Assessment of Thai Patients and People Knowledge of Anesthesiologists' Role and Anesthesia

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Objective: *We aimed to 1) evaluate patient and Thai people knowledge about the roles of anesthesiologists, 2) examine factors associated with the lack of knowledge regarding the roles of anesthesiologists, and 3) evaluate patient concerns regarding their personal anesthesia and surgical experiences.*

Material and Method: *Between January 2015 and June 2016, we conducted a public survey interview and also interviewed admitted surgical patients during their post-operative period using the same questionnaire. The survey assessed knowledge of the roles of an anesthesiologist, and fears related to anesthesia and surgery.*

Results: *A total of 263 surgical patients and 607 Thai people of the general public were interviewed. Only 151 (57.4%) patients and 241 (39.7%) individuals were able to define the anesthesiologist's roles. From multivariate logistic regression analysis, factors associated with the lack of knowledge about the anesthesiologist's roles were 1) respondents from the north eastern region of Thailand (OR 1.96, 95% CI 1.21 to 3.17, p<0.01), 2) lower education level than a master degree; primary school (OR 27.92, 95% CI 10.65 to 73.16, p<0.01), high school (OR 10.25, 95% CI 4.02 to 26.18, p<0.01), vocational education (OR 7.61, 95% CI 2.55 to 22.75, p<0.01) and bachelor degree (OR 7.61, 95% CI 2.55 to 22.75, p<0.01), 3) having a career not related to healthcare (OR 16.03, 95% CI 6.18 to 41.57, p<0.01), 4) prior anesthesia experience (OR 2.20, 95% CI 1.55 to 3.12, p<0.01), and 5) Thai people (OR 2.87, 95% CI 1.94 to 4.24, p<0.01). There was no association between the lack of knowledge about the roles of anesthesiologists and total patient's concern score.*

Conclusion: *Many Thai people, including surgical patients with past anesthesia experience, still have limited knowledge regarding the roles of anesthesiologists.*

Keywords: *Anesthesiologist's role, Patients, Thai people, Factors, Concerns and fears of anesthesia*

J Med Assoc Thai 2017; 100 (Suppl. 7): S234-S243
Full text. e-Journal: *http://www.jmatonline.com*

Due to their main roles in the operating rooms with limited patient and public exposure, anesthesiologists are often under-recognized. Although anesthesiologists have contributed greatly to surgical safety and advancement in the surgical field, several studies have demonstrated poor patient and people knowledge regarding anesthesiologists' expertise, roles, and responsibility[1-3]. Recent studies from developed western countries reported that 50 to 88.7% of patients were aware that anesthesiologists were medically qualified[4]. In 1991, a previous study in our hospital demonstrated that only 42.7% of patients thought that their anesthesiologists were physicians[5]. This is important because patient lack of knowledge may lead to poor anesthesiologist-patient relationships and cooperation. This also may cause unrealistic concerns about anesthesia, surgery and perioperative anxiety in some patients[6].

The extension of anesthesiologists' roles and responsibilities beyond the operating rooms may increase the number of patients' perception in their career. Nowadays, there are also rapid growth of media in Thailand such as movies and social media may cause an increase in public awareness regarding anesthesiology specialty. However, it is still questionable whether or not patient and Thai people perceptions towards the roles of anesthesiologists have changed. Moreover, none of the past studies have ever included both patients and general population in the survey. The aims of this study were to 1) evaluate knowledge about anesthesia and the anesthesiologist's roles among patients and general population, 2) examine factors associated with the lack of knowledge regarding the anesthesiologist's roles and 3) evaluate the patient's concern about their anesthesia and surgical experience.

