ORIGINAL RESEARCH PAPER

Volume-8 | Issue-4 | April-2019 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

FUTURE CHOICES OF SPECIALTY AMONG FINAL YEAR MBBS STUDENTS: PERCEPTION TOWARDS ANESTHESIOLOGY.

Anaesthesiology

Ramesh Ghimire* Department of Anesthesiology and Critical Care, National Medical College & Teaching Hospital. *Corresponding Author

Pramila Poudel Department of Nursing , National Medical College & Teaching Hospital.

ABSTRACT

Choosing a specialty for post-graduation is a very difficult task for undergraduate medical students. Despite its vital role in health care system Anesthesiology is not preferred by many of the students. A descriptive cross sectional study was conducted among final year MBBS students to identify the factors influencing choice of future specialty and their perception towards Anesthesiology at a private medical college at Parsa district Nepal using a pretested self-administered structured questionnaire. The obtained data were analyzed by descriptive and inferential statistics using SPSS 16 version. Total 107 students were studied. The mean age of students was 24.78±1.488 ranging from 22-28 years. Obstetrics and Gynecology (17.8%) followed by Internal Medicine (16.8%) and Radiology (14%) was the top rated specialty respectively. Anesthesiology was preferred by only (4.7%) of students whereas the specialty as basic science, community medicine and ENT was not preferred by any of those students. The choice of specialty was significantly associated with gender and presence of career counseling (p value 0.001) and (p value 0.043) respectively. Secure and having scope in the future (96.35%) was the most dominant factors to influence future specialty choices. Based on the mean perception score 5.823±1.779 almost 2/3rd (64.43%) students had unfavourable perception regarding anesthesiology. Medical educationist , curriculum designers , implementers especially anesthesiologist has to adopt necessary action to clarify the misperceptions thus promoting student's positive perception and help student decide their choices of specialty that could benefit the students at personal level as well as the health care system of country.

KEYWORDS

specialty, perception, anesthesiology.

INTRODUCTION

According to the World Health Organization's World Health Report 2006 **Health human resources** (**HHR**) – also known as **human resources for health** (**HRH**) or **health workforce** – is defined as "all people engaged in actions whose primary intent is to enhance health". Human resources for health includes physicians, nurses, dentists, allied health professions, community health workers, social workers and other health care providers at various level who are considered the back bone of a health care delivery system. (MOHP, 2015)

Nepal is a developing country with limited resources which faces shortage of appropriately skilled human resources for health including doctors, despite increasing number of medical graduates and postgraduates. According to data of Nepal Medical Council (NMC ,2018) there are 20102 registered medical doctors till date . Amongst them registered anesthesiologist are only 411 in number. Obstetrics and gynecology ranks the 1st in terms of number (711) of specialists registered in the council.

Making assumptions regarding future choice of specialty is one of those difficult and confusing task for a students to make during their medical school years. Various factors such as personal issues such as lifestyle, desired professional fulfillment and personal self-satisfaction has to be taken into consideration before choosing an specialty (Philips et al., 2009). In Nepal Education in Anesthesia as a specialty was developed as Diploma in Anesthesiology. Furthermore, MD Anesthesiology program was started under the Tribhuvan University in the year 1985 (Amatya R., 2014). At present in Nepal 4 different universities are conducting MD Anesthesiology residency program with the enrolment of about 40 residents each year through open competition and reservation categories in Nepal. (Bajracharya GR.,2016)

Anesthesiology is one of the medical specialties that are concerned in relieving pain and administrating of anesthesia medication during surgical and medical procedures. Anesthesiologists are multiskilled physicians who ensure patient safety and stability before, during and after surgery, participate in a various functions of hospital activities ranging from the alleviation of acute and chronic pain to running ICUs, gaining specialized intravenous access and emergency management of life-threatening events. (Aisling S et al., 2013) wrote that despite its vital role in health-care delivery, anesthesia is not attracting medical manpower in the most developing countries including Nepal which as a result there in an alarming lack of anesthetists. According the data of Ministry of general administration and Federal Affairs (MOFALD,2018) there are only 23 Anesthesiologists working under Government of Nepal .

