

Access this article online
Quick Response Code:

Website: www.jehp.net
DOI: 10.4103/jehp.jehp_212_18

The undergraduate medical student's perception of professional mentorship: Results from a developing nation's medical school

Adeyi A. Adoga, Daniel D. Kokong, Nuhu K. Dakum¹, Nuhu D. Ma'an², Andrew A. Iduh², Emoche T. Okwori², John P. Yaro²

Abstract:

INTRODUCTION: There are no documented formal mentoring programs for medical students in Nigeria. This study aims to determine the perception of undergraduate medical students at the University of Jos on professional mentorship, with a view to informing University authorities on creating and developing a mentoring program.

MATERIALS AND METHODS: A cross-sectional study conducted in December 2017 in which self-administered questionnaires were distributed among the sixth-year medical students in a University in North-Central Nigeria, eliciting information regarding biodemographic data, knowledge of and experiences with mentoring, desired benefits of mentoring, and the willingness to participate in a mentoring relationship. Data collected was analyzed with EPI Info statistical software[®] version 7.2.1 (EPI Info, Center for Disease Control, Atlanta, Georgia, 2017).

RESULTS: In a class of 166, the response rate was 83.5%. Mean age = 27.4 years; standard deviation = ± 2.6 with a male: female ratio of 1.9:1. Moderate knowledge of mentoring was reported by 47 (44.3%). Attitude toward mentoring was very positive in 23.6%. One hundred and four (98.1%) students agreed mentoring are effective in developing potential. Nearly 95.3% agreed a mentorship program would benefit medical students with 70.8% expressing high willingness to participate. A weak positive statistical correlation between the age of students and those who expressed willingness to participate was recorded ($r = 0.04$; 95% confidence interval (CI) = 0.6–1.16; and $P = 0.05$).

CONCLUSION: Sixth-year medical students of the University of Jos have a moderate knowledge of and a good attitude toward mentorship. The implementation of a formal mentoring program for medical students at the University of Jos is strongly recommended.

Keywords:

Medical students, mentorship, Nigeria, perception

Department of
Otorhinolaryngology,
Head-and-Neck Surgery,
Faculty of Medical
Sciences, University
of Jos, ¹Department
of Surgery, Urology
Unit, Faculty of Medical
Sciences, University
of Jos, ²Department of
Otorhinolaryngology,
Head-and-Neck Surgery,
Jos University Teaching
Hospital, Jos, Plateau
State, Nigeria

Address for correspondence:

Dr. Adeyi A. Adoga,
Department of
Otorhinolaryngology,
Head and Neck Surgery,
Faculty of Medical
Sciences, University of
Jos, PMB 2084, Jos,
Plateau State, Nigeria.
E-mail: adeyiadoga@gmail.com

Received: 09-07-2018

Accepted: 01-12-2018

For reprints contact: reprints@medknow.com

Introduction

Many definitions for mentoring exists in the literature but the most widely cited defines it as a process, in which an experienced, highly regarded, and emphatic person (the mentor) guides another usually younger individual (the mentee) in the process of development and the

re-examination of their ideas, learning, and personal or professional development.^[1]

Mentoring started in medieval times in Greece,^[2] but formal programs were developed in America for medical students in the late 1990s.^[3]

It is a selfless, cost-free career promotion strategy-based on a personal relationship

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

How to cite this article: Adoga AA, Kokong DD, Dakum NK, Ma'an ND, Iduh AA, Okwori ET, *et al*. The undergraduate medical student's perception of professional mentorship: Results from a developing nation's medical school. *J Edu Health Promot* 2019;8:53.

in a professional context in which the mentor helps the mentee to maximize his/her potential to attain personal and professional goals.^[4,5] A mentoring relationship is developed in the process which may be a lifelong relationship with the mentor acting as a role model. The aim of this relationship depends on the mentee's needs and can alter over time as the mentee develops and his/her agenda changes.^[6]

Two broad forms of mentorship exist traditional and transformational. Traditional mentorship involves an older, wiser individual (mentor) sharing knowledge with and guiding the mentee as is observed in academics and research while transformational mentorship lacks hierarchy. Within each form, the relationship may be formal, informal, spot, or a peer mentoring relationship.^[4,5] There are four major objectives in mentoring programs: career counseling, professionalism and personal growth, enhancing interest in the research and academic careers, and fostering mentees interest in certain specialties.^[4]

