Attitude toward learning of community medicine: A cross-sectional study among medical school students

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ABSTRACT

Background: Community medicine strives to protect and promote the health and well-being of the community through primary health care approach. However, the preference of community medicine as a career among medical school students and curriculum of community medicine is pivotal. Aim: The study intended to find the attitude towards learning of community medicine and also to assess the preference of post graduation specialty among medical school students. Materials and Methods: A cross-sectional study conducted at a teaching hospital located in Tamil Nadu, South India. The study questionnaire was administered to a total of 500 study participants and the data collected were analyzed using SPSS IBM version 21.0. Results: Almost 97% were of the opinion that community medicine subject is mandatory. Eighty three percent were interested in learning the principles. Only 21.8% students wanted to pursue post graduation in community medicine. Lack of attraction in terms of scientific technical interest, workplace conditions, and research potential has been reported for being not interested. Conclusion: Majority enjoyed to learn principles of community medicine at undergraduate curriculum but only few preferred to opt community medicine as post graduate specialty. Therefore there is a room to influence the medical students positively towards learning community medicine in curriculum.

Keywords: Attitude, MBBS curriculum, medical school students

Introduction

Community medicine is a branch of medicine that promotes the health and well-being of the community through primary health-care approach. The mission of community medicine teaching is the holistic training of a medical student, who will demonstrate knowledge and competence in dealing with primary health care, evidence-based practice, interdisciplinary teamwork, and professional and ethical behavior in practice to improve and sustain the health of the population.[1]

Community medicine also deals with teaching of economics related to the health sector. The practice of community medicine incorporates information about economic realities into medical education to enable physicians to make better-informed decisions.[2] It also includes imparting skills through assignments related to cost-benefit and cost-effectiveness analysis of basic medical and public health interventions.

As the role of practice of community medicine is very crucial in developing countries like India, curriculum of community medicine in medical curriculum plays a vital role. Several studies have reported the feedback of the students regarding community-based education.[3-8] Several studies investigating student feedback have been done.[3-7] The community-based experience encouraged a career in general practice and gave better orientation toward patient care.[5] The community-based...
rural health course positively influenced many medical students to report an intention to practice in rural areas.\textsuperscript{89}

The preference of medical school students to pursue postgraduation (PG) is widely varied. Preferences may depend on personal interest, sex, childhood influence, family and social influence, monetary reason, intelligence, skill challenge, security of profession, future opportunities.\textsuperscript{77} Community-based experience was positively associated with the selection of generalist residencies. A previous study suggests that male medical school students were more likely to express interests in surgical specialty than their female colleagues.\textsuperscript{98} Those medical school students who were interested in surgery were less likely to demonstrate social orientation and more likely to be hospital-oriented than students interested in family medicine who practice medicine at the community level.\textsuperscript{99}

Objective
The study intended to find the attitude toward learning of community medicine and also to assess the preference of PG specialty among medical school students.

Materials and Methods

Study setting
The study was conducted in a teaching hospital located in Chennai, Tamil Nadu, South India.

Study design
This was a cross-sectional study.

Sampling and study population
The study population was the students pursuing MBBS course and medical interns (Compulsory Rotatory Residential Internships). In January 2015, there were about 10 Medical Council of India (MCI)-recognized private medical schools in Chennai and Kanchipuram district of Tamil Nadu. Among which one private medical school is selected randomly by lottery method. The selected medical school comprised 600 medical students (150 in 1\textsuperscript{st} year and 2\textsuperscript{nd} year, 100 in 3\textsuperscript{rd} year, and 100 in final year) and 100 medical interns at the time of the study. All medical school students who were above 18 years of age and willing to participate were included. Finally, a total of 500 study participants, of which 100 from 1\textsuperscript{st} year, 104 from 2\textsuperscript{nd} year, 96 from 3\textsuperscript{rd} year, 100 from final year, and 100 medical interns were included in data analysis.

Study duration
The study duration was from March 2015 to February 2016.

