

## Original Research Article

### ASSESSMENT OF MEDICAL INTERN'S KNOWLEDGE ATTITUDE AND PRACTICE TOWARDS SPECIALIZING IN EAR, NOSE, AND THROAT SURGERY IN A TERTIARY HOSPITAL

**Comment [u1]:** What is the importance of this concept, It seems you want to study their intention, not current practice.

#### **ABSTRACT**

**Background** :Medical doctors after graduating are expected to have a year of internship in an approved training institution. During the time of internship the medical interns are referred to as House Officers who go through different clinical rotations which may alter their interest in a field.

**Aim:** The aim is to determine the area of interest in specialization by House Officers of Rivers State University Teaching Hospital (RSUTH) and determine their general knowledge , attitude and practice of Ear, Nose and Throat(ENT) Surgery.

**Method** :This is a facility-based cross-sectional study design. The study population was House Officers in RSUTH. A semi structured questionnaires was administered and data analyzed using IBM SPSS version 25. Descriptive frequency analysis was done for all variables,. Chi-square test was used to assess the association between socio-demographic characteristics and knowledge about ENT Surgery

**Comment [u2]:** The method section must include, study participants, sample size, sampling technique, ethical issues ...

**Result** :The most common age range was 20-29 years with a few above 40 yrs, with equal gender distribution. Majority of the participants are single accounting for 74.7% of the respondents. The research highlighted good knowledge of ENT surgery(73.3%) which was mainly from medical school. This study reveals, majority of the interns desire to specialize in ENT Surgery and Obstetrics and Gynaecology

**Comment [u3]:** Make sure that you answered your objectives.

**Conclusion:**There is equal proportion of gender which closes the gap of exposure to education between the male and female child in a Developing county. The unique nature of ENT Surgery makes it stand out to as a choice for specialization

#### **Keywords**

ENT Surgery, knowledge, house officers, medical interns, specialization, Tertiary hospital

#### **INTRODUCTION**

The medical education in a Nigerian University is a total of 6 years which constitutes; one year of pre-medical studies, two years of Basic Medical Sciences, and three years of clinical studies.(1) During this time they are taught a wide range of subjects and clinical exposure to

**Comment [u4]:** This section do not say anything about the major variables (knowledge, Attitude and practice) and about the concepts in the topic (ENT). So, you have to address this????

**Comment [u5]:** Start your statements from global issues, then move to the local level.

become medical doctors. This is followed by a year of internship in an approved training institution before receiving their full registration by the Medical and Dental Council of Nigeria. During this period, they are physicians-in-training, referred to as 'House officers', who provide the majority of care to patients in tertiary training institutions, under supervision by their trainers. They put into practice the knowledge from medical school and acquire new skills and further knowledge for the clinical management of patients.

Comment [u6]: References???

The house officers go through different clinical rotations during their internship which exposes them to the daily activities in various departments in the tertiary or teaching hospital where they are engaged and this experience influences or molds their interest in a particular field.

Comment [u7]: References???

Specializing in any field of Medicine and Surgery in Nigeria requires post-graduate training after the recommended internship program is completed and a full registration by the Medical and Dental Council of Nigeria has been acquired. The doctor is also expected to complete the mandatory Nigerian Youth Service Corps (NYSC) except exempt from it. The duration of training varies depending on the area of specialization, of which most specialties range between 4 to 6 years with Ear, Nose, and Throat (ENT) Surgery and Neurosurgery having a duration of seven years.(2) There is an increase over the years with doctors seeking residency training, due to various reasons from increased remuneration, status, and acquired skill(3). The decision to choose a career path after an internship can be challenging and there are several factors that determine the next pathway for the doctor.