The beneficiaries of mentoring are the students, the mentors, and the medical school community. The benefits for the students are career development, improved relationships with the faculty, enhanced research interest, aspiration toward academic careers, improved academic performance, and self-esteem.^[7,8] The benefits for the mentors are satisfaction from helping their students and affecting their students' careers positively; also strengthening the mentor's identity and professional recognition with the school.^[5] The mentor's personal development is also enhanced in the process. The medical school community benefits by the advancement of clinical care, more productive research programs, and enhanced teaching commitment.^[9,10]

For a mentoring relationship to succeed, it must be formal and structured with mentor and mentee respecting and having appropriate expectations of each other.^[11]

Studies have shown a higher level of good leadership skills and self-satisfaction among the faculties who are mentors compared to that of those who are not.^[12-15]

There are no formal mentorship programs in any medical of the medical schools in Nigeria, hence this study to determine the perception of undergraduate medical students in our university on the subject of professional mentorship with the intention of using this as a validated assessment tool to inform the university authorities with a view to creating and developing a mentoring program for the benefit of all involved in a mentoring relationship.

Materials and Methods

Study design

This was a cross-sectional study of the 6th year medical students of a University in North Central Nigeria conducted in December 2017. This was a class of 166 students.

Ethical considerations

Approval for this study was obtained from the Institutional Health Research Ethics Committee of the University Teaching Hospital.

Procedure

Self-administered questionnaires were distributed among the students targeting all in the class after details of the concept of the study was explained to them. Students were counseled on voluntary participation in the study with the guaranty of absolute anonymity. Written and signed consents were also provided by the participants. Thirty-four students declined participation, five were absent, and a total of 127 questionnaires were distributed.

The inclusion criterion for this study was final-year medical students based on the premise of relative maturity in the undergraduate program with the expectation of appropriate responses to the questionnaire. Medical students not in final year and inappropriately filled questionnaires were excluded from the study.

Assessment tool

An open- and close-ended questionnaire was used with some close-ended questions based on the Likert scale and some with true or false in responses. The questionnaires were piloted among a group of final-year medical students and resident doctors (trainee survey) and experts in medical education at the university (faculty survey) to ensure the face and content validity. The questionnaire was then appropriately revised. Definitions of a mentor, mentorship, and a mentoring relationship are provided for respondents on the first page of the questionnaire as a guide. There are five sections to the questionnaire attempting to elicit responses regarding bio-demographic data, knowledge of and experiences with mentoring, the desired benefits of mentoring for mentees, and the willingness to participate in a mentoring relationship. There were three open-ended questions inviting comments from the participants on the barriers to mentoring, any suggestions on mentoring, and the perceived benefits of introducing a mentoring program within the medical school curriculum.

Statistical analysis

The data collected was analyzed using EPI Info statistical software[®] version 7.2.1 (EPI Info, Center for Disease

Control, Atlanta, Georgia, USA, 2017). We calculated means of all variables, and the associations between variables were modeled using linear regressions.

Results

A total of 106 questionnaires were properly filled and analyzed giving a response rate of 83.5%. The age range of participants was 23–38 years (mean = 27.4 years; standard deviation = ±2.6) consisting of 70 males and 36 females (male: female ratio = 1.9:1) [Table 1].

Forty-seven (44.3%) students have moderate knowledge of mentoring and 32 (30.2%) had very good knowledge [Table 2] with majority of these knowledge coming from personal experiences in 63 (59.4%) and from reading about mentoring and peer discussions in 53 (50%) and 46 (43.4%) cases, respectively [Table 3].

The general attitude of the students toward mentoring is very positive in 25 (23.6%), positive in 52 (49.1%), with only one (0.9%) student having a negative attitude toward mentoring [Figure 1].

In the common knowledge of mentoring domain, 98 (92.5%) students responded with false to the statement that mentoring is for students who do not make good grades; 104 (98.1%) students responded with true to the statement that mentoring is effective in developing

potential, whereas 67 (63.2%) students responded with false to the statement that mentoring can only be effective when a senior faculty is involved in the process. The students had multiple responses in most cases. Other responses are shown in Table 2.

A total of 51 (48.1%) students attest to the absence of informal mentoring in the University of Jos, whereas 57 (53.8%) agree to been mentored informally by a senior faculty member, and 42 (39.6%) not receiving any form of mentorship. Fifty-six (52.8%) students responded affirmatively to being mentors to junior medical students, whereas 70 (66%) students have never been involved in a mentoring program in any capacity.

On their knowledge of the benefits of mentorship to mentees in balancing education and life and also expanding the knowledge of career paths and options, 52 (49.1%) and 53 (50%) students, respectively, responded affirmatively. The responses to the sources of knowledge of mentoring are shown in the Table 3.