Study tool
The study tool was designed by the authors with inputs from experts in the field and result outcome of a group focus discussion with MBBS students of a medical college. The study tool included – sociodemographic profile of the participants, variables related to learning and practice of community medicine, and preference to pursue specialty in community medicine. Modified BG Prasad scale was used for socioeconomic scale classification [Table 1].\textsuperscript{104} A five-point Likert scale of eight statements was used to assess attitude (statements 1–3), perception (statements 4–5), and interest (statements 6–8). The study tool was pretested among fifty students in another tertiary care teaching hospital located in South Chennai of Tamil Nadu and necessary corrections were made.

Data collection and analysis
After explaining the intent of the study, self-administered questionnaire was administered to the medical students. Data analysis was done with Statistical Package for Social Sciences (SPSS IBM) version 21.0. (IBM Corp., Armonk, NY) Released 2012. The qualitative variables are described in the form of proportions, and quantitative variables are described in terms of means and standard deviation (SD). Data were checked for normality before applying appropriate tests of significance. Chi-square test was applied to find the significance of difference in proportions (qualitative variables). \(P < 0.05\) was considered statistically significant.

Ethical permission and informed consent
Ethical committee approval was obtained from the Institutional Ethical Committee before conducting the study. Written informed consent was obtained from all the study participants. Confidentiality was maintained at all the points of study.

Results
Among the total 500 study participants, 244 (48.8\%) were male and 256 (51.3\%) were female. The age group of study participants ranged from 17 to 24 years with a mean (SD) of 20.8 ± 1.64. 434 (87\%) and 6 (1.8\%) study participants were belonging to upper middle and upper socioeconomic class, respectively (as per Modified BG Prasad scale).\textsuperscript{104}

| Table 1: Baseline characteristics of study participants (n=500) |
|-----------|-----------|
| Profile       | n (%)  |
| Gender       |          |
| Male         | 244 (48.8) |
| Female       | 256 (51.3) |
| Education-academic year |          |
| First year   | 100 (20.0) |
| Second year  | 103 (20.6) |
| Third year   | 96 (19.2)  |
| Fourth year  | 100 (20.0) |
| CRRI         | 100 (20.0) |
| Current residence |      |
| Hosteller    | 399 (80)  |
| Day scholar  | 101 (20)  |
| Permanent residence |    |
| Urban        | 350 (70)  |
| Rural        | 150 (30)  |

CRRI: Compulsory Rotatory Residential Internship
Of total 500 study participants, 414 (83%) reported of having an interest in learning principles of community medicine. However, 135 (27%) study participants reported difficulty in understanding community medicine concepts and definitions. On a regular day, 48% (240) spent at least an hour other than academic hours to learn community medicine. 483 (96.8%) were of the opinion that community medicine subject is mandatory in undergraduate medicine curriculum.

Around 35% (175) of study participants reported that writing exams in community medicine is no different from other subjects. 29.9% (149) said it is tedious and boredom writing community medicine in comparison to other subjects.

Majority 320 (64%) were of the opinion that the best way to learn the principles of community medicine is field demonstrations, and 248 (49.6%) study participants found field work assessments were the best way in evaluation of students in community medicine learning. 330 (66%) study participants said that field trips were interesting and learning experience [Table 2].

Of fourteen major subjects of MBBS curriculum, only 15 (3%) ranked community medicine as the first rank. The most interesting subjects during MBBS curriculum were anatomy 71 (14.3%), general medicine 65 (13.0%), pediatrics and physiology 38 (7.6%). The least two interesting subjects were community medicine 9 (1.8%) and pharmacology 10 (2.0%) [Table 3].

Totally, 109 (21.8%) wanted to pursue PG in community medicine discipline. Among those who wished to pursue PG in community medicine, the major reason 67 (13.4%) quoted was due to a personal interest in community medicine subject. The reason for not wishing to pursue career in community medicine was interest in other subjects 86 (17.23%), not liking research 4 (0.8%), and poor salary prospects post-PG [Table 4].

Scores were given for Likert scale: Strongly disagree - 1, disagree - 2, neutral - 3, agree - 4, strongly agree - 5. The median score for statements 1–5 is 4 and for statements 6–8 is 3. Around 75% of study participants had a positive attitude toward community medicine discipline.