In Nepal, despite multiple announcements to hire specialist doctors Ministry of Health (MOH) is not able to recruit specialist doctors including anesthesiologist. MOH announced 22 vacancies for the post of anesthesiologist for 2 times in a 4 months interval whereas only 2 candidates attend the placement interview but none of them received the appointment letter because of their placement apart from their preferred area and a low pay scale of government.(Gautam B.,2017)

Medical students choice of future specialty is determined by multiple factors such as features of medical college, preferred lifestyle and workload, opportunities for job and earnings, preclinical and clinical experiences during clerkship and reputation of the specialty, still career preference at the time of admission plays a vital role and many specialties are overlooked by medical students because of those diverse factors. (Rajeev K.,2014)

Some specialties though vital for the health needs of society were not preferred by medical students suggesting the need for further education on the specialties. Respective authorities could use the influencing factors to try to convince them to make those specialties more preferable.
(Sama H., 2018)

Medical students are the physicians of future. It is very essential for a medical student to determine the area of future specialization so as to achieve a balanced distribution of specialists among all specialties that are vital for the society. (Alawad AA., 2015)

Many factors influence the career choices of undergraduate medical students. Students' perception regarding a specialty is equally influencing student career choice. Hence the study was undertaken to identify the undergraduate medical student choices of their future specialty and their perception towards anesthesiology.

MATERIAL AND METHODS

Study area and population

This study was conducted at Tribhuwan University affiliated private medical college with 752 bedded multispecialty Teaching Hospital, located at Birgunj Metropolitan, a commercial city which lies in Parsa district of Nepal. Nepal is a developing Asian country which has recently entered from its unitary system into a new "Federal Democratic Republic System". The study population was all the final year MBBS students who were present at the time of data collection and willing to participate in the study.

Type of study

A descriptive cross sectional research design was adopted to conduct the study.

Size determination and sampling technique

Total enumerative sampling technique was adopted to collect the data. Total 107 students who met the inclusion criteria were participated at the study.

Instrumentation

Data was collected via self-administered structured questionnaire consisting four (4) sections. Section A consisted of 7 questions related to socio-demographic characteristics of the student while Section B consisted a single question to determine the preferred specialty .section C consisted a dichotomous scale consisting 13 items to assess the factors influencing future choice of specialty among medical students and section D consisted a 12 items dichotomous scale to elicit the level of perception towards anesthesiology among medical students. The scale (section D) consisted 5 positive statements and 7 negative statements. Student's response as "agree" to positive statement was scored 1 and response as "agree" to negative statement was scored 0 and vice-versa.

Reliability was tested for items in section C & D and the obtained value was (r=0.83 and r=0.79) respectively .

The level of perception was categorized as:
Favourable perception: above mean perception score
Unfavourable perception : below mean perception score

2.5 Data collection and analysis

Data was collected from selected students through pretested self-administered structured questionnaire in a single classroom setting at the month of January, 2019.The class representative was told to inform all his batch mates to assemble for a purpose immediately after a lecture. Total 107 students were present at the lecture theatre. All the students were informed about the purpose of the study and assured that the participation was voluntary. Informed written consent was sought thereafter, and at completion, the questionnaire was collected by the class representative and submitted to members of the research team .The collected data was organized coded and entered in Ms- Excel and imported to SPSS 16 version for further statistical analysis.

2.6 Ethical consideration

Ethical clearance was obtained from the Institutional Review Committee of National Medical College and Teaching Hospital. Approval for conducting the study was taken from the principal of the college prior to data collection.

3. RESULTS

Result revealed that mean age of student was 24.78±1.488. Regarding gender 60% were male and remaining was female. More than 2/3rd of students (69.2%) followed Hindu religion. Regarding occupation of parents, more than 2/3rd of the father (67.3%) and majority (88.8%) of mother were non-medical personnel. Similarly, more than half of the students (54.2%) had doctors in their family. Regarding career counseling only 25.2% of students had attended career counseling session.

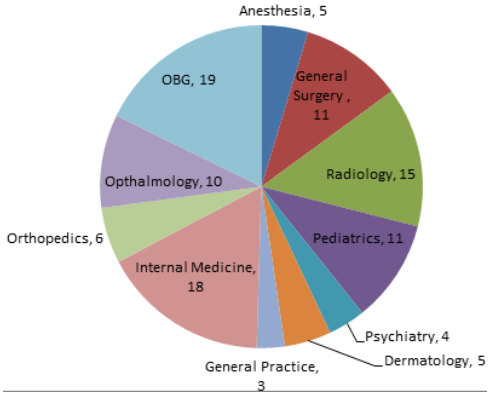

Figure 1 : Specialty preferences among the final year MBBS students

Figure 1 reveals the specialty preferences among the final year MBBS students. A total of 19 students (17.8%) preferred Obstretics & Gynaecology, while 18 students (16.8%) preferred Internal Medicine, 15 students (14%) preferred radiology whereas 11 students (10.3%) each choose General Surgery and Pediatrics, followed by 10 students (9.3%) Ophthalmology and 6 students (5.6%) Orthopedics . Anesthesia And Dermatology was preferred by only 5 students (4.7%) each . The specialty as psychiatry and general Practice was preferred by 4 (3.7%) and 3(2.8%) students respectively. The remaining specialties as Basic sciences, community Medicine, ENT and Others was not preferred by any of those students.

