

Positioning Libraries in Meeting Public Health Challenges in India: Key Strategies

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ABSTRACT

Worldwide there has been tremendous development in the field of public health. That includes dissemination of relevant information to the public at large, by different means. In developed countries, the governments have been proactive in health care provisions and health care services delivery to its people. Librarians' roles and responsibilities are also embedded in such a system. Consequently, library professionals are actively engaged in providing information resources to the community they serve. But in the developing countries, such initiative to meet health care demands of large populations is often less responsive and resources successfully reaching the communities is uneven. Librarians occupy a relatively small space in health care delivery systems, especially in providing health information to diverse communities. In India too, the picture is grim as far as librarians' involvement as facilitator of health information to communities is concerned. In this context, considering counties demography and socio-economic status, relevant literature on role of libraries in provision of consumer health information was reviewed. Based on published research, this paper articulates key strategies that will assist librarians in providing health information services to various communities in India. Given the prevailing Covid-19 health crisis, this paper also identifies major challenges and possible solutions for strengthening libraries, that would help in mitigating public health challenges in India.

Keywords: Consumer health information, Health literacy, Information dissemination, Information services, Libraries, Medical libraries.

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INTRODUCTION

The World Health Organization has defined health as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.^[1] There is a considerable burden of diseases in India arising from poverty, illiteracy, superstition about health conditions and also gender, income, age and class discriminatory behaviour.^[2] A report on drinking water, sanitation, hygiene and housing conditions in India^[3] (2018) published by Ministry of Statistics and Programme implementation shows that in many communities the basic amenities like viable living conditions, hygiene and sanitation is deficient. The National Family Health Survey 2015-16 on population, health and nutrition for India (NFHS-4)^[4] indicators reflect inadequate child immunization, poor nutrition and other common illnesses are affecting health of the communities. With 1.3 billion populations living in urban and rural areas the major challenge is the pervasiveness of knowledge, especially the availability of health information to

such a diverse society. Through this paper, the librarian's role in dissemination of health information and in offering unique opportunities to public to connect with libraries, a model to achieve equity in distribution of information resources among vast array of population is depicted as a measure to overcome public health challenges in India.

The health system of India is complex. The disease control and management varies greatly across 28 state and 8 union territories. The National Health Profile^[5] indicate several health challenges. Infant and mother mortality rates are high. Death rates attributed to cancer, diabetes and cardiovascular diseases are alarming. Figures leading to death caused by communicable diseases like tuberculosis, AIDS/HIV are disturbing. Pollution-related diseases like asthma and chronic obstructive pulmonary disease (COPD) are widespread. Increased cases of vector borne diseases, such as malaria, dengue, or chikungunya, are major areas of concern for authorities and public. Water borne diseases like diarrhoea and cholera are highly prevalent among children. Death by malnutrition is still visible after years of its public health attention. Many of these diseases are preventable. The essential resources that are required for informing and preventing illnesses have not reached the affected population.

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The Ministry of Health and Family Welfare^[6] aims to provide quality health care on equitable, accessible and affordable basis across regions and communities with their special focus on serving underprivileged and marginalized groups. The ministry constitutes Department of Health and Family Welfare (Do HFW) which is responsible for implementation of national level Health Programmes and the Health Research (HR) department is accountable for promotion of research in medical and health activities.

India's National Health Policy 2017 (NHP 2017)^[7] document demonstrates that by providing access, improving quality and lowering the cost of healthcare delivery will ultimately ensure attainment of highest level of health and well-being for all segments of society. The key principles of NHP 2017 include universality, citizen-centricity, quality of care and accountability for performance. The National Health Policy has set targets to eliminate leprosy and tuberculosis in the near future, as well as reduce incidences of blindness, cancer and cardiovascular diseases in the country.

Recently, in concurrence with the NHP, the *National Digital Health Blueprint Report- 2019*^[8] was formulated to lay significant emphasis on leveraging digital technologies for enhancing the efficiency and effectiveness of delivery of all healthcare services. It says, "While recognizing the deficiencies that exist in the current health care systems the policy recommends a paradigm shift from the existing silos systems to a holistic and comprehensive health ecosystem, founded on the latest digital architectures and technologies." It has recommended the setting of the National Health Resource Repository (NHRR).

