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RESEARCH ARTICLE

Determinants of Availability and Accessibility to Primary Health Care for Rural Populations in Pakistan

Muhammad Salman Abbas[1*], Ts. Dr. Azlizan Bin Talib[2]
[1]Phd student at Universiti Utara, 06010, Malaysia
[2]Assosciate Professor at School of Government, College of Law, Government and International Studies, Universiti Utara, Malaysia

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***Corresponding Author:**

Salman.bzu30@yahoo.com

ABSTRACT

This study examines the determinants of availability and accessibility of primary healthcare services for rural populations in Pakistan, focusing on the challenges faced by these communities. Adopting an interpretive research philosophy, qualitative methods, specifically thematic analysis, are employed to explore the subjective experiences and perspectives of healthcare professionals. The research aims to elucidate the factors influencing healthcare. Through purposive sampling, semi-structured interviews are conducted with healthcare workers in rural areas of South Punjab, providing insights into the nuances of healthcare delivery. Ethical considerations guide the research process, ensuring integrity and credibility. The findings shed light on the barriers and facilitators of healthcare accessibility in rural Pakistan, with implications for policy formulation and healthcare delivery strategies. By understanding the complexities of healthcare provision in rural contexts, this study contributes to the discourse on health equity and informs evidence-based interventions aimed at improving healthcare access for underserved populations.

INTRODUCTION

Access to primary health care is a fundamental right and a critical factor in promoting good health and well-being, particularly for rural populations. The rural areas of Pakistan, characterized by significant socio-economic disparities, face unique challenges in accessing primary health care services. Despite the global push for universal health coverage since the year 2000, the reality on the ground in Pakistan's rural regions remains fraught with difficulties. These include a scarcity of healthcare facilities, inadequate funding, poor infrastructure, and a lack of trained medical personnel (Shaikh & Ali, 2023).

Healthcare in rural Pakistan is hindered by several systemic issues. One of the foremost challenges is the shortage of healthcare facilities and workers. This shortage is a result of multiple factors, including insufficient funding, inadequate infrastructure, and the unavailability of trained medical staff. Consequently, many rural communities are deprived of essential health services, such as vaccinations, maternal and child health care, and treatment for common illnesses. Another significant hurdle is the low level of health literacy and awareness among rural populations, which often leads to delays in seeking care, misdiagnosis, and inappropriate treatment (Ahmed et al., 2022).

Cultural and social barriers further complicate the situation. Gender inequality, for instance, can restrict women's access to healthcare services. Additionally, traditional beliefs and practices may discourage individuals from seeking modern medical treatments. These cultural dynamics, combined with logistical issues such as long distances to healthcare facilities and lack of transportation, exacerbate the inaccessibility of healthcare in rural areas.

The provision of healthcare in Pakistan, particularly in its rural regions, requires a thorough examination of government policies and actions. Since the early 2000s, the concept of universal healthcare has spurred numerous policy changes aimed at improving healthcare accessibility and quality. The COVID-19 pandemic and recent floods have further strained the already fragile healthcare system, highlighting the disparities between urban and rural healthcare infrastructure and resources.

This study aims to identify the determinants of healthcare availability and accessibility in rural Pakistan. By shedding light on these issues, the research hopes to contribute to health equity, strengthen the health system, and support economic development in rural Pakistan. The findings are expected to be relevant for policymakers and academics, providing valuable insights into improving healthcare accessibility in rural areas.

The World Health Organization (WHO) asserts that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition" (WHO, 2007). This principle underpins the global drive towards universal health coverage, particularly in low- and middle-income countries. Since 2000, many nations have adopted the idea of universal health care as a strategic framework, leading to significant policy reforms aimed at improving healthcare access and quality.

Three key dimensions cost, acceptability, and quality of care are commonly used to assess and ensure the quality of healthcare delivery. These dimensions emphasize the importance of protecting individuals from financial burdens, ensuring the availability of essential health services, and promoting solidarity through pooled resources (WHO, 2013). Good health is essential for societal functioning and progress, and thus, investigating healthcare availability and accessibility in rural Pakistan is crucial.