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Material and Method

Study population

This prospective cross-sectional survey was approved by Institution Review Board (Si 427/2014). Two groups of respondents to represent both the patients and Thai people were included. For Thai people group, individuals age over 15 years old around public areas (Centralworld Department Store, Chatuchak Weekend Market and Bangkok Train Station) were included. For the patient group, patients age over 15 years old who underwent elective surgery and who were admitted to obstetrics and gynecology, general surgery, orthopedics, otolaryngology, urology, neurology, cardiothoracic, ophthalmic, or plastic surgery wards were included. Patients who underwent emergency surgery, critically ill patients, and patients who had difficulty in communication were excluded.

Data collection

Routinely, most of the surgical patients are admitted one day prior to surgery. All included patients were visited by anesthesiology residents who were unaware of the study for preoperative evaluation and preparation. One author (PS) visited the patients during postoperative day 1 to 3, after the patients had fully recovered from anesthesia and before they were discharged. Following written consent, the patients were interviewed using the preset questionnaire without help from attendants or family members.

For Thai people group, the surveyors' recruited people from several chosen public locations in Bangkok, 1) Centralworld Department Store, 2) Chatuchak Weekend Market, and 3) Bangkok Train Station. All three locations are among the busiest areas in Bangkok and crowded with people from different age and socioeconomic background. We equally interviewed 200 Thai people in each location after obtained oral informed.

The questionnaire

The study questionnaire consisted of three parts (Appendix 1). First, the demographic data included gender, age, hometown, number of years living in Bangkok, level of education, career, and prior anesthesia experience. The second part assessed knowledge about the anesthesiologist's role and anesthesia. We used two terms-formal and informal, to refer to an anesthesiologist in this part of questionnaire. The formal term is a Thai word meaning "anesthesiologist", and the informal, more commonly coined word, refers to anesthesiologists as an "anesthesia doctor". If the respondents could not answer the roles of anesthesiologist correctly using either term, we further asked them who is responsible for giving anesthesia.

The last part assessed about perioperative concerns and fear related to anesthesia, which we asked only the patients. There were eight questions in this part and the respondents could choose "very concerned", "concerned", "not concerned", "prefer not to answer", or "don't know" as an answer. For the purpose of the analysis, each answer was calculated into a score as follows; "very concerned", "concerned" and "not concerned" were counted as two, one and zero, respectively. Meanwhile, "prefer not to answer" and "don't know" were not counted as any score. Thus, the maximum score was 16 and the minimum score was 0. The patients were further asked if they were informed about anesthesia and the choice of anesthesia given preoperatively.

Statistical analysis

Previous study in our hospital during 1992 showed that 42.7% of patients know anesthesiologist[5]. This survey study was performed in both patients and general population. In the general population, it is estimated that 40% would understand the roles of anesthesiologists. With 95% CI of $40\pm4\%$, a sample of 607 general population was required. Regarding patients, 43% of them would know anesthesiologist and with 95% CI of $43\pm6\%$, 262 patients was needed.

Data were analyzed using PASW Statistics for Windows, Version 18.0 Chicago: SPSS, Inc. Characteristics of patients and general population were presented using descriptive statistics. To compare subjects with and without perception of anesthesiologist's role, univariate analysis was first performed using Chi-squared test or Fisher's exact test, 2-sample t-test and Mann-Whitney U test as appropriate. Variables with univariate p-value <0.25 were entered into multiple logistic regression analysis with perception as the dependent variable. Regarding concern about anesthesia and surgery among patients, concern score was compared between groups (e.g., gender, level of education) using Mann-Whitney U test, Kruskal-Wallis test. Spearman rank correlation was performed to test the relationship between age and concern score. A p-value <0.05 was considered statistically significant.

Results

Demographic and characteristics of the respondents

From January 2015 to June 2016, a total of 870

volunteers including 263 patients and 607 Thai people were enrolled to the survey. Most of them were female (61.4%) with mean age of 40 years old. The overall socioeconomic background of the respondents included having Bangkok and metropolitan home towns (37.9%), with a bachelor degree (39.2%), having a career not related to healthcare (92.5%), and without previous anesthesia experience (62.1%) (Table 1).

