



THE ATTITUDE OF CLINICAL MEDICAL STUDENTS TOWARDS ANATOMIC PATHOLOGY AS A LIKELY SPECIALTY CHOICE; CAN A PARADIGM SHIFT CHANGE THE CURRENT NARRATIVE?

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• **ABSTRACT**

Background: Certain health care specialties are more acutely at risk of suffering from Physician shortages as is currently experienced, or may be in the nearest future. This may not be readily divorced from the perceptions that clinical undergraduate students of medicine hold in respect of the specialties in question. *Methodology:* In our study, the two most senior classes of clinical students were surveyed from two medical schools in North central Nigeria, namely the Colleges of Health sciences of the Father Adasu University Makurdi (formerly Benue State University) and University of Jos. The objective of the study was to assess the attitude of the medical students as to determine how much they are willing or are disposed to choose the discipline of Anatomical Pathology as a likely future career. *Results:* From our findings, the following are the impressions or perceptions they generally hold in respect of Anatomic Pathology. Out of 193 students, 4.4% opted to consider anatomic pathology as a specialty to choose, despite that a significant percentage (66.8%) think of it as interesting and important in diagnostic medicine. *Conclusion:* Despite the degree of importance and interest used to describe students' perception of the specialty of anatomic pathology, it has been quite underrepresented when it comes to selecting it as a career to practice. This is undergirded by very limited students exposure to its practical aspects and clinical application.

KEYWORDS: Anatomic Pathology, Medical students' attitude or perception, Specialty choice, Paradigm shift.

• **INTRODUCTION**

Anatomic Pathology is a discipline of Laboratory Medicine which broadly concerns itself with the study of disease entities, their causative agents (or factors), mechanisms by which the factors produce these diseases, and the structural changes (diagnostic features) which characterize the various disease entities.

To become a Specialist in the field of Anatomical Pathology requires first acquiring the primary medical

degree, MBBS and then securing a post graduate training position (residency) in Pathology.^[1] On successful completion of this residency training, a Fellowship in this Specialty is awarded by a relevant Institution or College e.g NPMCN (National Postgraduate Medical College of Nigeria), RCPATH-UK (Royal College of Pathologists UK), or WACP (West African College of Physicians), which confers the status of a Specialist. The same pattern of training applies to other specialist medical and surgical disciplines.

In the context of human resource adequacy, there is a current worrisome trend of growing decline in the Physician workforce, as well as a progressive disparity in specialty preferences and selection, relative to specific healthcare needs of a given population.^[1,2,3] To the extent that the problem of poorly matched or unmatched specialty distributions and that of generally reducing numbers of Specialists are now being characterized and described even in developed countries of America and Europe, it is now apparent that they are not just a local problem in the African or Nigerian context, but are now revealing a global pattern.^[2,12]

It is instructive furthermore to state that, there is a current statistical deficiency due to dearth of research, on the progressively declining profiles of Medical Doctors' populations and their distribution into specific specialties in some regions of the world, notably Africa for example.^[4] In reference to Anatomical Pathology and our local context (Africa and Nigeria in particular), the disparity in specialty selection or distribution and the gradual reduction in numbers is becoming more apparent or obvious, despite the lack of research. Consequently, the need is obviated for more researches to be conducted on the evolving problems of specialist deficiencies, and more so as it affects Anatomical Pathology. The converse is that the actual healthcare needs of our dynamic and evolving populations will be poorly met or completely unmet if these gaps are not better studied, clearly understood and pragmatically stitched.

• MATERIALS AND METHOD

The research survey conducted was centered on Clinical students of Medicine, from two Universities in North central Nigeria, namely the Father Adasu University Makurdi (FAUM, formerly known as Benue State University), and the University of Jos, Colleges of Health Sciences. As a multicenter study, it was limited to the students in the penultimate and on-graduation phases (classes) of their training, so the formula for estimating a single population proportion was used to estimate (compute) the sample size to represent the two Schools/Colleges proportionately. Thus the proportionate random sampling method was deployed to deduce the

sample size. The instrument for data collection was an Investigator-designed proforma or structured questionnaire having three sections; consent confirmation, section on personal data or biodata, and section on specialty based questions. Out of 193 questionnaires administered (estimated or computed sample size= 193), all were returned with complete responses by the participating students.

