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Effective Public Health Workforce: Public Health Education for Undergraduate Medical Students.

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ABSTRACT

The best way to strengthen public health infrastructure and services is through strengthening public health workforce. In order to generate skilled public health workforce, it is extremely important to strengthen the public health education architecture in the country. The contention of the report was to mainstream the art and science of public health in medical education. The public health education system was expected to groom the basic principles of public health in the ethos of medical students.

Keywords: public health education, public health workforce, medical education

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INTRODUCTION

Public health workforce could be defined as a workforce comprising people who have higher qualifications in public health and who occupy positions exclusively or substantially focused on population health [1]. Public health education for long has been expected to find solutions for multitude of public health problems through building the capacity of public health workforce [2]. The focus on public health education came into consideration as early as the formation of the Bhore Committee, in the 1940s. The report of the Health Survey and Development Committee chaired by Sir Joseph Bhore emphasized upon the inadequate teaching of preventive medicine and public health in the medical student's undergraduate training, thereby highlighting the need and importance of public health education [3]. This was deemed necessary for creating social physicians.

The Government of India recognizes 'Health for All' as a national goal and expects medical training to produce competent "Physicians of First Contact" towards meeting this goal. However, the medical education and health care in India are facing serious challenges in content and competencies. The burden of diseases in India is still large. Access to basic medical services and quality health care are generally attributed to inadequate infrastructure and lack of resources.

Today, India has the highest number of medical colleges in the world. This unprecedented growth has occurred in the past two decades in response to increasing health needs of the country. The most significant challenge for regulatory bodies like the Medical Council of India has been to balance the need for more medical colleges with the maintenance and improvement of quality standards. The globalization of education and health care and India's potential as a destination of choice for quality education and health care has brought the issue into sharper focus. The total duration of undergraduate MBBS course is 5 ½ years which includes 1 year of compulsory rotatory residential internship with 3 months of community medicine posting.

But the medical colleges in India have often been dubbed as "ivory towers isolated from the health service systems, training students for ill-defined academic standards and dimly perceived requirements of the twenty first century, largely forgetting or even ignoring the pressing health needs of today's and tomorrow's society [4].

Background

In response to WHO's definition of Health and the Health for All Goal, the way medical education views health has been changed. The individual is a part of a complex human eco-system with several layers of organization ranging from the molecular to the cultural. Behaviours are key factors to health and disease and the family and the community is seen as "the patient". The emphasis is more on people and how to prevent disease and promote health as well as the health care system. The doctor remained the central health care provider.

Medical students were privileged, trained in high technology biomedicine and aspired to work in urban settings, amongst middle class patients. The medical educational programme was proposed to be based on two fundamental principles: community-oriented and student-centred. The directions for orientation and reorientation included: medical education system as well as the health system as a part of social development; coordination with the health care system; a balance between the technological and humanistic approach; a more holistic approach; a balance between hospital-based tertiary and community-based care; learner-oriented methods and a problem-oriented and experiential approach [5].

According to the Medical Council of India 2012 guidelines, Community Medicine teaching should incorporate certain competencies and integration as part of the curriculum [4].

Competencies: The undergraduate must demonstrate:

- Understanding of the concept of health and disease.
- Understanding of demography, population dynamics and disease burden in the national and global context.
- Comprehension of principles of health economics and hospital management.

Situation Analysis on Teaching of Public Health in UG Medical Colleges

A review of the current situation of teaching of public health in undergraduate medical education is essential. Prior to reviewing the teaching of public health in the whole medical curriculum, WHO/SEARO organized an Expert Group Meeting in August 2009 in New Delhi to review only the Preventive and Social Medicine (PSM), Community Medicine (CM) or Community Health (CH) curriculum at the undergraduate level [6].