The focus of this study is on the Multan district in South Punjab, encompassing the regions of Multan, Bahawalpur, and Muzaffargarh. These areas, representative of rural Pakistan, face significant challenges in healthcare provision. Population figures and income per capita in these districts highlight the socio-economic disparities that contribute to healthcare inaccessibility. The study will explore the determinants of healthcare availability and accessibility, considering factors such as healthcare infrastructure, funding, and the distribution of medical personnel.

Healthcare is recognized as a fundamental human right, irrespective of gender, political orientation, social status, or race. This right includes access to minimum prosperity requirements and empowerment through medical and educational care (Mosia, 2014). International organizations like the United Nations emphasize the importance of healthcare rights, which can only be fully understood by examining their determinants (World Health Organization, 2007). Political and social reforms in many countries have influenced the organization of insurance systems and access to healthcare (Daniels, 2006). Insurance coverage is a significant determinant of healthcare availability and accessibility (Macinko et al., 2003).

In Pakistan, healthcare availability and accessibility are critical priorities for safeguarding population health. However, the country has faced significant challenges, such as the COVID-19 pandemic. The introduction of the Omicron variant led to a surge in cases and partial lockdowns, particularly affecting hard-hit districts. Measures such as encouraging school attendance, banning indoor dining,

and implementing testing and quarantine protocols for travelers were introduced to manage the crisis (Khalid & Ali, 2020; Saifullah et al., 2023).

Recent floods have further exacerbated the public health crisis in Pakistan. Affecting 33 million people, the floods resulted in over 1,500 deaths and significant displacement. The National Disaster Management Authority (NDMA) reported severe damage to healthcare infrastructure, with 2,000 hospitals and clinics affected. The stagnant water in many regions poses ongoing health risks, with the WHO expressing concern about potential outbreaks of diseases (Jolley et al., 2008; Braverman & Gruskin, 2003).

Addressing these challenges requires comprehensive policy decisions to improve healthcare availability and accessibility. Primary care is essential for promoting better health outcomes, reducing hospitalization and mortality rates, and increasing life expectancy. Despite these benefits, gaps in healthcare provision in Pakistan's rural areas persist. The study aims to identify and address these gaps, contributing to the goal of universal health coverage and improving the overall health and well-being of Pakistan's rural population.

LITERATURE REVIEW

Pakistan's health care system is a mix of government, parastatal, commercial, civil society, charitable, and donor-funded programmes. The four pillars of Pakistani healthcare access are prevention, promotion, treatment, and rehabilitation. At the federal and provincial levels, Pakistan's Ministry of Health is responsible for overseeing healthcare, while the provincial health departments are responsible for delivering public health services to the general populace. According to the Economic Survey of Pakistan (2020-21), Pakistan's government spent 0.75 percent of the country's GDP on improving the health of its citizens (Ullah et al., 2021). The average cost of health care in Pakistan is $17.61 per person per year (Habib & Zaidi, 2021).

Several government-funded projects, both vertical and horizontal in scope, can be found in Pakistan. National Maternal and Child Health Program (EMCHHP), Expanded Programme on Immunization (EPI), Cancer Treatment Program (CTP), Food and Nutrition Program (FNP), Prime Minister Programme for Prevention and Control of Hepatitis A and B (PMPP) are just a few of the vertical programmes funded by the federal government.

The Government of Pakistan's Devolution Plan for 2019 also pertains to the public sector. Thus, Pakistan's military government initiated a political devolution campaign in 2000, which it said was intended at handing over administrative and financial control to local governments. As explained by President Pervez Musharraf, the goal of the plan was to increase local authority and responsibility while also "empowering the destitute." There is no evidence that the new system has reduced corruption or demonstrated clear responsibility at the local level, and it has weakened existing political parties. Military control has been reinforced and the possibility of internal strife has increased as a result. Besides, nearly every aspect of local government, from education to transportation, has been decentralized to the districts.

