

Assessment Knowledge regarding General Anesthesia at Second Stage Students of the High Health Institution in Al-Najaf Al-Ashraf

تقييم المعارف حول التخدير العام عند طلبة المرحلة الثانية لمعهد الصحة العالي في
النجف الأشرف

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Abstract:

Background: The surgical procedures would not be possible without the patient entering a state of general anesthesia. The essential features of a successful general anesthesia, displayed by the patient, are a reversible loss of consciousness with a lack of movement, a lack of awareness, unresponsiveness to painful stimuli and a lack of recall of the surgical intervention. Inadequate anesthesia may lead to intraoperative awareness with recall or to prolonged recovery and an increased risk of postoperative complications for the patient.

Methodology: Descriptive study was carried out in order High Health Institution in Al-Najaf Al-Ashraf, the period of the study was from February 3rd, 2019 to May, 30th, 2019, to assess student's knowledge concerning general, and to find out the association between student's knowledge and their demographic data.

A Non-Probability (Purposive Sample) of (31) with students of the High Health Institution, the data was collected through the utilization of the developed questionnaire after the validity is estimated, and by means of interview technique. The validity of the questionnaire is determined through (12) experts. The data analyzed through the use of the descriptive and inferential statistical analysis procedures.

Result: The findings of the present study indicated that overall assessment of the second stage student's knowledge about general anesthesia at High Health Institution in Al-Najaf Al-Ashraf was moderate.

Conclusion: The study concluded that there is a strong effect of the student's demographic data and student's knowledge about general anesthesia.

Recommendations: The study recommended that reinforcement should be an intensive comprehensive wide population-based (national level) studies could be conduct to assess the factors that affect the knowledge about general anesthesia, with suitable solutions for these factors to improve the level student's knowledge. Health education programs should be implementing to increase the student's knowledge about the importance of general

anesthesia and the possible solutions for this problem. Health oriented mass media approach should be employed to increase the health staff awareness about the policies that should be used to improve the knowledge about general anesthesia, establishment of special policies deal with the monitoring and managing the problems that are associated with the patients' to be exposed by general anesthesia. Health oriented mass media approach should be employed to increase student's knowledge and awareness of general anesthesia and the importance of the patient's management.

Key words: Assessment, Knowledge, General Anesthesia, Second Stage Students of the High Health Institution in Al-Najaf Al-Ashraf.

Introduction

General anesthesia is a reversible state of controlled unconsciousness, produced by combination of different medicine. With general anesthesia, surgical procedures can be done to the patient, which would otherwise inflict unbearable pain. Essential to successful general anesthesia is balanced hypnosis, analgesia and optimal muscular relaxation. It is desirable that sufficient amnesia through hypnosis is achieved. (1)

The unconsciousness or in other words hypnosis is accomplished by giving the patient anesthetic agents either by intravenously or as an inhalable agent. Combination of both can also be used. The effect of intravenous and inhalable hypnotic anesthetic agents is based on their effect on neurotransmitters and receptors in the central nervous system. Propofol is one of the most used intravenous hypnotics. Propofol was discovered as late as 1970's but it has become one of the most essential drugs used in anesthesia. (2)

The effect of all muscle relaxants in clinical use is based on preventing the postsynaptic effects of neurotransmitter acetylcholine at neuromuscular junctions. Muscle relaxants are categorized in to two different types: depolarizing and non-depolarizing. Further categorization is divided in short acting, intermediate acting and long acting muscle relaxants. Depolarizing muscle relaxant causes cells to depolarize, and this way muscle contraction is prevented. As the alternative, non-depolarizing muscle relaxant prevents the effect of acetylcholine in the neuromuscular junction. Rocuronium is one of the intermediate acting non-depolarizing muscle relaxants, which is commonly used in surgical procedures. (3)

Methodology

A Descriptive study was carried out in order to achieve the early stated objectives. The period of the study was from February 3rd, 2019 to May, 30th, 2019. The study was conducted in High Health Institution of Al Najaf Al-Ashraf. A Non-Probability (Purposive Sample) of (31) with students of the High Health Institution in Al Najaf Al-Ashraf, those who second stage anesthetic students were included in the study sample.