• RESULT

From the sample size estimated, 193 proformas were returned with complete responses from the respondents. A form of career advice or counselling was received by 48.7% of the students, where as 51.3% of the study population (99 students) had not the benefit of receiving a career counselling. The age bracket 25 to 29 years, has 60.1% of the study population (table 1). 66.8% of the respondents actually hold the impression that Anatomic Pathology (AP) is interesting and important to make accurate diagnoses of illnesses. Of this study population, 4.4% had shown interest in pursuing AP (Anatomical Pathology) as a future career. Whilst 20.2% of the respondents show a preference for general surgery as a likely future career, 8.3% lacks certainty (is undecided on what specialty to choose). The sister specialties in Laboratory Medicine (Pathology), namely Chemical Pathology, Medical Microbiology, and Haematology & Blood transfusion were potentially selected by only 2.0%, 2.0%, and 1.6% respectively.

The factors influencing the choices of specialty include among others; natural interest (41.0%), personal ability/skills (14.9%), followed by humanitarian motivation (11.5%), while peer influence was reported to exert the least influence (0.7%) on respondents' choices. According to our respondents, 36.0% perceive that employing visual teaching aids (like photomicrographs) will enhance or improve the teaching of AP, and another 30.4% believe that exposing them to more practical sessions will produce similar improvements.

For more details of the results, see the tables that follow (1,2,3 and 4).

Table 1: Sociodemographic Characteristics of respondents.

Variables	Frequency	Percent (%)
Age Group (years)		
<25	49	25.4
25 - 29	116	60.1
30 - 34	25	13.0
>34	3	1.6
Sex		
Male	125	64.8
Female	68	35.2
Religion		
Christianity	179	92.7
Islam	14	7.3
Variable	Frequency	Percent (%)

Impression about Anatomic Pathology as a Specialty		
Interesting and Important	129	66.8
Uninteresting	11	5.7
Indifferent	39	20.2
Just another subject in my Curriculum	14	7.3
Received Career Advice		
Yes	94	48.7
No	99	51.3

Table 2: Factors influencing the study and learning of the subject of Anatomic Pathology by clinical students.

Variable	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Opinion about Pathology					
Interesting	58 (30.1)	80 (41.5)	49 (25.4)	6 (3.1)	
Improves Clinical Diagnosis	110 (57.0)	66 (34.2)	13 (6.7)	4 (2.1)	
Pursue Career in AP	16 (8.3)	17 (8.8)	72 (37.3)	51 (26.4)	37 (19.2)
Unlikely Career in AP	50 (25.9)	48 (24.9)	60 (31.1)	24 (12.4)	11 (5.7)
Most Effective Teaching Method of Anatomic Pathology					
Usual Lectures	37 (19.2)	99 (51.3)	35 (18.1)	20 (10.4)	2 (1.0)
Group tutorials	57 (29.5)	102 (52.8)	28 (14.5)	5 (2.6)	1 (0.5)
Autopsy Demonstrations	85 (44.0)	77 (39.9)	27 (14.0)	4 (2.1)	
Practical Sessions	120 (62.2)	60 (31.1)	11 (5.7)	2 (1.0)	
Conferences	74 (38.3)	82 (42.5)	33 (17.1)	3 (1.6)	1 (0.5)
Anatomic Pathology Lecturer Perception					
Make Lectures Interesting	40 (20.7)	83 (43.0)	53 (27.5)	15 (7.8)	2 (1.0)
Approachable	37 (19.2)	93 (48.2)	49 (25.4)	14 (7.3)	
Unapproachable	4 (2.1)	21 (10.9)	58 (30.1)	94 (48.7)	16 (8.3)
Effective Communication	35 (18.1)	84 (43.5)	54 (28.0)	16 (8.3)	4 (2.1)
Factors Adversely Affecting Learning AP					
Administrative Problems	90 (46.6)	68 (35.2)	27 (14.0)	7 (3.6)	1 (0.5)
Social Interactions	38 (19.7)	104 (53.9)	33 (17.1)	14 (7.3)	4 (2.1)
Self-Drive	79 (40.9)	81 (42.0)	15 (7.8)	12 (6.2)	6 (3.1)
Instructor Skill	83 (43.0)	81 (42.0)	20 (10.4)	6 (3.1)	3 (1.6)
Inadequate time	80 (41.5)	71 (36.8)	27 (14.0)	11 (5.7)	4 (2.1)

Table 3: Fractions of Study population and specialty preferences.

