Do Medical Students Prefer a Career in Community Medicine?

Sitanshu Sekhar Kar, Archana Ramalingam, K. C. Premarajan, Gautam Roy

Department of Preventive and Social Medicine, Jawaharlal Institute of Post Graduate Medical Education and Research, Puducherry, India

Correspondence to:
Dr. Sitanshu Sekhar Kar,
Department of Preventive and Social Medicine, Jawaharlal Institute of Post Graduate Medical Education and Research, Puducherry, India.
E-mail: drsitanshukar@gmail.com

Date of Submission: Mar 14, 2012

Date of Acceptance: Aug 22, 2014

How to cite this article: Kar SS, Ramalingam A, Premarajan KC, Roy G. Do Medical Students Prefer a Career in Community Medicine?. Int J Prev Med 2014;5:1468-74.

Brief Communication

ABSTRACT

Background: Inadequate attention to management and institutional reforms is an important barrier to achieving universal health coverage. Skilled and motivated public health managers in adequate numbers are an important requirement to overcome this hurdle. However, what are the career choices of medical students? Are they interested in Community Medicine and Public Health? To document the career choices of MBBS students and their perceptions toward Community Medicine as a career option.

Methods: A cross sectional survey was carried out among 226 MBBS students (III, V and VII semesters) studying in a tertiary care teaching hospital of South India during July-October 2011. A pre-tested semi-structured questionnaire was used, and information was collected on socio-demographic variables, choice of specialty and reasons for preference. Qualitative content analysis of student feedback was done by categorization and interpretation of data in terms of common themes.

Results: Of the 226 available students, 204 (90.3%) students returned the completely filled questionnaires. Of them, 101 (49.5%) were girls. The mean (standard deviation) age of the participants was 20.13 (±1.3) years. Almost all (92.1%) wanted to pursue post-graduation in India and Internal medicine was the most preferred career choice (30.9%). The qualitative responses for opinion about Community Medicine as a career choice were interpreted under two themes; those that were favorable and those not so favorable.

Conclusions: There is limited preference for Community Medicine as a career choice. curriculum modification and explanation of career path after post-graduation in Community Medicine will help to generate interest in the subject.

Keywords: Career choice, Community Medicine, medical education

INTRODUCTION

The health systems across India are struggling with health care complexities like multiple disease burdens, escalating health care costs and the human resource for health issues such as persisting shortages, uneven distribution and skill-mix

imbalances.[1] The Vision 2022 for universal health coverage is crucially dependent on the provision of numerically adequate, equitably distributed, appropriately skilled and motivated health workforce to accomplish accessible and equitable health care provision. Human resources are the most important component in any system.[2] Future career interest of MBBS graduates will play a vital role in determining the success of universal health coverage in India. Their interest will provide vital information regarding manpower forecasting in each of the medical specialty and super-specialty.

Better management would also allow for effective coordination of public and private sector efforts to ensure universal health coverage. The high-level expert group on universal health coverage recommends the creation of an All India Public Health Service Cadre, a new cadre comprising of public health professionals with an aim to improve the functioning of the health system by enhancing the efficacy, efficiency and effectiveness of health care delivery. This cadre should be supported by a state level public health cadre starting at the block level and going up to the state and national level comprising of postgraduates in Public Health and Community Medicine.[1]

This highlights the need for Community Medicine specialists who identify the determinants of health and take them into account while planning promotive, preventive, therapeutic and rehabilitative measures/strategies. They also organize and supervise the assigned health care services demonstrating adequate managerial skills in the clinic/hospital or field situation. As per the National Health Policy 2002, there are deficiencies of in various specialties including Community Medicine specialists.[3,4]

After completion of a bachelor's degree (MBBS), the career pathways available for medical students are medical officers in the government sector or general practitioners in the private sector. They can also go for higher education either in India or abroad. In India, the postgraduate seats are allotted based on the scores in a National eligibility and entrance test for most government colleges. Autonomous institutions and private colleges have their own national level entrance tests.

Few studies have been done to ascertain the career preferences of medical students. Studies from Delhi and Manipal showed that 83.5% and 99.2% students wanted to pursue post-graduation. The choice of specialty was limited to a few subjects such as Surgery, Internal Medicine and Obstetrics and Gynecology. Globally, the choice of subject seems to be surgery for men and obstetrics and gynecology and internal medicine for women.[5-7]

Despite the National Health Policy 2002's recommendation of reserving 25% of all post-graduation seats for Community Medicine, no such commitment of increasing seats for Community Medicine was observed in any of the colleges/Institutions in India.[8] However, before increasing the seats it's imperative to understand the students' perception about future career choices. Hence, the study was planned among MBBS students to document their career choices and perceptions toward Community Medicine as a career option in an Institute of National Importance under Ministry of Health and Family Welfare, Government of India.

