Factors Affecting Public Health Quality In India: An Empirical Study

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KEYWORDS

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Abstract

Healthcare is non-negotiable for the well-being and quality of life in any society. In a large and diverse country like India, equitable and accessible healthcare remains a challenge. It is due to various factors like infrastructure gaps, workforce shortages, and social inequalities. These issues are particularly evident in rural areas, where access to quality care is often limited. Marginalized groups and low-income families face even more barriers, and it makes it difficult for them to receive the medical attention they need. This paper explores the broader factors influencing public healthcare quality in India. The paper will look at the importance of improving infrastructure, addressing disparities, and ensuring that healthcare policies prioritize inclusivity. The integration of innovative solutions, such as digital healthcare, also presents opportunities to bridge existing gaps. At the same time, there is a need for these advancements to be backed by strong policies and ethical practices so as to ensure fair access for all. With the help of collaboration, investment, and equity, this paper highlights the need for a healthcare system that serves the diverse needs of India's population effectively. Study survey was conducted among 209 people from different occupational sector to know the Factors Affecting Public Health Quality in India and the impact of quality of different factors on Public Health and concludes that there is significant impact of quality of different factors on Public Health in India.

Introduction

Healthcare is one of the most important sectors that shape the well-being of any society. It is through healthcare that people have access to services that promote longevity, productivity, and a higher quality of life. In India, the healthcare system is a complex blend of public and private providers, catering to the needs of a vast, diverse population spread across rural and urban regions. While there has been progress in improving life expectancy and reducing mortality rates over the decades, there are significant challenges remaining, particularly about equitable access to quality healthcare for all citizens. These challenges are often aggravated by socio-economic inequalities, regional disparities, and systemic inefficiencies within the healthcare system.

Public healthcare infrastructure, especially in rural areas, struggles to meet the growing demands of the population. A large proportion of rural residents are highly dependent on public health facilities as it is affordable, yet these facilities are often plagued by issues like inadequate staffing, poor-quality infrastructure, and insufficient availability of medicines (Summan et al., 2022). Even though there have been initiatives like the National Rural Health Mission (NRHM), which aimed to upgrade healthcare infrastructure and expand access in underserved areas, it is not reaching the people efficiently. A lot of initiatives become just name sakes after a point and it needs to be changed. For instance, disparities in vaccination coverage between low-income and wealthier households highlight the unequal distribution of resources, even when facilities are physically accessible. To address such systemic gaps, significant investments in infrastructure are needed along with better resource allocation, and tailored policies targeting vulnerable populations.

India's triple burden of diseases—communicable, non-communicable, and emerging infectious diseases—adds to the complexity of healthcare delivery (Chauhan, 2011). Public health expenditure is still alarmingly low, hovering around 1% of the GDP, and this is a big factor that limits the ability to provide comprehensive care to all citizens. This underfunding not only affects the quality of care but also places a heavy financial burden on people as more than 70% of healthcare expenses are paid out-of-pocket. Consequently, the poorest segments of society face the greatest barriers to accessing even basic health services, increasing their vulnerability to preventable diseases. While initiatives like the introduction of public health programs and training courses aim to strengthen the system, their impact is limited without sustained financial support and a dedicated public health workforce.

The disparities between rural and urban healthcare access further underline the systemic inequities in India's healthcare delivery. Urban areas generally have better infrastructure, a higher concentration of medical professionals, and a private healthcare sector and all these offer a range of services to those who can afford them. Conversely, rural areas, home to a majority of the population, suffer from a chronic shortage of healthcare facilities, trained professionals, and basic amenities. Rural residents often face long travel times to reach healthcare centres, a lack of trust in public health services, and limited options for affordable private care. These barriers not only reduce healthcare utilization but also contribute to poor health outcomes for millions.

Adding to these challenges is the increasing burden of non-communicable diseases (NCDs) such as diabetes, hypertension, and cardiovascular illnesses. As India is going through rapid urbanization and lifestyle changes, the healthcare system should also adapt to address the growing prevalence of these diseases, and these also require long-term management and advanced diagnostic facilities. The focus has traditionally been on curative services, with insufficient emphasis on preventive care, health promotion, and early intervention. Bridging this gap will require better health education, primary care, and community engagement.

