

Original Article

The Influence of Career Choice on Neurological Academic Performance Among Critical Care Students In Abuja, Nigeria

Obande JO¹, Obande EI², Imam A³

¹Division of Neurosurgery, Department of Surgery, ²School of Post Basic Critical Care Nursing and ³Department of Community Medicine, University of Abuja Teaching Hospital, Gwagwalada, Abuja, Nigeria.

Correspondence

Dr Joseph O Obande

Email: obandejo@yahoo.com

Tel: +234(0)8033011882

Article Metrics

Date submitted: 20/05/2020

Date Accepted: 29/05/2020

Date Published: June, 2020



ABSTRACT

In Nigeria, Critical care is yet to subspecialize; the neurology curriculum is a core subject. The evidence of career choice motivation and neurological academic performance has not been well elucidated, as such, demonstrating a valid premise that critical care students choice resulted in better academic performance will be very useful. The value can be seen in improved students' guidance, better curriculum development and improved healthcare setting goals. This study was set up to ascertain the relationship between career choice motivators and learning outcomes among critical care nursing students with emphasis on neurological curriculum. A cross sectional quantitative descriptive study and analysis techniques were explored using three academic sessions of critical care nursing students of the School of Post Basic Critical Care Nursing of University of Abuja, Nigeria. Responses to the question "why did you choose critical care nursing" were collated and then themes developed. Their score in neurology was used to assess academic performance. Statistical analysis conducted using IBM-SPSS version 23. Ninety students responded with males constituting 24 (26.7) and females, 66 (73.3). There was statistical difference between 'passion for critically ill', 'having no reason' and academic performance, ($\chi^2=8.707$, $p=0.003$), and ($\chi^2=13.306$, $p < 0.001$) respectively. Passion was found to be responsible for career choice and motivating influence on neurocritical academic performance.

Keywords: Academic performance, Career choice, Critical care, Influence, Neurocritical care

INTRODUCTION

A student's choice of study presumes that the intellectual development of the student will be greatly impacted through exploring in depth a subject of their choice. This will be critical to harness the most performance in the chosen field. What motivates the student in making the choice is critical to the learning process –this is the career choice motivator. This has been

corroborated by research, as it influences performance.^{1,2} Equally, students' motivation influences their academic achievement in medical education.³ As healthcare students can have unique intentions and motivations, it is important to understand the influence of the reasons of their career choice on learning and performance.⁴ Critical care is being increasingly embraced in our environment, and so its uptake in tertiary health facilities. Presently, there are no Critical Care training facilities for physicians

in Nigeria, but, Nursing has 2 training centers and these have been the hub of turning out this critical manpower for our healthcare. There is therefore the need to critically build manpower with a strong and purposeful adherents and practitioners. Neurocritical care is an example of its subspecialty, with care that includes a distinct focus on neuroprotection that can lead to better outcomes for patients with critical neurologic disorders.^{5,6} Knowledge of the pathophysiology of the neurologic system in critical illness is in fact recognized as a core entrustable professional activity during fellowship.⁷

Career choice motivation involves intrinsic and extrinsic factors.¹ While intrinsic factors relate to pursuing an activity for personal gain or enjoyment, extrinsic factors include pursuits of an activity for a desirable outcome, be it to obtain a reward or from peer pressures.⁴ Furthermore, personal interest and drive are intimately related to intrinsic motivation.^{8,9}

To achieve the performance of high quality work from critical care practitioners, objective key motivators need to be identified and their values expounded.¹⁰ A key unanswered question relates to the impact of critical care student choice on academic performance. If it could be shown that critical care student choice resulted in better academic performance, this would be important evidence of benefit. Currently, empirical evidence linking career choice motivations and academic neurological performance is lacking. This study, therefore, sets out to explore the relationship between career choice motivation among critical care nursing students and their academic performance in neurology.

MATERIALS AND METHODS

A cross sectional quantitative descriptive study and analysis techniques were conducted to explore the influence of career choice motivation on neurological academic performance.

Participants and Setting

The study was conducted among the Critical care nursing students of the School of Post-Basic Critical Care Nursing

of the University of Abuja Teaching Hospital, Gwagwalada, Abuja, Nigeria. Three academic sessions were studied (2017, 2018 and 2019). Each school session consists of 30 students making a total of 90 participants, as all participated.