METHODS

Study design and participants

In India, medical education is completed over a period of 5½ years which includes 1st year MBBS, 2nd year MBBS, Final year I and II and a year of internship. The first 2½ years training include Pre- and Para-clinical subjects like Anatomy, Physiology, Biochemistry, Pathology, Pharmacology, Microbiology, and Forensic Medicine. During the next 2 years clinical specialties like ENT, Ophthalmology, General Medicine, General Surgery, Obstetrics and Gynecology and Pediatrics are taught through clinical rotations and lecture discussions. The last 1 year is a period of compulsory rotating internship. Community Medicine is taught from 1st year up to final year part I and also during internship.

A cross-sectional survey of medical students was carried out at a tertiary care teaching institute in South India during July-October 2011. This institute gained autonomy in 2008 by an act of Parliament, and was designated as an Institution of National Importance. It has a long history of providing quality education in MBBS, Post-graduation and Super-specialty courses of various fields. The institute conducts a highly competitive national entrance test to select MBBS students. The intake

of MBBS students has been increased in a phased manner from 75 to 100 over the last few years and at present 150 (from academic year 2012-2013) students are admitted each year.

Instrument used and brief procedure

Verbal informed consent was taken, and data were collected using a self-administered, semi-structured, pre-tested questionnaire among students from III, V and VII semesters who belong to 2nd year MBBS and Final year part I of MBBS. The 1st year MBBS students were not included because they do not have exposure to all specialties and hence it would be too premature for them to make a decision about their career. A total of 226 students participated in this study. The questionnaire contained three sections: Socio-demographic variables, choice of specialty and reasons for preference. The reasons for preference was asked as an open-ended question and later on coded and clubbed into similar categories. All responses were anonymized. The face and content validity of the questionnaire used was checked by experts from the department of Preventive and Social Medicine, JIPMER.

Analysis

Data were entered, managed and analyzed using the IBM SPSS Statistics for Windows. Version 20.0 (Armonk, NY: IBM Corp; 2011).[9] The continuous and categorical variables were presented as mean/standard deviation (SD), and proportion respectively statistical test which was used for the analysis of data was Chi-square test at 95% confidence level. *P* value was taken as significant when found < 0.05.

Qualitative component included student's feedback on "opinion regarding Community Medicine as a specialty", "reasons for selection and non-selection of Community Medicine as a career option" and "measures to make Community Medicine teaching more interesting" which was collected with the help of open-ended questionnaires. Qualitative content analysis of student feedback was done by categorization and interpretation of data in terms of common themes. Two authors from the department, who were well versed in qualitative research methods, performed the analysis. Any disagreements between the authors were discussed, and final consensus was arrived at.

RESULTS

Of the 226 available students, 204 (90.3%) students returned the completely filled questionnaires. Of them, 101 (49.5%) were girls. Third semester students were 65 in number, 5th semester 63 and 7th semester 76. The mean (SD) age of the participants was 20.13 (±1.3) years [Table 1]. Medicine was reported to be the preferred specialty for students [Tables 2 and 3]. Almost all the students wanted to pursue post-graduation in India (188; 92.1%), the rest responded that they would appear for

Table 1: Demographic characteristics of students, 2011

Characteristic	*n* (%)			
	III semester (*n*=65)	V semester (*n*=63)	VII semester (*n*=76)	Total (*n*=204)
Gender				
Males	27 (41.5)	32 (50.7)	44 (57.9)	103 (50.5)
Females	38 (58.5)	31 (49.2)	32 (42.1)	101 (49.5)
Area of residence of parents				
Urban	56 (86.2)	45 (71.4)	69 (90.6)	171 (83.8)
Rural	9 (13.5)	18 (27.7)	7 (9.2)	33 (16.2)
Occupation of the father				
Unskilled	-	2 (3.2)	0	2 (0.9)
Semi-skilled	18 (27.7)	12 (19)	23 (30.3)	53 (25.9)
Associate professionals	20 (30.8)	20 (31.7)	26 (34.2)	66 (32.6)
Professionals	27 (41.5)	29 (46)	27 (35.5)	83 (40.68)
Presence of doctor in the family				
No	35 (53.8)	42 (66.6)	49 (64.5)	126 (61.8)
Yes	30 (46.15)	21 (33.3)	27 (35.5)	78 (38.2)

civil services exams (3; 1.47%), join as medical officers (4; 1.9%) and pursue post-graduation abroad. Overall the most preferred specialties were Internal medicine (30.9%) and General Surgery (24%) [Table 2]. The top choices among girls were Internal Medicine and Obstetrics and Gynecology whereas the boys preferred Internal Medicine and General Surgery [Table 3].

