Perception of Medical Professionals from Tertiary Care Teaching Institutes towards the Specialty of Community Medicine and its **Specialists amid the COVID-19 Pandemic**

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ABSTRACT

Background: Community Medicine specialists play a crucial role in the prevention and control of communicable and non-communicable diseases, monitoring and surveillance, healthcare planning and management and research but the awareness about the speciality even among the medical fraternity is limited. Aim: To determine the perceptions of Medical Professionals from Tertiary care teaching institutes towards the specialty of community medicine and its specialists. Materials and Methods: This was a web based cross-sectional survey conducted in October- November, 2021 among Medical professionals of Tertiary Care Teaching Institutes in the state of Uttar Pradesh, North India using a semi structured, pretested questionnaire circulated as google forms using WhatsApp and personal email ids. Results: A total 406 participants consented and completed the survey questionnaire out of the 456 contacted eligible individuals (response rate 89.04%) of which 231 (57.0%) were males and 175 (43.0%) were females. Majority (83.0%) of the participants agreed that the 'information and knowledge gained in Community Medicine by them would certainly help in their future medical practice" and an overwhelmingly majority (91.1%) agreed to the statement that 'a physician can't effectively control most infectious disease without adequate knowledge of Epidemiology'. Around 70% of the participants agreed that Community Medicine Specialists have good work life balance and 87.4% agreed that speciality of Community Medicine offers adequate scholarly and research opportunities. Further, 77.6% of the participants agreed that Community Medicine has enough opportunities for direct public contact compared to other specialty and around 64% agreed that the speciality offers the opportunity to utilize newer technologies, Artificial Intelligence and Machine Learning. Around 61% of the participants agreed that COVID-19 pandemic will affect the choice of specialty among the PG aspirants. Conclusion: Majority of the Medical professionals have positive perceptions towards the speciality of Community Medicine and its specialists. The COVID-19 pandemic may be an important cause for the changing perception towards the speciality among the medical fraternity.

Key words: Perception, Medical Professionals, Community Medicine, Speciality, COVID-19, Pandemic.

INTRODUCTION

Community medicine is an indispensable discipline of medical curriculum concerning prevention of disease, the determinants and natural history of diseases in populations, and the influence of the environment and of society on health and disease and which helps in producing social doctors. Every medical students is supposed to understand the principles of this subject and apply these principles in their future life as healer of community. Trained to be primary care physicians, researchers and administrators with the necessary clinical skills, knowledge of epidemiological and management principles, Community Medicine specialists have the ability to apply this knowledge for the betterment of the community. Their feedback and advices are

utilised in policy making and they play a vital role in times of disasters and largescale pandemics. The speciality has a prominent place in the strengthening of the health system by drafting policies and programs. The goals and objectives of Postgraduate medical education in Community Medicine are to produce competent specialists to manage the teaching departments in the medical colleges, or to manage health services and national health programs at various levels or to conduct biomedical research.1 For healthcare professionals to be able to fully understand the findings of different researches, and to make correct decisions, they need to be equipped with working knowledge of biostatistics and research methodologies to be able to critically review

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literatures and identify problems in the design, analysis and interpretation of the results.² With changing health environment discipline of Community Medicine (CM) needs to be made more relevant to country's need. The speciality of Community Medicine focuses on determinants of health, local health issues, communityoriented primary health care, and organization of health care services to attain optimal quality of health. The prevention of diseases in populations requires defining diseases, measuring their burden, and finding effective interventions. The ongoing COVID-19 Pandemic has taught us that no pandemic can be managed in the hospitals and no pandemic can be contained by the efforts of Government alone.

Healthcare systems across the country are overburdened with enormous disease load, rising health care costs, shortage of resources along with its uneven distribution. Adequate and efficient health workforce is required to accomplish accessible and equitable health-care provision. Our inability or unwillingness to apply what is known to improve health results in significant health deficits and persistent inequalities. Few states in India have enacted the public health act where community medicine experts are directly involved in public health with a separate directorate for public health.³ While clinicians individualize treatment in order to provide best treatment outcome for an individual, a public health approach standardizes treatment in order to increase quality and access to care for most in the community. An appropriate skill-mix and adequate distribution of health professionals is the prerequisite to providing equitable quality healthcare.

