

## Public Awareness about the Anaesthesiology Profession: A Conference Survey of Campus People, Southwest Nigeria

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### ABSTRACT

**Introduction:** There is little public awareness on the anaesthesiology profession among the Nigerian population. This study aims to determine the level of anaesthesiology profession awareness among the population of tertiary school students, academic and non-academic staff members who were attending a South-western Nigerian zonal conference.

**Methods:** Data obtained from a cross-section of 2,748 students, academic and non-academic staff members of various tertiary institutions in South-western Nigeria were used in this study. The study tool was a self-administered anonymous questionnaire which obtained information on the participants' demographic profile and knowledge of the anaesthesiology profession. Data analysis was done using SPSS version 16 software.

**Results:** The mean age of the 2,748 respondents was 22.6 years. Roughly half (48.4%) of them were males, 95.0% were singles, 85.7% were from the Yoruba tribe, and 69.1% were students. Only 32.8% of the respondents were aware of the anaesthesiology profession, most of which (35.0%) were aware of the profession through reading books. Furthermore, the most popular anaesthesiologist's service known by them (i.e. those that were aware of the profession) was intraoperative analgesia (61.6%), while palliative care service was the least known (13.1%). Doctors were found to constitute one of the underutilised sources of information about this profession.

**Conclusion:** The anaesthesiology profession is poorly known among literate Nigerians; therefore, a serious public education is needed in this regard. If people are not well-informed about this profession, they will be at risk of falling into hands of unqualified personnel when they are in need of an anaesthesiologist. Furthermore, doctors need to pay more attention on making the public aware of various medical specialties.

**Keywords:** Anaesthesiology, Awareness, Nigeria, School

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## Introduction

Anaesthesiology is a medical specialty that is concerned with the pharmacological, physiological, and clinical basis of anaesthesia, including resuscitation, intensive respiratory care, and pain management <sup>(1)</sup>. Doctors who are specialized in this medical specialty are called anaesthesiologists.

Public awareness about anaesthesiology profession is low in both the developing <sup>(2-6)</sup>, and developed countries <sup>(7-9)</sup>. This is a serious problem, and it had persistently created problems for both the anaesthesiologist and the patient <sup>(3-10)</sup>. Patients often find it difficult to properly identify who is professionally qualified to meet their anaesthetic needs <sup>(3)</sup>, while anaesthesiologists are sometimes perceived by patients as a skilled surgeon-assistant <sup>(3, 10)</sup>.

These problems need to be solved. They can be solved by public education about the anaesthesiology profession <sup>(2, 3)</sup>. Before this problem can be solved effectively, the current level of awareness on the profession must first be known at the community level <sup>(9)</sup>.

Research studies had shown that only few literate Nigerians were aware of the anaesthesiology profession, and virtually all of these studies were hospital-based <sup>(6)</sup>. This indicates the need for a study that will measure public awareness rate at the community level.

This study aims to determine the level of awareness on the anaesthesiology profession among a population of people working/studying at different tertiary institutions in South-western Nigeria who are also attending a South-western Nigerian religious conference. The study population is so peculiar because they are supposed to be more knowledgeable than other population groups. The outcome of this study has many benefits as it will help reveal how much this study population know about the role of anaesthesiologist in medical care.

## Methods

This study was a cross-sectional survey of students, academic and non-academic staff members from various tertiary institutions within

the South-western Nigeria geopolitical zone. This geopolitical zone comprises five states, namely: Oyo; Ondo; Osun; Ekiti; Lagos; and Ogun States <sup>(11)</sup>. The participants were captured as conference delegates attending a non-scientific religious zonal conference that held in Ibadan, the capital of Oyo State, Nigeria, in 2014. The conference venue was Shogunro Camp Ground, Ibadan, and the date of conference was November 12th to 16th, 2014.

The approval for this present study was formally obtained from the Ministry of Education, Ibadan, Nigeria. The data collection license was also obtained from the conference organizers.

The research tool adopted for data collection was a 9 - item anonymous questionnaire which was developed from literature review <sup>(2-9)</sup>. This questionnaire obtained information on the participants' demographic profiles and knowledge of the anaesthesiology profession.

