

'Bridging Gap Analysis: Community Medicine and Public Health System of Bangladesh'

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Abstract

Background: Community medicine and public health are crucial for improving the health and well-being of the diverse society. In Bangladesh, these fields have evolved to address the country's unique challenges, such as high population density, communicable diseases, and the increasing prevalence of non-communicable diseases (NCDs).

Aim: This review aims to inspire hope and optimism in the future public health practitioners.

Methods: Multiple databases were investigated to find pertinent literature, such as PubMed NCBI literature sources, Wiley Online Library, BioMed Central, the BMJ journal website, the World Health Organization website, government website.

Results: The healthcare system in Bangladesh is fragmented and lacks proper regulation, which creates significant disparities. This affects access to quality education and training in community medicine fields.

Conclusion: Community Medicine can significantly contribute to the health and development of the country. Strengthening academic pathways and the public health system will be key to realizing this potential.

Keywords: Community Medicine, Public Health, Health Care System

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Introduction:

The healthcare sector has played a vital role in Bangladesh's economic and social development. Life expectancy has gone up from 52 years in the 1970s to 72 years today. Maternal mortality has decreased by 67 percent since 1990, and the infant mortality rate dropped to 1.9 percent in 2019 from 9.4 percent in 1981. The demand for healthcare services in Bangladesh is on the rise, especially after the COVID-19 pandemic, and is now valued at USD 6.6

billion. As the pressure on the healthcare sector increases, it's important to rethink how the industry's future growth will be financed. While contribution of public health sector had been crucial in transforming the healthcare sector in the past, there are still significant gaps in the acknowledgedness of this sector.¹

In South-East Asia, the main concerns for public health are infectious and communicable diseases. Over the last thirty years, public health in Bangladesh has improved significantly.² However, the country still faces major health challenges. A study was done using the York methodology to find the most important public health issues and obstacles in Bangladesh. Childhood malnutrition rates in Bangladesh are very high globally. Communicable diseases are still a leading cause of death and disability in the country. Every year, people get sick from consuming contaminated food with microbes, chemicals, and toxins. Bangladesh is still one of the top ten countries in the world with the most cases of tuberculosis. Pneumonia and other infections cause many deaths among young children. While only 1% of the population in Bangladesh has HIV, rates are much higher among high-risk groups like drug users, sex workers, and men who have sex with men.²

Bangladesh has a very high population density. About 21.8% of its people live in poverty and have unreliable access to healthcare. It faces many health problems that require strong public health efforts. Community medicine connects clinical practices with public health and is important for tackling these issues.^{3,4}

This review will discuss the current scenerio, challenges and oppurtunities in community medicine and its role in public health in Bangladesh. It will also reveal the importance of career preferences over time among medical students in Bangladesh. Research related to community medicine is limited in our country. One trend that stands out is the increasing interest in pursuing a career in medicine over time. This trend has also been observed in other studies, which suggests that medical students are becoming more attracted to the field of medicine. But Community medicine focuses on improving public health by using different health strategies, like prevention and rehabilitation methods.⁵ It encourages collaboration between healthcare professionals and local communities to ensure that health programs fit the culture and are carried out effectively.

Methods:

Method of Searching Literature Reviews

Multiple databases were investigated to find pertinent literature, such as PubMed NCBI literature sources, Wiley Online Library, BioMed Central, the BMJ journal website, the World Health Organization website, government websites in relevant fields, and Google Scholar. This diverse selection of sources was beneficial in offering a variety of valuable literature. These resources included a mix of books, journals, and up-to-date statistics on the topic. Some of these were accessible at no charge, while others required access through academic institutions.

Screening for Inclusion

Establishing clear inclusion and exclusion criteria is essential for identifying relevant literature, ensuring the quality of the literature review. These criteria should align with the research question, helping to narrow the search and enabling other researchers to replicate the parameters for transparency. The review focused on English academic sources from the last ten years, excluding newspapers

and theses due to the rapid evolution in statistics. Boolean searching techniques using "AND," "NOT," and "OR" were employed to filter out irrelevant results, while ensuring valuable literature wasn't overlooked.

Extracting Data

The author reviewed the selected literature multiple times to understand it fully. She then created color-coded notes on each work to highlight intriguing data, facts, observations, and recommendations.