Community medicine as a speciality is still not popular among medical students. Reorientation of medical education is indeed needed to attract future medical graduates to opt community medicine as their career. Modern shift in health care from curative to promotive and preventive medicine makes community-based medical education of utmost importance. Despite this shift, the importance of community medicine is still not adequately appreciated with more focus on clinical and hospital based rather than preventive and community-based education.⁴ According to a study done by Singh *et al.*,⁵ only 5.7% of the medical students would like to opt post-graduation in community medicine.

With this background, this study was undertaken with the aim of assessing the perception of medical professionals from tertiary care teaching institutions towards the specialty of Community Medicine and its specialist amid the ongoing COVID-19 Pandemic.

MATERIALS AND METHODS

Study design and settings: A cross sectional web based on-line survey using google form was carried out.

Study period: The survey was open from October 11, 2021, through November 25, 2021 to collect responses.

Study Population: Medical Professionals (interns and above) except PG residents and faculties of Community Medicine from tertiary care teaching institutes of Uttar Pradesh, North India were eligible to participate in this survey.

Study Tools: A Semi-structured questionnaire was designed by the authors after a thorough review of the literature on the similar theme and expert consultation. The questionnaire prepared was pilot tested on a sample of 20 medical professionals which were not included in the final sample. Necessary amendments in the questionnaire were done as per findings of the pilot study.

Sampling technique: Convenient sampling technique was used to recruit the participants.

Survey Methodology and Data collection: The survey was designed by authors to determine the perception of Medical Professionals from tertiary care teaching institutes of Uttar Pradesh, North India towards the specialty of Community Medicine and its specialists amid the COVID-19 pandemic. The study Questionnaire were sent to the eligible participants as google forms through WhatsApp and e-mails with brief description of the study, indicating voluntary nature of the survey and a consent declaration before accessing the study questionnaire. Follow-up email/message was sent on the next day of the first message, one week after and before survey closure to encourage more participation in the survey.

Statistical Analysis: The data obtained from the google form responses were downloaded as excel sheets and analysed using statistical package for the social sciences (SPSS), version 21.0. Descriptive statistics were performed. For continuous variables, mean with standard deviations were calculated whereas for proportions, frequencies with percentages were calculated.

Ethical considerations

Institute Review Board (IRB) of BRD Medical College and Hospital, Gorakhpur, Uttar Pradesh, India approved the study protocol. Informed consent was sought from participants and only those who agreed to give the consent as declaration were able to access the study questionnaire and participate in the survey.

RESULTS

A total of 406 participants consented and completed the study questionnaire out of the 456 participants contacted for the survey giving a response rate of 89.04%. Out of these, 231 (57.0%) were males and rest 175 (43.0%) were females. Majority of them were in the age group of 21-35 years (77.6%), were working/affiliated to Govt. Medical Colleges (68.0%) and were either Interns/Junior residents (49.5%) (Table 1).

When the PG aspirants (Interns and Non-academic Residents) were asked about their first choice for post-graduation, more than one third (34.7%) were interested to join Internal Medicine, 18.4% wanted to join Paediatrics and Community Medicine was the speciality choice of only 7.9% PG aspirants (Table 2).

PG aspirants (Interns and Non-academic junior Residents) were also asked what they thought positive towards speciality of Community Medicine and the responses received are compiled in Table 3. We found that even those participants who don't wish to opt Community Medicine

Table 1: Participants' Socio-demographic Characteristics (n=406).			
Variables	Number	Percentage	
Mean age (in years)	33.17 ±8.96		
Age-groups (in years)			
21-35	315	77.6	
36-50	67	16.5	
>50	24	5.9	
Gender			
Male	231	56.9	
Female	175	43.1	
Affiliation			
Govt. Medical colleges	276	68.0	
Private Medical colleges	130	32.0	
Designation			
Interns/Non-academic Junior residents	76	18.7	
PG Junior residents	125	30.8	
Senior residents	63	15.5	
Faculty Members	142	35.0	

Table 2: Speciality of choice of PG aspirants (Interns/non-academic residents) for post-graduation (n=76).