The statistical data analysis approaches were used in order to analyze the data of the study under application of the statistical package (SPSS) ver. (20), and the Microsoft excel (2010). Data were presented using descriptive the in from of frequencies and Percentages. Summary Statistics tables including: Mean, Mean of scores (M.S), standard deviation (SD). Used to accept or reject the statistical hypothesis, which includes the following chi-square test (χ^2) for the cause's correlation of the association between student's knowledge and their demographic data

Results:

Table 1: Demographic Characteristic of the Study Sample: -

Demographic Data	Groups	Frequency	Percent
Age groups	19 - 20	18	58.1
	21 - 22	5	16.1
	23 - 24	8	25.8
	Total	31	100.0
	Mean ± SD	20.93 ± 1.56	
Gender	Male	20	64.5
	Female	11	35.5
	Total	31	100.0
Residence	Urban	28	90.3
	Rural	3	9.7
	Total	31	100.0
Marital status	Single	27	87.1
	Married	3	9.7
	Separated	1	3.2
	Total	31	100.0
Monthly income	Sufficient	11	35.5
	Barely sufficient	14	45.2
	Insufficient	6	19.3
	Total	31	100.0

Table (1) this table showed the majority of the study sample was age group within the (19 - 20) years (58.1%), with mean and standard deviation equal to 20.93 ± 1.56 . The gender, the majority of the study sample was male (64.5%). Concerning (90.3%) of them were living residential urban area. Moreover, marital status, the majority of the study sample was single (87.1%). Regarding the monthly income, the results showed that most of the study samples was (45.2%) barely sufficient.

Table 2: Overall Assessment of the Second Stage Students Knowledge about General Anesthesia: -

Groups	Rating	Freq.	Perc. %	M.S	S.D	Chi-Square				Asse.
						χ^2	d.f	P-value	Sig.	
Students' Knowledge about General Anesthesia	Good	20	64.5	1.64	0.48	2.613	1	0.04	S	Fair
	Poor	11	35.5							

Table (2) this table showed that overall assessment of the second stage students' knowledge about general anesthesia was fair.

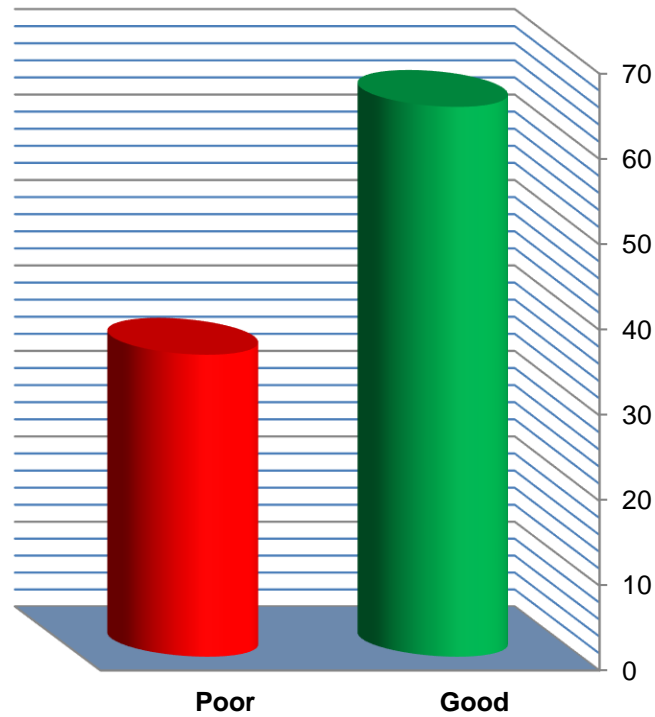


Figure (1) Distribution of the study subjects by their overall assessment of the second stage students knowledge about general anesthesia.

Table 3: Association between the Samples Demographical Data with their Overall Assessment of the Second Stage Students Knowledge about General Anesthesia: -

Demographic characteristics	Rating	Overall		Chi-Square			
		poor	good	χ^2	d.f	P-value	Sig.
Age Groups	19 - 20	11	7	12.314	2	0.000	H.S
	21 - 22	0	5				
	23 - 24	0	8				
Gender	Male	7	13	0.006	1	0.000	H.S
	Female	4	7				
Residence	Urban	10	18	0.007	1	0.000	H.S
	Rural	1	2				
Marital status	Single	10	17	3.497	2	0.353	N.S
	Married	0	3				
	Separated	1	0				
Monthly income	Sufficient	2	9	2.739	2	0.02	S
	Barely sufficient	7	7				
	Insufficient	2	4				

Table (3) this table showed that there was a high significant association between the overall assessments of the second stage student's knowledge about general anesthesia with their (age groups, gender, residence) at p-value less than 0.01. There was a significant (monthly income) at p-value less than 0.05, moreover no-significant association with their (marital status) at p-value more than 0.05.