According to the conference organizers, it was estimated that 6,000 delegates will attend the conference. Based on this obtained statistical figure, the sample size for the study was determined using the Yamane formula:

$$n = N(1+N(e)^2)^{-1}$$

Where:

N is the population size (=6,000); and e is the precision level (=0.05) at 95% confidence level.

The calculated sample size (n) is 375.

In order to increase the strength of the study, authors increased their sample size to 2,600 based on their convenience. Authors also planned for the possibility of missing questionnaires; hence 3,000 questionnaires were printed for the data collection process.

The participants were approached at the registration desks of the conference venue. They were informed about the purpose of the study and also that their participation was voluntary and confidential. Simple random sampling technique was used in the selection of the 2,996 delegates that participated in this study. Verbal informed consent was obtained from all the participants

before they were issued a questionnaire to fill. All questionnaires were self-administered. Out of the 2,996 questionnaires that were issued out, only 2,760 were returned. A total of 12 inappropriately filled questionnaires were discarded during the data cleaning process; hence only the data of 2,748 respondents were statistically analysed for this study. Data analysis was done using the Statistical Package for the Social Sciences (SPSS) version 16 software. Analysed data were presented using tables and charts.

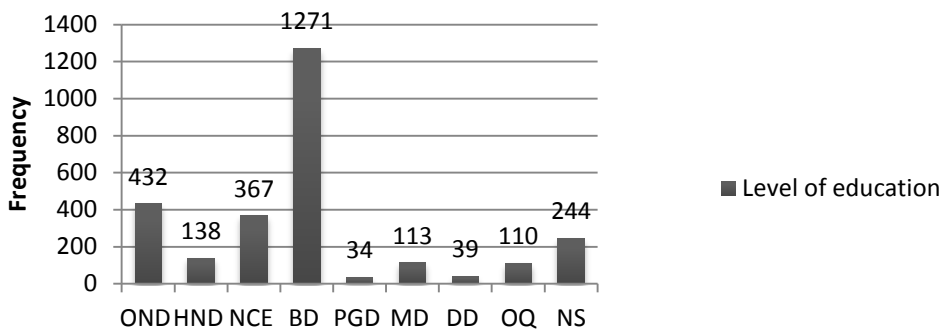
## Results

The mean age of the respondents was 22.6 years. The gender distribution of the respondents was fairly equal, with 51.3% of them being females. The majority (95.0%) of them were single, 85.7% were from the Yoruba tribe, and 69.1% were students (Table 1). Furthermore, less than half (46.3%) of them had their formal education to the bachelor degree level (Figure 1).

**Table 1.** Socio-demographic attributes of the respondents

Attributes [n=2,748]	N	%
Gender		
Male	1330	48.4
Female	1410	51.3
Not specified	8	0.3
Marital status		
Single	2611	95.0
Married	131	4.8
Widowed	1	0.0
Not specified	5	0.2
Age (in years)		
16 – 25	2178	79.3
26 – 35	385	14.0
36 – 45	66	2.4
>45	26	0.9
Not specified	93	3.4
Mean age	22.6	
Tribe		
Yoruba	2356	85.7
Igbo	173	6.3
Hausa	1	0.0
Others	212	7.7
Not specified	6	0.2
Occupation		
Health personnel	338	12.3
Non-health personnel	481	17.5
Student	1900	69.1
Not specified	29	1.1

n=total number of all respondents; N=total number of respondents in each category



**Figure 1.** Frequency distribution of the educational level of respondents

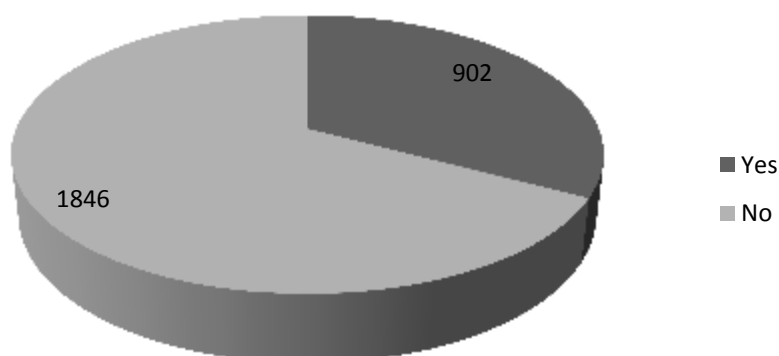
OND=ordinary national diploma; HND=higher national diploma; NCE=Nigerian certificate of education; BD=bachelor degree; PGD=postgraduate diploma; MD=master degree; DD=doctorate degree; OQ=other qualifications; NS=not specified

