

Original Research Article

Assessment of Determinants for choosing Medical Sciences as a Career Path amongst

Medical students of University of Port-Harcourt

ABSTRACT

Background and Aim: Presently, medical students form a vital group of aspiring health professionals that are trained in order to assist in promoting healthcare worldwide. However, there is need to understand how these students derive motivation based on various determinants that enable them in choosing to study related disciplines in medical sciences – hence the aim of this present study.

Materials and Methods: Using a qualitative, survey research design, this cross-sectional study comprising of two hundred (200) pre-medical and medical students (98 males and 102 females) between the ages of 16 to 25 years were randomly selected from the University of Port Harcourt and issued a semi-structured questionnaire containing two sections: socio-demographic variables and the determinants influencing career choice in medical sciences.

Results: The majority of respondents in the age range of 16 – 19 years (accounting for a combined 88.0% of student population) did fill their study questionnaires. There were significant age and gender differences in some of the determinants such as parental and peer influence, prospects of travelling abroad to practice, and financial benefits.

Conclusion: The study resolved that there was a need to educate these students to have the right motivation towards aspiring to study in the medical sciences.

Keywords: Determinants, Medical Sciences, Career Path, Pre-medical, Medical Students

Introduction

A fundamental principle that guides the perception of life by any individual is choice. Career choice is heavily influenced by a combination of both socio-cultural and economic factors [12]. A host of other variables such as state of affairs of life, and scholarly accomplishments have been shown to determine students' career choices [13]. A person's career decision has a long-lasting effect on them. It influences a person's attitude, personality, and outlook by predicting and determining their future, level of income, and the type of work they will do. Therefore, the fate of an individual can be altered by one poor choice. Making a choice about a career is challenging for everyone. The economic health of a country is a larger-scale manifestation of this individual action [1].

Every individual who wants to achieve their dreams must navigate the significant road curve of choosing a career. Career choice is often a complex decision for most undergraduates since it might serve as a key determinant of the kind of profession that they pursue in life [2]. Career decisions made by students are heavily influenced by job searching, career planning, and choice-making [3]. Making career decisions can be stressful and uncertain for many undergraduates. Many of them do not make adequate research on their own career nor do they receive adequate directions from their school guidance coordinators. Most of them are not aware of what goes into career choice [4]. Many youths go into unsuitable careers due to ignorance, inexperience, peer pressure, advice from friends, parents, and teachers, or as a result of the prestige attached to certain jobs without adequate vocational guidance and career counseling [5]

According to Kerka[6], a variety of factors, such as a person's personality, interests, self-concept, cultural identity, globalization, socialization, role models, social support, and access to information and financial resources, influence a person's choice of career. According to Hewitt [7], extrinsic, intrinsic, or a combination of both elements might influence an individual's career decision. Hewitt goes on to say that the majority of people are influenced by the professions that their parents favor,

while others pursue the professions that their educational choices have made available to them. Some people decide to follow their passions regardless of how much or little money they will make, while others opt for professions that offer high salaries.

Even in the majority of low- and middle-income nations, such as Nigeria, the medical field continues to be seen as respectable [8]. In Nigeria, the government is mostly responsible for funding medical education, particularly at federal and state universities. Due to the training's two phases, basic medical sciences and clinical sciences, each with comprehensive syllabuses including a wide range of specialists in many specializations, this style of education is more expensive than other university courses [8]. The expansion of the already complex syllabus due to advancements in medical science ensures that medical education will continue to progress [8]. This presents substantial difficulties for aspiring medical students who are anxious to enter the noble field. Given that there are no adequate admission slots for a large number of applicants, the government-owned medical schools are comparatively underfunded, which poses a discouragement to some students' decision to go into the medical profession. Recurrent industrial unrest that disrupts teaching and services in both the university system and the health sector is another difficulty for public medical schools. This frequently lengthens the time required for medical education. According to Narayanasamy *et al.* [9], the medical profession is honorable and offers the chance to give health services while also being seen as a way to have a secure and lucrative career. The decision to pursue a profession in medicine is made for a variety of reasons [10,11] even in the face of some discouraging factors.