Knowledge regarding the roles of anesthesiologists

While 272 (31.3%) of all respondents understood the word "anesthesiologist", 392 (45.1%) respondents knew the word "anesthesia doctor". Among the 478 (54.9%) respondents who did not know both terms, it was believed that anesthesia was given by doctors (27%), nurses (19%), surgeons (14%), unknown (4%), or others (36%) (Fig. 1).

Using univariate analysis, factors associated with the lack of perception about the anesthesiologist (doctor who gives anesthesia to patient in the operating room) were region of birth, educational level, working related to health profession, history of previous anesthesia and survey population (patient vs. Thai people).

The respondents who were unlikely to know about anesthesiologist's role were those from the central, east and west regions (OR 1.42, 95% CI 1.50 to 3.38, $p = 0.04$), southern region (OR 1.73, 95% CI 1.13 to 32.66, $p = 0.01$), north eastern region (OR 2.26, 95% CI

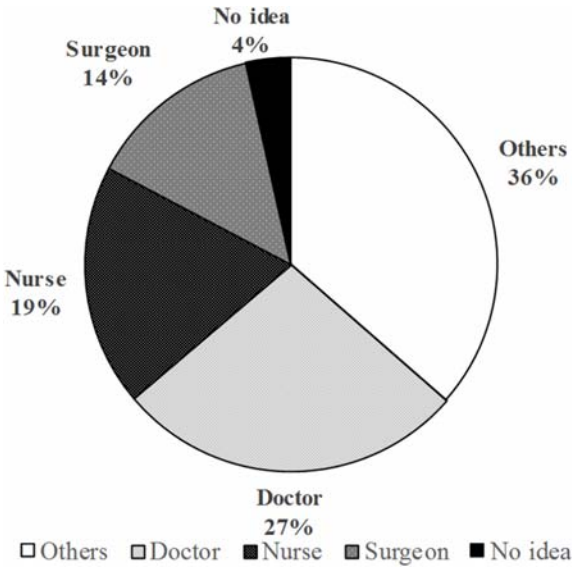

Fig. 1 Distribution of patient and Thai people who do not know anesthesiologist and their opinion towards who put them to sleep during the operation.

Table 1. Demographic data

Variables	Total (n = 870)	Patient (n = 263)	Thai people (n = 607)
Female	534 (61.4)	170 (64.4)	364 (60.0)
Age (yr)	39.8±15.6	50.5±14.9	35.1±13.5
Region of birth			
Bangkok Metropolitan	328 (37.9)	101 (38.4)	227 (37.4)
Central, East, West	239 (27.6)	87 (33.1)	152 (43.9)
North eastern	148 (17.1)	47 (17.9)	101 (16.6)
South	120 (13.9)	23 (8.7)	97 (16.0)
North	30 (3.5)	5 (1.9)	25 (4.1)
Education			
Unschooled or primary school	212 (24.4)	111 (42.2)	101 (16.6)
High school	226 (26.0)	62 (23.6)	164 (27.0)
Vocational	47 (5.4)	20 (7.6)	27 (4.4)
Bachelor degree	341 (39.2)	55 (20.9)	286 (47.1)
Master or doctoral degree	44 (5.1)	15 (5.7)	29 (4.8)
Health career			
Yes	65 (7.5)	15 (5.7)	50 (8.2)
No	805 (92.5)	248 (94.3)	557 (91.8)
Past anesthesia			
Yes	330 (37.9)	172 (65.4)	158 (26.0)
No	540 (62.1)	91 (34.6)	449 (74.0)

Data presented as mean ± SD or n (%)

1.50 to 3.38, $p<0.01$), unschooled and primary school (OR 16.93, 95% CI 6.80 to 42.15, $p<0.01$), high school (OR 10.43, 95% CI 4.23 to 25.71, $p<0.01$), vocational education (OR 5.12, 95% CI 1.82 to 14.41, $p<0.01$), bachelor degree (OR 5.34, 95% CI 2.20 to 12.97, $p<0.01$), having a career not related to healthcare (OR 17.10, 95% CI 6.79 to 43.03, $p<0.01$), prior surgical experience (OR 2.17, 95% CI 1.62 to 2.82, $p<0.01$), and Thai people (OR 2.05, 95% CI 1.53 to 2.75, $p<0.01$) (Table 2).

