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A Low Middle-Income Community's Perceptions About PCMH: An Exploratory Study from Urban Pakistan

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Keywords: Primary care; Community outreach; Quality health care.

Abbreviations: AAFP: American Academy of Family Physician AKUAga Khan University; AM: Adult Men; AW: Adult Women; CBHIS: Community-Based Health Information System CHW-Community health workers; CVD: Cadriovascular disease; FMHC: Family Medicine health Center HAS Health Assessment Survey; MPI: Multidimensional Poverty Index NCD Noncommunicable disease PCMH Patient Centered Medical Home; PHC: Primary health care; YM: Young Men; YW: Young Women.

Abstract

In Pakistan, there is an urgent need to overhaul primary healthcare to improve access to affordable, high-quality services while balancing preventive care and treating episodic infections and chronic diseases. Patient-centered medical home model has been used to engage communities and provide context-relevant services. To understand the perspectives of a low-middle income community in Karachi, a study focused on their healthcare needs, perceptions of quality care, and access barriers.

Using a participatory approach, the study conducted ten focus group discussions involving 66 participants—adult men, women, youth of both genders, and stakeholders. Discussions, facilitated in Urdu, were transcribed, and thematically analysed. Standards for Reporting Qualitative Research (SRQR) guidelines were followed in reporting findings of the study.

Two key themes emerged: the community's definition of quality healthcare and the influence of social determinants on health (SDH). Quality care, according to participants, involved proximity to health facilities, comprehensive services under one roof, and proper medical record maintenance. They emphasized the importance of specialist and female doctors, skilled healthcare staff, and effective physician communication. Participants had limited understanding of PCMH tenets such as continuity of care and comprehensive care.

Social determinants significantly impacted health outcomes. Poverty was the primary factor, followed by deficient civic infrastructure, lack of healthcare financing, and limited health literacy.

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In conclusion, Pakistan's health challenges stem from the complex interplay of weak civic infrastructure, poverty, inadequate healthcare facilities, and low health literacy. Addressing these demands collaborative efforts involving private healthcare, government, and community stakeholders. Establishing consistent communication channels among these entities can tailor solutions, mitigating prevalent healthcare issues.

Introduction

Pakistan, a low-middle income country, with a population of over 220 million, [1] faces multiple challenges in healthcare delivery. The government's healthcare expenditure is 2.6% of the Gross Domestic Product (GDP), the lowest among its regional peers [2]. Improper resource allocation, with continued focus on hospital-oriented care has led to inequality in access and provision of healthcare; with a marginal impact on overall disease burden [3]. This has led to a existence of a parallel, unregulated, private health care system especially in urban areas; where 71% of people seek episodic, curative care on a fee-for-service basis [3]. Low- middle income urban households are especially affected by the high out-of-pocket cost of care, which takes precedence over their nutritional, educational, and personal care needs [4]. As a result, many families are forced to make healthcare decisions based solely on accessibility and cost [5], the impact of which is seen in the rise of preventable illnesses including non-communicable diseases (NCDs) such as cancers, cardiovascular diseases (CVDs), chronic respiratory diseases, and diabetes are now responsible for more than half of all deaths [6]. NCDs lead to premature mortality in an estimated 4150 out of every 100,000 Pakistani; with serious economic consequences of lost productivity and increased healthcare costs [7].

Similar issues are noted in healthcare systems of other countries in the region. While Bangladesh has shifted its emphasis to both preventive and curative services, the system remains challenged by issues ingovernance, finances, human resources, service delivery, technology, manpower, and essential supplies [8,9]. Personnel and financial shortages in India's healthcare system have led to a large private health care delivery industry, with significant increase in out-of-pocket expenses [10].

Primary Health Care (PHC) that is based on scientifically sound and socially acceptable methods and technology, is an essential building block of a healthcare system [11]. PHC serves as the initial level of contact for individuals and community by bringing healthcare services in proximity to where people live and work. By providing preventive and promotive care along with management of chronic diseases, a robust PHC in the healtcare system also improves population health and reduce healthcare costs [12].

It is important that countries facing similar challenges redefine the role of PHCs in both the public and private health systems; and realign it with communities' expectations [13]. For example, when providedwith multiple options, adults living in urban slums in Southeast Asia preferred private providers for theirhealthcare needs [14]. In addition, while primary care providers understand the need for integrated management of NCDs in PHC facilities, this is limited due to variability of government funding [15]. In an attempt to address these concerns, the Aga Khan University has recently introduced a sustainable Primary Health Care (PHC) model [16] based on the principles of a Patient Centered Medical Home (PCMH) [17]. Our PHC, known as the Family Medicine Health Center (FMHC), endeavors to deliver accessible, cost-effective, and high-quality care to the community. In the absence of a national or local integrated health information system [18], the PHC plans to establish its own Community-Based Health Information System (CBHIS) [19,20] to ensure that the clinical services respond to the community's ongoing health needs. The CBHIS is being created by completing a door-to-door Household Health Assessment Survey (HAS) within the catchment population by community health workers (CHWs). The resultant CBHIS will enable the clinical team to better understand health needs, enhancing the effectiveness of the model. Details of the proposed model can be found in a separate publication [21].

