

Medical Students' Perspective about Primary Care Providers, the Foundation of Effective Health Systems - Knowledge of Family Medicine & Attitude Towards Community & Family Medicine

Running Title: Knowledge of Family Medicine & Attitude towards C & FM

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Abstract:

Background: Family Medicine is intended to provide continuing, comprehensive health care for the individual and family. It integrates the biological, clinical and behavioral sciences. Community Medicine trains the students to be community physicians along with the acquiring public health skills to improve population health. It is an ideal mix of Family Medicine and public health. *Objectives:* To assess knowledge of Family Medicine and attitude towards 'Community and Family Medicine' among MBBS students. *Methodology:* A cross sectional study was conducted among 4th, 5th and 6th semester students of a medical college from August 2016 to September 2016. *Findings:* Nearly one fifth of the students did not know anything about Family Medicine, the majority of them 27 (55.1%) were from 4th semester. Participants belonging from rural area (p=0.001) and 5th semester (p=0.001) had significantly more understanding of Family Medicine than the others, gender-wise however there was no significant difference. Majority of the students 132 (56.8%) disagree that Community Medicine and Family Medicine are same. More than half of the participants did not want to establish a career in Family Medicine, citing interest in other medical specialties and Family Medicine being intellectually less challenging as the main reasons. *Conclusions:* Currently, the understanding in Family Medicine is more of confusion among the undergraduate medical student. *Recommendation:* There is a need to strengthen the Family Medicine component within Community Medicine at undergraduate level and focus should be laid on making them attractive for students to pursue for post-graduation.

Keywords: Medical Students, Community Medicine, Family Medicine, Attitude

Introduction

Family Medicine, which has been a separate specialty in many countries, is intended to provide continuing, comprehensive health care for the individual and family. It integrates the biological, clinical and behavioral sciences.[1] 'Family Medicine' was recognized as a separate specialty in India since 1983[2], and the National Board of Examination (NBE) started 'DNB Family Medicine' residency training from 2005.[3] However, young doctors are unaware of the specialty. The primary reason for this lack of awareness is that Family Medicine component in the MBBS curriculum is covered under Community Medicine.[4]

Community Medicine trains the students to become community physicians along with acquiring public health skills to improve population health. It is an ideal mix of Family Medicine and public health. However, most students do not show an affinity towards either of the subjects and these are not the preferred subject for post-graduation, even though these specialties are required in higher numbers in the country. A study in South India found that only 0.8% of the students said they would opt for Community Medicine as a postgraduate course.[5] In other parts of the world too, the students show a similar attitude towards general practice and Family Medicine, two subjects that are closest to Community Medicine. There too, students do not opt for these subjects for post-graduation.[6-8] This non-preference for Family Medicine and Community Medicine for post-graduation leads to an imbalance in the demand and supply of specialists in the country with few takers for the most needed subjects, especially since 85% of the health problems can be dealt with by such generalists. There is a need to understand the perception of medical students

regarding these subjects and what could make it attractive to them.

Hence, this study was planned to assess knowledge of Family Medicine and attitude towards Community and Family Medicine among the MBBS students of All India Institute of Medical Sciences (AIIMS), Bhubaneswar.

Methodology

A cross-sectional study was conducted in AIIMS, Bhubaneswar as part of a medical education training programme of ten days. Study participants were undergraduate medical students of three semesters (4th, 5th and 6th) and the study was conducted from August to September 2016. Sampling procedure used for selecting the participant was universal sampling. Written informed consent was taken from all the participants and those found willing were included in the study. A predesigned and pretested questionnaire was used as a study tool. The questionnaire had three parts: the first part contained demographic characteristics of the participants, the second part contained questions on the knowledge related to Family Medicine and the third part was related to questions regarding attitude towards Community Medicine. Attitude questions were ranked on a 5-point Likert scale. All the questions were designed based on literature review and expert opinion. Respondents were approached twice if they were absent on the first occasion of data collection. Data were checked for completeness and incomplete data were excluded from analysis. Data were analyzed using Microsoft Excel and SPSS version 21. Descriptive statistics have been presented as means and proportions.

Findings

The total number of students who participated was 232, which brings the response rate to 92.8%. Semester-wise

(6th, 5th and 4th) response rate was 90%, 95% and 92% respectively. The distribution of the participants according to the semester (6th, 5th and 4th) was 45 (19.4%), 95 (40.9%) and 92 (39.7%) respectively. Mean age of the participants was 20.2 years \pm 1.21. Male and female distribution was 128 (55.2%) and 104 (44.8%) respectively. State wise, most of the participants were from Kerala 108 (46.6%), followed by Odisha 68 (29.3%) and Andhra Pradesh 22 (9.5%). Participants, coming from urban

areas were 126 (54.3%) compared to rural 106 (45.7%). The students who had one or more doctor in the family were 53 (22.8%).