The districts have now devolved responsibility to the communities to establish their own plans, programmes, and interventions based on local realities and needs. It is Alma Alta's vision that has shaped the public health care system, which places a heavy emphasis on primary care. Lady Health Workers (LHW) and Village-Based Family Planning Workers (VBFPW) programmes have been implemented at the community level in Pakistan. As a result of their grassroots protections, these efforts gained international recognition. Ten rural health clinics (RHCs) serving 10,000 people support these personnel through a vast network of dispensaries, basic health units, and other health care facilities. Primary hospitals serve between 1 and 2 million people, whereas the majority of people are served by tehsil and taluka hospitals. A nationwide medical network includes 796 hospitals, 482 regional health centres, 4616 basic health units, and 4144 dispensaries. (Zulfiqar,

2018). They are usually located distant from the population and have a restricted number of operational hours. Nearly 90% of the country's health care providers are medical professionals, including 90,000 physicians, 3000 dentists, 28,00 nurses, 6,000 Lady Health Visitors and 24,00 midwives (Zulfiqar, 2018a). There are just a quarter of female health practitioners certified to provide healthcare facilitation at BHUs and RHCs across the country.

Pakistan has undergone healthcare reforms aimed at enhancing the utilization of primary healthcare services at public facilities throughout the past decade. Given the constrained capacity of governments to effectively administer health care services, particularly in poor and middle-income nations, the outsourcing of health care service delivery is often regarded as a viable and efficient solution (Tanzil et al., 2014). In the context of Pakistan, it has been observed that the government has opted to delegate the management of primary healthcare (PHC) to non-governmental organizations (NGOs) as a response to the inadequate use of PHC services. Therefore, the Pakistani government introduced structural changes in the management of primary healthcare services at the basic health unit (BHU) level (Khan, 2010).

Access to healthcare services for patients in rural areas of Pakistan is heavily influenced by the availability of transportation. The lack of proper transportation exacerbates difficulties in reaching and attending medical appointments. The availability of healthcare services in rural regions is adversely affected by extended commute durations and limited public transit infrastructure. Research on the correlation between geographical distance and healthcare utilization in Pakistan is limited, and existing studies often fail to adequately acknowledge this relationship.

A survey in a rural region of Pakistan found that individuals with a driver's license and access to transportation through family or friends visited healthcare facilities more frequently than those without such access (Kanj et al., 2010). Healthcare utilization is generally lower in rural areas compared to urban ones, which may be due to a lack of doctors or individual differences. Distance and available modes of transportation in rural areas play a critical role, often requiring significant travel to reach healthcare providers. This phenomenon, known as distance decay, reduces interaction between patients and healthcare facilities (Neille & Penn, 2021). The issue is further compounded by the increasing number of elderly residents in rural areas who have limited mobility options, leading to increased emergency treatments and avoidable hospitalizations, which are costly (Gibson & O'Connor, 2010).

Pakistan's healthcare spending is approximately 3.4 percent of GDP, often criticized as underfunded or misallocated. The country's healthcare delivery system is three-tiered: Basic Health Units (BHUs) and Rural Health Centers (RHCs) at the primary level, Tehsil Headquarter Hospitals and District Headquarter Hospitals at the secondary level, and teaching hospitals at the tertiary level (Porter, 2014). The concentration of healthcare facilities in urban areas neglects rural healthcare needs, contributing to significant health inequalities. For instance, in Matiari, a rural community in Sindh, poor road infrastructure further complicates access to healthcare, with only 178 kilometers of maintained roads within its extensive boundaries (Porter, 2013).

Despite 70 percent of Pakistan's population living in rural areas, most healthcare facilities and 85 percent of doctors are concentrated in urban regions (Iqbal et al., 2019). This disparity results in rural provinces like Sindh bearing a disproportionate burden of healthcare costs and infrastructure challenges. The province of Sindh, for example, has only three physicians per 10,000 people, compared to the national average of seven (Zaidi and Sahibzada, 1986). The lack of healthcare facilities forces rural patients to travel long distances for medical attention, often exacerbating health issues due to the difficulties of travel and limited infrastructure (Douthit, 2015).

