Editorial

Present and future of medical research in Bangladesh

Introduction:

Over the past two decades, the landscape of health-related research has evolved significantly, with various study designs contributing differently to the body of scientific literature.[1] An analysis of clinical research publications indexed in PubMed from 1991 to 2020 provides insight into the distribution of these study designs.[2] Out of 1,078,404 primary research articles analyzed, the distribution was as follows:

Case Reports/Series: 27.54%
Randomized Clinical Trials (RCTs): 23.62%
Cohort Studies: 21.05%
Cross-Sectional Studies: 17.49%
Case-Control Studies: 9.15%
Non-Randomized Clinical Trials (Non-RCTs): 1.01%
Pragmatic Clinical Trials (PCTs): 0.15%

Medical research in Bangladesh:

The Bangladesh Medical Research Council (BMRC), established in 1972, serves as the focal point for health research in the country. Between 2009 and 2024, BMRC funded a total of 1,251 research projects, averaging 83 projects annually, with a cumulative allocation of approximately Taka 402 million, equating to an average of Taka 321,461 per project. Notably, 442 of these grants were awarded to student researchers.

In terms of research publication, BMRC has made significant strides, with 84% of its 291 publications between 2002 and 2023 being open access, facilitating broader accessibility to research findings.

However, challenges persist in the medical research landscape of Bangladesh. A study conducted in July 2023 by the Department of Public Health and Informatics at Bangabandhu Sheikh Mujib Medical University (BSMMU) revealed that while approximately 47% of doctors expressed a desire to engage in research, a significant number lacked the necessary skills to do so.[3] The study highlighted barriers such as professional pressure, insufficient research-related knowledge, and a lack of institutional support.

Barriers of medical researchers of Bangladesh:

- Political favoritism
- Misallocation of funds
- Professional pressure
- Insufficient research-related knowledge
- Lack of institutional support.

Proposed roadmap of increasing medical research in Bangladesh:

Increasing medical research in Bangladesh requires a comprehensive strategy involving policy reforms, funding, capacity building, and collaboration. Here's a roadmap to enhance medical research in the country:[4-7]

1. Strengthening Research Infrastructure

- Establish well-equipped research institutes and laboratories in collaboration with universities and hospitals.
- Develop a National Medical Research Institute to centralize efforts and coordinate projects.
- Improve access to essential technology like genomic sequencing, AI-driven analytics, and clinical trial facilities.

2. Increasing Funding & Investment

- Allocate a larger share of GDP to medical research through the national budget.
- Encourage private sector investment and public-private partnerships (PPPs) for research funding.
- Establish grants and fellowships for researchers, funded by both government and international organizations (WHO, Gates Foundation, etc.).

3. Enhancing Human Resources & Capacity Building

- Introduce medical research training in MBBS and postgraduate curriculums.
- Offer scholarships and research grants for PhD and postdoctoral studies.
- Attract Bangladeshi researchers abroad with incentives to return and contribute to local research.
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4. Encouraging Clinical & Public Health Research

- Develop a national clinical trial registry to support drug development and innovation.
- Promote research in infectious diseases, maternal health, NCDs (diabetes, cardiovascular diseases, cancer), and traditional medicine.
- Strengthen hospital-based research centers to conduct evidence-based studies.

5. Strengthening Ethical & Regulatory Frameworks

- Establish a National Ethical Review Board to ensure research integrity.
- Simplify clinical trial approval processes while maintaining global ethical standards.
- Encourage the adoption of open-access policies to improve knowledge sharing.

6. Promoting International Collaboration

- Partner with global institutions like Harvard, Oxford, Johns Hopkins, and WHO.
- Join international research networks like NIH, European Research Council, and Asian Medical Research Consortium.
- Facilitate exchange programs for medical students and researchers.

7. Leveraging Technology & Digital Health

- Invest in AI-driven diagnostics, telemedicine, and big data analytics for public health research.
- Use biobanks and genomic databases for precision medicine research.
- Develop health information systems for real-time data collection and analysis.

8. Engaging the Private Sector & Startups

- Support biotech and pharma startups through tax incentives and research grants.
- Encourage pharmaceutical companies to invest in drug discovery and vaccine development.
- Create innovation hubs for health-tech entrepreneurship.

9. Community-Based Research & Awareness

- Promote participatory research in rural and urban communities.
- Encourage public engagement through science communication programs.
- Integrate traditional medicine into modern research frameworks.

10. Monitoring & Evaluation

- Set up a National Medical Research Dashboard to track progress and impact.
- Conduct periodic impact assessments of research policies and funding effectiveness.
- Encourage research publications in high-impact journals and patent filings.

By following this roadmap, Bangladesh can significantly improve its medical research ecosystem, leading to better healthcare, innovation, and global recognition in medical science.

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