Institutional ethical approval was not requested for the present study, because it was part of the annual survey of students that pertain to their learning outcomes. Participation was voluntary and consent was implied with the return of the responses.

Instruments and Procedures

At the first interaction with the students of each session, they were given 10 minutes to think and write down the reasons why they choose a career in critical care. A structured questionnaire was not employed so that the individual and unique intentions of all participants can be accommodated.

All the 26 reasons given by all participants were collated and 130 responses were generated, as participants had from 1 to 4 reasons. These were then separated into six (6) thematic areas as common underpinnings were noticed to be recurring: passion, knowledge and skills, lucrateness, traveling abroad, religiousness and having no reason.

The performance at the end of the neurology/neurosurgery curriculum was used to assess their academic performance. The standard educational grading of A, B, C, D, E, and F was used to transform obtained raw scores into grades. This nomenclature was used to define the pass rate. But for an optimal overall analysis of all participants academic performance, the grades were sub-stratified into A and B, Adjudged-Good Score, C, D, E, F, Adjudged-Poor Score. The curriculum pass limit is grade C, which is 50% score. Grade C was, however, included in the Adjudged-Poor performance score as core competence expected of a critical care practitioner ought to be higher, and patterned after the certification process of the American Association of Critical-Care Nurses.¹¹

Independent t-test was performed to compare the students' reasons, and academic performance. Additionally, distributions of participant backgrounds (i.e., gender) were

RESULTS

A total of 90 (100) students responded which males were 24 (26.7) and females 66 (73.3).

Table 1: Distribution of students’ performance in grades by critical care nursing students at University of Abuja Nigeria

| Grade | Frequency (n) | Percentage (%) |
|--------------|---------------|----------------|
| A | 21 | 23.3 |
| B | 28 | 31.1 |
| C | 31 | 34.4 |
| D | 5 | 5.6 |
| E | 5 | 5.6 |
| Total | 90 | 100.0 |

Table 2: Reasons (themes) and performance by critical care nursing students for choosing the discipline among nursing students compared to their academic performance at University of Abuja Nigeria

| Variables | Poor score n=42(%) | Good score n=48(%) | Total n=90(%) | χ^2 value | P-Value |
|-------------------------|-----------------------|-----------------------|------------------|----------------|---------|
| Passion | | | | | |
| Yes | 23(36.5) | 40(63.5) | 63(100) | 8.707 | 0.003* |
| No | 19(70.4) | 8(29.6) | 27(100) | | |
| No reason | | | | | |
| Yes | 14(87.5) | 2(12.5) | 16(100) | 13.303 | <0.001* |
| No | 28(37.8) | 46(62.2) | 74(100) | | |
| Knowledge | | | | | |
| Yes | 12(54.5) | 10(45.5) | 22(100) | 0.726 | 0.394 |
| No | 30(44.1)) | 38(55.9) | 68(100) | | |
| Lucrative | | | | | |
| Yes | 3(33.3) | 6(66.7) | 9(100) | 0.714 | 0.398 |
| No | 39(48.4) | 42(51.9) | 81(100) | | |
| Religious | | | | | |
| Yes | 1(25.0) | 3(75.0) | 4(100) | 0.790 | 0.374 |
| No | 41(47.7) | 45(52.3) | 86(100) | | |
| Traveling abroad | | | | | |
| Yes | 1(33.3) | 2(66.7) | 3(100) | 0.222 | 0.638 |
| No | 41(47.1) | 46(52.9) | 87(100) | | |

*P value significant at <0.05

Table 3: Academic performance across the Classes by critical care nursing students at University of Abuja Nigeria