From multivariate analysis, factors associated with the lack of knowledge about the roles of anesthesiologists were respondents from the north eastern region of Thailand (OR 1.96, 95% CI 1.21 to 3.17, $p<0.01$), having lower education level than master degree [primary school (OR 27.92, 95% CI 10.65 to 73.16, $p<0.01$), high school (OR 10.25, 95% CI 4.02 to 26.18, $p<0.01$), vocational education (OR 7.61, 95% CI 2.55 to 22.75, $p<0.01$) and bachelor degree (OR 7.61, 95% CI 2.55 to 22.75, $p<0.01$)], having a career not related to healthcare (OR 16.03, 95% CI 6.18 to 41.57, $p<0.01$), prior surgical experience (OR 2.20, 95% CI 1.55 to 3.12, $p<0.01$), and 5) Thai people (OR 2.87, 95% CI 1.94 to 4.24, $p<0.01$) (Table 2). Subgroup analysis in the patient group demonstrated that older age were associated with the lack of knowledge about the roles of anesthesiologists (OR 1.02, 95% CI 1.01 to 1.04, $p<0.01$).

Postoperative patient recognition and anesthesia-related concerns

Two hundred and twenty-seven patients (86.3%) were able to tell the choice of anesthesia given to them during surgery. The patients who did not recall the types of anesthesia received had general anesthesia (17.8%), regional anesthesia (7.0%), peripheral never block (0.8%), and combined methods (4.6%). Moreover, 17 patients (6.5%) did not recall any anesthetic visit prior to the surgery. The other 7 patients (2.7%) did not know if they were visited preoperatively or not.

The most common concerns for the patients were postoperative pain (20.8%), the surgical procedures (20.2%), and needle (15.2%) (Fig. 2). Only median total concern scores in male and female were 2 (0, 12) and 3 (0, 14), respectively (Table 3). Patients with anesthetic experience had lower median total concern scores than those without anesthetic experience (3 vs. 4). Factors associated with higher total concern scores were female ($p<0.01$), service units ($p = 0.02$) and first time experiencing anesthesia ($p = 0.01$). There was no association between the lack of knowledge about the roles of anesthesiologists and total patient's concern score.

Discussion

The main findings from our study were that 1) the general Thai population as well as many surgical patients have limited knowledge about the roles of anesthesiologists, 2) factors associated with the lack of knowledge towards the roles of anesthesiologists include being from the north eastern region of Thailand, having less than a master degree, having a career not related to healthcare, and having previous surgical experience, and 3) a significant number of patients have unnecessary concerns over rare complications than a more common one such as postoperative nausea and vomiting.

The knowledge regarding the anesthesiologist's roles varies greatly among different countries and most likely to be similar in countries with equal socioeconomic backgrounds. Only 57.4% of the surgical patients were able to identify the roles of anesthesiologist just a few days after they were exposed to an anesthesiologist, and it was even less in general population group (39.7%). The percentages were quite low compared to that of previous studies from other countries; Israel (90.5 to 93%)[7], the United Kingdom (80%)[8] and Brazil (79.1%)[9], however, these percentages compare closely to numbers reported from countries with similar socioeconomic backgrounds; Nigeria (43 to 53.3%)[10,11], and India (42%)[12]. Gottschalk et al[13] demonstrated in a multicenter study that the knowledge varied between different countries. The reported rates of patients knowing their anesthesiologists were 83%, 71% and 58% in German, Australia and the US, respectively. The result from our study clearly demonstrates that both public appearance and anesthesiologist-patient relationship in Thailand should be improved.

