THE CHOICE OF CHEMICAL PATHOLOGY AS A SPECIALITY AMONG FINAL YEAR MEDICAL STUDENTS

¹Abdurrahman MB, ¹Saidu K, ²Mohammed Y

¹Department of Chemical Pathology and Immunology,

²Department of Medical Microbiology and Parasitology,

Faculty of Basic Medical Sciences, College of Health Sciences, Usmanu Danfodiyo University, Sokoto

Abstract

Background: There has been the dearth of doctors choosing the postgraduate specialties that were outside the core clinical disciplines. This would no longer impact negatively in the distribution of Doctors in the less sought out specialties in terms of service delivery and medical education.

Objectives: The present study was done to determine the career preferences of final year medical students specifically as regards to their choice of chemical pathology and factors influencing such choice.

Methods: The study was a Descriptive cross sectional study. A questionnaire was self administered by the authors on all the final year medical students of Usmanu Danfodiyo University, Sokoto. Data was analyzed with SPSS version 20.0

Results: Out of the 60 respondents only 3(5%) had interest in pursuing chemical pathology as a postgraduate medical career. The medical students with ages ranging from 20 to 24 years were more likely to choose chemical pathology as a career using the multivariate model (OR=25.692, 95% CI=7.125-100.577).

Conclusion: It is paramount on all stakeholders of medicine, to improve the profile and change the misconceptions about Chemical Pathology. This would help to improve the practice of medicine in general.

Key words: Career choice, Usmanu Danfodiyo University, Sokoto, Reasons for specialization

Correspondence:

Dr. Muhammad B. Abdurrahman
Department of Chemical Pathology and
Immunology,
Faculty of Basic Medical Sciences,
College of Health Sciences, Usmanu
Danfodiyo University, Sokoto.
Tel: +234(0)8032375659
Email: abfmlh@yahoo.com

INTRODUCTION

Human resources for health is one of the cardinal pillars for the Nigerian national strategic health development plan (NSHDP).¹ The unequal distribution of doctors among different specialties of medicine has been identified as a major challenge to the efficient health care delivery system in Nigeria.¹ This considerably put a strain to the human health resources across different level of care in Nigeria.¹ The field of Chemical Pathology has been identified as a postgraduate medical career of least choice among undergraduate medical students in northeastern, Nigeria.² The practice of Chemical Pathology evolved as a postgraduate medical training in Nigeria with the establishment of the Faculty of Laboratory Medicine and Faculty of Pathology in the West African College of Physicians (WACP) in 1976 and the National Postgraduate Medical College

of Nigeria (NPMCN) in 1979, respectively.^{3,4} Chemical pathology deals with expertise in the biochemistry of human body as it applies to the understanding of the cause and progress of human disease. It also entails the application of biochemical data to the detection, confirmation and monitoring of diseases that have direct or indirect bearing on the biochemical functions of the body.⁵

Career choice of final year medical students gives the direction to the distribution of medical doctors in the future. The knowledge of this distribution would aid in planning the area of need and guidance for our future doctors. The study area, College of Health Sciences, Usmanu Danfodiyo University (UDU), Sokoto was established in 1977.⁶ It is among the three federal institutions responsible for the training of undergraduate medical students in the

northwestern region of Nigeria.

The aim of this study therefore, was to assess the knowledge of final year medical students on how they perceive Chemical Pathology, as a postgraduate specialty. The specific objectives were: to determine the number of students with interest in Chemical Pathology in the subject population, to find out the reasons(s) for choosing or not choosing Chemical Pathology as a specialty, and to find out if there was gender or age predilection associated with choice of this specialty.

MATERIALS AND METHODS

This was a descriptive cross-sectional study that was conducted between 19th January 2015 to 6th February, 2015. It was carried out among the final year undergraduate medical students of the College of Health Sciences, UDU Sokoto for the 2014/2015 session. **Data collection** was by questionnaires that were self administered by the authors among all final year medical students. The questionnaire was adapted from a previous study.²

Statistical analysis: The data was analyzed using statistical package for social sciences (SPSS™ 20.0) package version 20.0. Descriptive data were given as frequencies and percentages. Tables and charts were used to present results where appropriate. Strength of association was analyzed using Chi-square test or Fisher exact test where necessary. The level of significance was set at $p \leq 0.05$. Predictors were accessed using logistic regression.

RESULTS

There were a total of 65 medical students in the final year class of UDU Sokoto. Questionnaire was administered to all of them, however, only 60(92%) returned the questionnaire. There were 49(81.7%) males and 11(18.3%) females giving a male: female ratio of 4.5: 1. Their age distribution is as shown in Table 1. Fifty two (86.7%) of the students were single while 8(13.3%) were married. The number of years spent in medical school by the students were; 6 years by 27(45%), 7 years by 28(46.7%) and $\geq$

8 years by 5(8.3%).