We developed a conceptual frame work based on the responses offered by the respondents when asked about their opinion regarding Community Medicine as a specialty. The responses were broadly categorized into favorable and not so favorable categories [Figure 1].

Most of the favorable responses were about four sub-themes; "wide scope", "research-oriented", "improves population health" and "helps understand people and community". Students felt that the scope of the subject was wide as a Community Medicine post-graduate could work as a professor in an academic institution, as a program manager in National programs and as a consultant in international agencies and non-governmental agencies. Many students felt that the subject was research centered which was reflected in the responses like "mainly research oriented" and "Public health is an interesting area of research, and it is an important pillar of our health system." Some of the students responded by saying "It (PSM) should be taken more seriously as a specialty as you people are the ones capable of changing the rotten system", and "very important for the betterment of the society and prevention of diseases". These responses indicate that students feel that Community Medicine is an important branch that improves population health. Some students also felt that it improves communication skills and helps understand people and community better as indicated by "It is important in order to effectively convey health education" and "it deals with changing community behavior."

The unfavorable responses were mainly about four sub-themes; "Not interesting", "Less opportunities", "Difficult profession" and "Not needed as a separate specialty". Some of the students felt that a Community Medicine professional has a tough job at hand because the work "Requires a lot of dedication; willingness to work in the public sector and no intention of working in the private

Table 3: Gender-wise first choice of specialties for pursuing the postgraduation

Specialty	*n* (%)			*P*[$]
	Males (*n*=103)	Females (*n*=101)	Total (*n*=204)	
Medicine	36 (34.9)	27 (26.7)	63 (30.9)	0.21
Surgery	29 (28.2)	20 (19.8)	49 (24)	0.16
Obstetrics and gynecology	11 (10.7)	21 (20.8)	32 (15.7)	0.50
Pediatrics	5 (4.9)	11 (10.9)	16 (7.8)	0.12
Dermatology	3 (2.91)	6 (5.9)	9 (4.4)	0.52
Orthopedics	6 (5.8)	0	6 (2.9)	-
Psychiatry	2 (1.9)	5 (4.9)	7 (3.4)	0.43
Radiodiagnosis	4 (3.9)	2 (1.9)	6 (2.9)	0.70
Microbiology	0	2 (1.9)	2 (0.9)	-
Ophthalmology	2 (1.9)	2 (1.9)	4 (1.9)	0.99
Others*	5 (4.9)	5 (4.9)	10 (4.9)	0.99

*Includes community medicine and ENT, [$]Chi-square test

Table 2: Semester wise first choice of specialties for postgraduation, 2011

Specialty	*n* (%)				*P*
	III semester (*n*=65)	V semester (*n*=63)	VII semester (*n*=76)	Total (*n*=204)	
Medicine	19 (29.2)	20 (31.7)	24 (31.6)	63 (30.9)	0.94
Surgery	15 (23.1)	17 (26.9)	17 (22.4)	49 (24)	0.79
Pediatrics	13 (0.2)	7 (11.1)	12 (15.8)	32 (15.7)	0.38
Obstetrics and gynecology	8 (12.3)	3 (4.8)	5 (6.6)	16 (7.8)	[#]
Dermatology	0	4 (6.3)	5 (6.6)	9 (4.4)	[#]
Orthopedics	0	4 (6.3)	3 (3.9)	7 (3.4)	[#]
Psychiatry	2 (3.1)	4 (6.3)	1 (1.3)	6 (3.4)	[#]
Radiodiagnosis	2 (3.1)	3 (4.8)	1 (1.3)	6 (3.4)	[#]
Others*	6 (9.3)	1 (1.6)	8 (10.6)	15 (7.2)	[#]

*Includes community medicine; ENT; ophthalmology; microbiology, [#]Chi-square not valid when the values in individual cells are lower than expected values