Discussion:

The samples of age groups, results indicate that high percentage of the study sample were within (19 - 20) years. This result is supported by (Birva, et. al. 2013), (Singh, et. al. 2013), (Irwin and Fung, 2011) mentioned of the large percentage of the age groups students 16 – 26 were (60.0%). The difference between the male and female with regard to the knowledge rate among different kinds of refers to many factors such as physiological, psychological factors, among the respondents who agreed with the statement more were female of than male.(4,5,6)

Regarding the study subjects gender, the results indicate, that the high percentages of the study sample were males. Current study result is in consisting with (Swinhoe and Groves, 2014), (Ismaeil, W.E, 2011), (Naithani, et. al., 2009) all of them mentioned that the male is the dominant gender for that study showed that subjects' knowledge was unsatisfactory and that age, gender, years of education, cognitive function, treatment time and depression level interfere in knowledge about the disease. Male and female emphasize different aspects of their life when evaluating their knowledge level of students. (7,8,9)

The majority of the residency from the study sample was urban; there were few data with the knowledge score of students from urban back ground was significantly better than their rural counter parts. The results of this current study showed that almost all the sample dwelling at urban housing area, the sample living at urban area. This result comes along with whose results indicate that the majority of the studies subjects were reside in big cities rather than the countryside (Hemming, et. al., 2015). (10)

Regarding to marital status, the majority of study sample were single, this result is agreed with (Dunham, et. al., 2014) and (Siddiqui and Salim, 2016) they indicate that the highest percentage was single students. In addition, it's clear that the students in the same age were often single when compared with those with early age groups. Those students were part of the populations often age early, as compared with other people from other cultures. (11,12)

Also It is mostly attributed to better access to information among urban residents. Significant positive relationships between knowledge level and education, working status and the income were noticed. Similar findings reported of the students where knowledge improved with increase in the level of education and socioeconomic status (Haddad, et al., 2010) (13)

Regarding monthly income, the high percentages the barely sufficient followed by the barely sufficient. These finding may explain that most of the students were in advanced age prefers to work in their houses because of the needs and living status, and supported with (Ahmed, et.al., 2017) indicate that the highest percentages are for moderate of the monthly income. (14)

In regarding to the definition, the finding of this study indicated that the higher percentages of the student's responses were good. This result was supported with the **(Chueh, et.al., 2013) and (Nethra, et.al., 2018)** their studies indicated that the high percentages of their study sample were definition of the general anesthesia. (15,16)

Regarding to the general anesthesia important, the finding of this study indicated that the higher percentages of the student's responses were poor. **(Gurav and Manjrekar, 2014)** mentioned the study was directed towards the assessment of the knowledge, attitude and practice regarding to the important of the general anesthesia. As far as important are considered, open airway, good position of the patient and respiratory system protection are the three cardinal features to the important of the general anesthesia. (17)

Relative to the general anesthesia types, the higher percentage is for those who are good and poor respectively (good in the inhaled general anesthetics e.g." ether, halothane, and desflurane ") and (poor in the intravenous general anesthetics e.g." etomidate, ketamine, and desflurane"). This study is a replication of them of the types general anesthesia, the findings of this study indicated the Critical Access Hospital anesthetics team had a mean score of 65.41 percent. This score was 10 percentage points higher than the mean score of 57 percent discovered by **(Khara, et al., 2013)**. (18)

Concerning the treatment and principal of the general anesthesia, the higher percentage is for those who are good. **(Leite, et.al., 2011)** stated the questionnaire contained items to principal basic of the general anesthetics "DAMMIS" drugs, airway, machine, monitors, intravenous, suction, and questions related to knowledge of measures to be maintained on airway opening, attitudes and support to self-care practices of the person with exposed to general anesthesia. (19)