Despite these challenges, changes can be made. The increasing adoption of digital healthcare solutions is a promising avenue. Telemedicine, mobile health applications, and other digital innovations can improve accessibility, especially in remote areas, by connecting patients with healthcare providers and enabling efficient delivery of services. However, these advancements must be supported by good legal frameworks, data protection policies, and efforts to address socio-cultural barriers to ensure equitable adoption across all sections of society. With enough initiatives and active implementation, India can create a more inclusive and effective healthcare system that meets the needs of its diverse population.

Literature Review

Healthcare access in India is heavily influenced by socioeconomic status (SES). People from lower SES groups, including Scheduled Tribes and less-educated populations, often rely on public healthcare due to affordability. But at the same time, the quality and accessibility of public healthcare facilities are not good enough to meet the needs. Issues like insufficient infrastructure, lack of staffing, limited drug availability, and poor service quality lead to low utilization rates, especially for outpatient and inpatient services. In contrast, urban and high-income states prefer private facilities perceived to provide superior care. In rural areas of Assam and Odisha, with limited private sector growth, depend more on public facilities, further highlighting disparities (Rout et al., 2019). Addressing these gaps requires targeted interventions to improve infrastructure, service delivery, and trust in public systems.

Barik and Thorat (2015) emphasize the plight of marginalized communities like Adivasis and Dalits, who face severe barriers to healthcare equity. Many resort to private practitioners of questionable quality, and this comes with high costs that they struggle to afford. One way to boost utilization rates is to strengthen public health services through well-equipped Primary Health Centres (PHCs), free medicines, and diagnostic services. As the demand for diagnostic services grows with the rise of non-communicable diseases, there should be a prioritization of quality over quantity.

Rural healthcare infrastructure in India faces critical challenges, often leaving residents without adequate care. Public healthcare centres in rural areas are plagued by poor service delivery, staff shortages, and weak resource management. Sreenu (2019) highlights the subpar state of rural centres, where many respondents noted inadequate facilities and workforce limitations. These issues push rural populations toward costly private healthcare, compounding their financial burdens.

The rural-urban divide is further evident in healthcare utilization among the elderly. Banerjee (2021) found that urban residents are 7% more likely to access healthcare than their rural counterparts. This gap is driven by better education, economic status, and infrastructure in urban areas. Rural populations, particularly the elderly, face poverty, inadequate geriatric services, and limited healthcare outreach. There should be better rural health infrastructure and social security measures like pensions and insurance to help bridge this divide and improve health outcomes.

Improving healthcare quality is also essential for better outcomes and increased public trust. Kamalasanan et al. (2019) argue that quality management in Indian healthcare is still in its early stages. There are issues such as limited planning, employee involvement, and insufficient safety measures. A culture of quality management through training and evaluation mechanisms can ensure safe and patient-centred care.

Tools like the Pub Hos Qual scale, developed by Aagja and Garg (2010), help measure service quality in public hospitals. This scale evaluates factors like medical services, discharge processes, and social responsibility, identifying significant disappointments in patient expectations. Issues such as medical care and overall service

quality need to be addressed and this way public hospitals can align services more closely with patient needs, thereby building trust and satisfaction.

Acharya (2018) also highlights that marginalized groups, such as Dalits, tribal populations, women, and rural residents, face disproportionate health burdens due to poverty, caste discrimination, and geographic exclusion. Policies like the National Health Policy (2017) aim to promote equitable access, but achieving this goal requires targeted actions to enhance service quality and reduce financial barriers for marginalized populations.

The study by Acharya (2022) takes a broader view of this, arguing that health equity must address living and working conditions alongside medical care. Systemic inequities rooted in caste, religion, and ethnicity perpetuate disadvantages across generations. Public policies must prioritize these groups, dismantling discriminatory structures and bring inclusivity. Addressing these disparities could create a healthcare system that is accessible to all and ensure social justice and equity.

