.7% of the patients mentioned that they were unaware of the different anesthesia methods, and 67.75% were not aware of the potential complications associated with anesthesia at all. Although the level of knowledge among patients was assessed as poor in our study as well, the patients had a significantly higher level of knowledge in our study compared to the Indian study. 10.7% of our study population got zero points in knowledge score which is a very low percentage compared to 67.75% in the Indian study. One reason can be due to the different educational status of participants in these studies. Only 13.25% of the patients in the Indian study were graduates while it was 37.3% in our study [24].

Also, a significant relationship between previous anesthesia experience and patients' knowledge level was observed in the same study which was in contrast with our findings. A probable reason for this finding can be due to insufficient previous preoperative anesthesia visits in our study participants which did not improve the patients' knowledge regarding anesthesia. Although we did not gather information about the center in which patients experienced anesthesia formerly, we can tell that in our hospital as a tertiary center the number of patients referring to the preoperative anesthesia clinic is high, and due to limited time, the chance of conducting an effective visit is low. This finding indicates that the relationship between the patient and the anesthesiologist is not sufficient in our country [24].

Another study that took place in India asked patients if they had any idea about general anesthesia complications. Patients were divided into 5 groups based on their educational level. It was demonstrated that none of the illiterate patients had any idea about this issue. 41.38% of patients in the post-graduation and above group and 35.56% of medical undergraduates answered yes to this question. Although these outcomes demonstrate a poor level of knowledge regarding anesthesia complications, an increase in knowledge level with an increase in educational status is obvious. This finding is in line with the findings of our study [25].

Our study demonstrated a significant relationship between sex and knowledge level, indicating higher knowledge scores in women than men. Many previous studies demonstrated a higher anxiety level in women compared to [11, 14, 16, 27-30] which may cause seeking more information about anesthesia and its complications.

Although, we did not evaluate patients' anxiety levels in this study.

Preoperative anxiety can lead to several complications, such as an increased demand for anesthetics, a higher incidence of nausea and vomiting, increased postoperative pain, and sleep disturbance. These complications can ultimately prolong both the recovery period and the hospital stay [14,17]. More than half of the patients in our study believed the presence of underlying diseases would increase the chance of anesthesia complications occurring. This finding aligns with a study conducted in Ethiopia which reported that approximately half of the patients acknowledged the heightened risk of anesthesia due to the presence of underlying diseases [23].

Unfortunately, previous research regarding patients' knowledge about anesthesia complications is limited. This indicates the necessity of further research in this area. After all, in this study, women exhibited a higher mean knowledge score compared to men. Furthermore, as the level of education increased, patients demonstrated higher knowledge and attitude scores. Finally, examining the correlation between knowledge and attitude it was observed that there is a direct and meaningful relationship between these two variables.

Conclusion

Increasing patient knowledge and providing sufficient information about anesthesia and its potential complications are indeed important aspects of patient care and can contribute to improved outcomes, reduced anxiety, and increased patient satisfaction.

To address this issue, researchers have explored various methods to educate patients before surgery. These methods include preoperative visits with an anesthesiologist [7], providing brochures in anesthesia clinics [28], broadcasting educational videos in hospitals [30], and even utilizing educational applications [29].

Providing brochures containing comprehensive and appropriate information about the anesthesia process and its side effects in the anesthesia clinic can serve as a resource for patients who are interested in learning more about anesthesia before their surgery. It is important to ensure that the information in the brochures is accurate, easily understandable, and addresses common concerns and misconceptions.

Another suggestion is to broadcast educational videos during the patient's hospitalization in the surgery ward before the operation. These videos can further enhance patients' knowledge and understanding of anesthesia and its associated risks and benefits. The videos can be designed to provide clear explanations and visuals that help patients grasp the concepts more effectively. Implementing these interventions are cost-effective methods increasing patient knowledge, reducing anxiety, and improving patient satisfaction. However, it is important to consider the resources and feasibility of such interventions within the healthcare setting.

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Appendix 1

Questions related to patients' knowledge of anesthesia complications.

Instruction: Please mark your opinion on each question.

1) Is there a possibility of underlying disease exacerbation (e.g., diabetes mellitus, hypertension, hypothyroidism, etc.) following general anesthesia?

Yes No Don't know

2) Is nausea and vomiting after surgery a complication of general anesthesia?

Yes No Don't know

3) Can general anesthesia cause sore throat?