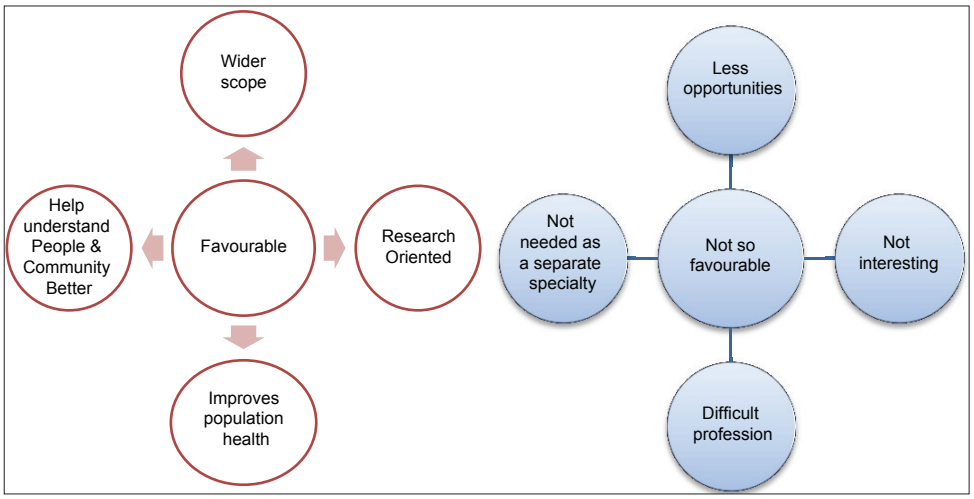

Figure 1: Perception of undergraduate medical students regarding Community Medicine

sector like private practice". Some even felt that it should be integrated with other specialties and not needed as a separate specialty as reflected by "May be it's a part of Medicine career and not a separate specialty". Some even felt that the opportunities for the specialty in India were much less when compared to other specialties as reflected by the responses "It is not a well-developed specialty in India; may be a good one abroad but not here" and "Other fields have better scope".

In response to a question on "how to make Community Medicine interesting?" students suggested that more group activities and field-based teaching should be done instead of routine lectures [Box 1].

Box I: Responses on how to make Community Medicine interesting?

There should be more field work, group discussion, less of theory sessions and to give more emphasis on topics which were not covered in other subjects
Field teaching should be more, real life scenarios and teaching with examples from day to day activities will help us to understand the subject in a clear fashion
More case scenario discussion, involvement of students in the teaching process and avoiding repetition will motivate students to attend classes and take the subject seriously
To avoid repetition of topics in different specialties, all related departments should be involved in delivering the topic concerned

DISCUSSION

The career choices of undergraduate medical students will have an effect on the national availability of healthcare manpower. There is a need to increase manpower in areas such as Community Medicine, psychiatry and ophthalmology among others in India.[1,2,4] Understanding the factors that influence students' decisions regarding their future career may help in taking corrective measures.

A study done at a private medical college in southern India has shown that almost all students (99.2%) wish to pursue postgraduate studies, higher than the 83.5% in the study done at a government medical college in Delhi.[5] Similar findings are also reported from our study. This difference could be because (i) that the study included only 1st year medical students, (ii) it was done in a different study setting (government versus private), or (iii) it indicates a changing trend. More than three-fourths of the students in our study wanted to pursue advanced studies in India.

The choice of specialties showed that the surgery and internal medicine were the most favored. Traditionally students have favored these two topics as shown in other studies within India, other developing and developed countries.[7,10-13] The most popular choices for men and women in our study were similar to the choice of students in Jordan, where the most preferred subjects among men were internal medicine and surgery and among women these were Medicine and Obstetrics and Gynecology respectively. This finding is consistent with other study results.[7,14]

Though we did not assess the reason for choosing a particular specialty as a career choice, some underlying factors as suggested by

Ko *et al.* and Khader *et al*.[14,15] could be personal interest, experience during clinical rotations, job opportunities and financial rewards. Considering the fact that India is a developing country, financial rewards could be one important factor in choosing a career. This could be the reason why most of the students have chosen specialties which have a proven record of financial gains.

Studies pertaining to perception of MBBS students toward Community Medicine as a career choice are limited. A study on primary care specialty choice, which may be considered the counterpart of Community Medicine in India, from 1987 to 1993 reported that students predominantly enter medical school with a preference for primary care careers, but that this preference diminishes over time (particularly over the clinical clerkship years).[16] Student characteristics associated with primary care career choice are: being female, older, and married; having a broad undergraduate background; having non-physician parents; having relatively low income expectations; being interested in diverse patients and health problems; and having less interest in prestige, high technology, and surgery. We did not get such response as we adopted the qualitative methods to assess the perception of students toward the subject.