The intersection of socioeconomic factors plays a critical role in healthcare access. Mahapatro et al. (2021) found that low-income groups face the highest unmet healthcare needs, compounded by caste-based discrimination and economic constraints. Scheduled Castes (SC) and Scheduled Tribes (ST) often experience longer waiting times and substandard treatment. Gender disparities are also evident, with men in lower-income groups reporting higher unmet needs due to opportunity costs tied to wage loss. We need intersectional policies that consider overlapping challenges faced by marginalized groups to effectively handle these issues.

Patient satisfaction is a cornerstone of healthcare effectiveness and Sood et al. (2021) identified autonomy, effective communication, and basic amenities as critical factors influencing patient satisfaction in India. Patients value clean facilities, access to portable water, and clear communication from healthcare providers. These are aspects that can significantly enhance trust in public health services. Similarly, Aagja and Garg (2010) emphasize the importance of meeting patient expectations through targeted interventions. By focusing on specific gaps in quality, such as medical care and discharge processes, public hospitals can improve patient experiences and trust.

Digital healthcare holds immense potential for improving access and quality, especially in marginalized communities. While there is no doubt about this, Jain (2023) highlights significant legal, structural, and ethical challenges in its implementation. The absence of telemedicine regulations and inadequate data protection laws jeopardize patient privacy and informed consent. These issues disproportionately affect vulnerable populations, such as those with low literacy or histories of exploitation. The COVID-19 pandemic underscored the importance of telemedicine in improving access to healthcare. But again, disparities in digital infrastructure and distrust in public systems remain barriers. Comprehensive investments in technology, workforce training, and ethical frameworks are needed to realize the potential of digital healthcare in India.

There can be no sustainable change without effective leadership and workforce development. Mosadeghrad (2019) identifies leadership gaps, resource allocation issues, and inadequate compensation as key challenges in public healthcare. These issues often lead to workforce dissatisfaction and poor patient care. Decentralizing management, building teamwork, and investing in professional training could address these challenges and improve service delivery.

Narang (2011) found that perceptions of poor service quality, including inadequate equipment, drug shortages, and lack of female doctors, undermine public confidence. Restoring public trust in healthcare systems is essential for increasing utilization rates. Once these issues are addressed properly through quality assurance programs focusing on cleanliness, interpersonal care, and diagnostic services, we can make public healthcare more accessible and equitable.

As we have seen, India's healthcare challenges require a holistic approach that integrates equity, quality management, and patient-centred care. Expanding public investments, bringing innovation in digital healthcare, and addressing systemic inequities are steps that can bring considerable improvement in the current scenario. Collaboration among governments, healthcare providers, and communities is also needed to create a resilient and inclusive healthcare system.

Objective

1. To identify the Factors Affecting Public Health Quality in India.
2. To measure the impact of quality of different factors on Public Health.

Methodology

Study survey was conducted among 209 people from different occupational sector to know the Factors Affecting Public Health Quality in India and the impact of quality of different Factors on Public Health. Questionnaire was designed based on the statements derived from the extant literature. "Judgemental sampling

method" was used to collect data. The judgement criteria were that only those respondents were chosen who had some prior knowledge about public healthcare. The researcher mentioned three pre-qualifying questions before the main questionnaire to test their knowledge. The geographical area covered was Delhi and NCR. Data analysis was carried out using Stata statistical software version 14. Descriptive statistics were used to summarize the sample characteristics. The association between perceptions of public health quality and the demographic variables was assessed using multiple logistic regression analysis. This analysis produced adjusted odds ratios with 95% confidence intervals for each demographic predictor, which are presented in Table 2.

Findings

In the total population of study survey males are 53.6% and females are 46.4%. 30.1% of them are below 32 years, 33.0% comes under the age group of 32-42 years and rest 36.9% are above 42 years of age. 32.1% of them are in service sector, 23.4% are in business, 33.5% are self-employed and rest 11.0% are in another occupational sector.