It is not surprising that the lack of knowledge is highly related to lower education. Lower education was reported to be associated with the lack of knowledge towards the roles of anesthesiologists in many studies from Nigeria[10], Brazil[9] and the Caribbean[1]. Interestingly, previous anesthesia experience was associated with the lack of knowledge as well, contrasting with the results from another study[14]. Our result may be due to the fact that most of the anesthesia providers in Thailand primary and secondary hospitals are nurse anesthetists with supervision from anesthesiologists. This may create confusion for many people since almost 20% of the

Table 2. Predictors related to patients and Thai people's knowing anesthesiologist

Variables	Knowing anesthesiologist		Crude OR (95% CI)	*p*-value[1]	Adjusted OR (95% CI)	*p*-value[2]
	No (n = 478)	Yes (n = 392)				
Female	294 (55.1)	240 (44.9)	1.01 (0.77,1.33)	0.93	-	-
Age (yr)	39.3±16.1	40.4±15.0	1.00 (0.99,1.00)	0.30	-	-
Region of birth						
Bangkok Metropolitan	155 (47.3)	173 (52.7)	1			
Central, East, West	134 (56.1)	105 (43.9)	1.42 (1.02,1.99)	0.04	1.38 (0.95,2.02)	0.10
North eastern	99 (66.9)	49 (33.1)	2.26 (1.50,3.38)	<0.01	1.96 (1.210,3.17)	<0.01
South	73 (60.8)	47 (39.2)	1.73 (1.13,2.65)	0.01	1.51 (0.93, 2.47)	0.10
North	15 (50.0)	15 (50.0)	1.12 (0.53,2.36)	0.77	0.90 (0.39,2.07)	0.80
Education						
Unschooled or primary school	155 (73.1)	57 (26.9)	17.22 (6.91,42.91)	<0.01	28.66 (10.92,75.22)	<0.01
High school	140 (61.9)	86 (38.1)	10.43 (4.23,25.71)	<0.01	10.15 (3.98,25.92)	<0.01
Vocational	21 (44.7)	26 (55.3)	5.12 (1.82,14.41)	<0.01	7.63 (2.552, 22.83)	<0.01
Bachelor degree	156 (45.7)	185 (54.3)	5.34 (2.20,12.97)	<0.01	5.76 (2.29,14.46)	<0.01
Master or doctoral degree	6 (13.6)	38 (86.4)	1			
Health career						
Yes	5 (7.7)	60 (92.3)	1			
No	473 (58.8)	332 (41.2)	17.10 (6.79,43.03)	<0.01	16.09 (6.20,41.75)	<0.01
Past anesthesia						
Yes	143 (43.3)	187 (56.7)	1			
No	335 (62.0)	205 (38.0)	2.17 (1.62, 2.82)	<0.01	2.19 (1.55,3.11)	<0.01
Survey population						
Patient	112 (42.6)	151 (57.4)	1			
Thai people	366 (60.3)	241 (39.7)	2.05 (1.53,2.75)	<0.01	2.90 (1.96,4.30)	<0.01

Data presented as mean±SD or n (%)