A total of 101 (95.3%) students agreed that a mentorship program would be beneficial to medical students in the university with 34 (32.1%) and 41 (38.7%) students had a very high willingness to participate in a mentoring relationship [Figure 2]. Ninety (85%) of those who responded otherwise gave time commitment as the factor that may keep them from engaging in mentoring. Other responses are shown in Table 4. Multivariate linear regression analysis revealed a weak positive correlation between the age of students and those whose response to a desire to participate in a mentorship program ranged from high to very high ($r = 0.04$; 95% confidence interval (CI) 0.6–1.16; $P = 0.05$). There was, however, a negative correlation between students' age and the agreement that a mentorship program is beneficial to medical students in the university ($r = 0.04$; CI -0.08–1.33; $P = 0.9$). A total of 13 students made comments with five stating a mentorship program in the medical school would

Table 1: Demographic characteristics of students

Characteristics	Values
Age (years); mean±SD	27.4±2.6
Gender	
Males	70 (66.0)
Females	36 (34.0)
Gender ratio (male:female)	1.9:1
Number studied	106

SD=Standard deviation

Table 2: Baseline knowledge of mentoring

I would rate my knowledge of mentoring as	Frequency (%)
Excellent	20 (18.87)
Moderate	47 (44.34)
No knowledge	1 (0.94)
Poor	6 (5.66)
Very good	32 (30.19)

Table 3: Sources of knowledge of mentoring

Source	Response (%)	
	Yes	No
Community organizations	13 (12.26)	93 (87.74)
Discussions with peers	46 (43.40)	60 (56.60)
Internet	16 (15.00)	90 (84.91)
Reading about it	53 (50.00)	53 (50.00)
Personal experience	63 (59.43)	43 (40.57)
Television	22 (20.75)	84 (79.25)

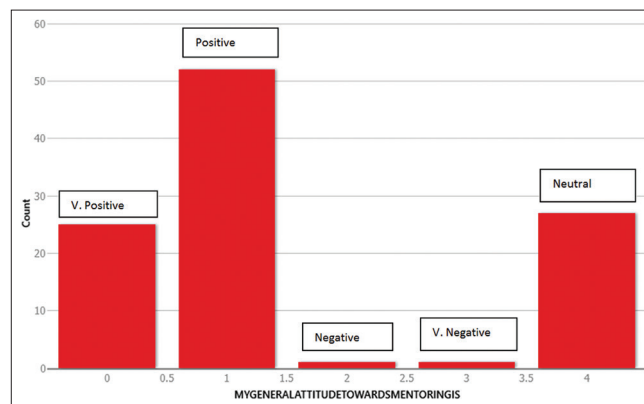


Figure 1: Attitude toward mentoring

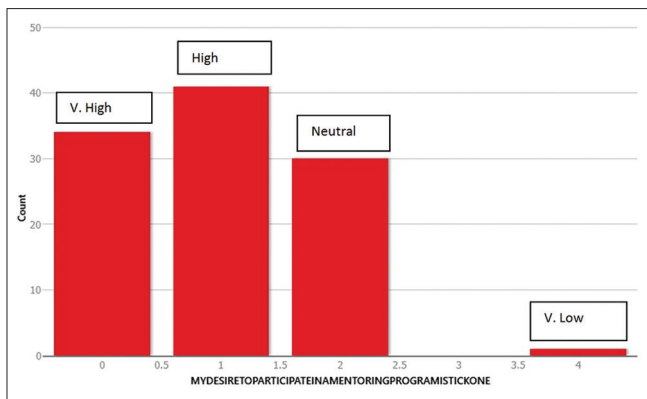


Figure 2: Willingness to participate in mentorship

Table 4: Perceived factors hindering mentorship

Factor	Response (%)	
	Yes	No
Time commitment	90 (84.91)	16 (15.09)
Budgetary considerations	29 (27.36)	77 (72.64)
Lack of financial support for program	35 (33.02)	71 (66.98)
Uncertainty about how it works	45 (42.45)	61 (57.55)
Not enough information on program	57 (53.77)	49 (46.23)
I don't know if mentorship is right for me	15 (14.15)	91 (85.85)

improve the relationship between the students and lecturers if incorporated.