Forty eight (80%) of the students intend to specialize after medical school while 12(20%) did not want to specialize after graduation. The reasons given by the 12 students for not wanting to specialize were; difficult to pass examination by 8(66.7%), long duration of training by 2(16.7%), training information not known by 1(8.3%), difficult recruitment process by 1(8.3%). The career choice of the 48 students that wants to specialize is as shown in Figure 1. Only 3(6.3%) (That is 3 out 48 that wanted to specialize after graduation) of the students chooses Chemical Pathology as a career they intend to practice.

The reasons given for their various choices of specialties were as follows; personal interest, chance to help people, the influence of mentors, lucrative nature of the specialty and prestige. The reasons given by the student for their interest in chemical pathology were; personal interest and it is more academic and research oriented. The reasons given for lack of interest in chemical pathology were; chemical pathologist work behind the scene, undue competition with laboratory scientists/technicians, the specialty is not lucrative, and I would be out of touch with clinical/bedside practice.

About 48(80%) of the students did not know the functions of Chemical pathologist while only 12(20%) of the students knows the functions of Chemical pathologist. Table 3 shows the association between some factors and the choice of Chemical pathology as a career. However, only age of the medical students is significantly associated with a career choice in chemical pathology ($p = 0.020$, 95% CI=0.013-0.153). Using the logistic regression model as shown in Table 4, those medical students with ages ranging from 20 to 24 years were more likely to choose Chemical pathology as a career (OR=25.692, 95% CI=7.125-100.577).

Table 1: Distribution of the 60 medical students based on age and gender

Age group (years)	Male (%)	Female (%)	Total (%)
20-24	6(10)	7(11.7)	13(21.6)
25-29	42(70)	4(6.7)	46(76.7)
30-34	1(1.7)	0(0)	1(1.7)
Total	49(81.7)	11(18.3)	60(100)

Figure 1 Specialty choice among the 48 final year medical students of UDU Sokoto **Table 3: Association between some factors and the choice of Chemical pathology using the chi square test/Fishers exact test**

Factors	Choice of Chemical Pathology			Statistical analysis
	Yes (%)	No (%)	Total (%)	
Sex				
Male	6(38)	28(82)	34(100)	$p = 0.967$ 95% CI=0.719-0.915
Female	1(11)	8(89)	9(100)	
Age				
20-24	2(22)	7(78)	9(100)	$p = 0.020^*$ 95% CI=0.013-0.153
25-29	5(15)	29(85)	34(100)	
Marital Status				
Single	5(71)	2(29)	7(100)	$p = 0.349$ 95% CI=0.214-0.453
Married	31(89)	4(11)	35(100)	
Years in Med School				
6	1(6)	17(94)	18(100)	$p = 0.183$ 95% CI=0.085-2.81
7	5(24)	16(76)	21(100)	
≥8	0(0)	1(100)	1(100)	

* Statistically significant

Table 4 Logistic regression analysis of Age as a determinant for career choice of chemical pathology

Variable	p-value	Odds ratio	95% CI
Age			
20-24	0.000*	25.692*	7.125-100.577*
25-29	0.254	1.666	0.724-49.125

* Statistically significant

DISCUSSION

The distribution of specialist among the various specialties of medicine is not even. The

various branches of pathology have been identified as areas that are considered less attractive. In the present study, only 3(6.3%) of the students indicate their willingness to pursue a career in Chemical pathology. This was similar to a study conducted in University of Maiduguri by Yahaya and colleagues² where Laboratory medicine based specialties were found to be less attractive with majority of the students choosing the core clinical specialties. The most preferred specialty by the students from this study is Obstetrics and Gynecology followed by Paediatrics and none wants specialize in Psychiatry! The findings were similar to the work of Elebute and colleagues⁷ in a questionnaire survey of career choices carried out among two groups; group I representing 112 medical graduates, after one year's internship from three states in Nigeria and group II representing 365 final-year medical undergraduates in the colleges of medicine in the corresponding states. Obstetrics and gynecology was the most popular first choice in both groups.

The finding from this study observed that many factors influence specialty choice, with the major ones being; the influence of mentors, personal interest, lucrative nature of the specialty, and prestige. This was similar to a study done by Akinyinka and colleagues⁸ among final year medical students of Ibadan to determine their belief and attitude for career choices. The findings from that study reveals the following factors as guiding their specialty choice, the principal ones being: expectation of material rewards; societal appreciation of specialty and specialists; response of specialty patients to treatment; and the role of specialty teachers.

There was positive association between the choice of Chemical pathology and age from this study. The students in the younger age group of 20-24 years old were more likely to choose Chemical pathology compared to those in the older age groups. This is perhaps most likely due to the fact that those in the younger age group are more active, versatile and tend to experiment more. This study did not find any association between gender and the choice of

chemical pathology. However, previous studies have shown the influence of gender with postgraduate medical career of students.^{9, 10}

Conclusion

In conclusion majority of the students intends to specialize after medical school but only few choose Chemical pathology as a post graduate medical career. It is paramount on all stakeholders in medicine, to kindly improve the profile and change the misconceptions about Chemical Pathology. This would help to improve the practice of medicine in general.

Conflict of interest: None

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