Only 902 (32.8) respondents had ever heard of the anaesthesiology profession (Figure 2). The anaesthesiology awareness rates among the respondents were also checked and illustrated in respect to their socio-demographic distribution (Figure 3). It was found that the highest levels of awareness rate about anaesthesiology were recorded among the health personnel (66%) and those that were between 36 to 40 years of age (66.7%). However, very low awareness rate (20.1%) on anaesthesiology was recorded among the students.

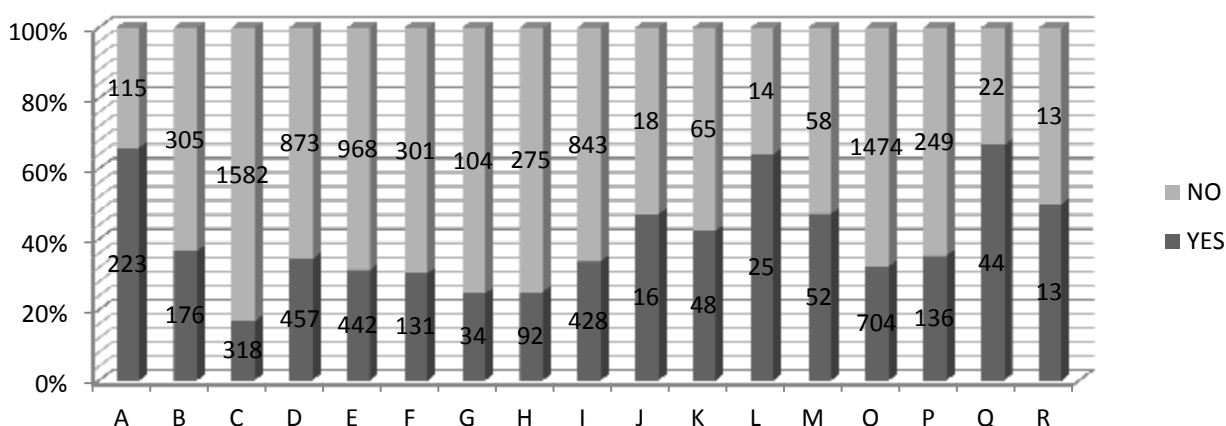
Furthermore, many of those respondents who were aware of anaesthesiology obtained their information regarding this profession from books

(35.0%), internet (25.7%), and lectures (22.9%) (Table 2).

Tables 3, 4, and 5 depict the knowledge distribution of anaesthesiology among those respondents who were aware of anaesthesiology, based on their gender, age, and educational level respectively. Surgical analgesia (61.6%) and management of patient’s sleep during surgery procedures (45.0%) were the most important anaesthesiologist's duties. Generally, male respondents within the ages of 36 to 45 years, and those who had doctoral degree level of education were recorded to have the highest knowledge about medical roles of an anaesthesiologist.



**Figure 2.** Response of the respondents to the variable “Before now, have you ever heard of the profession called anaesthesiology?”



**Figure 3.** Column chart showing the socio-demographic distribution of the respondents in relationship with their **yes/no** responses to the variable “Before now, have you ever heard of the profession called anaesthesiology?”

NOTE: Data of respondents who gave incomplete response to the above cross-tabulated variables were not illustrated in this figure  
 A=health personnel; B=non-health personnel; C=students; D=male; E=female; F=ordinary national diploma; G=higher national diploma; H=Nigerian certificate of education; I=bachelor degree; J=postgraduate diploma; K=master degree; L=doctorate degree; M=other qualifications; O=16 – 25 years old; P=26 – 35 years old; Q=36 – 45 years old; R=more than 45 years of age

**Table 2.** Response of 902 respondents that have heard of anaesthesiology to the variable “If you have heard of anaesthesiology before, how did you get to know about anaesthesiology?”.