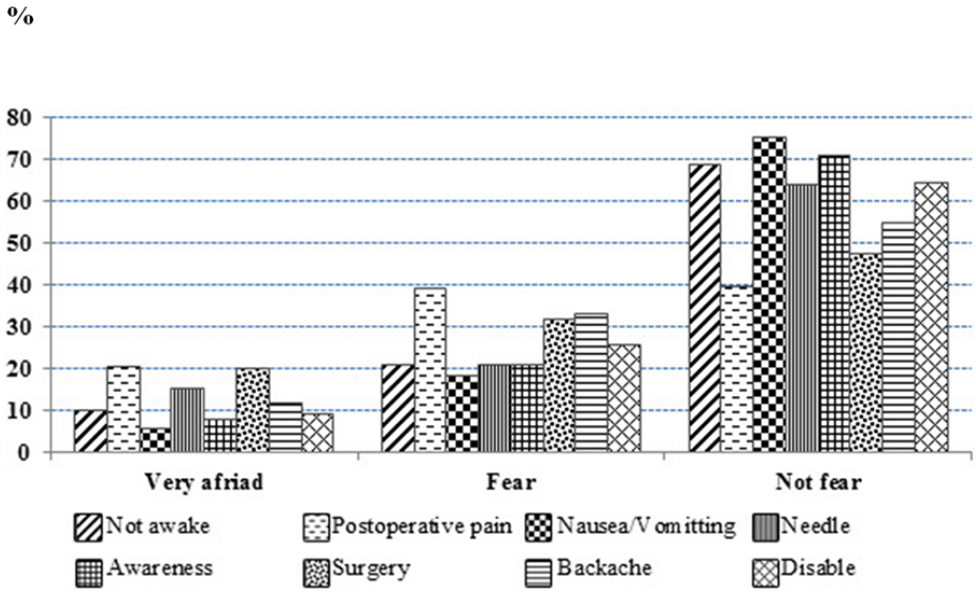

Fig. 2 The percentage of the patients toward concern and fear for each question regarding anesthetic complications.

respondents thought that nurses were responsible for providing anesthesia. Thus, anesthesiologists should pay more attention to building a relationship with the patients to gain more recognition, especially in patients with lower education and those who are not familiar with the healthcare system.

Postoperative pain, surgical procedures and backache from neuraxial block were the three most common concerns in our study. Previous studies from the US[15], the UK[16] and the Netherlands[17] reported not waking up after anesthesia to be the most common perioperative concern. The second most common concern was postoperative pain which was expressed in about one-third of the patients[15,16,18]. In our study, Thai patients had relatively little concern about postoperative nausea and vomiting (24.5%), similar to the studies from the late 1980s to early 1990s[17]. The results suggested that the patients' concerns were not very realistic and are not related to actual risks caused by the procedures. Building good anesthesiologist-patient relationship, improving communication and providing a more detailed perioperative information session may help lessen unnecessary concerns.

Over the past 26 years, the number of patients who have been able to recall a preoperative visit from the anesthesiology residents has increased dramatically from 40.2%[5] to 90.2%. In our hospital, anesthesiology residents are currently encouraged to routinely introduce themselves and the department at every patient's visit, helping patient recognition and recall of the visits. Most (86%) of the patients were able to tell the type of anesthesia they were given. This may be because we routinely inform patients of the procedures they are receiving again in the operating room before any procedures. Despite the progression we have seen relating to perioperative recall, we should aim further for patients to be able to recall the detailed information given perioperatively, such as how to rate pain, the importance of early mobilization and understanding the risks from the procedures. This will not only improve the anesthesiologist-patient relationships but also help with patient's cooperation, facilitating recovery and reduce the concerns and fear related to surgery and anesthesia.

A few people responded that they knew about anesthesiologists from watching movies, therefore, using media may be another way to improve public knowledge about the roles of anesthesiologists. Prasad et al[19] demonstrated that providing information through the public via the exhibition that contained charts and audiovisual aided public understanding. Social media use may be another possible way for the Royal College of Anesthesiologists of Thailand to make its public announcement and improve overall knowledge about anesthesiologists. It is fairly easy and low cost compared to other media such as television or newspaper, and may be more feasible for a non-profit organization like the Royal college of Anesthesiologists of Thailand to use.