Nearly one-fifth of the students did not know anything about Family Medicine and most of them 27 (55.1%) were from the fourth semester. Rest had some idea and most common two answers were; “serving the health needs of the family” and “studying of disease pertaining to a family”. [Table1]

Table 1: Association between gender, place of origin and semester with understanding of Family Medicine (n=232)

Variable	Have some understanding	Don't know	p value
Gender			
Male	103(80.5)	25(19.5)	0.51
Female	80(76.9)	24 (23.1)	
Area of belonging			
Rural	97(91.5)	9(8.5)	0.001
Urban	86(68.3)	40(31.7)	
Semester			
6 th	43(95.5)	2 (4.5)	0.001
5 th	82 (86.3)	13(13.7)	
4 th	58(63.0)	34(37.0)	

Students coming from the rural area (p=0.001) and senior students (p=0.001) have significantly some more understanding of Family Medicine than the others, gender-wise however there was no significant difference in the understanding of Family Medicine. (p=0.51).

A majority of the students i.e. 132 (56.8%) disagreed that Community Medicine and Family Medicine are the same, whereas 37 (15.9%) agreed that both are same. A total of 63 (27.2%) students had no idea about the relation between Community and Family Medicine. [Table 2]

Table 2: Relation between Community and Family Medicine according to the participants (N=159)

Both are different (N =132) Reasons	n (%)
Family Medicine deals with family but Community Medicine deals with the community	44 (33.3)
Family Medicine only concentrates on family, but Community Medicine has a wider perspective and approach	38 (28.8)
Don't know	25 (18.9)

Family Medicine is dealing at a lower level and Community Medicine at a higher level	9 (6.8)
Family Medicine provides individualized care, but Community Medicine provides health for all in the community	7 (5.4)
Community Medicine is about epidemiology, but Family Medicine is about the interaction between family and environment	6(4.5)
Family Medicine is action oriented, but Community Medicine is only awareness generation	3 (2.3)
Both are same (N =37)	n (%)
Reasons	
Family Medicine is a part of Community Medicine	27 (72.9)
Community is made up of families so addressing family problems will solve the problems for the community as a whole	5 (13.5)
Both deal with the problem in the community	3 (8.2)
Family is a part of community so both are same	1 (2.7)
Same doctor provides service for the community as well as for the family	1 (2.7)

Those students who considered Community Medicine and Family Medicine to be different identified the most common reason to be, "Community Medicine deals with Community and Family Medicine deals with family". Among them, almost one-fifth of the participants were of the opinion that both are different, however they were not able to cite any reason behind the difference. Of those students who said that both are same, majority of them (72.9%) correctly cited that "Family Medicine is a part of Community Medicine".

A total of 36 (15.5%) participants had heard about the "Academy of Family Physicians of India". Participants identified 21 different topics in their curriculum which they thought were related to Family Medicine. Most common three topics identified by the students as Family Medicine topic in their curriculum were epidemiology (23.7%), immunization (13.4%) and nutrition (12.5%). A total of 57 (24.5%) students had no idea about the topics

related to Family Medicine in their syllabus.

Majority of the students i.e. 140 (60.3%) did not want to establish their career in Family Medicine. Only three students had a positive opinion about the subject and all three were from 4th semester, belonging to rural area, females and no doctor in the family. A total of 89 (38.4%) students had not yet decided about their future course.

Majority of 5th-semester students (83.2%) did not prefer Family Medicine as a career for future compared to other two semesters, this finding was statistically significant ($p=0.001$). There was no significant difference between participants belonging from the rural or urban area and preference for Family Medicine as a career ($p=0.175$). Majority of male participants (72.7%) and participants having doctor family members (81.1%) also did not want to build a career in Family Medicine in the future and the findings are statistically significant ($p=0.001$ and $p =0.006$ respectively).[Table3]

Table 3: Association between semester, gender, area of belonging with preference for Family Medicine as a career in future (N=229)

Variable	Don't like	Undecided	p value
Semester			
6 th	21 (46.7)	24 (52.3)	0.001
5 th	79 (83.2)	16 (16.8)	
4 th	40 (44.9)	49 (55.1)	
Area of belonging			
Rural	58 (56.3)	45 (33.7)	0.175
Urban	82 (65.1)	44 (34.9)	
Gender			
Male	93 (72.7)	35 (27.3)	0.001
Female	47 (46.5)	54 (53.5)	
Having Family members doctor			
Yes	43 (81.1)	10 (18.9)	0.006
No	97 (55.1)	79 (44.9)	