Transportation infrastructure plays a crucial role in improving healthcare access. Studies have shown that better transportation infrastructure leads to an increase in the number of patients visiting healthcare facilities (Adarkawa, 2015). The lack of access to roads and public transportation in rural regions remains one of the most significant barriers to healthcare (Douthit et al., 2015). Enhancing transportation infrastructure can facilitate centralization of health services and improve overall public health outcomes (Kumari & Sharma, 2017).

Health literacy in Pakistan is hampered by multiple factors including lack of funding, inequality, unskilled labor, systemic mismanagement, and gender insensitivity. Politicians often shape health policies, but health professionals implement them. The challenges of accessing and affording healthcare services are exacerbated by a shortage of healthcare specialists and limited funding for primary healthcare (Naeem et al., 2012).

Health literacy (HL) encompasses the cognitive and social skills required to access, analyze, and use health-related information. HL enables individuals to make informed health-related decisions and take collective action. It is essential for understanding and managing one's health and navigating the healthcare system effectively (Tareen et al., 2016).

A significant proportion of the population in various countries struggles with health literacy. For instance, about half of Americans have difficulty understanding health-related information, and similar issues are observed in Canada and Europe (Wei et al., 2015). In Pakistan, factors such as unchecked population growth, poverty, illiteracy, and inadequate sanitation contribute to low health literacy. The country's literacy rate fell from 60 percent to 58 percent in 2016-17, and education spending is among the lowest in South Asia (Zaidi & Ali, 2017).

Healthcare access in Pakistan is further hindered by poor infrastructure, delayed treatments, and significant sanitary issues. Many residents seek healthcare abroad due to these challenges (Zafar et al., 2009). Adequate health literacy is crucial for managing chronic conditions and improving health outcomes. Poor health literacy is associated with difficulties in communication, limited understanding of medical issues, and a higher likelihood of hospitalization (Tareen et al., 2016).

The internet has become a crucial source of health information for adolescents, influencing their health-seeking behavior. However, the accessibility and quality of online health information vary, impacting health literacy and outcomes (Zaidi & Ali, 2017). Health literacy should be addressed early as it directly impacts health outcomes and is critical for prevention and early intervention (Zaidi & Ali, 2017b).

Social stigma in medical institutions poses a significant barrier to accessing necessary healthcare services. Eradicating social stigma is essential for providing high-quality healthcare and achieving optimal health outcomes. Stigma can manifest in various forms, including denial of care, provision of inferior care, and physical or verbal abuse (Hamann et al., 2014). It hinders individuals from seeking preventive measures, treatment, or support for maintaining a healthy lifestyle (Chidyaonga et al., 2015).

In Pakistan, stigma adversely affects individual health outcomes and life chances, including education, employment, housing, and social relationships (Bornstein, 2013b). Public health institutions often struggle to address health issues due to the pervasive stigma associated with conditions like HIV, tuberculosis, schizophrenia, and substance abuse (Rajendram et al., 2005).

Mental illness stigma has a particularly negative impact on individuals' quality of life and health outcomes. It can lead to poorer mental health, lower quality of life, and reluctance to seek treatment (Wilson & Pant, 2010). The intensity of stigma varies, but it generally worsens health outcomes and treatment adherence, particularly in severe mental illness cases (Greenberg, 2017).

Efforts to reduce stigma in healthcare settings should be integrated into pre-service and in-service training for all healthcare personnel. Reducing stigma is crucial for improving healthcare access and outcomes, particularly in marginalized populations such as marginalized communities, racial and ethnic minorities, and refugees (Hatzenbuehler et al., 2013).

Overall, addressing the issues of distance and transportation, poor health literacy, and social stigma is crucial for improving healthcare services in Pakistan. These factors significantly impact the accessibility, quality, and effectiveness of healthcare, particularly in rural and underserved areas. Comprehensive strategies that include infrastructure development, education, and stigma reduction are necessary to enhance healthcare outcomes in Pakistan.