### Discussion

The study intended to find the attitudes and perceptions of medical students about community medicine in the undergraduate curriculum. The response rate among the medical students was 96%.

Majority (64%) reported that the best way to learn the principles of community medicine is field demonstrations, and 66% students said that field trips were most useful and better learning experience. Community-based learning including demographic and morbidity surveys, field surveys, community diagnosis, etc., rather than classroom-based learning is extremely helpful in the application of learned principles of community medicine.[1] Furthermore, community-based learning, a type of experience-based learning, plays a key role in the application of learned principles of any discipline. This community-oriented medical education is one of the ideal methods of educating learners to be primary care physicians of the community.[11]

In addition, student-centered learning methods such as case studies, problem-oriented learning, and experiential learning plays, as envisaged by MCI, ensure the physicians to possess the knowledge and abilities required in their medical career.[12] Both community-based learning and self-directed learning provide a complete orientation toward learning the principles

### Table 2: Interest and perception toward learning community medicine among medical school students (n=500)

| Interest and perception                                      | n (%) |
|--------------------------------------------------------------|-------|
| Learning community medicine is interesting during            |       |
| First-year medical school                                    | 61 (12.2) |
| Second-year medical school                                   | 152 (30.5) |
| Third-year medical school                                    | 208 (41.7) |
| Final year medical school                                    | 71 (14.2) |
| Internship                                                   | 10 (2) |
| Interesting subsection of community medicine*                |       |
| Health-care delivery                                         | 147 (29.5) |
| Environmental health                                         | 106 (21.2) |
| Infectious and noncommunicable diseases                      | 93 (19.6) |
| Epidemiology                                                 | 64 (12.8) |
| Nutritional health                                           | 58 (11.6) |
| Biostatistics                                                | 33 (6.8) |
| Factors that influenced interest in learning community medicine* |       |
| Concept of community medicine                                 | 182 (36.4) |
| Field visits                                                 | 141 (28.2) |
| Projects/research studies                                    | 114 (22.8) |
| Faculties’ teaching style                                    | 62 (12.4) |
| Community medicine trains a medical student to be*           |       |
| Epidemiologist                                               | 355 (71) |
| Primary care physician                                       | 288 (57.6) |
| Nutritional advisor                                          | 189 (37.8) |
| Research                                                     | 91 (18.2) |
| Community worker                                             | 89 (17.8) |
| Nothing additional in comparison to other subjects            | 17 (3.4) |
| Role of community medicine*                                  |       |
| Learning prevention of diseases                               | 252 (50.4) |
| Learn community focused health care                          | 198 (39.6) |
| Develop better rapport with patient                          | 193 (38.6) |
| Find causation of diseases                                   | 146 (29.2) |
| Teamwork                                                     | 106 (21.2) |
| Imparts leadership qualities                                  | 94 (18.8) |
| Research                                                      | 49 (9.8) |
| Difficult areas in community medicine*                       |       |
| Learning definitions                                         | 240 (48) |
| Memorizing numerical facts                                   | 237 (47.4) |
| Preparing for exams                                          | 162 (32.4) |
| Field visits are tiring and exhaustive                       | 77 (15.4) |

*Multiple response
of community medicine. Different learning methodologies as proposed by MCI such as Objective Structured Clinical Examination, Objective Structural Practical Examination, evidence-based medicine teaching, soft skills development exercise, learning-by-doing method and simulation exercise, problem-based learning have to be implemented uniformly in all medical schools.\textsuperscript{12,13}

Almost 97\% had an opinion that community medicine subject is mandatory in undergraduate medicine curriculum. MCI in the curriculum of an undergraduate medical school had a mandatory objective of teaching community medicine. The training is being imparted to make the students aware of environmental, social, financial, personal, occupational issues of the patients to render care, orient the students with health systems, programs, and policies as well as training them as community and first level physicians.\textsuperscript{12} Integrated teaching classes should be undertaken by integrating across various specialties both horizontally and vertically for commonly occurring diseases and health conditions to attain knowledge and skills related to primary health-care practice and family medicine.