Table 1: Factors influencing future choices of specialty among MBBS final year students

SN	Items	Frequency (%)
1	Personal interest in the specialty	102 (95.3)
2	Secure and having scope in future	103 (96.3)
3	Name and fame	89 (83.2)
4	Good Interpersonal relationship with patients	81 (75.7)
5	Personal experience during placement	68 (63.6)
6	Influence of family seniors and friends	60 (56.1)
7	Good income	93 (86.9)
8	Faculty as a role model	64 (59.8)
9	Work satisfaction and quality of life	93 (86.9)
10	Availability of course	85 (79.4)
11	Lifestyle and rewards	87 (81.3)
12	Sex distribution	45 (42.1)
13	Illness of self/ family and friend	34 (31.8)

Table 1 reveals the factors influencing the choice of future specialty among the MBBS Final year students. . Secure and having scope in the future (96.35%) was the most dominant factors to influence future specialty choice among the final year MBBS student. Meanwhile personal interest was rated by (95.3%) of the students. similarly, work satisfaction (86.9%), good income (86.9%), name and fame (83.2%), lifestyle and rewards (81.3%), availability of the course (79.4%), were the other influencing factors. Factors such as sex distribution (42.1%) and illness of self/ family (31.8%) were rated by least number of students compared to other factors.

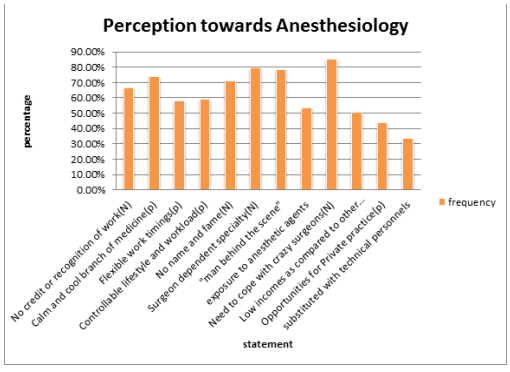

Figure 2: Perception of Final Year MBBS students towards Anesthesiology

Figure 2 reveals the perception of final year MBBS students towards Anesthesiology. Majority (85%) of students agreed the statement that "anesthesiologist has to cope with crazy surgeons." Meanwhile (79.4%) agreed anesthesiology as a surgeon dependent specialty whereas (78.5%) perceived anesthesiologist as "man behind the scene". Similarly (73.8%) perceived anesthesiology as calm and cool branch of medicine followed by (66.4) students agreement over the statement "anesthesiology have no credit and recognition of work". Meanwhile the statement as controllable lifestyle and workload, flexible work timings were agreed by (58.9%) and (57.9%) of the students respectively. The negative statement as personal exposure to anesthetic agents, low income was agreed by (53.3%) and (50.5%) students respectively. Whereas only 43.9% of students agreed that anesthesiologist have opportunities for private practice. Similarly the negative statement "anesthesiologist can be substituted by technical personnel" was agreed by 1/3rd (33.6%) of students.

Table 2: Level of perception

Variable	Frequency
Mean perception score	5.823±1.779
Favorable perception > mean perception score	37(35.57%)
Unfavorable perception < mean perception score	70 (64.43%)

Table 2 reveals that the mean perception score was 5.823±1.779.Based on the mean perception score almost 2/3rd (64.43%) students had unfavorable perception regarding anesthesiology.

Table 3: Association of preferred specialty with career counseling

Variable	Preferred Specialty											χ^2	p- Value
	Anes	GS	Radio	Pedia	Psy	Derm	GP	Im	ortho	ophth	OBG		
Yes	2 (7.4)	2 (7.4)	7 (25.9)	6 (22.2)	2 (7.4)	0 (0.0)	1 (3.7)	1 (3.7)	1 (3.7)	2 (7.4)	3 (11.1)	18.76	0.043
No	3 (3.8)	9 (11.3)	8 (10.0)	5 (6.3)	2 (2.5)	5 (6.3)	2 (2.5)	17 (21.3)	5 (6.3)	8 (10.0)	16 (20.0)		