There are different factors that may influence the decision post-internship, which vary from the intent to practice medicine versus not to practice medicine, to be a clinician or a non-clinician. Other factors reported to influence this decision vary from role models, financial benefits, expectation from society, job satisfaction, appreciation of specialty due to clinical exposure of a subspecialty, risks and hazards associated with the specialty, and the average number of working hours required for a particular specialty. (4–6). Some studies conducted also indicate that students may already have a certain area of interest prior to starting medical school, but may have a different choice of specialty after experiencing the rotations themselves. (4,7–9)

Otorhinolaryngology is a department found in most tertiary hospitals and in some medical universities. However, in other universities in Nigeria, it is categorized as a unit under the general surgery department. During the one year of internship or house job, it is a special posting that permits some house officers the opportunity to rotate through this department for 2- 4 weeks. Not every medical intern may have the experience and acquire the knowledge from the ENT Surgery unit for various reasons, either due to the specialty training fields offered by the hospital or the choice made by the intern.

## **Aim**

This study aims to determine the area of interest of specialization by house officers in the Rivers State University Teaching Hospital (RSUTH) and to determine their general knowledge, attitude and practice towards Ear, Nose and Throat Surgery.

## METHODS

### Settings

This study was conducted in October 2021 at the Rivers State University Teaching Hospital. It is a Government-owned tertiary facility with a 375-bed capacity. The facility is armed with appropriate and adequate structure, equipment and staff that provide the services required of a tertiary institution. The hospital has accreditation for most of the clinical departments required for training medical doctors and residents.

**Comment [u8]:** Study period should be specific and bounded.

### Study design

A facility-based cross-sectional study design was employed for this study.

### Study participants

The study population was made up of all 99 (ninety-nine) medical doctors who were undergoing their internship training as House officers in the Rivers State University Teaching hospital in 2021. The study also included 65 (sixty-five) interns who had completed their internship in the same facility within the recent three months during data collection but had started their internship in 2020. Eligible interns who were not willing to participate were excluded from the study. This gave a total of one hundred and sixty-four respondents that were recruited for this study.

### Study Instruments

A pre-tested, semi-structured questionnaire was used to collect data for this study. The questionnaires were self-administered. The questionnaire was drafted by the researchers and contained twenty-five variables, including open and close ended questions based on findings from the pre-test. Questions about reasons for chosen opinions were open ended and these were subsequently classified into themes. Data were collected on socio-demographic characteristics of respondents, knowledge of ENT Surgery, attitude towards ENT Surgery as a specialty the students, and the practice of ENT Surgery specialty.

**Comment [u9]:** So, it was not validated questionnaire?

### Data analysis

Data was checked for completeness and consistency and IBM SPSS version 25 was used to analyze the data. Descriptive frequency analysis was done for all variables and presented as frequency tables and charts. Chi-square test was used to assess the association between socio-demographic characteristics and knowledge about ENT Surgery with a level of significance based on a p-value of less than 0.05 and 95% confidence limits.

**Comment [u10]:** How do u check for consistency, after data is collected.

**Comment [u11]:** Why didn't you utilize the higher order statistics???

### Ethical considerations

Approval for this study was sought from the ethics committee of the Rivers State University Teaching Hospital. Respondents were assured of voluntary participation and withdrawal from the study at any stage in addition to confidentiality of the data after an informed written consent was obtained.

## RESULTS

Out of the one hundred and sixty-four interns eligible to participate in this study, only one hundred and fifty interns gave voluntary and complete responses, giving a response rate of 91.4%. Table 1 shows that the highest proportion of the students 86 (57.3%) were in the age group 20–29 years followed by those who were 30-39 years, 60 (40.0%). Those aged 40-49 had the least proportion, 4 (2.7%). There was equal sex distribution of 75 (50.0 %) males and 75 (50.0 %) females. The majority, 112 (74.7%) were single and 38 (25.3%) were married. of Igbo ethnic nationality. Also, 69 (46%) were in their 10-12 months of practice as interns, 49 (32.7%) had practiced as interns for 4-6 months, 16 (10.7%) had practiced for more than 12 months, 9 (6%) had practiced for 7-9 months and 7 (4.7%) had practiced for 1-3 months. The majority 51 (34%) were having a posting in Internal medicine, 35 (23.3%) were in general surgery posting, 32 (21.3%) were in paediatrics posting, 21 (14%) were in obstetrics and gynaecology posting, 6 (4%) were having a rotation through the orthopaedics department and 5 (3.3%) were having a rotation through the special postings.

Comment [u12]: ????????