Interest in other medical specialties and less interest in Family Medicine or finding it intellectually less challenging were the main reasons cited by the participants who disliked Family

Medicine as a future career option. Lack of knowledge about Family Medicine and less financial gain were some other reasons highlighted by the students. [Table 4]

Table 4: Reasons for disliking Family Medicine as a career option (N=140)

Reasons	N (%)
Interested in other specialties as a career	61 (43.6)
Low interest or intellectually less challenging	49 (35.0)
Do not know much about Family Medicine	17(12.1)
Financial gain is less	3 (2.1)
Less clinical application	4 (2.9)
Remembering data is difficult	4 (2.9)
Less respect in the society	5 (3.6)

Table 5 shows that majority of the 4th semester students were uncertain on 11 statements regarding Community and Family Medicine (CM&FM). Among them leading uncertain statements were: CM&FM will give better job satisfaction (62%); CM&FM faculty will earn as much money as its counterparts in medicine/surgery (53.3%); recognition in the society

(52.2%); name and fame equivalent to other specialty (47.8%). Majority of respondents agreed that CM&FM is a form of social service (75%); useful subject in MBBS (65.2%) and teaching is very interactive (61.9%). Majority of respondents disagreed that, CM&FM is only theory oriented (72.9%); work only in villages (66.3%); and is one of my favorite subjects (63.0%).

Most of the 5th semester students were uncertain on 3 statements, CM&FM faculty will earn as much money as their counterpart in medicine/surgery (52.6%); CM&FM will bring recognition in society (45.3%); and CM&FM curriculum is well structured (45.3%). Majority of them agreed on following statements: CM&FM is a form of social service (73.7%); the teaching session is interactive (56.8%); and lack of information about the future career prospect of the specialty (6.3%). Their major disagreements are with following statements: CM&FM is one of my favorite subjects (70.5%); it is theory oriented (69.5%); and works only in the villages (68.4%).

In case of 6th semester students they were also uncertain only with 3 statements: CM&FM will give better job satisfaction (51%); will earn as much money (48.9%); and recognition (48.9%) as their counterpart in the society. However, majority of them agreed that CM&FM is one of the useful subjects of MBBS (88.9%); helps in developing competence to become a good doctor (64.4%); and is one of the important subjects in MBBS (60.0%). Their major disagreement was with following statements CM&FM only works in village (75.5%); only conducting research (71.1%); and a theory oriented subject (66.6%).

Table 5: Semester wise comparisons of the attitude of the students towards Community Medicine and Family Medicine (N=232)

Statement 1: Community and Family Medicine is one of the useful subjects in MBBS			
Semester	Agree (%)	Uncertain (%)	Disagree (%)
4 th	65.2	31.5	3.3
5 th	54.8	28.4	16.9
6 th	88.9	8.9	2.2
Statement 2: Community and Family Medicine is one of the important subjects in MBBS			
4 th	56.5	32.6	10.9
5 th	38.9	30.5	30.6
6 th	60	31.1	8.9
Statement 3: Community and Family Medicine is a very interesting subject			
4 th	22.8	43.5	33.7
5 th	18.9	30.5	50.6
6 th	22.2	31.1	46.7
Statement 4: Community and Family Medicine is one of my favorite subjects			
4 th	8.7	28.3	63.0
5 th	15.8	13.7	70.5
6 th	6.6	28.9	64.5
Statement 5: Community and Family Medicine is a volatile subject			
4 th	41.3	28.3	30.4
5 th	41.0	27.4	31.6
6 th	57.8	26.7	15.5
Statement 6: I like teaching session in the field			