SI. No.	Speciality	Frequency	Percentage
1	Medicine	26	34.2
2	Paediatrics	14	18.4
3	Community Medicine	6	7.9
4	Dermatology	6	7.9
5	Radiology	6	7.9
6	Surgery	6	7.9
7	Anaesthesia	5	6.7
8	Psychiatry	3	3.9
9	Orthopaedics	3	3.9
10	ENT	1	1.3
Total		76	100.0

Table 3: Positive aspects of Community Medicine Speciality reported by the PG aspirants (*n*=76).

Positive	Number*	Percentage
Peaceful working hours and Work life balance.	34	44.7
Serving a large group of people by making health programs because there is a famous saying that prevention is better than cure.	24	31.6
Understanding important health problems in our community	21	27.6
It is must needed because Community Medicine is the foundation for prevention of diseases, Health Management, and Epidemiology.	19	25.0
It's the branch which has maximum contribution towards medical field by research which helps in making medical care effective.	16	21.0
No emergency duties and less chances of nuisance by patients' attendants.	13	17.1
It is the branch which connects all the departments.	12	15.9
Good scope abroad and easy life.	11	14.8
Improve health education and awareness at the community level.	09	11.8

* Not mutually exclusive

for postgraduation had some positive attitude towards the speciality. Some of the most favourable aspects of the speciality of Community Medicine as reported by the PG aspirants were peaceful working hours and good work life balance (44.7%), role in health programmes (31.6%), role in prevention of diseases (25.0%), research activities (21.0%) and less chances of nuisance by attendants' mob (17.1%).

Reasons for not intending to opt specialization in Community Medicine reported by the PG aspirants are compiled in Table 4. Lots of travel and field work (30.3%), absence of practical sessions at health centres (27.6%), stigma of non-clinical subject (25.0%), too much maths/calculations (22.4%) were some of the common reasons which discouraged them to opt Community Medicine for specialization.

The overall perception of all the participants towards the speciality of Community Medicine and its Specialists is compiled in Table 5.

Table 4: Reasons for not intending to opt Post graduation in Community Medicine reported by the PG aspirants (*n*=76).

Reasons	Number*	Percentage
Interested in another branch.	50	65.8
Lots of travel and field work.	23	30.3
Absence of practical sessions at health centres	21	27.6
Stigma of non-clinical subject	19	25.0
Too much maths/calculations	17	22.4
Not that exciting, no patient interaction, no treatment of patients.	13	17.1
Posting in rural/remote areas	11	14.8
Less job opportunity	11	14.8
Because it is so broad and diverse field.	9	11.8
Less Pay scale	6	7.9
Don't find interesting	5	6.6

* Not mutually exclusive

Majority of the participants agreed to the positive aspects of community medicine. Majority (83.0%) of them agreed that the information and knowledge they gathered in Community Medicine to date will certainly help them in their future medical practice whereas only half (53.9%) of the participants agreed that they have received adequate knowledge and training about the speciality during their undergraduate time. An overwhelmingly majority (91.1%) agreed that a physician can't effectively control most infectious diseases without adequate knowledge of epidemiology whereas 87.4% of the participants also agreed that the speciality offers adequate scholarly and research opportunities. Around 67% agreed that the perception of public has become more positive towards the speciality after COVID-19 pandemic AND more than half (61.3% agreed) thought that COVID-19 pandemic would affect the choice of speciality among the PG aspirants.