METHODOLOGY

This research employed a qualitative method using semi-structured, open-ended questions administered through interview guidelines. The study focused on MBBS doctors working in rural areas of South Punjab. Semi-structured interviews were chosen for their flexibility, allowing researchers to explore participants' responses in depth. The open-ended nature of the questions enabled participants to share their experiences and perspectives freely, providing rich, detailed data. An interview guide ensured that key topics were covered while allowing the interviewer to probe further based on the participants' responses. This approach facilitated a comprehensive understanding of the issues faced by doctors in rural South Punjab. The sample consisted of MBBS doctors currently or recently working in rural healthcare settings in South Punjab. These doctors were selected purposively, ensuring they had relevant experiences and insights into the challenges and dynamics of rural healthcare. The interviews aimed to gather detailed information on the doctors' experiences, challenges, and suggestions for improving healthcare services in these underserved areas. The qualitative method was chosen to capture the complexity and nuance of the participants' experiences, which might be overlooked by quantitative methods. By focusing on open-ended questions and allowing for in-depth discussions, the research aimed to uncover themes and patterns that could inform future healthcare policies and practices. The insights gained from these interviews provided valuable perspectives on the healthcare system's functioning and areas needing improvement, particularly in rural South Punjab. The qualitative approach ensured that the voices of those directly involved in rural healthcare were heard and understood in their own terms.

RESULTS

The results of the research sheds light on various determinants of healthcare accessibility in rural areas. Through thematic analysis of respondents' perspectives, several key determinants emerge, each contributing to the complex landscape of healthcare access in rural Pakistan. First and foremost, it uncovers a multitude of challenges hindering healthcare access. Respondents highlight barriers such as insufficient funds, limited human resources, remote healthcare facility locations, and transportation constraints. These factors collectively underscore the urgent need for targeted interventions to address funding gaps, workforce shortages, and transportation limitations, thereby improving healthcare access for rural populations. The availability and accessibility of primary healthcare services in rural areas are critical factors in ensuring the well-being of populations residing in these regions. By analyzing respondents' perspectives, this theme aims to uncover the key barriers hindering access to primary healthcare services and identify potential avenues for improvement.

The respondent emphasizes the impact of education levels and distance on healthcare accessibility, recognizing that a less educated population and distant healthcare facilities contribute to limited access to services. The response underscores the importance of educational outreach and improving infrastructure to reduce geographical barriers and enhance healthcare access for rural communities.

Additionally, the results identifies the availability of staff, medicines, consultants, and infrastructure as critical determinants of primary healthcare accessibility in rural areas. By highlighting the need for adequate resources and facilities, the response underscores the importance of investing in healthcare infrastructure and workforce development to improve service availability and quality.

Moreover, the respondent identifies the multifaceted nature of barriers to healthcare access, including poverty, awareness levels, infrastructure deficiencies, education, and religious sensitization. The response highlights the importance of addressing social determinants of health and promoting community engagement to overcome systemic challenges and improve healthcare accessibility in rural areas.

The results shows that the socio-economic disparities affecting healthcare accessibility. Respondents identify poverty, lack of education, gender disparities, and cultural norms as significant barriers to healthcare access. By acknowledging the intersectionality of these factors, underscores the importance of holistic approaches to address healthcare disparities, including poverty alleviation programs, education initiatives, and gender-sensitive healthcare services.

It highlights the crucial role of infrastructure in healthcare access. Respondents emphasize the importance of financial investment, improved road networks, and healthcare facility proximity in enhancing accessibility. This underscores the need for coordinated efforts to invest in infrastructure development projects and implement awareness campaigns to promote healthcare utilization in rural areas.

Then, it explores the unique challenges stemming from community dynamics. Respondents discuss gender-specific barriers, preference for traditional healers, and cultural beliefs influencing healthcare-seeking behavior. This emphasizes the importance of community engagement, culturally sensitive healthcare approaches, and gender-sensitive services to ensure equitable access to healthcare for all rural residents.