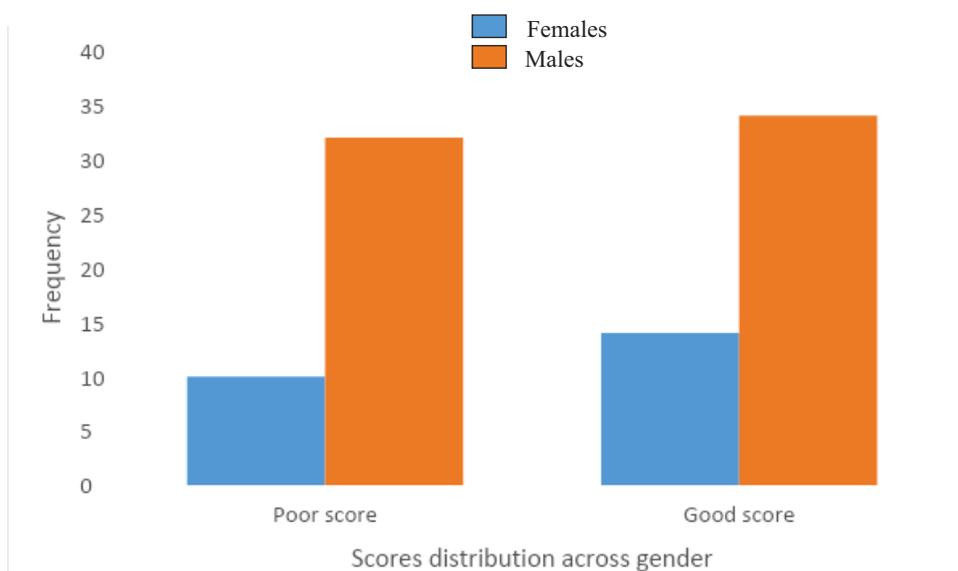
| Variables | Poor score n=42(%) | Good score n=48(%) | Total n=90(%) | χ^2 value | P-Value |
|-------------------|-----------------------|-----------------------|------------------|----------------|---------|
| Class 2017 | 11(36.7) | 19(63.3) | 30(100) | 9.911 | 0.007* |
| Class 2018 | 10(33.3) | 20(66.7) | 30(100) | | |
| Class 2019 | 21(70.0) | 9(30.0) | 30(100) | | |

*P value significant at <0.05

Table 4: Academic performance and multiplicity of reasons by critical care nursing students for choosing the discipline among nursing students at University of Abuja Nigeria

| Variables | Poor score n=42(%) | Good score n=48(%) | Total n=90(%) | χ^2 value | P-Value |
|-----------------|-----------------------|-----------------------|------------------|----------------|---------|
| Reasons | | | | | |
| Multiple | 12(52.2) | 11(47.8) | 23(100) | 0.376 | 0.539 |
| Single | 30(44.8) | 37(55.2) | 67(100) | | |

*P value significant at <0.05



$\chi^2 = 0.329, P\text{-value} = 0.566$

Figure 2: Academic performance in relation to gender by critical care nursing students at University of Abuja Nigeria

compared across groups of different career choice motivations using chi-square test. IBM-SPSS version 23 and the significance level was 95% for the statistical analysis.

DISCUSSION

This study investigated the influence of career choice motivation among critical care nursing students and academic performance. Though, they were not matched for age, previous academic performance and competences,

our study suggests career choice motivation may account for differences in academic performance among critical care nursing students.

Considering the academic performance against the thematic areas, passion, being the most common reason, constituted 48% of responses. Passion has been reported, consistently to be associated with improved performance.¹² Passion determines personality traits as a major intrinsic influencer of motivation, allowing for commitment and conscientiousness. This study also revealed that the nurses whose motivation is passion are more dependable,

intelligent, flexible and highly motivated. This was statically significant as compared to other nursing students who listed other reasons for studying the course ($P < 0.05$). The converse could therefore be said to be true. Those who came into critical care nursing school without a reason had poor performance ($P = 0.000$). 12% of the respondents had no reasons. This apparent lack of a well-defined motivator may have been responsible for 87.5% failure score amongst them.

As lofty as the reason to acquire increased knowledge and skills to appropriately manage the critically ill may be, it was not a motivator in our study. 17% of respondent who advanced this reason had 54.5% failure score. This is surprising, as to acquire increased knowledge and skills applies to intellectual curiosity and the outcome of autonomy and performance of independent skill-sets in clinical scenarios.

Religious beliefs is an important motivator from this study. Religious beliefs including being instruments in the hand of God to help the critically ill featured prominently among the good score sheet. It has been found that religious beliefs gives energy, allows for clear conscience and focused activities and a greater effectiveness in output.¹³

The assumption that a student with a single reason may be more motivated and focused and therefore, perform better academically did not project in this study ($P = 0.539$). It was thought that the less the plethora of reasons the more attention is paid to the sole ambition of achieving the desired goal. Equally, there was no difference across gender. Students' tend to work towards overall academic performance, despite single or multiple motivational basis, so as to achieve the goal they have set for themselves.