4 th	59.8	22.8	17.4
5 th	54.8	18.9	26.3
6 th	51.1	31.1	17.8
Statement 7: Community and Family Medicine is theory oriented with no practical use			
4 th	12.0	15.2	72.9
5 th	14.7	15.8	69.5
6 th	20.0	13.3	66.6
Statement 8: I am not clear about the learning objectives of the subject			
4 th	39.1	26.1	34.7
5 th	42.1	22.1	35.8
6 th	46.7	20.0	33.3
Statement 9: The teaching process of Community and Family Medicine is very interactive			
4 th	61.9	26.1	12.0
5 th	56.8	30.5	12.6
6 th	35.5	31.1	33.3
Statement 10: The learning of Community and Family Medicine will develop my competence to become a good doctor			
4 th	60.9	35.9	3.3
5 th	50.5	33.7	15.8
6 th	64.4	24.4	11.1
Statement 11: The course of Community and Family Medicine is well structured			
4 th	38.0	42.4	19.5
5 th	27.4	45.3	27.4
6 th	35.6	26.7	42.3
Statement 12: There is a lack of information on future career prospects of Community and Family Medicine			
4 th	55.4	33.7	10.9
5 th	64.3	25.3	10.5
6 th	60.0	31.1	8.9
Statement 13: Community and Family Medicine specialist can earn name/fame equivalent to counterparts in medicine/surgery			
4 th	28.2	47.8	23.9
5 th	11.6	40.0	48.4
6 th	40.0	48.9	11.1
Statement 14: Career in Community and Family Medicine will bring recognition in society			
4 th	26.1	52.2	21.8
5 th	15.8	45.3	39.0
6 th	24.5	48.9	26.7
Statement 15: Concepts of Community and Family Medicine is difficult to understand			
4 th	30.4	21.7	47.9
5 th	24.2	17.9	57.9
6 th	40.0	13.3	46.6
Statement 16: Community and Family Medicine is well projected by			

the faculty			
4 th	59.8	28.3	12.0
5 th	45.3	29.5	25.3
6 th	28.9	35.6	35.6
Statement 17:Community and Family Medicine faculty earn as much money as his counterparts in medicine/ surgery			
4 th	23.9	53.3	22.8
5 th	19.0	52.6	28.4
6 th	46.7	37.8	15.5
Statement 18:Practicing Community and Family Medicine is a form of social service			
4 th	75.0	17.4	7.6
5 th	73.7	16.8	9.5
6 th	60.0	17.8	22.2
Statement 19:Community and Family Medicine is only conducting research			
4 th	14.1	28.3	57.6
5 th	16.9	31.6	51.6
6 th	15.5	13.3	71.1
Statement 20:Community and Family Medicine doctors work only in the villages			
4 th	10.9	22.8	66.3
5 th	13.7	17.9	68.4
6 th	8.9	15.6	75.5
Statement 21:Community and Family Medicine will give a better job satisfaction			
4 th	14.1	62.0	23.9
5 th	21.1	38.9	40.0
6 th	13.3	51.1	35.5
Statement 22:Community and Family Medicine gives a holistic view of the patient			
4 th	44.6	47.8	7.6
5 th	48.5	31.6	20.0
6 th	44.4	37.8	17.8
Statement 23:Community and Family Medicine will allow me to have a better lifestyle as compared to other subjects			
4 th	23.9	42.4	33.7
5 th	20.0	31.6	48.4
6 th	24.4	24.4	51.1

Discussion

Family Medicine, which is actually part of Community Medicine in India, is one of the modern forms of the general practice. “Family practice”, “family physician”, “family doctor” and “general practitioner” are different names used for the specialty at different

times, in different countries. The concept of this discipline evolved in 1960 in the United Kingdom (UK) and United States of America (USA) and later many South East Asian countries introduced this discipline as full-fledged specialty.[9]

Present study found that one fourth of the students don't have any concept about Family Medicine and those who have some idea also do not have comprehensive knowledge. Studies conducted in Japan,[10] Greece,[11] and Ghana[12] have found that level of awareness about Family Medicine or primary care among medical students is 54.9%, 95%, and 88% respectively. The probable reason for this difference may be due to the fact that it was never meant to be a separate subject in India as it is well covered under Community Medicine.

Presently, India has more than 200 Family Medicine DNB seats across different medical college/hospital in the country.[13] Medical Council of India has recently introduced MD Family Medicine in Calicut Medical College, Kerala.[14] Present study also found that students belonging from the rural area and in the higher semester have a better understanding about Family Medicine. In rural areas of India, still, Family Medicine or general practice is common so students from those areas might have got some better understanding of the specialty. It is expected that senior semester students have better knowledge about Family Medicine because it is introduced in the 4th semester usually under Community Medicine.

A study conducted among three Canadian universities also had similar findings.[15] Half of the participants had the opinion that Community and Family Medicine are different and the reasons cited by them were mostly related with the setting for delivering the services, level of care and content of the subject. Even though according to recent post-graduation curriculum of MCI, both Community Medicine and Family Medicine are separate entities,[14] Family Medicine is still a

part of Community Medicine in the MBBS curriculum. If we go through the syllabus of both Community Medicine subject at MBBS level[16] and that of DNB Family Medicine[17] there are many overlapping topics. None of the recognized textbooks of Community Medicine highlight separately as to which topics belong to Community Medicine and which are pertaining to Family Medicine. This is because all aspects of Family Medicine are already contained in Community Medicine and the latter has a public health component too. India has many Family Medicine courses after MBBS (Diploma in Family Medicine,[18] Post-Graduate Diploma in Family Medicine, Master in Family Medicine[19] etc.), which increases confusion among the students.