Analysing Data

Examining the data involves identifying themes from notes on the Study Title, Authors, Aim, Findings, Gap, and Conclusion, which were then organized in a spider diagram. This visual structure aids in comparing and connecting the literature, helping to determine an effective organization.

Reviews:

Current scenerio of Public Health System

More people in Bangladesh are getting non-communicable diseases like chronic diseases, cancer, diabetes, heart diseases, and chronic respiratory diseases as the population moves to cities. The combined effects of global climate change and urbanization hurt the most vulnerable people in Bangladesh. Dirty living conditions make the disease burden worse in Bangladesh, especially for poor people in cities and the countryside. Problems with governance, access, and cost are stopping the solutions to public health problems from happening in Bangladesh.²

Bangladesh's healthcare system is decentralized and lacks proper regulation, leading to unequal access and different levels of care quality. The COVID-19 pandemic highlighted serious problems in the system, particularly in testing and treatment access, showing that reforms are urgently needed.⁶ Despite these challenges, Bangladesh has improved in health measures like life expectancy and disease death rates, mainly due to community health programs.⁷ Conversely, while community medicine presents a promising avenue for improving public health, the persistent issues of inadequate funding and a shortage of trained professionals may hinder progress. Addressing these systemic barriers is essential for realizing the full potential of community medicine in Bangladesh. Future

efforts should focus on better healthcare funding, training skilled professionals, and encouraging partnerships between public and private sectors to achieve universal health coverage.⁶

Technologies become more embedded within healthcare delivery systems, they not only facilitate timely interventions but also foster a culture of accountability among health workers and patients alike.⁸ This evolution emphasizes the importance of adapting educational frameworks in community medicine to include training on digital health solutions, thereby preparing future practitioners to leverage such advancements effectively in their practice. By embracing these technological innovations alongside traditional methods, the potential for significant improvements in health literacy and disease management becomes increasingly attainable, ultimately contributing to a more resilient public health system.

Scarcity of Skilled Healthcare Professionals

There is a significant shortage of trained healthcare professionals, which hampers the delivery of essential public health functions and limits mentorship opportunities for aspiring community medicine practitioners.⁹ Leadership positions within the realm of public health frequently combine clinical and administrative responsibilities, resulting in a diversion from the core focus and training in public health.¹⁰

Healthcare Inequity

The healthcare system in Bangladesh is fragmented and lacks proper regulation, which creates significant disparities. This affects access to quality education and training in community medicine fields.^{6,11} To improve public health education and practice in Bangladesh, it is important to address these inequities. However, some argue that despite these challenges, Bangladesh's healthcare system has shown resilience and flexibility, leading to improvements in public health outcomes. This suggests that careers in community medicine could grow if the underlying issues are resolved.¹¹

In a study of Japan, gender choices differed to select future academic professionally. Among women, "technical & research specialty" was negatively associated with a

preference for general medicine/family medicine and obstetrics & gynecology, while "job security" was positively associated with general medicine/family medicine and negatively associated with psychology. Among men, "educational experience" and "personal reasons" were positively associated with a preference for pediatrics, while "job security" was negatively associated with it. It's clear that Japanese medical students' specialty preferences are influenced by various factors, and there are gender differences in these preferences. Addressing these issues will require improvements in the working environment.¹²

Community Medicine Academic Career in Bangladesh

The academic career in community medicine in Bangladesh is intricately linked to the country's public health system, which faces numerous challenges yet shows significant potential for growth. Community medicine emphasizes health promotion and disease prevention through community engagement and intersectoral collaboration. This approach is very much important in addressing the healthcare inequities prevalent in Bangladesh, particularly in rural areas. The following sections outline key aspects of this relationship.

Community medicine is a key discipline in medical colleges in Bangladesh, forming part of the MBBS curriculum with a focus on preventive and social medicine. Postgraduate options include Master of Public Health (MPH), M.Phil, and FCPS in Community Medicine, emphasizing epidemiology, biostatistics, and health policy, preparing graduates to tackle public health challenges.