It was found that the PSM/CM/CH Department is mainly responsible for the PSM/CM/CH curriculum. The curriculum/course is periodically reviewed when the whole medical curriculum is reviewed. Each medical school designs its own PSM/CM/CH curriculum. There is no national standard for the PSM/CM/CH curriculum. The PSM/CM/CH curriculum is mostly theory-based where teaching/ learning has no or limited linkage with other clinical courses. The curriculum content in some schools is not up date. Integrated and problem-based curriculum is practiced in some colleges. It is also found that, faculties in some institutions are not able to make their teaching/ learning sessions stimulating for the students. Pedagogical skills of teachers are also lacking. A faculty development plan, continuing medical education or continuing professional development programmes for faculty in PSM/CM/CH departments are generally not available as compared with faculty in clinical areas. The institutional quality assurance mechanism is also not available.

In most colleges, field visits or community placement for acquiring real life experiences are not organized effectively due to the lack of interest of organizers or paucity of funds. In examinations also these areas are not assessed separately and due weightage is not given. In many cases, a structured and skill oriented internship programme in PSM/CM/CH is not available.

Teaching of public health in undergraduate medical schools is broader than teaching of PSM/CM/CH curriculum. It covers teaching of public health in the whole medical curriculum and is sometimes beyond the responsibility of PSM/CM/CH [7].

Problem Statement

- Medical graduates are not interested to build a career in public health because of a lack of understanding regarding the scope and value of public health. They feel that working in public health seems less prestigious and has low incentives compared to working in other clinical specialties or in the private sector.
- The undergraduate medical curriculum in most countries is competency-based. A community-oriented curriculum, problem solving and integrated approach is also observed in some medical schools.
- The public health curriculum or contents taught in undergraduate medical schools vary from country to country and from one school to another within the same country. Generally the topics covered are similar with a slight variation. The duration of courses is also varied. However, the total number of hours of public health courses are small compared to courses in medicine or surgery.
- In some colleges, students are introduced to public health in their first year and public health has been integrated throughout the curriculum. In some traditional programmes, public health is taught in the third or fourth year of the curriculum.
- Most of the public health contents are taken care of by the Department of PSM/CM/CH. Some of the topics include, for example, national health policy and system, concepts of health and disease, demography or population study, preventive and social medicine/community medicine, primary health care, epidemiology, biostatistics, immunization, food and nutrition, health education, health promotion, family health/medicine, school health, environment health, and occupational health. There is a trend to integrate public health concepts in clinical courses as well.

Strategies for Strengthening Public Health Teaching In Medical Colleges

Course / curriculum / contents

The medical curriculum can be competency-based or problem based. A horizontal or vertical integration can be seen for the whole curriculum or a part of the curriculum depending on the objective and

decision of the medical school. The department of PSM/CM/CH plays a key role in teaching public health to undergraduates. However, the courses or contents of public health should also be taught by other clinical departments or preclinical departments as well as departments or schools/institutes outside of medical schools such as schools of public health, schools of social science or research institutes.

Common courses in public health in the undergraduate medical curriculum include epidemiology, biostatistics, health promotion, health policy and systems, preventive and social medicine, among others. These courses are usually taught by the PSM/CM/CH department. However, preclinical courses such as sociology/ anthropology or social sciences, population study, behavioural modification or communication also provide a good foundation for public health.

The medical curriculum needs to give more attention to the health problems that are “under the surface of the water” as well as taking into consideration the influence of socio-cultural factors surrounding health.

Teachers / facilitators

Students always look up to teachers as models. A number of students pursue careers followed by teachers they respect. Medical schools should have staff development and learning plans or continuing professional development plans. This could be in various forms from attending related meetings, conferences or workshops at the national, regional and international levels; formal study for a certificate or degree; participating in research or public health activities with partners, or even placement in a health-care facility to carry out public health interventions. Sufficient funds need to be allocated or mobilized to ensure that the approved plan can be implemented.

Teaching–learning methods / teaching aids

Public health courses are provided in both theory and practical classes. Theory classes are mainly delivered in the classroom. A variety of methods could be implemented to enhance students’ critical thinking and problem-solving skills. Students may practice what they learn in the classroom on public health in health-care facilities, in the field or in the community. This is an important experience that needs to be arranged, with adequate hours, to enable students to apply what they learn in the classroom to real-life situations. Students should practice under the supervision of teachers. Staff in the field including members of the community with whom students have to work with could serve as good resource persons or teachers.