The National Health Mission^[9] launched by the government is a major instrument for financing and supporting the states and in strengthening the public health systems and health care delivery to the rural and urban population. Ministry of Health and Family Welfare has instituted numerous healthcare programs for prevention of diseases and its treatment, including the National Mental Health Programme, National Programme for Control of Blindness, National Programme for Healthcare of the Elderly, National Programme for Prevention and Control of deafness and National Tobacco Control Programme.^[10] Many such programmes are in place to address various health problems of the country. The Ayushman Bharat^[11] scheme was launched in 2018 to make healthcare affordable for every citizen. Mission Indradhanush is the child immunization programme. POSHAN Abhiyaan is a multi-ministerial convergence mission to ensure attainment of malnutrition free India by 2022. The efforts made by the national government in increasing the number of doctors employed in health care institutions is immense and the commitment to establishing community health centres and hospitals at distributed locations to make health services

available at every region has been enormous. In spite of all these government initiatives, inequalities in health care services delivery prevails.

Problem Area

With so much socio-economic burden on health in the country, can medical librarians position themselves in improving health conditions of the people? In this paper, we offer strategies that can be adopted by the librarians to promote wellness and prevent diseases from spreading in the society. The paper also exhibit challenges that medical libraries are experiencing and possible solutions in provision of health information services in the country.

METHODOLOGY

An online search on academic databases like PubMed and Google Scholar were conducted to find papers pertaining to libraries role in provision of Consumer Health Information. For this, variety of keyword combinations were used for example, 'Consumer Health Information AND Libraries', Health Literacy AND Libraries to gather the data. The selected papers from these databases were saved and reviewed accordingly. The reference lists of the selected papers were also scanned. We included studies that are mostly peer reviewed and have high significance in relation to India's prevailing health conditions.

LITERATURE REVIEW

Consumer health information is information that enables individuals to understand their health and make health-related decisions for themselves or their families^[12] Some of the relevant papers devoted to consumer health information (CHI), outreach services and health literacy in library arena were reviewed. Smith and Duman^[13] provided a broad overview on current state of CHI in the UK. They discussed on various CHI projects, the changing roles of information producers, providers and users and its influence in enhancing health literacy and new technologies. Wood *et al.*^[14] Suggested that offering resources, training, outreach services to the public libraries and other intermediaries to underserved, minority, rural or economically disadvantaged areas will improve health information services to the public. National Library of Medicine and National Network of Libraries of Medicine engagement with public libraries to promote consumer access to health information were also discussed. Pifalo *et al.*^[15] Examined use of information that is supplied by the consumer health library and the impact of information on knowledge, actions regarding personal health concerns among consumers. They found that users valued health information service provided by the libraries. Pizzarelli *et al.*^[16] Highlighted the initiatives undertaken in consumer

health information and health literacy promotion and development of online health information provision facilities. They informed about their portal which is divided into four sections: health A-Z; lifestyles and environment; false myths and fake news; and news on current issues in medicine and research to improve public health of the nation. Lynch^[17] addressed that offering consumer health information services permit patients to take greater charge of their own treatments, allow consumers to make better informed choices about their lifestyles and help families to deal with health matters. To meet consumers demands and expectations libraries should provide training on evaluation and filtering of the torrent of consumer health information. Clifton^[18] demonstrated how medical libraries by building and maintaining relationships with public library staff can facilitate in the delivery of consumer health information in a state. Eakin, Jackson, Hanningan^[19] discussed importance of library involvement in the delivery of consumer health information. They addressed questions like -Where is the public most likely to seek health information. What is their information need? What level of services to be offered? They emphasized that there is need for partnership among libraries and that librarians to become partners with health professionals, health organizations, government agencies and educators. They referred that 'if libraries service have to become effective, we must be recognized; in order to be recognized, we must be effective'. Danhoumido *et al.*^[20] Described the manner in which rural public libraries provide health information to their patrons. They emphasized that access to health services is a major challenge in rural communities. The adequate human and material resources availability can contribute to improving the health literacy of the communities and that rural libraries can serve as agents of community change. Barr-Walker and Nevels^[21] demonstrated value of hospital libraries to staff, patients and public using a game show-style approach involving active learning to teach attendees about library resources and services. Socha *et al.*^[22] Highlighted use of geographic information systems with census data for planning services in the libraries. They developed collection on prevalent diseases, targeted outreach services through demographic analysis and developed marketing campaigns to serve people in low use areas.