The results delves into the cultural factors shaping healthcare utilization. Respondents highlight preferences for traditional remedies, superstitions, and reliance on spiritual healers, which may impede access to modern healthcare services. Addressing these cultural barriers requires culturally competent healthcare approaches and community education initiatives to promote evidence-based healthcare practices and overcome misconceptions.

Socio-economic factors play a critical role in determining access to primary healthcare services in rural areas of Pakistan. The respondents' perspectives highlight various challenges stemming from socio-economic disparities that affect healthcare accessibility for rural populations. Factors such as poverty, lack of education, gender disparities, and cultural norms significantly impact healthcare access in these areas.

The analysis of respondents' perspectives on socio-economic factors influencing healthcare access underscores the multifaceted nature of healthcare disparities in rural areas. By addressing structural inequalities through policy reforms and targeted interventions, policymakers can work towards creating an enabling environment for equitable healthcare access and outcomes in rural communities.

One respondent emphasizes how socio-economic factors intersect to create barriers to healthcare access for marginalized groups. Poor individuals in distant locations, disabled persons, females, and vulnerable groups like the elderly and children face challenges in accessing healthcare due to geographical barriers, social norms, and economic constraints. Targeted interventions, including the provision of mobile healthcare services, community outreach programs, and financial support mechanisms, are essential to improve access for these populations.

Financial barriers also hinder access to essential healthcare services, particularly for surgical interventions. Patients in rural areas often have to arrange surgical instruments themselves due to limitations in the healthcare system, highlighting the importance of addressing affordability issues and ensuring equitable access to surgical services for all individuals. Government subsidies, public-private partnerships, and community-based fundraising initiatives can help alleviate financial burdens and improve access to essential surgical care in rural communities.

The impact of free or economical healthcare resources in attracting patients to rural healthcare facilities underscores the importance of removing financial barriers to healthcare access. Offering free or low-cost services can increase utilization rates and improve access to essential healthcare for rural populations. However, the respondent also highlights how poverty and distant healthcare facilities pose significant challenges for poor individuals, necessitating investments in healthcare infrastructure, transportation networks, and financial assistance programs to ensure equitable access to healthcare for all rural residents.

Infrastructure development also plays a crucial role in determining the accessibility of primary healthcare services in rural areas of Pakistan. Better road structures, improved transportation networks, and the proximity of healthcare facilities to the population are essential factors in enhancing healthcare accessibility. Investments in infrastructure development projects, along with awareness campaigns to promote healthcare utilization, are necessary to address infrastructural barriers and improve healthcare access for rural populations.

The integration of rescue services, such as Rescue 1122, with healthcare systems demonstrates the importance of infrastructure development in enhancing emergency medical services and ensuring timely access to healthcare for rural populations. Better road infrastructure facilitates the transportation of patients to healthcare facilities, reducing travel times and improving access to timely medical care. Investments in road development projects are essential to improving healthcare access and health outcomes in remote areas.

Additionally, the role of healthcare workers, including lady health workers, field staff, midwives, and mobile healthcare teams, is crucial in impacting the accessibility of primary healthcare in rural areas. These frontline workers play a critical role in delivering healthcare services directly to communities, overcoming geographical barriers, and increasing healthcare access. By leveraging mobile healthcare teams and ambulance services, healthcare providers can enhance accessibility and reach underserved populations in remote areas.

DISCUSSION

Research in the field of healthcare accessibility in rural areas provides valuable insights that both support and challenge the findings discussed in this research. Numerous studies corroborate the challenges highlighted by respondents, emphasizing the multifaceted nature of healthcare access barriers in rural settings.

For instance, a study by Khan et al. (2020) found that insufficient funding, limited healthcare workforce, and geographical remoteness are major obstacles to healthcare access in rural Pakistan, aligning with the findings of this research. Similarly, research by Ahmed et al. (2019) underscored the impact of socio-economic disparities on healthcare accessibility, emphasizing the need for holistic approaches to address poverty, education, and gender disparities.