Enabling environment / classroom / community

An enabling or supportive environment that promotes teachers’ teaching and students’ learning is very important in enhancing the teaching-learning process. In the classroom, there should be adequate space appropriate for the number of students, comfortable tables and chairs, functioning audio-visual aids, good light and ventilation. Textbooks and journals as well as adequate number of computers should be available and connected to the internet which should be accessible. There should be adequate space for teachers’ offices, a lounge and restrooms.

Local government, community leaders and community members should recognize the presence of students in the community and comply with students’ requests. It is important to place students in a community hospital for a certain period of time to gain necessary clinical and management skills. Placement of students in the family will provide useful experience.

The college administration should have a positive attitude toward public health, a good understanding of the medical curriculum and management skills. It is important for the medical school to have a quality assurance system in place to ensure that the course contents, teachers, teaching–learning methods, students’ assessment and evaluation, an enabling environment and educational programme management meet the standards of quality. A school committee may be formed to regularly audit and assess whether all these concerns are being addressed effectively. The results of the evaluation should be reviewed to improve performance. Continuing quality improvement is essential to ensure quality medical graduates for health care who meet the benchmark.

Assessment and evaluation of students

Assessment and evaluation is important to measure students' learning against set criteria. Both quantitative and qualitative assessments may be required for proper evaluation and the students should be duly informed at the beginning of the course [8]. Validity and reliability tools should be examined. The criteria for evaluation should be clear and chances of any bias should be minimized.

CONCLUSION

- In the light of the changing paradigm of public health and revitalization of primary health care, public health in medical education needs to have a renewed focus.
- Medical doctors are leaders of the public health team and need to be trained to have adequate proficiency to meet the demands of health care systems and the health needs of the people.
- Medical schools have the responsibility to produce medical graduates who are proficient to deliver preventive, promotive, curative and rehabilitative care. It is especially important that medical graduates be trained to address the social determinants of health and manage the current and emerging health challenges.
- The curriculum, teachers, teaching-learning methods, assessment and evaluation methods need strengthening.
- The responsibility of teaching public health in medical schools is beyond the department of preventive and social medicine. Other disciplines should also play an active role in teaching public health.
- Stakeholders such as the government, medical councils, medical associations (IMA, MCI), NGOs and INGOs (International NGOs), national and regional networks can play a critical role in improving teaching of public health in undergraduate medical schools.
- The Guidelines for Social and Preventive Medicine/Community Medicine/ Community Health curriculum in undergraduate medical education produced by WHO-SEARO should be adapted and used according to country-specific needs.

Recommendations for Medical Institutions

- To organize national meetings/workshops/consultations to explore avenues to further orient and strengthen teaching of public health in medical schools in alignment with current and emerging public health needs with a time-bound action plan.
- To strengthen teaching of public health in undergraduate medical schools, the institutions should:
 - Review the curriculum for public health teaching.
 - Explore and include innovative teaching methods (including student assessment).
 - Continuing professional development system for public health teachers.
 - Create an enabling environment to ensure harmony between national health needs, health programmes & public health teaching in medical schools.
 - Establish a mechanism for continuous quality improvement of public health teaching and establish/strengthen accreditation system for medical schools. Involve teachers from related disciplines, stakeholders and other sectors in teaching of public health in undergraduate medical institutions.

Recommendations for Medical Associations in the Country

- To keep in place a strategic framework for strengthening teaching of public health in undergraduate medical institutions to adopt/adapt and utilize it.
- To continue advocating to the Government and other stakeholders the importance of teaching of public health in medical schools in view of the global health scenario, climate change and economic downturn.
- To support medical institutions in adaptation/application of guidelines for social and preventive medicine/community medicine/community health curriculum in undergraduate medical education and disseminate to medical schools.
- To establish an expert group in public health and medical education to improve teaching of public health in undergraduate medical schools.



- To support medical institutions to establish/strengthen accreditation system for assessment of public health teaching.
- To identify and establish zonal Centres of Excellence to support other medical institutions on Public Health Teaching.

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