Possible Choice of Specialty after graduation*	Frequency	Percent
Undecided	21	8.3
Anaesthesia	14	5.6

Anatomical Pathology	11	4.4
Chemical Pathology	5	2.0
Community and Preventive Medicine	33	13.1
Family Medicine	19	7.5
General Surgery	51	20.2
Haematology and Blood Transfusion	4	1.6
Internal Medicine	22	8.7
Medical Microbiology and Parasitology	5	2.0
Obstetrics and Gynaecology	30	11.9
Orthopaedics	12	4.8
Paediatrics	22	8.7
Others	3	1.2
Factors influencing Choice of specialty*		
Natural Interest	118	41.0
Gender Peculiarities and Consideration	15	5.2
Personal Ability	43	14.9
humanitarian Drive	33	11.5
Peer Influence	2	0.7
Role Model in Senior Colleague/Lecturer	28	9.7
Quality of Teaching	17	5.9
Lucrativeness	27	9.4
Others	5	1.7

* Multiple responses allowed

Table 4: Improvements that can be made to enhance teaching Anatomical Pathology.

	Frequency	Percent
Use Teaching Aids Like Audio-visual materials, Photomicrographs	174	36.0
Increase the number of lecturers	41	8.5
Have more practical sessions	147	30.4
Increase the time (duration) for each Posting subject	72	14.9
Separate it as a sub-speciality rotation from other pathology subspecialties	50	10.3

Multiple responses allowed

DISCUSSION

This research has been conducted with the clear objective of studying the perceptions that undergraduate medical students who are in their exit phases, hold about the discipline of anatomic pathology. We assayed to determine or estimate to what extent they are likely to choose to pursue a career in this field, and the underpinning factors, at least in a local context; North central Nigeria.

A generic view of our study population comprising students from the Colleges of Health Sciences of the University of Jos and Father Adasu University Makurdi (FAUM), revealed the majority of the respondents to be within the age bracket 25 to 29 years (60.1%), and where as 51.3% of them had no access to career advice and counselling, 48.7% had a form of counselling and advice on choosing a career. We also found that 66.8% of the students actually perceive the discipline of Anatomic pathology as interesting and important in generating accurate diagnoses of disease entities. Furthermore 63.7% of the respondents perceive the Lecturers (lectures) as interesting, but despite these positive impressions or perceptions as it were, only a mere 4.4% of the respondents have considered anatomic pathology as a potential specialty to pursue in the future. The

picture does not appear to bode well for the future of such an all important discipline.

Some disparities have now been established in the attitude or pattern of specialty selection by prospective trainees even globally, such that actual healthcare needs of a given population may not be assured to be met by the number of Specialists available to such population, when it concerns certain specialties.^[1,2] Anatomical pathology as it currently stands happens to be one of such critical specialties. Even for high-competition specialties like Neurosurgery and Cardiothoracic surgery, researchers in the United Kingdom FAST (Factors Affecting Specialty Training preference) survey, have established a very low patronage among final year medical students^[1] To extrapolate further, Anatomical pathology does not even feature in the top 20 preferred disciplines or specialties in the UK FAST survey, which examined the views and perceptions of over 8000 undergraduate medical students.^[1] Many other non-UK studies^[2,12] have invariably revealed findings establishing evolving signs of imminent crises that are bound to arise from shortages of specialist physician workforce, and heightened disparities in specialty distributions for most specialties.

The index study has also betrayed a pattern of declining numbers of potential specialist doctors, with 8.3% of the students expressing a lack of certainty as to specialty choice (or going into residency training) {Table 3}. Even more disconcerting is the waning number of clinical medical students opting to select the laboratory medicine specialties, as our study has shown all of the fields or disciplines of Pathology (laboratory medicine) to be affected by this decimal. For instance the index research shows that Chemical pathology, Medical Microbiology & parasitology, and Haematology, were respectively preferred by just 2.0%, 2.0%, and 1.6% of the study population.

Schukow *et al*^[7] have established, from their findings a current shortage of Pathologists in the USA, accentuated or aggravated by both a retiring population of ageing Pathologists and a limited medical student exposure to formal pathology and clinical laboratory medicine training.