Although 83\% were interested in learning the principles of community medicine. However, unfortunately, only 21.8\% students wished to pursue PG in community medicine discipline, and major reason (61\%) among them was due to interest in the subject. Reasons for preferring other disciplines were due to personal interest, better salary scales, lack of attraction in terms of scientific technical interest, workplace conditions, and research potential as has been reported in previous studies.\textsuperscript{13,14} In addition, teaching styles and methods of medical teacher also have influence in inculcating learning and further interests. Standardizing of teaching methods based on the MCI regulations\textsuperscript{13} could address the issue to a greater extent. In view of achieving this, periodic training for the medical teachers in regional medical education workshops must be a definite solution.

**Limitations**

As the study was conducted in only one private medical school the results could not be generalised. Further similar studies are required in medical schools of public health sector in future.

**Conclusion**

The majority of students had a positive attitude toward community medicine discipline. However, only a few students are interested in pursuing specialization in community medicine. The WHO envisages that Community Medicine Education goal is to create a band of five-star doctors who should have essential skills of care provider, communicator, decision-maker, manager, and/or community leader. In view of making this reality, redesigning of teaching methods and its implementation have to be done. Around three-fourth of Indian population live in rural area for improvement of health status; there is a need for improvement in community medicine curriculum in undergraduate medical education. Hence, there is room to influence the medical students positively toward learning community medicine in the curriculum.

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**Conflicts of interest**

There are no conflicts of interest.

### Table 3: Preference of medical specialties among medical school students (n=500)

| Variables                                      | n (%)  |
|------------------------------------------------|--------|
| Community medicine as PG specialty             | 109 (21.8)
| Yes                                            | 390 (78.2)
| No                                             | 106 (21.23)
| Reasons for not preferring                     | 4 (0.8) |
| Interested in other subjects                   | 11 (2.2) |
| No community-based projects                     |        |
| Difficulty in understanding the concept         |        |
| Subject interested the most                     |        |
| Anatomy                                         | 71 (14.3) |
| General medicine                                | 65 (13.0) |
| Physiology                                      | 38 (7.6) |
| Pediatrics                                      | 38 (7.6) |
| General surgery                                 | 36 (7.2) |
| Obstetrics and gynecology                       | 31 (6.2) |
| Community medicine                              | 9 (1.8) |
| Others\*                                       | 212 (42.4) |

\*Biochemistry, microbiology, pathology, pharmacology, forensic medicine, ENT, ophthalmology, orthopedics, anesthesia, dermatology, psychiatry, radiology

### Table 4: Statements of attitude, perception, and interest toward community medicine (n=500)

| Statements                                                                 | SA  | A     | N     | DA    | SDA   |
|---------------------------------------------------------------------------|-----|-------|-------|-------|-------|
| Community medicine is essential in MBBS curriculum                        | 178 (35.7) | 219 (43.9) | 88 (17.6) | 9 (1.8) | 5 (1.0) |
| Learning principles of community medicine is essential for epidemiological approach of disease | 69 (13.8) | 314 (62.9) | 103 (20.6) | 11 (2.2) | 1 (0.2) |
| Need to know principles of community medicine for prevention              | 197 (39.5) | 183 (36.7) | 101 (20.2) | 14 (2.8) | 4 (0.8) |
| Community medicine classes helped to know about research methodology      | 32 (6.4) | 282 (56.5) | 141 (28.3) | 30 (6.0) | 14 (2.8) |
| Field visits helped to know about epidemiology of disease                 | 82 (16.4) | 171 (34.3) | 214 (42.9) | 24 (4.8) | 8 (1.6) |
| Interested in learning principles of community medicine                   | 37 (7.4) | 156 (31.3) | 261 (52.3) | 34 (6.8) | 11 (2.2) |
| Interested in doing research in community medicine                        | 34 (6.8) | 158 (31.7) | 243 (48.7) | 46 (9.2) | 18 (3.6) |
| Community medicine as PG specialty                                        | 31 (6.2) | 71 (14.2) | 129 (25.9) | 216 (43.3) | 52 (10.4) |

SA: Strongly agree; A: Agree; N: Neutral; DA: Disagree; SDA: Strongly disagree
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