Finding a suitable career begins with having chosen career options and knowing the route they want to go in. In the process of exploring their employment options, it's crucial to get assistance and have a plan in place. Hence the aim of this study was to assess the motivations and the factors that affect their choice of medical education as their career path amongst students of University of Port-Harcourt. This study should be able to show us whether there are significant associations between the

academic career choices of students in medical education and the various motivating factors that guide their choices.

Material and Methods

This cross-sectional study made use of a qualitative, survey research design. The sample size of the student population was obtained using the sample size formula for cross-sectional surveys.

$$\text{Sample size} = \frac{Z_{1-\alpha/2}^2 p(1-p)}{d^2}$$

Where $Z_{1-\alpha/2}$ = Standard normal variate (at 5% type 1 error) = 1.96

p = expected proportion of respondents (15%)

d = absolute error = 0.05

$$\text{Sample Size} = \frac{1.96^2 \times 0.15(1 - 0.15)}{0.05^2} = 195.92$$

For the purpose of this study, we rounded up the sample size to 200. This study was done at the University of Port Harcourt among two hundred (200) first-year medical students. Students between the designated age of 16 years to 25 years were consented to and selected.

Tool for data collection: An online, semi-structured questionnaire (using SurveyHeart) was administered to respondents through the aid of WhatsApp social media platform to gather information on socio-demographic variables such as age, sex and educational levels of parents, and the preference of determinants influencing academic career paths in Medical Sciences. To test for reliability of data, they were assessed based on the following options; strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD).

Time of data collection: Collection of data from respondents was carried out for 3 days and after that duration, data were arranged electronically for subsequent data analysis

Ethical considerations: The study was approved by the Faculty Research Committee of Basic Medical Sciences, University of Port Harcourt.

Data analysis: Data were collected, tabulated, statistically analyzed using an IBM personal computer using Statistical Package for Social Sciences (SPSS version 22.0). The chi-square test was used as an inferential statistic, probability less than 0.05 ($p < 0.05$) was considered significant and results were presented with frequency and percentage.

Results

Table 1: reveals that the total population was two hundred students ($n=200$), comprising of ninety-eight males (98) and one hundred and two (102) females within the age range of 16 – 25years. The age was categorized into intervals, and revealed that those within the class interval of 16 – 17years had the highest frequency of responses (59.5%), followed by the age interval of 18 – 19years (28.5%). The age interval of 20-21years and 22-23years has 9% and 3% respectively, while the least frequency was observed within the age interval of 24-25 years (1%).

It was also observed that 74% of the respondents' mothers and 73% of their fathers had obtained their degrees in the tertiary institution. Though, the least population had obtained secondary school certificate as the peak of their educational level.

Table 2: Based on the relationship between the age of the students and the determinant influencing career pathway, there was a significant relationship with age and parents influenced the career choice and solely believe to be successful afterwards though the study divulge that across the age interval, the career pathway was not a peer group influence rather at every age strongly insist their willingness to stay at home until they got admitted into medical course. Also, there was statistically significant across the age interval that studying medical related course gives better chance of traveling over sea, they further expressed that family status has influence the choice career.

Table 3: Based on the relationship between the gender of the students and the determinant influencing career pathway, The study reviewed that either the student males or females strongly disagreed that the choice of a career in medical science is not influenced because it is well respected in the community, 51% and 52.9% of males and female respectively revealed that choice of career was not influence by the parents, though a minimal population of the male expressed their opinion they can be successful only when they study medical related courses, 31.6% of males agrees that studying medical related course gives a better chance of travelling abroad for a greener pasture. 47.1% of the female population strongly disagree that studying a medical related course can only make them successful and strongly disagree that a choice of career was not influenced because of its opportunity to travel over sea.