A large systematic review by Levaillant *et al*,^[10] also portrayed very low percentages for the Pathology disciplines (0.1 – 1.1%), which is consistent with the index study. Watts and coworkers (in Australia) also described Anatomical pathology as a vital but undersubscribed specialty.^[12] To explain or account for some variables and underpinning factors behind this downward spiral, Canadian researchers (Raphael *et al*^[13]) demonstrated poorly grounded, unfounded information, and negative rumours as some key factors casting a low profile on Pathology as a practice. Raphael *et al*^[13] suggest that sourcing ways or efforts to provide medical students with more positive experiences and information on the nature of different specialties in the course of their education, may help circumvent the effects of stigma and negative stereotypes or rumours. This the authors believe will empower students as they make these all important life decisions.

Mann-Isah *et al*^[14] have reported that the most preferred specialties in a series among Bahraini medical students, including surgery, internal medicine and paediatrics, were selected because the students perceived them as interesting fields. This is consistent with our data, that also portray natural interest (41.0%) as the strongest or most influential factor, but again Anatomical pathology was not featured or present among the specialty choices selected by students in the Mann-Isah *et al*^[14] study. The authors also speculated that the most preferred disciplines were likely chosen because they are often the most discussed or talked about by academic staff. Another speculation is that, during their earlier years of learning medicine, students are not exposed to a wide variety of specialties. Hence their choices are based on (limited to) the major specialties in medicine that the students are more likely to have heard of or experience. The trend among undergraduate students, of gradually tilting away from the specialties of laboratory medicine (Pathology) as potential future careers, has also been

reflected by researchers in the Middle East and Asian sub-continent.^[15,23]

Since similar disparities have been documented by researchers in the western world (America and Europe), and as has also been established by the index study, the concern is now raised of a gradually ensuing global pattern. Consequently, the putative and pragmatic query the index study has posed before all stakeholders is this; “What factors and baseline thought synthesis have tilted clinical students of medicine away from anatomical pathology, both as a potential and as a real-time specialty choice? ”. Among the delineated factors influencing specialty choices are: desire for direct patient contact, parents’ education level, and negative impression of pathology (by Alomaish *et al*^[20]); Khamees *et al*^[21] cited interest in the specialty, treatment outcome, patient contact, and high income. Alsubaie *et al*^[24] cited specialty interest, specialty flexibility and anticipated income. In most cases, researchers have consistently identified natural interest as a factor of influence, and it is consistent with the index study.^[21-6,28-30] By our speculation, anatomic pathology is not among the disciplines medical students are taught just at or prior to their exit phase. In addition to reduced exposure to practical aspects or sessions, the overall experience students may be afforded of the subject and practice of pathology is likely mostly insufficient to enable them build a robust interest in it or want it as a career to pursue.

Very important and profound findings were made by Budding *et al*,^[25] in a well structured study (at University of the Free State, South Africa). An LPS (laboratory practical session) was added to the curriculum of 2nd year medical students with the aim of affording them more practical exposure to anatomic pathology. Pre-LPS and post-LPS responses were taken of the students, and according to the authors, a statistically significant improvement was seen in the students’ understanding of the role of Pathologists in healthcare delivery. This contributed to a 10.8% increase in the number of respondents now considering a career in anatomic pathology,^[25] Ibe *et al*^[27], in their experience in South east Nigeria rather saw a totally different trend in which majority of the students would prefer to do residency outside Nigeria irrespective of the specialty desired, citing reasons like poor remuneration and economic conditions, and local insecurity.

Recommendations or likely solutions proffered by workers in South western Nigeria (Olajide *et al*^[28], Adebajo *et al*^[29]) include among others, providing incentives or otherwise for underrepresented but critical specialties so as to address the steeped disparity in specialty distribution, revise curriculum to encourage interest in underrepresented specialties like pathology, and integrate structured career counselling. The index study revealed 36.0% of respondents think the introduction of visual teaching aids will improve the

teaching of anatomic pathology, and another 30.4% believe that exposure to more practical sessions or experiences will greatly improve the teaching and learning of the subject (See Table 4).