Source of information*	N (%)
Books	316 (35.0)
Media	137 (15.2)
Internet	232 (25.7)
Lecture	207 (22.9)
Friends	141 (15.6)
Doctor	155 (17.2)
Nurse	87 (9.6)
Other sources	53 (5.9)

\*Only 902 respondents had ever heard of anaesthesiology; N=total number of respondents in each category

**Table 3.** Distribution (based on gender) of responses of those 902 respondents that were aware of anaesthesiology to the variable “kindly tick the service(s) that you are aware of as part of what anaesthesiologists render to patients?”.

Response	Gender			Total (N=902)
	Male (N=457)	Female (N=442)	NS (N=3)	
Making patient to sleep during surgical operation	204 (44.6)	199 (45.0)	3 (100.0)	406 (45.0)
Ensuring that surgical operation is performed without pain	281 (61.5)	272 (61.5)	3 (100.0)	556 (61.6)
Caring for the critically ill patients in intensive care unit	91 (19.9)	67 (15.2)	2 (66.7)	160 (17.7)
Management of patient’s breathing pattern and ability	85 (18.6)	73 (16.5)	3 (100.0)	161 (17.8)
Management of pain in women during labour	140 (30.6)	121 (27.4)	2 (66.7)	263 (29.2)
Management of medical and surgical emergencies	108 (23.6)	101 (22.9)	1 (33.3)	210 (23.3)
Palliative care of patients with incurable diseases	67 (14.7)	50 (11.3)	2 (66.7)	119 (13.2)

NS=Not specified; N=total number of respondents in each category

**Table 4.** Distribution (based on age) of the responses of those 902 respondents that were aware of anaesthesiology to the variable “kindly tick the service(s) that you are aware of as part of what anaesthesiologists render to patients?”.

Response	Age (in years)				NS (N=5)	Total (N=902)
	16 – 25 (N=704)	26 – 35 (N=136)	36 – 45 (N=44)	>45 (N=13)		
Making patient to sleep during surgical operation	291 (41.3)	72 (52.9)	31 (70.5)	9 (69.2)	3 (60.0)	406 (45.0)
Ensuring that surgical operation is performed without pain	417 (59.2)	90 (66.2)	35 (79.5)	10 (77.0)	4 (80.0)	556 (61.6)
Caring for the critically ill patients in intensive care unit	108 (15.3)	35 (25.7)	16 (36.4)	1 (7.7)	0 (0.0)	160 (17.7)
Management of patient’s breathing pattern and ability	103 (14.6)	37 (27.2)	17 (38.6)	3 (23.1)	1 (20.0)	161 (17.8)
Management of pain in women during labour	183 (26.0)	53 (39.0)	20 (45.5)	4 (30.8)	3 (60.0)	263 (29.2)
Management of medical and surgical emergencies	151 (21.4)	35 (25.7)	20 (45.5)	3 (23.1)	1 (20.0)	210 (23.3)
Palliative care of patients with incurable diseases	82 (11.6)	20 (14.7)	14 (31.8)	2 (15.4)	1 (20.0)	119 (13.2)

NS=Not specified; N=total number of the respondents in each category

**Table 5.** Distribution (based on educational level) of responses of those 902 respondents that were aware of anaesthesiology to the variable “kindly tick the service(s) that you are aware of as part of what anaesthesiologists render to patients?”.