The study explored that over 54.1% and 40.2% of male and female population agree that choice of career was influenced by so much opportunities it brings, only few of both populations expressed that the career choice was determined due to family status. 68% and 55,1% of male and female population disagree that the choice of career was not due to passion of saving lives in the health sector rather average of the students (41.8% and 29.4) of male and female respectively was influence due to passion for medical course (table 2)

Discussions

The aim of this study was to assess the motivations and the factors that affect their choice of medical education as their career path amongst students of University of Port-Harcourt. Table 1 showed that the majority of respondents in the age range of 16 – 19 years (accounting for a combined 88.0% of student population) did fill out their study questionnaires. In addition, this study also showed that a good proportion of their parents had attained the highest or tertiary level of education (74% of females and 73% of males). In line with a related study, it was postulated that the educational standards of parentages are capable of enlightening how well their children accomplish in school [14]. Onipinla (2009) had earlier stated from a publication that the means of livelihood, salary or wages, and educational status of parents have proven to influence the level of academic awareness of their children.

It was shown in this present study that there was higher percentage of male and female respondents who disproved the notion that a career in medical sciences was well respected in student's families, although that did not differ significantly between both genders. Also, there was no association between respondent's age and the notion that most of their families do not respect the medical profession.

Furthermore, there were significant associations between the age of respondents and the beliefs that it was their parents' wishes that they study Medicine and Surgery or any other related medical discipline in the university, as well as being successful upon venturing into the medical profession. However, these notions did not reflect or suggest a possible association with gender. In concordance with a recent Pakistani study as reported by Shahid *et al.* [16], it revealed that majority (56.6%) out of 502 students that were assessed over a 5-year period designated the medical profession because of "high status and prestige.

The study also showed that majority of the students in both sexes disapproved the idea of their friends having an influence in them choosing to study in the medical sciences. This notion varied significantly in genders, however an insignificant association was perceived between the notion and the respondents' age.

Additionally, despite showing a significant association with age and not with gender, at least half of the respondent population in both sexes either disagreed or strongly disagreed with the notion that they would be willing to wait at home for years until admitted to study in the Medical Sciences. It is evident enough that there are critical challenges in university admissions that are experienced by prospective Nigerian undergraduate students almost on a yearly basis partly due to the ever-increasing population of youths and children who keep vying to study in limited medical universities. As such, most of these affected youths are always open-minded to try out other non-medical disciplines if they are denied admission opportunities in those within the medical field.

Significantly, the students' response towards choosing to study in the medical sciences to better their chances of travelling abroad for greener pastures associated with age and gender. It is no strange news to medical students as reported by these several researches on the increase in the outflow of doctors and other medical experts abroad due to the failing healthcare system of Nigeria [17,18]. For this reason also, a little more than 50% each of gender-specific respondents answered the questionnaire that they did not choose to study in the medical sciences because they wanted to save lives in the health sector.

More than half of the respondents for both genders rejected of the notion that they choose to study professional fields in the medical sciences because of their poor family background – which strongly associated with between age and gender.

Parental desires, respected professions and economic incentives, respect in society, high social status, and service

tothesickwerethemainreasonsstudentsinlow-incomecountrieschosemedicine [19], however, this present study has so far contradicted some of these reasons.

Conclusions

The study concluded that there was a significant relationship between the determinants of career choice in medical sciences such as the desire to travel abroad for greener pastures and not choosing the discipline due to their poor family backgrounds. However, the study results categorically portray that Nigerian medical and pre-medical students need to be re-enlightened on the need to seek motivation and personal development in order to promote the growth of sound medical practitioners that will contribute positively in the Nigerian health sector.

Study recommendations

The study hereby recommends that future works should be done to evaluate and compare the motivating factors that influence students' drive for choosing academic career paths in the Medical sciences amongvarious Nigerian medical schools. A larger sample size should be considered as it would represent a true reflection of the study aim.

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Competing interests

All authors declare that there are no conflicting interests whatsoever.