We developed a conceptual framework based on the responses offered by the respondents which determines the career options of medical graduates. Though there is a favorable attitude toward Community Medicine as a subject, but students are not coming forward to take up this subject as it is perceived to be a "*boring*" subject. Various strategies like field based teaching, group discussion, integrated teaching (horizontal and vertical), application and relevancy oriented teaching will go a long way. The Medical Council of India 2015 vision document provides flexibility to adopt such innovative methods in various specialties.[17]

One of the factors reported was "we will lose touch with patients"; this misconception should be dispelled among undergraduates and as we serve as the point of first contact with the community in the primary and secondary care level and Community Medicine is considered a clinical subject as per medical council of India regulations.

There is a divergence of views regarding the scope of Community Medicine. Some students felt that it has got a very good scope particularly in western countries. However, a few felt that "Other fields have a better opportunity"; this indicates that the career path after post-graduation on Community Medicine should be communicated to the undergraduate students which will help them to compare the scope and help to decide them about Community Medicine as a career option.

CONCLUSIONS

Our study reveals that the most preferred specialties of the students were surgery, internal medicine and pediatrics with gender variations; men preferring surgical specialties and women preferring obstetrics and gynecology and pediatrics. Specialties such as Community Medicine, ophthalmology and psychiatry are not favored, and there is a need to improve students' interest in these areas.

As the teachers in the field of Community Medicine we have a responsibility and should design our curriculum in such a way that it will attract students. The objectives of the course should be clearly told to the students; appropriate teaching and learning experience should be offered, and a valid assessment process should be followed.

REFERENCES

1. High Level Expert Group Report for the Universal Coverage of Health in India. New Delhi: Planning Commission of India; 2011. Available from: http://www.planningcommission.nic.in/reports/genrep/rep_uhc0812.pdf. [Last accessed on 2013, Aug 02].
2. The World Health Report 2008: Primary Health Care - Now More than Ever. Geneva: World Health Organisation; 2008. Available from: http://www.who.int/whr/2008/08_overview_en.pdf. [Last cited on 2013 Aug 02].
3. Kumar R. Ophthalmic manpower in India - Need for a serious review. Int Ophthalmol 1993;17:269-75.
4. Dussault G, Franceschini MC. Not enough there, too many here: Understanding geographical imbalances in the distribution of the health workforce. Hum Resour Health 2006;4:12.
5. Lal P, Malhotra C, Nath A, Malhotra R, Ingle GK. Career aspirations and apprehensions regarding medical education among first year medical students in Delhi. Indian J Community Med 2007;32**:**217-8.
6. Kumar R, Dhaliwal U. Career choices of undergraduate medical students. Natl Med J India 2011;24:166-9.
7. Subba SH, Binu VS, Kotian MS, Joseph N, Mahamood AB,

Dixit N, *et al.* Future specialization interests among medical students in southern India. Natl Med J India 2012;25:226-9.
8. National Health Policy 2002. New Delhi: Ministry of Health and Family Welfare, Government of India; 2002. Available from: http://www.jkhealth.org/National_Health_policy_2002.pdf. [Last cited on 2013 Aug 12].
9. IBM Corp. IBM SPSS Statistics for Windows. Version 20.0. Armonk, NY: IBM Corp; 2011.
10. Huda N, Yousuf S. Career preference of final year medical students of Ziauddin Medical University. Educ Health (Abingdon) 2006;19:345-53.
11. Buddeberg-Fischer B, Klaghofer R, Abel T, Buddeberg C. Swiss residents' speciality choices - impact of gender, personality traits, career motivation and life goals. BMC Health Serv Res 2006;6:137.
12. Mariolis A, Mihas C, Alevizos A, Gizlis V, Mariolis T, Marayiannis K, *et al.* General Practice as a career choice among undergraduate medical students in Greece. BMC Med Educ 2007;7:15.
13. Zarkovic A, Child S, Naden G. Career choices of New Zealand junior doctors. N Z Med J 2006;119:U1851.
14. Ko HH, Lee TK, Leung Y, Fleming B, Vikis E, Yoshida EM. Factors influencing career choices made by medical students, residents, and practising physicians. B C Med J 2007;49:482-9.
15. Khader Y, Al-Zoubi D, Amarin Z, Alkafagei A, Khasawneh M, Burgan S, *et al.* Factors affecting medical students in formulating their specialty preferences in Jordan. BMC Med Educ 2008;8:32.
16. Bland CJ, Meurer LN, Maldonado G. Determinants of primary care specialty choice: A non-statistical meta-analysis of the literature. Acad Med 1995;70:620-41.
17. Vision 2015. New Delhi: Medical Council of India; 2011. Available from: http://www.mciindia.org/tools/announcement/MCI_booklet.pdf. [Last cited on 2013 Aug 12].

Source of Support: Nil, **Conflict of Interest:** None declared.