Discussion

This study shows that sixth-year medical students in the University of Jos have a moderate knowledge of mentorship with this knowledge been acquired through informal means such as personal relationships, reading, peer group discussions, and watching television and the Internet. These relationships were maintained at this informal level throughout their study period in school as shown by their responses in the experiences with mentoring domain suggesting a significant influence of informal mentors on the present set of medical students in the University of Jos. From this study, 57 (53.8%) of our students were exposed to informal mentoring. This is similar to the finding of Park *et al.* in which 58% of the students they studied reported having informal mentors.^[16] Informal means of mentoring may lack the structure, measurement, and control but can be beneficial nonetheless.^[6] However, formal, well-structured mentorship programs have more established goals and measurable outcomes.^[11] Studies have shown that students give more value to mentors formally assigned by the school^[5,7] with these mentors helping in the students' career decisions.^[17,18]

The attitude of 72.7% of our students toward mentoring ranged from positive to very positive with 98.1% stating that mentoring is effective in developing their

potential. Our study shows that about half of our students each responded affirmatively to mentorship balancing the education and life and also expanding the knowledge of career paths and options, respectively. This compares favorably to the finding of Al-Qahtani in which he reported that over 90% of his respondents affirmed mentoring is effective in the developing potential.^[19] Studies have shown that mentoring is essential to achieving a successful and satisfying career in the medicine.^[20,21] In a study on the career development among the young physicians in Switzerland, it was found that mentoring in medical school helped these young graduates to make their decisions on specialty training earlier and to adopt a more goal-oriented strategy in planning their careers.^[22] Aside from helping in the guidance of medical students toward the path of success in their professional development and promoting the success in clinical practice, it is also essential in enhancing research productivity.^[4,7,8,23] These benefits can be broadened to encompass enhancement of new learning and skills, developing attitudes and behavior appropriate to circumstances, learning to appreciate conflicting ideas, peer collaboration, and overcoming obstacles.^[6] In addition, mentees learn to network, manage conflicts and the skills of academic writing, and presentation.^[24] Studies also show that in an academic mentoring relationship such as the medical school, the mentors, and the medical school community also benefit.^[7,8] The mentor is expected to exhibit positive professional behavior and should be a physician who enjoys teaching in-house staff, commits substantial effort to teaching and emphasizes the importance of a good doctor-patient relationship and the psychosocial attributes of good patient care.^[25]

There are no documented mentoring programs for medical students in any University in Nigeria and this is highlighted in this study in which 70% of our students attested to never been involved in any form of the mentorship program, with a few experiencing informal forms within and without the university setting. This probably explains why a very large number ($n = 101$; 95.3%) of students in this study responded affirmatively to the establishment of a formal mentoring program in the University of Jos. This is similar to the findings by Al Qahtani.^[19] The only difference, however, is that he studied students in a master's program of health and hospital administration. This affirmation by our students is supported by the fact that the response of 75 (70.8%) of them to willingness in participating in a mentorship program ranged from high-to-very high.

The study shows that medical students recommend the commencement of a formal mentoring program in the University of Jos. Their responses show that they characterize mentoring as an interpersonal relationship

by emphasizing the good personal connection with their mentors. The baseline knowledge, therefore, exists among our students on the subject of mentorship and educating them, further alongside establishing a program will ensure the production of goal-oriented professionals with enormous benefit for our society.

First, the limitations of this study are the small sample size, and second the cross-sectional nature of the study, factors which may have resulted in a lack of statistically significant correlations limiting interpretation of the relationships between the variables. Third, this study investigated the perception of mentorship among the medical students at a single point in their final year. A study on a larger group of students such as a cohort of medical students from several Universities in Nigeria should be more representative in accounting for statistically significant correlations between the variables.

Conclusion

This study has shown that 6th year medical students of the University of Jos have a moderate knowledge of and a good attitude toward mentorship with majority of them exposed to informal forms of mentoring throughout their study period in the university.

We strongly recommend the implementation of a formal mentoring program for medical students in the University of Jos to give trainees more goal-oriented guidance in their careers.