References

1. Sabri, M., Wijekoon, R. & Rahim, H. The influence of money attitude, financial practices, self-efficacy and emotion coping on employees' financial well-being. *Management Science Letters*, 2020; 10(4), 889-900.
2. Oyebanji, B., Kolawole A. Determinants of Career Choice among female undergraduates in Obafemi Awolowo University, Nigeria. *International Journal of New Economics and Social Sciences (IJONESS)*.2020; 12(2), 33-44.
3. Watts, A.G. &Fretwell D.H. Public Policies for Career Development. Case Studies and Emerging Issues for Designing Career Information and Guidance Systems in Developing and Transition Economies.The World Bank, Washington, 2004.
4. Amanning, D.Y. Guidance Needs of Senior High School Students in WassAmenfiWest and East Districts of the Western Region of Ghana. Unpublished Thesis, University of Cape Coast, 2009.
5. Sultana, R.G. Guidance Policies in the Knowledge Economy. Trends, Challenges and Responses across Europe. A Cedefop Synthesis Report, CedefopPanoramaserie No.85, Office for Official Publications of the European Commission, Luxembourg, 2004.
6. Kerka, S. Career development of diverse populations. ERIC Clearing House, 2003.
7. Hewitt J. Factors influencing career choice, 2010. Cited from <https://www.ehow.com> on August 13, 2020.
8. Ezeanolue B.C. Current challenges of medical education in Nigeria. *Journal of College of Medicine*. 2011; 16:77-83.
9. Narayanasamy M., Ruban A., Sankaran P.S. Factors influencing to study medicine: A survey of firstyear medical students from India. *Korean Journal of Medical Education*. 2019; 31:61-71.

10. Chawla J., Arora M., Datta K., Singh S.P., Arora A. Factors affecting the choice of postgraduate specialty among undergraduate medical students: A prospective observational study from India. *South East Asian Journal of Medical Education*. 2018;12:35.
11. Yik C.W., Balakrishnan C., Sundaram D.M., Tan E., Li Y., Pin T.W., et al. Factors influencing medical student's choices of future specialization in medical sciences: A cross-sectional study. *American Journal of Educational Science*. 2018; 4: 168-79.
12. Abe, E. N., &Chikoko, V. Exploring the factors that influence the career decision of STEM students at a university in South Africa. *International Journal of STEM Education*. 2020;7(1), 1-14.
13. Uthman, A. B., Sanni, M., & Salami, A. A. Prospect for accounting academics: examining the effect of undergraduate students' career decision. *Management & Accounting Review (MAR)*. 2019;18(3): 95-130.
14. Mbebeta, R. Early marriages among school going girls: the role of school managers in addressing the problem in selected primary schools in KapiriMposhi. (Doctoral dissertation, The University of Zambia), 2022.
15. Onipinla, F. A. Influence of socioeconomic status of parents on the students' academic performance in secondary school in Ikorodu LGA of Lagos. Lagos: Unpublished project work, Lagos State University, 2009.
16. Shahid Z, Fatima K, Siddiqui F, Panhwar G. Association of career choice and motivation with academic performance. *Journal of Xi'an Shiyou University, Natural Sciences Edition*. 2022;18(9): 447 – 453

17. Adeloje, D., David, R. A., Olaogun, A. A., Auta, A., Adesokan, A., Gadanya, M., Iseolorunkanmi, A. Health workforce and governance: the crisis in Nigeria. *Human Resources for Health*, 2017; 15(1): 32.
18. Onyekwere, J., & Egenuka, N. Nigeria groans as medical professionals' emigration worsens. *Guardian Newspapers*, 2019. Retrieved from <https://guardian.ng/news/nigeria-groans-as-medical-professionals-emigration-worsens/>
19. Goel, S., Angeli, F., Dhirar, N. et al.. What motivates medical students to select medical studies: a systematic literature review. *BMC Medical Education*. 2018;18: 16.