Table 3. Predictors of concern about anesthesia and surgery

Variables	Patient (n = 263)	Score	*p*-value
Gender			
Male	93	2 (0,12)	<0.01
Female	170	3 (0,14)	
Age (yr)		r = -0.105	0.09
Region of birth			0.88
Bangkok and metropolitan	101	3 (0,14)	
Central, east and west	87	3 (0,11)	
North eastern	47	4 (0,14)	
South	23	3 (0,10)	
North	5	3 (1,12)	
Highest level of education			
Unschooled or primary school	111	3 (0,14)	0.73
High school	62	3 (0,9)	
Vocational	20	4 (0,8)	
Bachelor degree	55	4 (0,10)	
Master or doctoral degree	15	4 (0,7)	
Health career			
Yes	15	3 (0,6)	0.65
No	248	3 (0,14)	
Past anesthesia			
Yes	172	3 (0,12)	0.01
No	91	4 (0,14)	
Service units			0.02
Obstetrics and gynecology	65	5 (0,12)	
General surgery	57	3 (0,10)	
Orthopedics	42	3 (0,14)	
Ear nose throat	28	3 (0,12)	
Urology	21	4 (0,8)	
Neurological	15	2 (0,6)	
Cardiovascular and thoracic	13	4 (0,12)	
Eye	13	4 (0,8)	
Plastic	9	1 (0,14)	
Knowing anesthesiologist			
Yes	151	3 (0, 14)	0.78
No	112	3 (0, 14)	

Data presented as median (min, max)

Study limitations

Some limitations from the study should be noted. First, the survey was conducted only in Bangkok and in a single tertiary hospital, which limits the generalizability of the results. Furthermore, all patients were admitted for elective surgical procedures and had preanesthetic visit by the anesthesiology residents, which is not the case for other primary or secondary care hospitals where most of the anesthesia are operated by nurse anesthetists. The patients were interviewed within the first three days after surgery, which made it easier for them to recall the anesthesia given and the personnel. We were not able to evaluate the long-term memory from this study.

Conclusion

The lack of knowledge regarding the roles of anesthesiologists is common among Thai people, particularly people with lower education background and who are not familiar with the healthcare system. The results demonstrated poor anesthesiologist-patient relationship, which has not improved much from the past.

What is already known in this topic?

Only 42% of the surgical patients knew

anesthesiologists were medically qualified from a survey done 20 years ago.

What is this study adds?

The proportion of the patients who recognized the roles of anesthesiologists has increased slightly in the last 24 years. The proportion of general population who knew the roles of anesthesiologists is low, even in the urban area like Bangkok, especially in people with lower education and who are not familiar with health care system.

Acknowledgements

We would like to thank Chulaluk Komoltri for her help in statistical analysis and Nichapat Sooksri, Chusana Rungjindamai, Kamonpan Homchuangsub for their assistance in organizing this study.

Funding

This research project was supported by Faculty of Medicine Siriraj Hospital, Mahidol University, Grant Number (IO) R015732044.

Potential conflicts of interest

None.

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Appendix 1. The survey questionnaire

1. No…….
2. Sex ☐ Male ☐ Female
3. Age..... years old
4. Places of Birth……
5. How long do you stay in Bangkok……...years
6. Education
   ☐ No ☐ Elementary school ☐ Secondary school ☐ Bachelor degree ☐ Above Bachelor degree
7. Occupation
   ☐ Health care provider ☐ Others
8. Do you know what anesthesiologist do?
   ☐ Yes ☐ No ☐ Correct ☐ Incorrect
   * The correct answer is anesthesiologist is the doctor who gives anesthesia to the patients in the operating room.
9. Do you know what anesthesia doctor (a nick name for anesthesiologist in Thai) do?
   ☐ Yes ☐ No ☐ Correct ☐ Incorrect
   * The correct answer is anesthesiologist is the doctor who gives anesthesia to the patients in the operating room.
   If answer question no.8,9 incorrectly, complete the question no.10
10. Do you know who is responsible while you sleep during the operation?
    ☐ Doctor ☐ Nurse ☐ Surgeon ☐ No idea ☐ Others..……...……
11. Have you ever had an operation requiring anesthesia in the past?
    ☐ Yes ☐ No
12. If you had a surgery and anesthesia, do you concern about the following things? (Only for patient)