Applied Chi-square test, statistically significance at the level of P-value 0.05

Table 4: Association of preferred specialty with gender

Variable	Preferred Specialty										χ^2	p-Value
	Anes	GS	Radio	Pedia	Psy	Derm	GP	IM	Ortho	Ophth	OBG		
Male	1 (1.7)	7 (11.7)	8 (13.3)	7 (11.7)	4 (6.7)	1 (1.7)	2 (3.3)	14 (23.3)	6 (10.0)	6 (10.0)	4 (6.7)	31.26	0.001
Female	4 (8.5)	4 (8.5)	7 (14.9)	4 (8.5)	0 (0.0)	4 (8.5)	1 (2.1)	4 (8.5)	0 (0.0)	4 (8.5)	15 (31.9)		

Applied Chi-square test, statistically significance at the level of P-value 0.05

Table 3& 4 reveals the association of preferred specialty with career counseling and gender with (p value 0.043 and 0.001) at the level of 0.05 respectively.

DISCUSSION

Multiple intrinsic, extrinsic and circumstantial factors are influencing future choices of specialty among medical students. The result of present study revealed that Secure and having scope in the future (96.35%) was the most dominant factors to influence future specialty choices followed by other factors as personal interest, work satisfaction, good income and quality of life. The findings is supported by similar studies conducted by (Bhat s et al., 2012), (Bikash S et al.,2016) , (Hayes B et al., 2013).

Regarding choice of specialty, Obstetrics and Gynecology was the top rated specialty followed by Internal Medicine (16.8%) and Radiology (14%). Anesthesiology was preferred by only (4.7%) students. The specialty as basic sciences, ENT and community medicine was not opted by any of those students. The finding is congruent with the finding of another similar study conducted by (Kumar a et al., 2014)

According to the finding of present study gender had a significant effect on preferring the certain specialty. Male students predominantly chose Internal Medicine, General Surgery and Orthopaedics whereas female students chose Obstetrics & Gynecology and anesthesiology . The result is consistent with another similar study conducted in NAMS by (Shrestha B et al., 2016).Obstetrics and Gynaecology is dominantly preferred by female because of cultural believes prevailed in Nepalese society. A woman prefers and feels comfortable to discuss their matters and get treated by the female doctors. Similarly, Orthopedics was preferred by only male students. Study conducted by (Miller EK et al., 2015) suggested that orthopedics has marked its impression as male dominated specialty because of uncontrollable lifestyle, necessity of enormous physical strength and athlete nature of orthopedic surgeon.

Present study revealed that 2/3rd of the students had unfavorable perception towards anesthesiology. This might happen as a lack of awareness among patients including medical students regarding anesthesiology and the role of anesthesiologist as a specialty involved in patient care. This finding necessitates the medical community towards better and more effective communication for clarifying the misperception regarding anesthesiology and its role in patient care.

The credit of a successful surgery always goes to the surgeon. Patient and family even does not realize that critical care during surgery is provided by the anesthesiologist to keep the patient safe and to keep the surgeon calm by relaxing the patient throughout the surgery so the anesthesiologist can be termed “silent man behind the scene.” The anesthesiologist is not assisting the surgeon but has different but equally significant role to be adopted that cannot be compared with that of surgeon's role and anesthesiologist are not “surgeon dependent” as explained by (Rajan v et al.,2015)

These days Anesthesiologist has spread their wings beyond the four walls of Operation Theater from their traditional role of dealing with complications of anesthesia postoperatively but also manages postoperative pain, chronic pain of cancer, labor analgesia, in cardiac and respiratory resuscitation, in blood transfusion therapies, respiratory therapies, etc. According to (US Bureau of Labor Statistics ., 2014) It needs dedication and hard work of approximately 12 years as compared to other nonmedical fields, and all this hard work is done for the benefit of people and society. It suggests that role of anesthesiologist is non-detrimental and they cannot be substituted with technical personnel.

(Chaitanya A K et al ., 2015) explains that Anesthesiology today is a vast specialty in medical science with its subspecialties ranging from perioperative patient care to critical care, trauma care, pain management and palliative care. The subject has vital implications in national workforce planning and future recruitment strategies, in a specialty that is reported as an unattractive choice for medical students both in developing and developed countries. It is also an important input for academic bodies and government agencies to formulate and decide the number of postgraduate students to be allotted to the specialty.

Every specialty has their own significance for the health needs of society. (Sama H et al.,2018) illustrated that many specialty instead of their vital role, are not preferred by medical students suggesting the need for further education on the specialties. In order to make those specialties more favorable respective authorities as medical association, Council and other governing bodies have to use the influencing factors to try to attract the medical graduates to make a meticulous decision regarding future choice of specialty.