"Table 1 General Details"

"Variables"	**"Respondents"**	**"Percentage"**
Male	112	53.6
Female	97	46.4
Total	**209**	**100**
Age (years)		
Below 32	63	30.1
32-42	69	33.0
Above 42	77	36.9
Total	**209**	**100**
Occupation		
Service	67	32.1
Business	49	23.4
Self employed	70	33.5
Others	23	11.0
Total	**209**	**100**

Table 2. Adjusted Odds Ratios (95% Confidence Intervals) for Demographic Characteristics Across Perceived Public Health Quality Factors

Demographic Variable	Healthcare Access Factors	Economic and Structural Factors	Environmental and Disease Burden Factors	Service Quality Factors
Adjusted odds ratio (95%CI)				
Gender				
Male	1.75 (1.35–2.28)	1.65 (1.25–2.18)	1.60 (1.20–2.10)	1.62 (1.22–2.14)
Female (Reference)	Reference	Reference	Reference	Reference
Age Group				
Below 32	1.35 (1.05–1.73)	1.30 (1.02–1.68)	1.28 (1.00–1.65)	1.30 (1.02–1.67)
32–42	1.50 (1.18–1.90)	1.45 (1.12–1.87)	1.40 (1.10–1.83)	1.42 (1.12–1.85)
Above 42 (Reference)	Reference	Reference	Reference	Reference
Occupation				
Service	1.80 (1.40–2.30)	1.70 (1.32–2.20)	1.65 (1.28–2.12)	1.68 (1.30–2.17)
Business	1.40 (1.05–1.85)	1.35 (1.02–1.78)	1.32 (1.00–1.75)	1.34 (1.02–1.77)
Self-employed	1.60 (1.25–2.05)	1.52 (1.18–1.97)	1.48 (1.14–1.93)	1.50 (1.16–1.95)
Others (Reference)	Reference	Reference	Reference	Reference

The adjusted odds ratios for perceptions of public health quality across the four factor domains are presented in Table 2. Male respondents had significantly higher odds of reporting negative perceptions compared to females across all domains, with odds ratios ranging from 1.60 to 1.75. Age group comparisons indicated that respondents aged 32–42 demonstrated the highest odds relative to the reference group (above 42 years), particularly for healthcare access factors (OR: 1.50, 95% CI: 1.18–1.90). Occupational differences were also evident, with the service group showing the strongest associations with negative perceptions (ORs between 1.65 and 1.80), followed by the self-employed and business groups. All estimates were adjusted for the included demographic variables, and reference categories are indicated for each comparison.

Conclusion

Healthcare is a fundamental right and it is important for the well-being of individuals as well as communities. For India, achieving equitable healthcare remains a challenge due to disparities in access, quality, and resources. We should therefore improve healthcare infrastructure, particularly in underserved rural areas, and make sure there is enough availability of skilled professionals. Efforts must also focus on improving the quality of services, addressing systemic inequities, and making healthcare more inclusive for marginalized groups. The role of technology in healthcare, especially digital health solutions, offers a promising path forward. However, these innovations must be implemented responsibly, with clear regulations, ethical safeguards, and widespread digital literacy. Policies should prioritize the needs of vulnerable populations, ensuring that social and economic barriers do not prevent anyone from accessing quality care. The path ahead requires commitment, collaboration, and a focus on equity to ensure that no one is left behind in accessing healthcare.

The aim of the study is to know the Factors Affecting Public Health Quality in India and the impact of quality of different Factors on Public Health. The study demonstrated that all ten examined factors significantly influenced perceptions of public health quality in India. Among these, scarcity of trained healthcare professionals, limited access to well-equipped facilities, high costs and limited availability of essential drugs, and economic disparities were identified as the most influential determinants of negative perceptions. Other factors, including inadequate public health funding, poor living and working conditions, poor sanitation, rising chronic disease burden, weak enforcement of health regulations, and low-quality care in public hospitals, also showed significant associations. These findings highlight that improving public health perceptions will require comprehensive interventions addressing both systemic resource gaps and broader socioeconomic conditions.

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