	Not answer	Very much	Some concern	Not at all	Don't know
Being afraid of not waking up					
Feeling pain after the operation					
Being nauseous after the operation					
Being afraid of the needles					
Waking up in the middle of the operation					
Being afraid of the operation					
Spinal anesthesia					
Back pain					
Paraplegia					

การประเมินความรู้ของผู้ป่วยและประชาชนไทยเกี่ยวกับวิสัญญีแพทย์และการระงับความรู้สึก

ศิริลักษณ์ สุขสมปอง, ปานทิพย์ สุดศรีวงษ์, นพนันท์ ชัยกิตติศิลป์

วัตถุประสงค์: *1) เพื่อประเมินความรู้ของผู้ป่วยและประชาชนไทยที่มีต่อบทบาทหน้าที่ของวิสัญญีแพทย์ 2) ประเมินปัจจัยที่สัมพันธ์กับการขาดความรู้ต่อบทบาทของวิสัญญีแพทย์ 3) ประเมินความกังวลของผู้ป่วยเกี่ยวกับประสบการณ์การระงับความรู้สึกและการผ่าตัด*

วัสดุและวิธีการ: *ระหว่างเดือนมกราคม พ.ศ. 2558 ถึง เดือนมิถุนายน พ.ศ. 2559 ได้ทำการสัมภาษณ์ประชาชนและผู้ป่วยหลังผ่าตัดด้วยคำถามเดียวกันแบบสอบถามประเมินความรู้ที่มีต่อบทบาทหน้าที่ของวิสัญญีแพทย์ และความกังวลที่เกี่ยวเนื่องกับหัตถการทางวิสัญญีและการผ่าตัด*

ผลการศึกษา: *ได้สัมภาษณ์ผู้ป่วย 263 คน และประชาชนไทย 607 คน พบว่าผู้ป่วย 151 คน (ร้อยละ 57.4) และประชาชนไทย 241 คน (ร้อยละ 39.7) ที่สามารถบอกบทบาทของวิสัญญีแพทย์ได้ถูกต้อง จาก multivariate analysis พบว่าปัจจัยที่มีผลต่อการไม่รู้จักบทบาทของวิสัญญีแพทย์คือ 1) ผู้มีภูมิลำเนาในภาคอีสาน (OR 1.96, 95% CI 1.21 ถึง 3.17, p<0.01) 2) ระดับการศึกษาที่ต่ำกว่าปริญญาโท (ระดับประถมศึกษา (OR 27.92, 95% CI 10.65 ถึง 73.16, p<0.01), ระดับมัธยมศึกษา (OR 10.25, 95% CI 4.02 ถึง 26.18, p<0.01), ระดับอาชีวศึกษา (OR 7.61, 95% CI 2.55 ถึง 22.75, p<0.01) และระดับปริญญาตรี (OR 7.61, 95% CI 2.55 ถึง 22.75, p<0.01) 3) ไม่ใช่บุคลากรทางการแพทย์ (OR 16.03, 95% CI 6.18 ถึง 41.57, p<0.01) 4) เคยเข้ารับการระงับความรู้สึกมาก่อน (OR 2.20, 95% CI 1.55 ถึง 3.12, p<0.01) 5) ประชาชนไทย (OR 2.87, 95% CI 1.94 ถึง 4.24, p<0.01) ไม่พบความสัมพันธ์ระหว่างคะแนนรวมของความกังวลของผู้ป่วย*

สรุป: *ประชาชนไทยส่วนใหญ่รวมถึงคนที่เคยมีประสบการณ์ทางวิสัญญีมาแล้วก็ยังมีความรู้เกี่ยวกับบทบาทของวิสัญญีแพทย์ค่อนข้างจำกัด*