Either way, whether Community or Family Medicine, very few students tend to like these subjects or prefer these for post-graduation. This has been reflected in the present study where less than one percent of the students were interested to choose Family Medicine as a career. A similar finding was reported by other studies conducted among medical students in Ghana,[12] Turkey[20] and Uganda.[21] A study conducted among interns in Bangalore had found that 44% wanted to work in rural areas.[22] This difference may be because the study population was different. Another study conducted among medical students of Brazil had found that interest was high towards Family Medicine at the time of entry to medical school, but it reduced gradually as the course progressed.[23]

The present study also found that male participants and participants having a doctor as family members had a significant disliking for Family Medicine as a career option in the future. This might be because even among the doctors very few encourage

their juniors to build careers in Family Medicine. A high level of interest towards clinical specialty (Medicine and Surgery), considering CM&FM intellectually less challenging, lack of proper knowledge about these subjects and less financial gain were some of the reasons highlighted by the participants for disliking Family Medicine as a career in the present study. A similar finding has also been reported by other studies.[20,24,25]

Despite the lesser interest in Family Medicine as a future career, most of the students still believed that Community or Family Medicine is one of the important subjects of MBBS curriculum. They liked the teaching session in the community and felt that it would improve their competency as a doctor. However, less financial gain, less respect or recognition in society, less job satisfaction was some of the factors that made the participants feel uncertain about Community and Family Medicine. Factors for the negative attitude towards the specialty identified by present study were not different from other similar studies.[24,25,26,27]

Attitude towards the subject of Community and Family Medicine has highlighted that a good number of participants from 4th semester was uncertain about many statements. Major uncertainty was related with job satisfaction, earning of money, name and fame in the society. A large number of 5th semester students had doubts on the proper structuring of the Community and Family Medicine curriculum. As expected proportion of uncertainty towards the subject reduced in higher semester compared to the beginners. Curriculum of Community and Family Medicine is little bit different from other subjects taught in medical school. In the early days of the

medical school when students are introduced to the subject of Community and Family Medicine, more focus should be on the glorious history of public health, contribution of eminent personalities of public health and develop a road map for the students to become successful in this specialty which will remove many doubts of the beginners about the subject. Beginners could be exposed more towards the Family Medicine component of the subject rather than the core concept of Community Medicine; this will increase the interest of the learners. Teaching and learning session of Community and Family Medicine in AIIMS, Bhubaneswar has focused more on the practical application of the concepts of Family Medicine, for example: case based learning, participatory research techniques, learning at preventive clinics (non-communicable disease prevention clinic, preventive oncology clinic etc). As a result a large number of participants across the semester highlighted that the subject is very important and useful; and found the teaching sessions interactive. Participants also had strong reservation against the concept that Community and Family Medicine is only about research or rural service or social service or only theory oriented.

The concept of Community and Family Medicine is a well-established concept in many foreign universities.[28,29] Recently in India, six newly established All India Institutes of Medical Sciences (AIIMS) have started demonstration of this concept.[4] Many studies have highlighted the importance of modifying and rejuvenating the teaching, training and assessment programme of Community Medicine and Family Medicine in India.[30,31]

One of the limitations of the study is that it was conducted only among medical students of three semesters of one medical college. Also, the questionnaire was assessed only for content validity. In future, a multi-centric study can be planned with a fully validated scale, involving all semesters to get a comprehensive picture.

Currently, the level of understanding of Family Medicine is more of confusion among the undergraduate medical students. Majority of the students are not willing to choose Family Medicine or Community Medicine as a profession in the future. The attitude of the students on different aspects of the specialty was diverse. There is a need to strengthen the Family Medicine component within Community Medicine at the undergraduate level. The off-shooting of Family Medicine as a separate department, whose entire work overlaps with Community Medicine only is a source of confusion among the students. It does not seem to generate interest in the specialty. Rather, the focus should be on making the specialty attractive for students to pursue post-graduation. In long run a strong and focused Community and Family Medicine specialist will strengthen the fragile general health care delivery system. It will reduce the overdependence on specialist and super-specialist branches of medicine. Further, the Community and Family Medicine specialists can minimize Community's dissatisfaction with the healthcare system.

Ethical Approvals

Institutional Ethics Committee approval was not taken; however, all ethical principles were followed, and participants were assured of complete confidentiality of their personal data and the choices they made.

Conflict of Interest

There is no conflict of interest to declare.

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