Comment [u13]: Is it majority????

Comment [u14]: What does it mean, don't you think they will have practice through rotation???

**Table 1: SOCIO-DEMOGRAPHICS OF RESPONDENTS.....include the ost important part like year, place , participants.**

Variable	Frequency	Percent
<b>Age</b>		
20-29	86	57.3
30-39	60	40.0
40-49	4	2.7
<b>SEX</b>		
Female	75	50
Male	75	50
<b>Marital status</b>		
Married	38	25.3
Single	112	74.7
<b>Months of practice as intern</b>		
1-3 months	7	4.7
4-6 months	49	32.7
7-9 months	9	6.0
10-12 months	69	46.0
>12 months	16	10.7
<b>Present posting</b>		
General surgery	35	23.3
Internal medicine	51	34.0
Obstetrics & gyenaecology	21	14.0
Orthopaedics	6	4.0
Paediatrics	32	21.3

Figure 1 indicates the source of knowledge about ENT surgery among respondents. The majority (126) had some knowledge about ENT surgery from medical school, 38 had knowledge about ENT surgery while practicing, 18 knew about ENT surgery from social media and 8 knew about ENT surgery during internship.

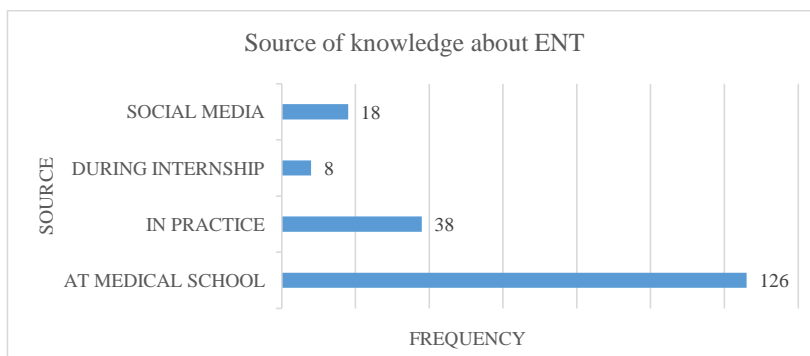


Figure 1: Source of knowledge about ENT surgery (*multiple responses applied*)

Among respondents, 51 (34%) identified examination of the ear, nose and throat as a common ENT procedure, 16 (47.3%) mentioned tonsillectomy, and 12 mentioned syringing as common ENT procedures respectively, while 71 (47.3%) had no knowledge about a common ENT procedure. Fifty-eight (38.7%) mentioned pain in the ear as a common reason for ENT visits to the hospital, 20 (13.3%) mentioned hearing loss, 17 (11.3%), 15 (10%) and 40 (26.7%) did not know a common reason for visits to the ENT clinic. Overall, 110 (73.3%) of the respondents had good knowledge about ENT surgery and 40 (26.7%) had poor knowledge. Table 2.

**Comment [u15]:** How did you categorize this??? It should be indicated in the method section, otherwise this is not acceptable. Even look the below table, the proportion who responded 'don't know' is 47 %

**Table 2: Assessment of knowledge about ENT surgery**

<b>Variable</b>	<b>Frequency</b>	<b>Percent</b>
<b>Name one ENT procedure you know</b>		
Examination of the ear, nose or throat	51	34.0
Syringing	12	8.0
Tonsilectomy	16	10.7
Don't know	71	47.3
<b>Name a common reason for ENT visits to the hospital</b>		
Ear discharge	17	11.3
Hearing loss	20	13.3
Object in the ear	15	10.0
Pain in the ear	58	38.7
Don't know	40	26.7
<b>Knowledge score category</b>		
Good knowledge	110	73.3
Poor knowledge	40	26.7

**Comment [u16]:** How did you come up with this???

The Chi-square test demonstrated significant association between marital status and knowledge about ENT surgery ( $p=0.029$ ) and between months of practice as an intern and knowledge about ENT surgery ( $p=0.041$ ). Table 3.