DISCUSSION

Community Medicine is recognised as a speciality branch of medical sciences and is defined as "the science and art of promoting health, preventing diseases and prolonging life by range of interventions (promotive, preventive, curative, rehabilitative and palliative) in close partnership or association with health care delivery system and with active community participation and inter-sectoral coordination."6 History of Community Medicine as a separate medical subject in India is not very old. Health Survey and Development Committee (Bhore) Report recommended a two-month compulsory training in preventive and social medicine for the graduating doctors.7 At the beginning of the twentieth century, there were few effective medical treatment for diseases, but improved public health standards such as hygiene and sanitation resulted in reduced mortality and increased longevity. In principle, Community medicine combine primary, secondary, and tertiary prevention, curative care, and health promotion and tailor this mixture to the individual, family, and/or community needs. Public health specialists accept the responsibility for the whole community or geographic area's healthcare needs. Good practice requires adjusting clinical protocols to local epidemiology because human resources, medical technology, or pharmaceuticals may not be available equally everywhere; and because disease frequency may vary significantly from one place to other and therefore also the predictive value of signs, symptoms and test results may vary.

Questions	Responses		
	Agree N (%)	Neutral N (%)	Disagree N (%)
I am aware of the job activities of a Community Medicine specialist.	331 (81.5)	69 (17.0)	6 (1.5%)
It is very difficult to understand the concept of community medicine	94 (23.2)	141 (34.7)	171 (42.1)
I received adequate knowledge and training about Community Medicine during my undergraduate time.	219 (53.9)	94 (23.2)	93 (22.9)
I was sufficiently exposed to Community Medicine in medical college to consider it as a career choice.	169 (41.6)	132 (32.5)	105 (25.9)
The information and knowledge I have gained to date in Community Medicine will certainly help me in my future medical practice.	337 (83.0)	57 (14)	12 (3)
A physician can't effectively control most infectious disease without adequate knowledge of Epidemiology.	370 (91.1)	27 (6.7)	9 (2.2)
Community Medicine offers adequate scholarly and research opportunities.	355 (87.4)	39 (9.6)	12 (3)
Community Medicine offers the opportunity to utilize newer technologies, Artificial Intelligence and Machine Learning.	258 (63.5)	127 (31.3)	21 (5.2)
Public Health Specialists have good work life balance.	288(70.9)	94(23.2)	24(5.9)
Community Medicine has enough opportunities for direct public contact compared to other specialty.	315 (77.6)	72 (17.7)	19 (4.7)
Information on social media about Community Medicine now a days is encouraging.	156 (38.4)	145 (35.7)	105 (25.9)
Community Medicine offers the flexibility to work part-time.	228 (56.2)	139 (34.2)	39 (9.6)
Community Medicine residents have high job satisfaction.	114 (28.1)	187 (46.1)	105 (25.9)
The time and workload demand of a Community Medicine residency are reasonable.	280 (69.0)	114 (28.1)	12 (3.0)
COVID-19 pandemic will affect the choice of specialty among PG aspirants.	249 (61.3)	100 (24.6)	57 (14.0)
Perception of public has become more positive towards specialty of community medicine after COVID-19 pandemic.	271 (66.7)	81 (20)	54 (13.3)
Community medicine experts are not getting due rights and responsibility to solve public health problems.	280 (69.0)	81 (20.0)	45 (11.1)

Peaceful working hours and Work life balance were among the most favoured attributes of the speciality of Community Medicine mentioned by the PG aspirants (44.7%) in our study which is in line with the findings by Al Ansari SS et al.8 from Saudi Arabia where they also mentioned that the speciality has a "controllable lifestyle" characterized by personal time free of practice for leisure, for family, and vocational pursuits, and control of total weekly hours spent on professional responsibilities. In a study done by Saleh AM, 33.3% of study subjects identified research as a positive aspect of community medicine speciality.9 Our study also showed that 21% of the PG aspirants reported research activities as a positive attribute of the speciality. Hren et al.,¹⁰ in their study also reported positive attitude towards science and scientific research in medicine among undergraduates. In our study 22.4% participants disliked community medicine stating too much maths/calculations related to biostatistics. Similarly, it was previously reported also that biostatistics being one of the subjects in the medical curriculum that was potentially disliked by the majority of medical students, most likely because it encompasses mathematics and calculation.¹¹ Only 7.9% of the interns/non-PG junior residents in our study were interested to opt post-graduation in community medicine which was similar to the findings by Maiti et al.12 where only 7% of the medical students showed willing to opt community medicine for specialization. In another study conducted in Bangladesh among undergraduate medical students, only 3% showed willingness to opt preventive and social medicine for their future specialization.¹³ A study conducted by Ahmed et al.¹⁴ concluded that personal interest was among the most important factor responsible for career choice by medical students. In our study, we also found that majority (65.8%) of the PG aspirants were not interested to opt community medicine because they were interested in another branch. Sixty nine percent of our participants agreed that community medicine experts are not getting the due rights and responsibilities to solve public health problems. Similar issue was also highlighted by Shewade *et al.*¹⁵