CONCLUSION

This study has found that anatomical pathology is quite underrepresented in terms of specialty preference and selection by undergraduate medical students, even though it is perceived to be an interesting field and quite necessary for generating accurate diagnoses of health conditions. To this end, anatomical Pathologists have been aptly referenced and quoted as “Medicine’s endangered species” (Budding *et al.*)^[25]

RECOMMENDATIONS

To get past this undesirable decimal, here are our recommendations;

Curriculum review to incorporate more practical exposures is strongly advocated, as is structured career counselling. Increase the visibility of Pathologists to medical students by having structured mentorship programmes and Anatomical Pathologists are quite encouraged to integrate their work into clinical laboratory training and practice. To improve on patient contact, FNA (fine needle aspiration) Clinics, weekend workshops for students, or pathology consultation services can be domiciled in the Department for patients desirous of discussing their reports.^[25]

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REFERENCE

1. Ferreira T, Collins AM, Handscomb A, French B, Bolton E, Fortescue A. Specialty choices among UK Medical students: Certainty, Confidence, and Key influences – a national survey. *BMJ Open*, 2025; 15: e103061
2. Leutritz T, Krauthausen M, Simmenroth A, König S. Factors associated with medical students’ career choice in different specialties: a multiple cross-sectional questionnaire study at a German medical school. *BMC Medical Education*, 2024; 24: 798-813
3. Kupis R, Michalik E, Polak M, Kulbat M, Domagala A. Specialty choices among new generation of doctors; insights from a Polish survey study. *Scientific Reports*, 2024; 14: 27855.
4. Schoon B, Kotter T. Intracurricular factors influencing medical students’ Specialty choice: A systematic review. *Advances in Medical Education and Practice*, 2024; 15: 1127 – 1140.
5. Holloman AM, Berg MP, Bryan B, Dixon LR, George MR, Karp JK, *et al.* Experiential exposure as the key to recruiting medical students into Pathology. *Academic Pathology*, 2023; 10(2): 100074.
6. McCloskey CB, Brissette M, Childs JM, Lofgreen A, Johnson K, George MR, *et al.* How influential are medical school curriculums and other medical school characteristics in students’ selecting Pathology as a specialty? *Academic Pathology*, 2023; 10(2): 100073.
7. Schukow CP, Martinez-Whitman S, McKinley K, Ahmed A. Current United States High School Students’ Perception of Pathology professions as Determined by Pathology Outreach Program Survey Results. *Am J Clin Pathol.*, 2022; 158: s121- s161.
8. Hernandez PV, Razzano D, Riddle ND, Fallon JT, Islam HK, Mirza KM, *et al.* Measuring the efficacy of Pathology recruitment strategies in US Medical students. *Arch Pathol Lab Med.*, 2021; 1:10e.
9. McCloskey CB, Johnson K, Brissette M, Conran R, Childs J, George M, *et al.* Factors Influencing US Allopathic medical students to choose Pathology as a Specialty. *Academic Pathology.*, 2020; 7: DOI: 10.1177/2374289520951924, available @ journals.sagepub.com/home/apc
10. Levaillant M, Levaillant L, Lerolle N, Vallet B, Hamel-Broza J. Factors influencing medical students’ choice of specialization: A gender based systematic review. *EClinicalMedicine*, 2020; 28: 100589.
11. Burkhardt J, DesJardins S, Gruppen L. Diversity of the physician workforce: Specialty choice decisions during medical school. *PLOS ONE*, 2021; 16(11): e0259434. <https://doi.org/10.1371/journal.pone.0259434>
12. Watts F, F T, G R, M C. Why choose anatomical pathology? An online survey of students and doctors. *Pathology*. 2020; 52(1): s138.
13. Raphael S, Lingard L. Choosing Pathology; A qualitative analysis of the changing factors affecting medical career choice. *Medical Science Educator*, 2005; 15(2): ? 7 Pages
14. Mann-Isah NA, Ameen N, Jassim G. Career choices among medical students and factors influencing their choices. *Global Journal of Health Science*, 2019; 11(4): 132-137.
15. Alyazidi AS, Gaddoury MA, Alotibi FA, Aljehani KM, Ahmed RA, Alhudaifi SA, *et al.* The determining factors of medical students in considering a specialty as a future career path: A cross-sectional multinational study in the Middle East. *J Family Med Prim Care*, 2023; 12: 2622- 34.
16. Al Zubaidi A, Al Buqaish S, A A, I M, M S, N S. Influencing factors of future specialty choice for under graduate medical students: An updated experience from the UAE. *Avicenna Journal of Medicine*, 2023; <https://doi.org/10.1055/S-0043-1769931>
17. Mansouri Gh, Rooholamini ZS, R FK. Medical specialty choice and effective factors: A cross-sectional survey of last-year medical students. *Strides Dev Med Educ*. 2023; 20(1): 173-178. Doi: 10.22062/sdme.2023.198300.1165
18. Arif MM, Nisar W, Agha K, Qureshi MG, Mansoor A, Malik AU, *et al.* Exploring Specialty selection and influencing factors among medical students. *Pakistan Journal of Health Sciences*, 2023; 4(6): 263-69. <https://doi.org/10.54393/pjhs.v4i06.803>