**Table 3: Association between socio-demographic characteristics and knowledge of ENT surgery**

Variable	Good knowledge	Poor knowledge	$\chi^2$	p-value
<b>AGE</b>				
20-29	58	28	5.393	0.067 <sup>+</sup>
30-39	48	12		
40-49	4	0		
<b>Sex</b>				
Female	54	21	0.136	0.712
Male	56	19		
<b>Marital status</b>				
Married	33	5	4.749	0.029*
Single	77	35		
<b>Months of practice as intern</b>				
1-3 months	5	2	9.986	0.041 <sup>+*</sup>
4-6 months	30	19		
7-9 months	9	0		
10-12 months	53	16		
>12 months	13	3		
<b>Present posting</b>				
General surgery	21	14	10.136	0.071 <sup>+</sup>
Internal medicine	39	12		
Obstetrics & gynaecology	16	5		
Orthopaedics	6	0		
Paediatrics	23	9		
Special posting	5	0		

Likelihood ratio value (+), Significant (\*)

Concerning attitude towards ENT specialization, 93 (62%) like ENT as a specialty. Of those who like the specialty, their reasons were; it's unique 36 (24%), straightforward 19 (12.7%), interesting 13 (8.7%), it's like regular clinical practice 8 (5.3%), less busy 6 (4%), saves lives 5 (3.3%), passion 2 (1.3%), the wards are clean 2 (1.3%), no reason 2 (1.3%). Among those who did not like ENT as a specialty, their reasons were; it's boring 26 (17.3%), not interested 16 (10.7%), it's stressful 5 (3.3%), insufficient knowledge about it 4 (2.7%), no previous experience in ENT surgery 2 (1.3%), not much is done there 2 (1.3%), takes a long time 2 (1.3%). About willingness to specialize in ENT Surgery, only 24 (16%) of respondents were willing to specialize in ENT, for reasons that; its interesting 15 (62.5%), its less busy 5 (20.8%) they have the passion 4 (16.7%) as shown in table 4.

**Comment [u17]:** Attitude or intention to specialize???

**Table 4: Attitude towards ENT specialization**

Variable	Frequency	Percent
<b>Do you like ENT surgery as a specialty</b>		
No	57	38.0
Yes	93	62.0
<b>If yes, specify reason (n = 93)</b>		
I have the passion	2	1.3
It's interesting	13	8.7
It's like regular clinical practice	8	5.3
Its unique	36	24.0
Less busy	6	4.0
No reason	2	1.3
Saves lives	5	3.3
Straightforward	19	12.7
The wards are clean	2	1.3
<b>If no, specify, reason (n = 57)</b>		
Insufficient knowledge about it	4	2.7
It's boring	26	17.3
It's stressful	5	3.3
Not had a previous experience in ENT surgery	2	1.3
Not interested	16	10.7
Not much is done there	2	1.3
Takes a long time	2	1.3
<b>Willing to specialize in ENT</b>		
No	126	84.0
Yes	24	16.0
<b>If yes specify reason (n = 24)</b>		
I have the passion	4	2.7
It's interesting	15	10.0
Less busy	5	3.3

Figure 2, shows the preferred specialty among the respondents. The most preferred specialties among the respondents were ENT surgery 24 (16%) and Obstetrics and Gynaecology 24 (16%). This was followed by Orthopaedic surgery 12 (8%) and Paediatrics 11 (7.3%), while the least preferred specialty was virology 1 (0.7%). A higher proportion of the interns 36 (24.0%), were not ready to specialize.