Health literacy which is a part of consumer health information has been addressed by many libraries for promoting wellness in their communities. These services enhance healthy lifestyle in the community's and place emphasis on self-care and preventive measures. Institute of Medicine has defined Health Literacy^[23] as the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions. Several studies have reported that poor health literacy is the cause of increased health cost, chronic diseases and morbidity.^[24,25] Marcus^[26] expressed that poor health literacy is characterized

as public health's silent epidemic. De Walt *et al.*^[27] Reviewed the relationship between literacy and health. Their study found that low literacy is associated with several adverse health outcomes; and future research using more rigorous methods, will better define these relationships and guide developers of new interventions. According to Per low^[28] accessibility is the global gateway to literacy through which all must pass. He suggests methods, strategies, interventions and applications to promote universal access for health education and promotion of research and practice. Schardt^[29] opined that health literacy is about consumers being able to understand the medical information their caregivers give them or they find through the Internet and can use that information to make good decisions about their own course of care. Patil, *et al.*^[30] Suggested that genuine effort to bring the poorest of the population to the centre of the fiscal policies is required. Also paradigm shift from the current 'biomedical model' to a 'sociocultural model', should bridge the gaps and improve quality of rural life. Luo^[31] conducted nationwide survey study to understand how to prepare public librarians for consumer health information service. They suggested training public librarians on consumer health information will enhance optimal patron experience. Siddamallaiah^[32] highlighted that self-care is not systematically encouraged and make people to understand that self-care is not harmful provided they are trained properly or even to diagnose themselves till they go to doctors. Ghosh and Bhatt^[33] proposed strategies for combating AIDS in India and also identified obstacles in the process of empowering communities and suitable measures essential for success. They emphasized that India has an emergency in terms of treatment if it ignores the preventive aspects it will face the crisis in coming years, which will use up its resources. They recommended there is need for strong advocacy and political support at the national level.

In the following section strategies for librarians to embrace in order to provide consumer health information to various communities have been represented. These strategies are developed by reviewing relevant literature on librarians' role in delivering consumer health information in relation to Indian's health care ecosystem.

Strategies for librarians to adopt in response to public health challenges

Libraries have continually supported information needs of the communities they serve. Public libraries connect local populations with their vast resources. While in academic institutions, libraries are positioned as content deliverers, responders to research inquiry and educational support. They offer resources to meet the information needs of students, researchers and faculty. Hospital libraries cater to the information needs of clinicians, health professionals, medical

residents, patients and caregivers. Libraries continually inform consumers about its resources, events and activities. They offer training to the patrons on information literacy, research support skills and on usage of various resources available in the library. With changing global trends, libraries in India have not been able to embrace the changing global standards for information practice and library customer service, where librarians proactively deliver information and technology skills, health materials, resources and services to the clinical or health sciences academic communities they belong. These strategies are derived by reviewing the selected published research articles searched from scholarly databases and author's vast experience in medical librarianship. The strategies that librarians in India may take on in response to public health challenges are following:

(a) Building information resources in key health areas. It is essential for librarians to elicit health information problems being faced by the communities they serve. Based on their information needs librarians may consider developing resources. For example, many diseases in rural areas in the country are caused by drinking contaminated water, as well as poor hygiene and nutrition. Public health experts in the region may advice librarians for keeping requisite educational materials in their collection for meeting communities' information needs. These resources in libraries may be developed in phases. Like, Phase I devoted to development of educational materials pertaining to food poisoning, epidemics, calamity, toxicity and occupational hazards. Phase II and III cover developing educational materials on communicable diseases and non-communicable disease. Diverse languages are being spoken at different parts of the country, which is a major communication barrier. In this regard, librarians may offer translated resources into languages people understand. To the people who have difficulty in reading, or are disabled, librarians may consider delivery of required information verbally or through folklore. Illustrations and use of plain language should be given priority to marginally literate people. Educational materials in multilingual language is another possibility. Over Population in the country is a biggest public health challenge for the government. Librarians may consider developing information resources dealing with family planning measures for the youth in the form and format they wish to read and understand. This is how librarians may contribute to population control in the country.