More over the goals of the general anesthetics, the higher percentage is for that the student's responses were good, **(Singh, et.al., 2013)** mentioned most student's showed a fair level of knowledge in the goals of the general anesthetics. (20)

Relative to the physiologic stages of general anesthesia, the higher percentage is that the student's responses were poor; the researcher mentioned the majority of the respondents that a sedation, excitation, surgical, and overdose was the most common physiologic stages of general anesthesia. This result was supported with the **(Uma and Hanji., 2013)** sedentary changes and proper of the education, if integrated into the structured care in the primary care setting, results in improved student's knowledge. (21)

Relative to the clinical stages of the general anesthesia, the higher percentage is for those who are poor **(Bulti, N, 2015)** and **(Cook, et al., 2014)**; mentioned that medical care staff, in common, along with anesthetist, specifically in the operation room, occupies positions involving enormous influence in assisting sufferers to take positive knowledge actions as a way to reduce their possibility involving risk hazards of the general anesthesia. Furthermore, this provides further knowledge for students to take information and recommended simply by anesthetist about general anesthesia) .22,23)

(Eyelade, et.al., 2014) the above findings are supported by a study conducted to assess the improving knowledge about various anesthesia techniques at the student's and health staffs may reduce the number of medico legal litigations. A good communication with the anesthesiologists, health staffs, and student's as judged by the patients is associated with lower incidence of malpractice litigation. Well informed patients can select their anesthesiologists which can help in improving the perioperative care which in turn will reduce the morbidity. The student's knowledge about general anesthesia in our study and the small sample size are the few limitations to our survey. (24)

The study results show that the final assessment of the second stage student's knowledge about general anesthesia domains, and the overall assessment of the second stage student's knowledge about general anesthesia are fair.

These results are supported with the **(Ahmad and Afshan, 2011)** whose study results indicate that the knowledgeable in general anesthesia definition ' (54.5%). Also the WHO reports that student's knowledge to general anesthesia is a major and an important issue worldwide, and the knowledge among student's with general anesthesia is an important thing that all the health staff must be focused on **(Khara and Rupera, 2013)**. (25,26)

(Haddad, et.al., 2010) refers to the top ten causes of death and has published that 20% is the average of Complications of the general anesthesia in a focused health care setting and course Information for knowledge about general anesthesia. Necessary for proper management of diet for patients and this level was reached by only 26% of students. Another study indicated deficit in senior anesthetic students' knowledge about general anesthesia in which they considered a student to be eligible to teach patients if she could answer all the questions correctly and there was no one who could answer all the questions correctly **(Chueh, et al., 2013) and (Mathur, et al., 2009)**. (27,28,29)

The researcher stated; these results may be due to the student's knowledge responses to the centered factors. They indicate that the students have a positive attitude toward the knowledge regarding general anesthesia. In addition, their responses indicate that the student's prescriber have been given to good information, good communication and good relationship between those students' and the health care providers. They affected positively on the overall assessment for the student's knowledge regarding general anesthesia.

The study results show that there are high significant relations of the student's age groups, gender and residence for the student's knowledge regarding general anesthesia, significant effects are at the monthly income, and there are no significant effects due to their marital status.

These study results are supported with the **(Birva, et.al., 2013)** the results of their study indicate that there is a high significant effect of the student's age groups, gender, and residency on their knowledge regarding general anesthesia provided by the health care providers .(30)

(Al-zurfy, A., 2015) find that there is a significant effect of the student's level of education, monthly income, on their student's knowledge regarding general anesthesia. (31)

(Lannert and Schippa, 2017) Also **(Almeida, D., 2015)** find that there is a non-significant effect of the marital status on their student's knowledge. (32,33)

(Casacella M. and Viscardi, 2016) also (Andrews and Johnstone, 2010) find that there is a non-significant effect of the patients' gender and the marital status and monthly income on the student's knowledge regarding general anesthesia. They also find that there is a non-significant effect of the student's age and their information about the student's knowledge regarding general anesthesia. (34, 35)

American Association of Nurse Anesthetists (Avidan and Mashour, 2013) stated that the age is major a factor which effect student's knowledge regarding general anesthesia, as well as for the effect of the residency on the student's knowledge. There are many studies to find that the cultural differences between groups will affect their knowledge, actually that there is an observed cultural differences between the rural and the urban residents, additionally there is an effect on their knowledge. (36)

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