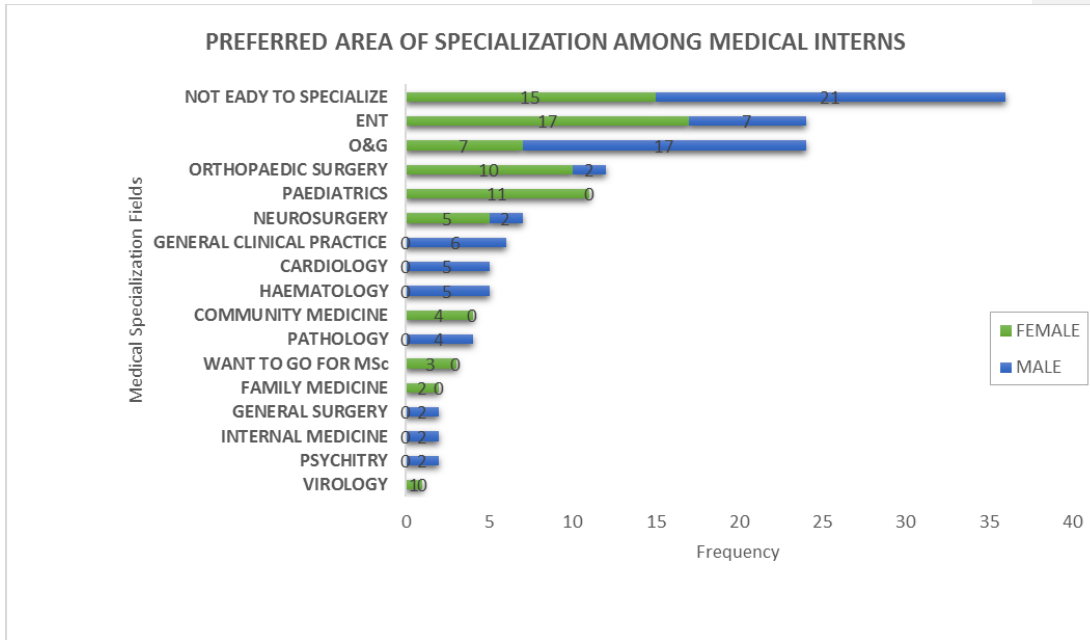


Figure 2: Preferred area of specialty

Table 5 shows the practice of ENT surgery among the medical interns. The majority 131 (87.3%) have done a posting in ENT surgery as a medical student. Among those who did not take the posting as a student, 11 (57.9%) said the school did not make the posting compulsory while the others 8 (42.1%) mentioned that it was not offered to them as students while at school. Most respondents 88 (58.7%) have done a posting in ENT surgery as interns and the other respondents 62 (41.3%) who had not done the posting as an intern mentioned that they had not rotated through the ENT department yet. Also, most respondents 143 (95.3%) had seen a patient with ENT disease or complaint but only 71 (47.3%) of them have managed a patient with ENT disease. In terms of approach to the management of patients with ENT disease or complaint, 103 (68.7%) of the interns prefer to refer the patients to the ENT clinic, while 45 (30%) will prescribe medications and refer the patient appropriately and 2 (1.3%) will only prescribe medications for the patients.

**Table 5: Practice of ENT surgery**

<b>Variable</b>	<b>Frequency</b>	<b>Percent</b>
<b>Done ENT surgery posting as student</b>		
No	19	12.7
Yes	131	87.3
<b>Reason for not taking the posting as a student (n = 19)</b>		
The school didn't make it compulsory	11	57.9
Was not offered to us as students	8	42.1
<b>Done ENT posting as an intern</b>		
No	62	41.3
Yes	88	58.7
<b>Reason for not taking the posting as an intern</b>		
Not yet rotated to that unit	62	41.3
<b>Ever managed a patient with ENT disease</b>		
No	79	52.7
Yes	71	47.3
<b>What approach do you take to manage a patient with ENT</b>		
Only prescribe medications	2	1.3
Prescribe medications and referred to the ENT clinic	45	30
Refer to ENT clinic	103	68.7

## DISCUSSION

This study revealed that most of the respondents were between the age of 20-29 years which is similar to findings by uzegu et al(1). This may be due to the duration of stay in medical school, as most will commence medical school when they are above 16 years of age. In this study we observed that approximately three percent were over 40 years, this is probably due to individuals who have either decided to study medicine at an older age, and fulfill their desire of becoming a medical doctor, or individuals who were unable to pay for their school and thus started University at an older age.