19. Sharif AT, Alahmadi ES, A MM, T AM, A KE, A NM, et al. Factors influencing choosing medical specialties among final year male students at Kau, Jeddah Saudi Arabia; A cross-sectional study. *Int J Adv Res.*, 2022; 10(11): 01-02.
20. Alomaish AR, El Hassan LA, Mahfouz MS, Haidar WN, Omer HO, et al. Medical students' perception towards choosing pathology program at Jazan University, Saudi Arabia. *Advances in Medical Education and Practice*, 2022; 13: 1465-1474.
21. Khamees A, Awadi S, Al-Sharie S, Faiyoumi BA, Alzubi E, Hailat L, et al. Factors affecting medical students' decision in choosing a future career specialty: A cross-sectional study. *Annals of Medicine and Surgery*, 2022; 74: 103305.
22. Al-Khader A, Obeidat FN, Abu-Shahin N, Khouri NA, Kaddumi EG, Al-Qaqa S, et al. Medical students' perceptions of Pathology and a proposed curricular integration with Histology: A future vision of curricular change. *Int J Morphol.*, 2020; 38(1): 38-42.
23. Hameed NN, Jaleal AA, Yousef AY, Ahmed AD. Survey study of future specialization preference and the factors affecting the choice of first, second, and third year medical students in College of medicine, Baghdad University. *IOSR Journal of Research & Method in Education (IOSR-JRME).*, 2017; 7(1): 103-7.
24. Alsubaie N, Aldhofaian HS, Alhuwaimel L, Ruxshan N, Alghamdi F, Shamia A, et al. Specialty preferences and the factors influencing them among Pre-clerkship Medical students: The first study from Alfaisal University, College of medicine, Saudi Arabia. *Cureus.*, 2016; 8(11): e894. Doi 10.7759/cureus.894
25. Budding L, Esterhuysen C, van Rooyen C, Goedhals J. The Path(ology) less chosen: exploring medical students' perceptions of anatomical pathology. *S Afr J High Educ.*, 2025; 39(6): <https://doi.org/10.20853/39-6-6987>
26. Alawad AA, Khan WS, Abdelrazig YM, Elzain YI, Khalil HO, Ahmed OB, et al. Factors considered by undergraduate medical students when selecting specialty of their future careers. *Pan African Medical Journal*, 2015; 20(102): doi: 10.11604/pamj.2015.20.102.4715
27. Ibe IU, Chikezie O. Career choices and specialty preferences among final year medical students of a medical school in South Eastern Nigeria. *Quest Journals Journal of Medical and Dental Science Research*, 2025; 12(3): 79-86.
28. Olajide T, Ezebialu C, Uche-Orji C, Abdullateef R, Okoye C, Olaoye E, et al. Specialty preferences among Nigerian medical students: a cross-sectional study. *BMC Medical Education*, 2025; 25: 628 (11 pages)
29. Adebajo GO, Ijadunola MY, Akinwamide ES, Oluduro MI, Ehiyinka OD, Odedeyi CA, et al. Specialty preferences and influencing factors among medical students at a South western Nigerian University. *Discover Education.*, 2024; 3: 230 /<https://doi.org/10.1007/s44217.024-00334-0>
30. Onyemaechi NO, Bisi-Onyemaechi AI, Omoke NI, Odetunde OI, Okwesili IC, Okwara BO. Specialty choices: Patterns and determinants among medical undergraduates in Enugu, South east Nigeria. *Niger J Clin Pract.*, 2017; 20: 1474-80.