(b) Organization and management of print and electronic library resources: Librarians should carefully organise health education materials in formats suitable for the communities being served. The educational materials may include charts and diagrams, drawings, maps, photographs, animations, audios, videos or CDs, text-based resources, as well as various combinations of these for future needs. Incorporation of

multilingual medical dictionaries and encyclopaedias in library collections benefit communities. Librarians have to ensure proper metadata creation and content indexing of its resources, supported by taxonomies and standardized medical vocabulary, facilitating easy retrieval of them when in demand by the information consumers. In case of electronic resources there is need to follow certain standards of knowledge representation that will encourage resource sharing with other libraries. Interoperability of the consumer health repositories and providing links to related materials will foster dissemination and facilitate high usage of materials for education and learning.

(c) Dissemination of Health Information: Health information is disseminated by various methods. In a physical library, materials are offered to individuals and groups who visit libraries in person or they are oriented about different resources. Librarians may keep journals, magazines and newspapers for people to arouse their interest in reading library materials. Region specific printed or digital resources and materials can be kept in libraries. Mobile library vans facilitate delivery of information resources to communities who do not have convenient access to libraries. For example, in unplanned habitations where even the meagre public health resources are not available, mobile librarians may connect and provide people essential information services. Televised health programming and other mass media are used to inform and educate people about health issues. As computers are becoming cheaper and online connectivity is affordable, rapid public health information delivery has become possible. In urban areas, an online virtual resource can complement with a physical library and facilitate health information delivery. Libraries websites offer necessary information to the communities when needed. Online video and audio can educate and improve learning outcomes. Librarians can amplify relevant news like, in case of disease forecasting and public health alerts. Other dissemination methods to educate communities include setting up public kiosks to supply information on various health topics.

(d) Conducting Outreach programmes: Librarians may visit sites and organize outreach programmes to educate people about information facilities, online information availability and library services. Libraries that facilitate the delivery of relevant information also dispel myths and misconceptions prevailing in the communities. A skilled librarian may organize digital literacy workshops by offering training to the individuals on use of computers and Internet, or on source evaluation to recognize fact or fake news. Librarians may deliver presentations on techniques for finding, accessing, evaluating and using information from various print and electronic databases in libraries and other locations. Lessons on search and retrieval strategies conducted

on various database may be included for those who are digital literates. Plain language, easy to read hand outs for low literacy persons may be prepared and delivered, in turn raising awareness about libraries. Librarians may educate consumers about various resources prepared by national and international organizations like the World Health Organization (WHO), National Library of Medicine (NLM), open access databases like Medline Plus and other Indian indigenous databases like National Health Portal (NHP). Medical Librarians may collaborate with health professionals to share family life education with students, demonstrate information about healthy behaviours and risk of spread of infections like HIV. Promotion and dissemination of health education materials may be done through health camps, health fairs, or through information prescription^[34] (IRx) services, or by devoting a day, a week or a month to a particular health cause. Programs in schools can lead to changes in students' behaviour, as they become knowledgeable about the information and services being offered by libraries. To enhance community participation in a region, librarians may create and nurture self-help groups where people help each other to solve their basic information needs. By knowing and understanding prevalent health problems, a virtual knowledge bank may be created to provide answers to repeated questions, influencing health consumers' choices. With such facilities made available local residents will feel motivated to visit libraries regularly.

(e) Collaboration and Networks: Hospital and academic medical librarians may collaborate with public libraries, community centres or NGOs to design and disseminate relevant health information to the local residents. Public health information programs may be organised in partnership with local associations that will find wider penetration of information to local residences. Hospital and academic medical libraries may collaborate with local organisations to share techniques for service delivery expand on a larger scale, especially in rural and remote areas. Library facilities may extend their impact through the Primary Health Centres (PHCs) and Community Health Centres (CHCs), District Health Centres and Sub-health Centres to connect and educate the public and raise awareness about various health diseases and transmission. Real-time information delivery on outbreaks of common communicable diseases – Malaria, Diarrhoea, Cholera, Tuberculosis, Dengue and Influenza, would enable timely actions, improving the ability to contain potential epidemics.

(f) Maintenance of educational materials: Maintenance of various health education resources and services is crucial for meeting constantly evolving public health challenges. Health advocacy materials may become obsolete sooner. Maintaining the relevance and currency of health education resources is one of the essential ways to connect users with library services.

Cooperation with other units and sections of the health sector is required, such as computer and administrative divisions, for the revision, up gradation and maintenance of library websites and storage of contents.