Lucrativeness of the critical care profession and the reason to afford to travel abroad are good motivators. 66.7% of both respondents had good scores and so appeared to be well motivated. However, these reasons did not significantly impact on the performance output of the students. This may not be unrelated to the relatively few number of respondents in these categories. The manner in which one has been reared has an important impact on the formation of these beliefs. Our environment is such that

healthcare workers are seeking for improved remuneration and overseas' employment for hopes of improved earnings.

CONCLUSION AND RECOMMENDATION:

This study exposes the various influence of career choice motivators on neurocritical care students' academic performance. Our study has shown that understanding critical care nursing students' reasons for career choice may assist our knowledge of factors that influence learning and academic performance. Such knowledge can guide policies towards developing curriculum and optimal learning capacities. Finally, our study found there to be a relationship between career choice motivation and academic performance, but does not account for how the career choice motivation achieved the improved academic performance, further multivariate analysis will be needed for this.

Limitation

Being a relatively novel study, our study is not without limitation. This was a preliminary study into reasons for academic performance and neurocritical care education at a single institution with relatively small sample size.

Conflicts of Interest

None declared.

REFERENCES

1. Kusurkar RA, Ten-Cate TJ, van Asperen M, Croiset G. Motivation as an independent and a dependent variable in medical education: a review of the literature. *Med Teach*. 2011;33:242–262. doi: 10.3109/0142159X.2011.558539.
2. Ten-Cate O, Snell L, Mann K, Vermunt J. Orienting teaching toward the learning process. *Acad Med*. 2004;79:219–228. doi: 10.1097/00001888-200403000-00005.
3. Artino AR, La Rochelle JS, Durning SJ. Second-year medical students' motivational beliefs, emotions, and achievement. *Med Educ*. 2010;44:1203–1212. doi: 10.1111/j.1365-2923.2010.03712.x.

4. Kim KJ, Hwang JY, Kwon BS. Differences in medical students' academic interest and performance across career choice motivations. *Int J Med Educ.* 2016;7:52–55. Published 2016 Feb 15. doi:10.5116/ijme.56a7.5124
5. Kramer AH, Zygun DA. Do neurocritical care units save lives? Measuring the impact of specialized ICUs. *Neurocrit Care.* 2011;14(3):329–333. <https://doi.org/10.1007/s12028-011-9530-y>
6. Rincon F, Mayer SA. Neurocritical care: a distinct discipline? *Curr Opin Crit Care.* 2007; 13(2):115–121. <https://doi.org/10.1097/MCC.0b013e32808255c6>
7. Fessler HE, Addrizzo-Harris D, Beck JM, Buckley JD, Pastores SM, Piquette CA *et al.* Entrustable professional activities and curricular milestones for fellowship training in pulmonary and critical care medicine: report of a multisociety working group. *Chest.* 2014;146(3):813–834. <https://doi.org/10.1378/chest.14-0710>
8. Pintrich PR, Schunk DH. *Motivation in education: theory, research, and applications.* 2nd ed. Englewood Cliffs, NJ: Prentice Hall; 2001.
9. Deci EL. The relation of interest to the motivation of behavior: a self-determination theory perspective. In: Renninger KA, Hidi S, Krapp A, editors. *The role of interest in learning and development.* Hillsdale, NJ: Lawrence Erlbaum Associates; 1992.
10. Yousefy A, Shayan S, Mosavi A. Developing a clinical performance logbook for nursing students receiving cardiac care field training. *J Educ Health Promot.* 2012;1:7. doi:10.4103/2277-9531.94415
11. CCRN Acute/Critical Care Nursing Certification Exam Handbook [internet]. [cited 2020 May 24]. Available from: <https://www.aacn.org/~media/aacn-website/certification/get-certified/handbooks/ccrnexamhandbook.pdf>
12. Frisch NC. Standards of holistic nursing practice as guidelines for quality undergraduate nursing curricula. *J Prof Nurs.* 2003;19:382–6.
13. Zamanzadeh V, Jasemi M, Valizadeh L, Keogh B, Taleghani F. Effective factors in providing holistic care: a qualitative study. *Indian J Palliat Care.* 2015;21(2):214–224. doi:10.4103/0973-1075.156506