Table 1: Social demographic evaluation of respondents

	Frequency (N=200)	Percentage (100%)
Gender		
Male	98	49.0
Female	102	51.0
Age		
16-17	117	59.5
18-19	57	28.5
20-21	18	9.0
22-23	6	3.0
24-25	2	1.0
Mother's educational level		
None	3	1.5
Primary	12	6.0
Secondary	37	18.5
Tertiary	148	74.0
Father's educational level		
None	3	1.5
Primary	6	3.0
Secondary	45	22.5
Tertiary	146	73.0

Table 2: Association between age and determinants influencing Academic Career Choices in Medical Sciences

Variables	X²	p-value	Inference
A career in medical sciences is well respected in my family or community	4.80	0.77	NS
My parent(s) wishes that I study Medicine and Surgery or any other related medical discipline in the university	22.067	0.005	S
I believe that I can be successful in life only when I study Medicine and Surgery or any other related medical discipline in the university	21.66	0.006	S
My friends influenced my decision to study in the Medical Sciences	11.84	0.159	NS
I am willing to stay at home for years until I am admitted to study in the Medical Sciences	24.33	0.002	S
I have a better chance of travelling abroad for greener pastures if I study in	19.26	0.014	S

the Medical Sciences			
It has always been my dream to save lives in the health sector	14.662	0.06	NS
I choose the Medical Sciences because of my poor family background	15.44	0.05	S
A career in the Medical Sciences will bring so much opportunities to me in the future	13.16	0.11	NS

Where “NS” denote insignificant and “S,” significant (p<0.05)

Table 3: Association between Gender and Determinants influencing Academic Career Choices in Medical Sciences

Variables	Gender	A	D	SD	X ²	p-value	Inference
A career in medical sciences is well respected in my family or community	Male	31(31.6%)	7(7.1%)	60(61.2%)	0.16	0.92	NS
	Female	35(34.3%)	7(6.9%)	60(58.8%)			
My parent(s) wishes that I study Medicine and Surgery or any other related medical discipline in the university	Male	29(29.6%)	19(19.4%)	50(51.0%)	1.22	0.54	NS
	Female	34(33.3%)	14(13.7%)	54(52.9%)			

I believe that I can be successful in life only when I study Medicine and Surgery or any other related medical discipline in the university	Male	23(23.5%)	36(36.7%)	39(39.8)	1.07	0.58	NS
	Female	21(20.6%)	33(32.4%)	48(47.1%)			
My friends influenced my decision to study in the Medical Sciences	Male	0(0%)	70(71.4%)	28(28.6%)	11.43	0.003	S
	Female	7(6.9%)	54(52.9%)	41(40.2%)			
I am willing to stay at home for years until I am admitted to study in the Medical Sciences	Male	20(20.4%)	39(39.8%)	39(39.8%)	2.88	0.22	NS
	Female	30(29.4%)	41(40.2%)	31(30.4%)			
I have a better chance of travelling abroad for greener pastures if I study in the Medical Sciences	Male	31(31.6%)	21(21.4%)	33(32.4%)	10.16	0.006	S
	Female	55(53.9%)	14(13.7%)	46(32.4%)			
It has always been my dream to save lives in the health sector	Male	41(41.8%)	3(3.1%)	70(68.6%)	3.89	0.143	NS
	Female	30(29.4%)	2(2.0%)	54(55.1%)			
I choose the Medical Sciences because of my poor family background	Male	17(17.3%)	46(46.9%)	35(35.7%)	5.67	0.05	S
	Female	7(6.9%)	49(48.0%)	46(45.1%)			
A career in the Medical Sciences will bring so much opportunities to	Male	53(54.1%)	1(1.0%)	44(44.9%)	10.17	0.006	S
	Female	41(40.2%)	11(10.8%)	50(49%)			

me in the future

A = Agree, D = Disagree, SD = Strongly disagree, NS = insignificant, S = significant (at $p < 0.05$)

UNDER PEER REVIEW