In terms of infrastructure, studies by Mahmood et al. (2018) and Ali et al. (2021) have highlighted the critical role of infrastructure development in enhancing healthcare access in rural areas. Improved road networks, proximity of healthcare facilities, and adequate funding for infrastructure projects were identified as key factors in improving healthcare accessibility, supporting the findings of this research.

Moreover, research by Shahzad et al. (2017) and Hussain et al. (2020) delved into community-specific factors influencing healthcare access, including cultural norms, gender dynamics, and preferences for traditional healers. These studies emphasize the importance of community engagement and culturally sensitive healthcare approaches in addressing healthcare disparities in rural communities, echoing the findings of this research.

However, some studies challenge some aspects of the findings. For instance, research by Malik et al. (2019) suggested that while infrastructural improvements are necessary, they may not always directly translate to improved healthcare access due to complex socio-economic factors. Similarly, studies by Khan and Khan (2018) and Sajjad et al. (2020) highlighted the role of government policies and governance issues in hindering healthcare access, which were not extensively discussed in the current research.

While the findings of this research are supported by a wealth of literature, some nuances and challenges require further exploration. Future research should continue to examine the interplay of various determinants of healthcare access in rural areas, taking into account socio-economic, infrastructural, community-specific, and cultural factors to develop comprehensive strategies for improving healthcare accessibility and equity in rural Pakistan.

CONCLUSION

In conclusion, this research underscores the multifaceted nature of healthcare accessibility in rural Pakistan, highlighting a range of determinants that collectively shape the accessibility and availability of primary healthcare services. The thematic analysis of respondents' perspectives reveals several critical challenges, including insufficient funds, limited human resources, remote healthcare facility locations, and transportation constraints. These barriers necessitate targeted interventions to bridge funding gaps, address workforce shortages, and enhance transportation infrastructure, thereby improving healthcare access for rural populations.

The study emphasizes the crucial role of socio-economic factors in healthcare accessibility. Poverty, lack of education, gender disparities, and cultural norms emerge as significant barriers, demonstrating the intersectionality of these determinants. Addressing these socio-economic disparities requires holistic approaches, such as poverty alleviation programs, education initiatives, and gender-sensitive healthcare services. By acknowledging the interplay of these factors, policymakers can develop comprehensive strategies to reduce healthcare disparities and promote equitable access to healthcare services.

Infrastructure development is identified as a pivotal determinant of healthcare accessibility. Respondents highlight the importance of financial investment, improved road networks, and the proximity of healthcare facilities in enhancing accessibility. The need for coordinated efforts to invest in infrastructure development projects and implement awareness campaigns to promote healthcare utilization in rural areas is evident. Improved infrastructure not only facilitates easier access to healthcare services but also enhances the overall efficiency and effectiveness of healthcare delivery in rural communities.

Community dynamics and cultural factors also play a significant role in shaping healthcare accessibility. Gender-specific barriers, preferences for traditional healers, and cultural beliefs influence healthcare-seeking behavior. The study underscores the importance of community engagement, culturally sensitive healthcare approaches, and gender-sensitive services to ensure equitable access to healthcare for all rural residents. Addressing cultural barriers requires culturally competent healthcare approaches and community education initiatives to promote evidence-based healthcare practices and overcome misconceptions.

Furthermore, the research highlights the critical role of healthcare workers, including lady health workers, field staff, midwives, and mobile healthcare teams, in impacting the accessibility of primary healthcare in rural areas. These frontline workers are essential in delivering healthcare services directly to communities, overcoming geographical barriers, and increasing healthcare access. Leveraging mobile healthcare teams and ambulance services can enhance accessibility and reach underserved populations in remote areas.

So, improving healthcare accessibility in rural Pakistan requires a multi-dimensional approach involving targeted interventions, policy reforms, and community engagement initiatives. By recognizing the complex interplay of socio-economic, infrastructural, and cultural factors, policymakers and healthcare providers can work towards building a more inclusive and responsive healthcare system that meets the needs of rural communities. Future research should continue to explore these determinants to develop comprehensive strategies that ensure equitable healthcare access and improve health outcomes for all rural residents in Pakistan.

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