Acknowledgment

The authors are grateful to all the participants in this study and the secretariat staff of the Department of Otorhinolaryngology, Jos University Teaching Hospital, Jos, Nigeria.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Frei E, Stamm M, Buddeberg-Fischer B. Mentoring programs for medical students – A review of the PubMed literature 2000-2008. *BMC Med Educ* 2010;10:32.
2. Usmani A, Omaer Q, Sultan ST. Mentoring undergraduate medical students: Experience from Bahria University Karachi. *J Pak Med Assoc* 2011;61:790-4.
3. Buddeberg-Fischer B, Herta KD. Formal mentoring programmes for medical students and doctors – A review of the medline literature. *Med Teach* 2006;28:248-57.
4. Frei E, Stamm M, Buddeberg-Fischer B. Mentoring programs for medical students – A review of the PubMed literature 2000-2008. *BMC Med Educ* 2010;10:32.
5. Coates WC, Crooks K, Slavin SJ, Guiton G, Wilkerson L. Medical school curricular reform: Fourth-year colleges improve access to career mentoring and overall satisfaction. *Acad Med* 2008;83 (8):754-60.
6. Taherian K, Shekarchian M. Mentoring for doctors. Do its benefits outweigh its disadvantages? *Med Teach* 2008;30(4):e95-9.
7. Macaulay W, Mellman LA, Quest DO, Nichols GL, Haddad J Jr., Puchner PJ, et al. The advisory dean program: A personalized approach to academic and career advising for medical students. *Acad Med* 2007;82 (7):718-22.
8. Dimitriadis K, von der Borch P, Störmann S, Meinel FG, Moder S, Reincke M, et al. Characteristics of mentoring relationships formed by medical students and faculty. *Med Educ Online* 2012;17:17242.
9. Sanders JL. A student's perspective on reaching full potential in academic medicine. *Acad Med* 2012;87:1478.
10. Stenfors-Hayes T, Kalén S, Hult H, Dahlgren LO, Hindbeck H, Ponzer S. Being a mentor for undergraduate medical students enhances personal and professional development. *Med Teach* 2010;80:344-8.
11. Rose GL, Rukstalis MR, Schuckit MA. Informal mentoring between faculty and medical students. *Acad Med* 2005;80:344-8.
12. Wagner JM, Fleming AE, Moynahan KF, Keeley MG, Bernstein IH, Shochet RB. Benefits to faculty involved in medical school learning communities. *Med Teach* 2015;37:476-81.
13. Wingard DL, Garman KA, Reznik V. Facilitating faculty success: Outcomes and cost benefit of the UCSD national center of leadership in academic medicine. *Acad Med* 2004;79:9-11.
14. Chung KC, Song JW, Kim HM, Woolliscroft JO, Quint EH, Lukacs NW, et al. Predictors of job satisfaction among academic faculty members: Do instructional and clinical staff differ? *Med Educ* 2010;44:985-95.
15. Feldman MD, Arian PA, Marshall SJ, Lovett M, O'Sullivan P. Does mentoring matter: results from a survey of faculty mentees at a large health sciences university. *Med Educ Online* 2010;15:10.3402/meo.v15i0.5063.
16. Park JJ, Adamiak P, Jenkins D, Myhre D. The medical students' perspective of faculty and informal mentors: A questionnaire study. *BMC Med Educ* 2016;16:4.
17. Kanter SL, Wimmers PF, Levine AS. In-depth learning: One school's initiatives to foster integration of ethics, values, and the human dimensions of medicine. *Acad Med* 2007;82:405-9.
18. Dorrance KA, Denton GD, Proemba J, La Rochelle J, Nasir J, Argyros G, et al. An internal medicine interest group research program can improve scholarly productivity of medical students and foster mentoring relationships with internists. *Teach Learn Med* 2008;20:163-7.
19. Al Qahtani S. Students' knowledge of, and attitudes toward, mentoring: A case study at the master's program in health and hospital administration. *Adv Med Educ Pract* 2015;6:149-52.
20. Ramanan RA, Phillips RS, Davis RB, Silen W, Reede JY. Mentoring in medicine: Keys to satisfaction. *Am J Med* 2002;112:336-41.
21. Buddeberg-Fischer B, Stamm M, Buddeberg C, Klaghofer R. Career-success scale – A new instrument to assess young physicians' academic career steps. *BMC Health Serv Res* 2008;8:120.
22. Buddeberg-Fischer B, Stamm M, Buddeberg C. Academic career in medicine: Requirements and conditions for successful advancement in Switzerland. *BMC Health Serv Res* 2009;9:70.
23. Sambunjak D, Straus SE, Marusic A. Mentoring in academic medicine: A systematic review. *JAMA* 2006;296:1103-15.
24. Pololi LH, Knight SM, Dennis K, Frankel RM. Helping medical school faculty realize their dreams: An innovative, collaborative mentoring program. *Acad Med* 2002;77:377-84.
25. Schull DN, Kyle GJ, Coleman GT, Mills PC. Attributes of clinical role models as described by senior veterinary students in Australia. *J Vet Med Educ* 2012;39:263-6.