Response	Level of Education								NS (N=76)	Total (N=902)
	OND (N=131)	HND (N=34)	NCE (N=92)	BD (N=428)	PGD (N=16)	MD (N=48)	DD (N=25)	OQ (N=52)		
Making patient to sleep during surgical operation	48 (36.6)	14 (41.2)	24 (26.1)	201 (47.0)	11 (68.8)	34 (70.8)	17 (68.0)	30 (57.7)	27 (22.4)	406 (45.0)
Ensuring that surgical operation is performed without pain	68 (51.9)	21 (61.8)	36 (39.1)	288 (67.3)	11 (68.8)	41 (85.4)	17 (68.0)	38 (73.1)	36 (47.4)	556 (61.6)
Caring for the critically ill patients in intensive care unit	17 (13.0)	9 (26.5)	12 (13.0)	81 (18.9)	3 (18.8)	7 (14.6)	8 (32.0)	16 (30.8)	7 (9.2)	160 (17.7)
Management of patient’s breathing pattern and ability	10 (7.6)	9 (26.5)	7 (7.6)	82 (19.2)	4 (25.0)	12 (25.0)	8 (32.0)	19 (36.6)	10 (19.2)	161 (17.8)
Management of pain in women during labour	20 (15.3)	10 (29.4)	14 (15.2)	141 (32.9)	7 (43.8)	20 (41.7)	13 (52.0)	20 (38.5)	18 (34.6)	263 (29.2)
Management of medical and surgical emergencies	31 (23.7)	9 (26.5)	10 (10.9)	105 (24.5)	6 (37.5)	15 (31.3)	8 (32.0)	16 (30.8)	10 (13.2)	210 (23.3)
Palliative care of patients with incurable diseases	11 (8.4)	6 (26.5)	5 (5.4)	61 (14.3)	3 (18.75)	9 (18.8)	6 (24.0)	13 (25.0)	5 (6.6)	119 (13.2)

N=total number of respondents in each category; NS=not specified

OND=ordinary national diploma; HND=higher national diploma; NCE=Nigerian certificate of education; BD=bachelor degree; PGD=postgraduate diploma; MD=master degree; DD=doctorate degree; OQ=other qualifications

## Discussion

Patients' mismanagement by non-specialists is a problematic issue in developing countries, particularly in Nigeria<sup>(12)</sup>. Many victims of quackery had been sent early to the grave, due to this unethical practice<sup>(12)</sup>. Most of such victims were found to be ignorant of who is medically qualified to manage their health problems. Furthermore, awareness rate about medical professions is very low among the lay populations, and this finding has been found to cut across all socioeconomic strata regardless of educational status<sup>(2, 14)</sup>. The present study determined the level of awareness of the anaesthesiology profession among students, academic and non-academic staff members from the tertiary institutions within the South-western Nigeria geopolitical zone.

Some medical professions have been found to be more popular in the society, while some others are still behind the curtains. The anaesthesiology profession, for example, is one of the medical specialties that is poorly recognized by the public<sup>(2, 3, 9, 13)</sup>. This fact can be supported by our findings, as we observed a very low awareness rate (32.8%) among the respondents in the present study. By comparing figures, this rate is relatively lower than that reported among Koreans and rural Indians<sup>(2, 9)</sup>.

Authors also observed that the majority of the respondents who had heard of the anaesthesiology profession got their information from books, lectures, and internet (Table 2). It is noteworthy that relatively few of them were aware of this profession through a doctor. This indicates that doctors are one of the weakest sources of public information on anaesthesiology. Furthermore, some socio-demographic factors such as gender, age, and higher education also influenced the distribution of anaesthesiology knowledge among respondents. Male respondents, between the age of 36-45 years, and those with the doctoral degree level of formal education were more aware of anaesthesiology than other categories.

Researchers found that an anaesthesiologist is mostly known for: induction and maintenance of patient's sleep during surgery; labour analgesia;

and intraoperative analgesia (Table 3). Recent research studies have shown that analgesia is a well-known area of expertise for anaesthesiologists<sup>(2)</sup>; and findings made in this present study strengthen those reports.

Results showed that palliative care is known to be the least commonly known anaesthesiologists' service (Table 3). This may be attributed to the fact that palliative care is one of the new areas of health care services in Nigeria<sup>(14, 15)</sup>. This awareness rate among the study respondents is relatively low, when compared to that reported in western countries<sup>(16-18)</sup>.

Emergency and critical care services are also medical services within the scope of the anaesthesiologist's duties. We also found these services not to be well-known among the study respondents.

This study had some limitations. Only those students, academic and non-academic staff members who attended the conference were surveyed in this study. Those institutions that had no delegate at the conference meeting were not surveyed. The study did not also survey the Nigerian illiterates.

## Conclusion

The findings made in this study had revealed a very low awareness rate on the anaesthesiology profession among literate Nigerians. This is a major concern of public health relevance. Nigerians need to be properly educated about the anaesthesiology profession. The creation of public awareness about this profession will also bring prestige to the anaesthesiologists

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**Conflict of Interest**

Authors have no competing interest to disclose.

**Authors' Contributions**

Both authors' contributed equally to this research.

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