Yes No Don't know

4) Are lacerations to the lips, tongue, gums, and throat a complication of general anesthesia?

Yes No Don't know

5) Can general anesthesia cause dental damage?

Yes No Don't know

6) Is the feeling of pain during surgery caused by insufficient anesthesia?

Yes No Don't know

7) Is recalling memories of the operation after surgery a complication of general anesthesia?

Yes No Don't know

8) Is there a possibility of visual damage following general anesthesia?

Yes No Don't know

9) Is delirium after surgery a complication of general anesthesia?

Yes No Don't know

10) Can general anesthesia cause brain damage?
Yes No Don't know
11) Is there a possibility of death following general anesthesia?
Yes No Don't know
12) Can general anesthesia cause cardiac damage?
Yes No Don't know
13) Is there a possibility of severe allergic reactions following general anesthesia?
Yes No Don't know
14) Can general anesthesia cause pulmonary problems?
Yes No Don't know
15) Is headache a complication of spinal anesthesia?
Yes No Don't know
16) Can spinal anesthesia cause urinary retention (a problem in urination)?
Yes No Don't know
17) Is there a possibility of death following spinal anesthesia?
Yes No Don't know
18) Can spinal anesthesia cause damage to the leg nerves or spine?
Yes No Don't know
19) Is there a possibility of nervous system infection following spinal anesthesia?
Yes No Don't know

Appendix 2

Questions related to patients' attitudes toward anesthesia and its complications.

Instruction: Please mark your opinion on each question.

Statements	**Strongly disagree No. (%)**	**Disagree No. (%)**	**No opinion No. (%)**	**Agree No. (%)**	**Strongly agree No. (%)**
1) It is necessary to inform the anesthesiologist about underlying diseases (e.g., diabetes mellitus, hypertension, renal disorders, etc.).	4 (1.0)	1 (0.3)	15 (3.8)	72 (18.0)	308 (77.0)
2) The type and dose of anesthetic depend on the age and weight of the patient.	3 (0.8)	7 (1.8)	65 (16.3)	116 (29.0)	209 (52.3)
3) Possible anesthesia complications are related to the type of surgery.	3 (0.8)	25 (6.3)	122 (30.5)	123 (30.8)	127 (31.8)
4) The possibility of anesthesia complications increases when the surgery is longer.	0 (0.0)	18 (4.5)	121 (30.8)	145 (36.3)	116 (29.0)
5) The possibility of anesthesia complications decreases if the anesthesiologist is experienced.	7 (1.8)	21 (5.3)	79 (19.8)	141 (35.3)	152 (38.0)
6) Greater satisfaction after surgery is linked to having sufficient knowledge about anesthesia before the operation.	5 (1.3)	19 (4.8)	100 (25.0)	131 (32.8)	145 (36.3)
7) Establishing a pre-surgery connection with the anesthesiologist helps alleviate the anxiety regarding the procedure.	5 (1.3)	24 (6.0)	55 (13.8)	139 (34.8)	177 (44.3)
8) The likelihood of anesthesia complications increases with the presence of underlying diseases (e.g., diabetes mellitus, hypertension, renal disorders, etc.).	3 (0.8)	17 (4.3)	136 (34.0)	124 (31.0)	120 (30.0)
9) Anesthesia complications can last for several days after the operation.	5 (1.3)	23 (5.8)	82 (20.5)	178 (44.5)	112 (28.0)
10) The anesthesia method used for the patient is related to anesthesia complications.	1 (0.3)	9 (2.3)	113 (28.3)	165 (41.3)	112 (28.0)
11) Drug and alcohol abuse increases the incidence of anesthesia complications.	0 (0.0)	8 (2.0)	142 (35.5)	125 (31.3)	125 (31.3)
12) The way the body is positioned during surgery (e.g., lying on the back or side, etc.) is related to anesthesia side effects.	6 (1.5)	31 (7.8)	249 (62.3)	64 (16.0)	50 (12.5)

13) Previous COVID-19 infection increases the possibility of anesthesia complications.	6 (1.5)	23 (5.8)	252 (63.0)	72 (18.0)	47 (11.8)
14) A history of COVID-19 vaccination before 2 weeks of surgery is related to reducing the incidence of anesthesia complications.	7 (1.8)	39 (9.8)	270 (67.5)	45 (11.3)	39 (9.8)