There was an equal distribution of males to females among the respondents in this study. This shows a reduction in the ratio gap of male–female education as observed in the past in developing countries. This was different from a study done by Odunsaya et al(10) which had more males in the study. However, more recent studies show that medical schools and medical research centres have more females compared to males.(11,12)

The marital status among the interns had a majority of the participants as single accounting for more than seventy percent of the respondents despite the high number of females. This is similar to other studies as the intense training of undergraduates especially in the medical field will make it tasking to combine both academics in medical school and the responsibilities of marriage.(13,14)

At the time of this study, most of the interns were about rounding up or were in their last posting, of which more than forty percent of the respondents were between their 10th to 12th month of internship. Majority at the time of the study were having the Internal Medicine posting. This implies most of the interns had the opportunity of doing a rotation through different Departments to be able to make a decision on an area of specialization at the time of the study. Those in special posting constituted only about three percent of the respondents and the special postings comprises other subspecialties in Surgery of which ENT Surgery is one. The research also highlighted that most respondents had good knowledge of ENT surgery however, majority of their knowledge was from medical school. Being single and having done about ten to twelve months of practice were significantly associated with good knowledge about ENT surgery. It is possible that experience obtained during a posting period offers good knowledge to the interns.

Regarding the attitude towards specializing in ENT surgery, about 93% of the respondents like the specialty but only 16% were willing to specialize in ENT surgery. This is slightly higher than findings reported by Ibekwe MU,(15) where only a little over 10% of the participants were willing to specialize in ENT. This indicates an increasing interest in this area of specialization. Among the respondents who intended to specialize in ENT, their reasons for the interest included; passion, the interesting nature of the specialty and that it is a less busy area of specialization. While most respondents who did not want to specialize in ENT surgery stated that they were not interested in the specialty or it was boring or they had insufficient knowledge about what the specialty entails.

**Comment [u18]:** You better focus on the main variables of the study for discussion (KAP and associated factors)????

A notable finding in this study was that most respondents were not immediately ready to pursue any area specialization in medicine. It may be that they had other interests to pursue or wanted to work for financial gains before taking up an area of specialization in medicine. This is a sharp contrast to findings from other studies where majority of the medical interns were ready to pursue an area of specialization in medicine but with differing reasons, such as; for respect, financial gains and personal interest.(14,16)

This study reveals, majority of the interns who desire to specialize will do so in ENT surgery and Obstetrics and Gynaecology. These two fields have been occupied mainly by men over the years and this may be influenced by the lack of role models of same sex during the training(17,18). This was an interesting finding as the respondents had spent more time in Obstetrics and Gynaecology and other postings such as internal medicine and paediatrics, but had a high interest to specialize in ENT Surgery. This implies that despite the shorter duration of posting in ENT Surgery, there was enough impact to cause an influence in their decisions. This further enhances the proactive nature of a mentor in a department to recruit doctors into a residency training program of desired field.(19) The increased interest in these two fields of specialization was however different from other studies where surgery, internal medicine, paediatrics and obstetrics and gynaecology were the most preferred fields of interest for specialization.(4,14,20,21)

Concerning practice in ENT surgery among the respondents, about 12.7% of the interns did not have any ENT posting as medical students due to the absence of the posting in school or the fact that it was included as an optional posting with other sub-specialization areas in medicine such as ophthalmology. Another reason for this lack of ENT Surgery manpower in the training institution at the time of their special postings. Only about 47.3% of the participants have ever managed a patient with ENT disease and most of the participants stated that the best approach to managing patient with ENT disease was to refer to the ENT clinic. Others reported that they would prescribe medications and still refer the patient appropriately, while only about one percent of the respondents stated that they would only prescribe medications for the patients. With reduced exposure to postings and rotations in ENT surgery, doctors will less likely have interests in that area, compared to other specialties they have been exposed to. The presence of a mentor in a field can also be a factor to influencing the decision on an area of specialization.(18)

### **Limitations**

The study was done in one tertiary training institution, thus does not give generalizability of the stated results.

### **Conclusion**

Findings from this study show there are as much females among medical interns as there are males, which closes the gap between the male and female child as regards exposure to education in a developing country. The exposure of ENT Surgery during training teaches the interns on how to manage ENT cases, as they may encounter similar cases when they are done with the training program. The unique nature of ENT Surgery despite the short duration of exposure during training makes it stand out to be increasingly considered as a choice of residency training for those who decide to pursue that route.

## COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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