The Japanese healthcare system is facing a challenge due to a shortage of doctors and unequal distribution of doctors across specialties. A study aimed to understand what influences Japanese medical students' choice of specialty. The study surveyed 368 medical students, with an 88.2% response rate. 141 women (average age 21) and 227 men (average age 22) participated. The study used binary logistic regression analysis to explore six motivational factors influencing specialty preferences. It found that women tended to prefer pediatrics, obstetrics & gynecology, and psychology, while men showed a

preference for surgery and orthopedics. For both genders, a strong interest in "technical & research specialty" was connected to a preference for surgery. "Technical & research specialty" also had a positive association with certain internal medicine specialties and a negative association with pediatrics. "Work-life balance" was linked to a preference for psychology and negatively associated with emergency medicine.¹²

Another survey was carried out at Christian Medical College, Vellore, India with the participation of 368 out of 460 medical students and interns enrolled between October 2015 and August 2016. The questionnaire aimed to collect demographic information, the career specialty preferences of students, and the motivational factors influencing these preferences. Subsequently, regression analysis was used to assess how these factors and demographic variables impact career preferences. Out of the 368 respondents, 356 (96.7%) stated their intention to pursue a residency program after completing the MBBS program, with around two-thirds preferring to do so in India. The most favored specialties among students were general surgery, general medicine (internal medicine), and pediatrics, while the least favored were anatomy, obstetrics and gynecology, and community medicine. Factor analysis revealed three motivational factors: 'personal growth,' 'professional growth,' and 'personal satisfaction,' which were determined by demographic variables such as gender, geographical background, MBBS program stage, and the presence of relatives in the health professions. The study demonstrated that demographic variables and motivational factors significantly influence career preferences, providing insights into the factors that impact the career choices of Indian medical students and interns. It also suggested that a comprehensive longitudinal study is necessary to explore individual variations in preferences and the longevity of career decisions.¹³

A study was conducted in Bangladesh to understand the career preferences of medical students. A total of 801 medical students from eight divisions took part in the study. Majority of the participants were below 23 years of age (58.8%) and female (64.42%). Most students (65%) preferred a career in medicine, with surgery being the top choice (30.21%). Female students showed a significantly

higher preference for gynecology & obstetrics, while male students preferred general practice. Gender differences were observed in factors influencing career preferences, including professional prestige, influence of role models, financial considerations, family time, promotion prospects, income for lifestyle, and research opportunities. Differences based on academic year were also noted.¹⁴

Public Health System in Bangladesh

The health care system in Bangladesh has different levels: national, regional, and local. It includes both public and private providers. A key part of this system is Primary Health Care (PHC). Community clinics provide important services like vaccinations, care for pregnant women, and treatment for common health problems.^{15,16}

The system focuses on both infectious diseases, like tuberculosis, dengue, and diarrhea, and non-communicable diseases, such as diabetes and heart conditions. There is an urgent need for skilled public health workers, including experts in community medicine, to meet the growing demand for healthcare services in Bangladesh.¹⁷

Policy Frameworks Initiatives like the Health, Population, and Nutrition Sector Program (HPNSP) guide public health strategies, with an emphasis on universal health coverage (UHC).

Challenges in Community Medicine and Public Health

Limited funding and inadequate infrastructure are impeding the effective delivery of community health services. The rapid urbanization phenomenon has precipitated a sharp increase in Non-Communicable Diseases (NCDs), placing significant strain on the public health system. Bangladesh faces profound susceptibility to the impacts of climate change, heightening health vulnerabilities such as vector-borne diseases and malnutrition.

Opportunities and Recommendations

To improve community medicine and public health in Bangladesh, we should consider these strategies:

1. Change educational programs to cover current topics.
2. Focus on training and keeping public health workers.
3. Encourage public and private sectors to work together

for better healthcare.

4. Extensive research on health systems.

Conclusion:

Community medicine and public health are pivotal to achieving sustainable health outcomes in Bangladesh. By addressing current challenges and leveraging opportunities, these fields can significantly contribute to the health and development of the country. Strengthening academic pathways and the public health system will be key to realizing this potential.

Declaration:

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Not applicable.

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Author's contribution:

All authors contributed to the review on developing the concept and research design.

- Methods, literature review, material preparation were performed by Farzana Nusrat, and Mst. Rukshana Pervin.
- Key Supervision and background were performed by Khandaker All- Mamun and Mohammad Abu Sayeed Talukder.
- Literature of the study, methodology, and manuscript writing have done by Farzana Nusrat, and Khandaker All- Mamun,

All authors contributed on the final versions of the manuscript. All authors read and approved the final manuscript.

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