(g) Continuous professional development: The health information is being generated at enormous speed and new tools and techniques of knowledge discovery, knowledge management are evolving rapidly. Frequent lectures and training by the IT professionals to abreast librarians with the latest technologies in handling and managing knowledge, data would enhance librarian's capabilities to work in information intensive environment. By taking support from technical team libraries will embrace full automation, have dynamic web sites and established local digital repositories. Such arrangements if made available in every library it will then have a visibility and possibility of connections with other libraries. Inviting guest lectures by health librarians from advanced nations will make librarians understand latest technologies for example artificial intelligence, machine learning, data mining, text mining and their applications in libraries and health care. The support from the international organizations like WHO in offering scholarships to librarians to visit libraries of advanced nations, get exposure of their workplace, learn library functions, services and various library operations would enhance their skills which would contribute to improved service delivery in their own environment.

Challenges - Missing Data and Links

In order to enforce these strategies the state and central government must understand current library system and underlying problems in the country. To enable readers to visit libraries and receive authentic information there are several challenges. Some of these challenges have been addressed below:

- **Census of Libraries:** The number of libraries existing in India is unknown. It is only roughly estimated that in medical sciences there are over 4000 health science academic institutions (medical, dental, pharmacy, nursing, physiotherapy, AYUSH, para-medical colleges, hospitals, universities, etc.) Similarly, there is no account of public libraries in the country.
- **Library professionals' directory:** There is no source to find number of medical librarians employed in academic institutions within the country
- **Location of libraries:** Finding the location of libraries and information centres in the hospital and community centres and identifying their precise site is a challenge. Who is managing the library? These information are not available in a single source.

- **Library resource:** What resources are available in medical libraries, what are their print collections, their electronic collection, what is their budget, what services are they offering to their communities are unknown?
- **Library utilisation:** Is the library being effectively utilized? If not, why? What can be done to increase public and professional engagement with libraries have to be observed.
- **Skilled workforce:** There is need for skilled workforce that is capable of handling computers and developing excellent library services.
- **Library Infrastructure:** Encouraging learning spaces for youth, adults and families, quiet study areas for researchers, computer labs for programmers and strategically planned physical and programmatic development required, unfortunately it is not found in many libraries.
- **ICT infrastructure and level of automation:** How advanced is the library ICT infrastructure, what is the level of automation, what library management software are libraries using, the classification, cataloguing system, organization of resources etc. information is not available. Without automation, how will librarians find the added time to collaborate or innovate?
- **Library Websites:** It is essential in the digital age to have library websites for their effective use and in developing connections. Websites of institutional libraries should be exhaustive and informative.

Suggestions: Where there are shortage of librarians, provision of customised consumer health information is difficult. So as to overcome health information access and dissemination challenges some of the suggestions are put forward:

- There is need to recruit qualified librarians in the medical colleges, hospitals who are competent in use of technology, understand health information and capable of managing libraries.
- A strong medical library network is required to connect resources with the public libraries and that with the communities in the region. This would allow cost-effective health care information services development and prompt delivery of information on the wider scale, especially in rural and remote areas across the country.
- By filling vacant especially top positions in the libraries, with librarians having leadership skills and giving them better incentives would bring best minds to join higher education institutions. By doing so, a new generation of library leaders will feel encouraged and will perform optimally, will motivate other staff and develop best

library services to inform and deliver information to various communities.

- Finally, to make resources available, discoverable, shareable and understandable, librarians need funds and support from various stakeholders- IT professionals, health educators, administrators and the government that would help in developing world class libraries and services that would benefit masses.

CONCLUSION

India is battling through many public health challenges including fight against Covid-19. These health calamities have affected lives of many in our nation. It becomes imperative for librarians to be part of national response to health crisis that arise in our society. In this context, library should align services matched to consumer health information needs in a way that is easily accessible and acceptable to the public. This will facilitate building a knowledgeable and healthy society. Institutions should recruit qualified librarians and build resourceful libraries; librarian's advocacy role would help to meet health challenges of our diverse populations. By these means underrepresented communities would be encouraged to visit libraries, utilize library services and seek reliable and useful information to address their health information need which would ultimately help in overcoming public health crisis in the country.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

ABBREVIATIONS

AIDS: Acquired Immunodeficiency Syndrome; **HIV:** Human Immunodeficiency Virus; **CHI:** Consumer Health Information; **NHRR:** National Health Resource Repository; **NLM:** National Library of Medicine; **NGO:** Non-Governmental Organization.

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