Challenges and Lacunae of Community Medicine

As a matter of fact, the speciality has lost its originality. Community medicine specialists are currently working only as a teachers and trainers of undergraduate students and interns. They neglected doing their original community-oriented works. By practicing community medicine, and not just teaching, more problems will be identified and ideas would be generated to find a solution. Government authorities also give less importance to the discipline of community medicine. To be honest, most of the policy making and public health work today are being done by people not from community medicine fraternity. The historic and systematic neglect of public health as a discipline and the non-involvement of public health experts in policy making and strategy formulation have costed the nation enormously which was also reflected during the current COVID-19 pandemic. Policy decisions are generally taken by health secretaries of Indian Administrative Service (IAS) cadre and health ministers. They are advised by Director General Health Services and nodal officers of respective programs of district/ state who are usually from non-public health background.15 World Health Organization in SEARO meeting, 2005 has highlighted that "medical graduates who enter the specialty of public health face major handicaps compared with those selecting other specialties.⁵ Public health is generally regarded as a dropout specialty in the Southeast Asia region. There are inadequately trained professionals in this discipline who like to do nothing to elevate the status of the speciality which is radically different from the situation in most of the developed countries.¹⁶

Scope of Community medicine

Public health leaders are crucial to achieve the goal of universal health coverage in any setting.6 They define the priorities and make plans to achieve the best possible health for an individual and the community as a whole. Public health leaders communicate their vision of what is achievable and devise strategies for realizing the vision. A community medicine doctor touches countless souls at a time. For some public health doctors, it happens through their community centric clinics, for others it's through policy reforms, for others it's through research, for some others it's through training and for many others it's through academia. The day every Indian and every global citizen of the world will have access to affordable and quality healthcare at their door-step is the day when public health specialists can afford to claim their victory. With a greater emphasis on research as a critical competency for evidencebased medicine practice, it may not be an overstatement to say that in the coming days, a Community Medicine specialist would be an integral part of the clinical decision-making teams. In its scope, Community medicine is a very vast subject and every medical student must understand its basic concepts and principles in order to become a competent doctor who can meet the expectations of patients, community and the country.

Majority of postgraduates in Community Medicine work in association with medical colleges, but there are several other potential areas that one can consider to work:

- WHO, UNICEF, CARE and other similar international agencies.
- State government as an Epidemiologist under various national health programs
- Run clinic/Nursing home
- Pharmaceutical companies as a Clinical trials consultant or Epidemiologist
- Opening an NGO and collaborating various health programs.
- Hold an administrative post in big Hospitals

CONCLUSION

Majority of the Medical professionals have positive perceptions towards the speciality of Community Medicine and its specialists. The speciality of Community medicine is supposed to have good work life balance in practice as reported by majority of the participants. Medical graduates interested in research work are attracted to opt Community Medicine as their postgraduate speciality. The current pandemic may have been an important determinant of changing perception towards the speciality in the medical fraternity.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

ABBREVIATIONS

COVID-19: Corona virus disease-19; **CARE:** Cooperative for Assistance and Relief Everywhere; **NGO:** Non-Governmental Organization; **SEARO:** South-East Asia Regional office; **WHO:** World Health Organization; **UNICEF:** United Nations Children's Fund.

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