CONCLUSION

Obstetrics and Gynecology followed by Internal Medicine and Radiology were the most preferred specialties amongst all. These preferences are influenced by various factors that need to be understood in order to convince the medical students in making meticulous decision regarding choice of specialty in the future. Based on the mean perception score 5.823±1.779 almost 2/3rd (64.43%) students had unfavorable perception regarding anesthesiology. Medical educationist , curriculum designers , implementers especially anesthesiologist has to adopt necessary action to clarify the misperceptions thus promoting student's positive perception and help student decide their choices of specialty that could benefit the students at personal level as well as the health care system of country.

ACKNOWLEDGEMENT

The author is thankful to the college authority for providing approval to conduct the study. Sincere thanks to all the participants who are the core of the study. Last but not the least author is equally thankful to the colleagues of NMCTH for their necessary help during the course of study especially at the times of data collection and statistical interpretation.

REFERENCES:

1. Aisling S, Stephen M, Gabriella I. Irish medical students’ knowledge and perception of anaesthesia. Edu Med J 2013; 5:83–88.
2. Alawad AA, Khan WS, Abdelrazig YM, Elzain YI, Khalil HO, Ahmed OB, Adam OA.Factors considered by undergraduate medical students when selecting specialty of their future careers. Pan Afr Med J. 2015 Feb.
3. Bajracharya GR. A story: Development of anesthesiology in Nepal. Anaesth Pain & Intensive Care 2016;20(4):385-6.
4. Bhat S, D’souza L, Fernandez J. Factors influencing the career choices of medical graduates. J Clin Diagn Res 2012;l-6:61- 4.
5. Bikash S, Yagya RP, Katrina B. Determinants of Postgraduate Students' Choices of Speciality. J Nepal Med Assoc 2016;54(201):1-7.
6. Chaitanya A K, Mahantesh T, Rangalakshmi S, and Pawan Awareness about scope of anaesthesiology, attitudes towards the speciality and stress levels amongst postgraduate students in anaesthesiology: A cross-sectional study. Indian J Anaesth. 2015 Feb; 59(2): 110–117.doi: 10.4103/0019-5049.151375.
7. Gautam B.Goverment struggling to hire specialist doctors. Kathmandu Post[newspaper on the internet].2017 feb 21. Available from http://kathmandupost.ekantipur. com /

printedition /news/2017-02-21/govt-struggling-to-hire-specialist-doctors.html.
8. Hayes B, Shakya R. Career choices and what influences Nepali medical students and young doctors: a cross-sectional study. Human Resources for Health. 2013;11(1):5.
9. Kumar A, Mitra K, Nagarajan S, Poudel B.Factors influencing medical students' choice of future specialization in medical sciences: A cross-sectional questionnaire survey from medical schools in china, malaysia and regions of south asian association for regional cooperation. North Am J Med Sci 2014;6:119-25.
10. Miller EK, LaPorte DM. Barriers to Women Entering the Field of Orthopedic Surgery. Orthopedic. 2015 Sep;38 (9):530-3. doi: 10.3928/01477447-20150902-03.
11. Ministry of Health and Population (MoHP) [Nepal]. Human Resources for Health Strategic Plan 2011- 2015. Kathmandu: Ministry of Health and Population, Government of Nepal 2015.
12. Occupational Employment and Wages. US Bureau of Labor Statistics, Division of Occupational Employment Statistics. 2014. [Last accessed on 2015 May 30]. Available from:http://www.bls.gov/news.release/pdf/ocwage.pdf .
13. Phillips RL DM, Petterson S, et al. Specialty and Geographic Distribution of the Physician Workforce: What Influences Medical Student and Resident Choices? http://www.graham-center.org/dam/rgc/documents/publications-reports/monographs-books/Specialty-geography-compressed.pdf. 2009.
14. Rajan V, Brij M, Joginder PA, Veena C, Anju B, Manjit S.Anesthesiologist: The silent force behind the scene. Anesth Essays Res. 2015 Sep-Dec; 9(3): 293–297.doi: 10.4103/0259-1162.159775
15. Rajeev K, Upreet D .Career choices of undergraduate medical students. THE NATIONAL MEDICAL JOURNAL OF INDIA 2014; 24(3).
16. Roshana A .Evolution of Anesthesia in Nepal: A historical perspective. JSAN 2014;1:3-6.
17. Sama H, Hossein M. Factors affecting the choice of speciality in Medical Student in Iran. Journal of Medical Education 2018;17(2).
18. Shrestha B, Pokhrel YR, Butterworth K.Determinants of Postgraduate Students' Choices of Speciality. J Nepal Med Assoc 2016;54(201):1-7.
19. Retrieved from http://www.mofald.gov.np/en
20. Retrieved from https://www.nmc.org.np/