Recognizing that a successful PCMH relies on understanding the community's needs and ongoing community engagement, we conducted a qualitative study aimed at exploring the local community's health needs, perceptions on quality care, and barriers to access care. We report our findings accordingto the Standards for Reporting Qualitative Research (SRQR) guidelines.

These insights will be leveraged to tailor our model and develop a responsive PHC that meets the community's needs. Our aim is to directly address community concerns and foster empowered, accessible healthcare within their context. In addition, our results can be used by other health systems within Pakistan and other LMICs facing similar challenges.

Methods

Study design, Setting and Population: A qualitative exploratory research was conducted with community members from the catchment population of FMHC, which is defined as residents living within walking distance (0.5 km). FMHC is located in Gulberg town [28], a densely populated area of District Central, Karachi [22], and is inhabited by middle and low-middle income families. Due to town density (497,000 people within a 14 km^2 area) and affordability, majority of residents live in apartment complexes.

Ethical Approval: The study was approved by the university's Ethics Review Committee (ERC# 2021-6723-20073). All participants gave written consent for taking part in, and audio-recording of the focus group discussions (FGDs). A copy of the signed consent was shared with each participant.

Interview Guide: The research team created an interview guide based on literature search and investigators' experiences working in similar communities. The guide was developed in the local language (Urdu), with questions designed to explore the perceptions of the community based on the aforementioned aims. Investigatorsensured face validity of the questions by pretesting the guide with a group of community members before actual data collection.

Participant recruitment and selection: Participation in FGDs was encouraged through multiple avenues including: flyers circulated by CHWs, announcements through the local mosque, and informal meetings with community stakeholders including administrative heads of apartment complexes, school principals, religious leaders from local mosques and representatives of local political party.

Using a convenience sampling strategy, separate FGDs were conducted for (i) adult men, (ii) adult women, (iii) young men, (iv) young women, and (v) community stakeholders. Ten focus

group discussions (FGDs) including 66 participants were conducted. Participants' characteristics are presented in Table 1.

Table 1: Participants' characteristics.

Group	Number of FGDs	Participants (n)	Age range
Adult Men (AM)	2	19	25-70years
Adult Women (AW)	2	17	22-60 years
Youth Men (YM)	2	5	17-23 years
Youth Women (YW)	3	17	17-23 years
Stake holders	1	8	35-70 years
Total	10	66	

Data Collection: Face-to-face FGDs were conducted between January to March 2022. To ensure standardisation across all groups, one member of the research team acted as the facilitator for all FGDs. Each discussion lasted 30- 45 minutes. FGDs were concluded once the research team agreed that data had reached a saturation point and no new themes were emerging.

Audio recordings were downloaded to a password-protected, research laptop. The recordings were then transcribed verbatim into written Urdu, to ensure that no meaning was lost.

Analysis: Thematic analysis was conducted manually using an iterative process of both inductive and deductive methods. Four members of the research team read the transcripts independently and highlighted initial codes. This was followed by a joint meeting of authors, where all the codes were listed and the extracted response statements were tabulated in Excel. In consequent meetings, the groupings of common codes referring to broader themes were identified. Groupings evolved and were restructured as the team sifted through data, allowing for more comprehensive analysis. Following this, the transcriptions were re-read,and all instances of overlap or contradictions were discussed and resolved. This continued till consensus had been reached on the definitions and grouping of all themes and sub themes. Detailed notes discussing the development of hierarchies and thematic concepts were maintained.

Results

Analysis revealed emergence of two broad themes, (i) perceptions of quality care and (ii) impact of social determinants of health (SDH).

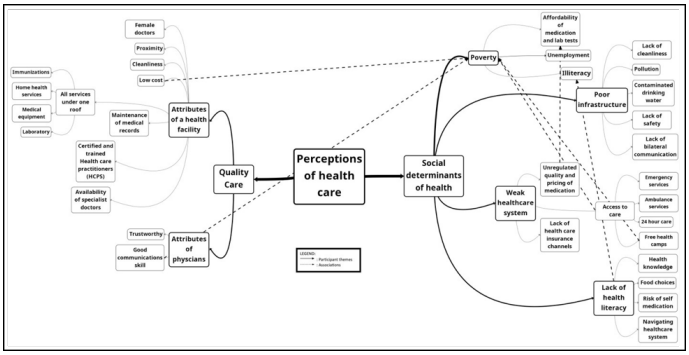

Figure 1: Thematic map and subthemes generated by the FGDs.

Perceptions of Quality Care: Participants' perceptions of quality care were further divided into two sub themes:

a. Attributes of a health facility: Participants' satisfaction with a health facility depends on co-existence of multiple attributes as illustrated by the following statement: "doctors should be qualified. There should be a nearby clinic with laboratory services and charges should also be low." (AM) This encompasses the need for proximity of low-cost services with trained health care providers. Participants also connected the maintenance of the facility with the quality of care: "environment can predict the kind of treatment we will receive here; environment should be clean" (YM).

Proximity as a key attribute of a good facility was a concern for both young and adult female participants: "Hospital where any illness can be treated closer to our house, so we don't have to go far away" (AW).

In addition, they shared cultural contexts to care: "there should be separate doctors for ladies and gentlemen" (YW).

Comprehensive care meant availability of all specialty services under one roof. As one adult male participant said, "there should be specialist doctors so that if I have flu I go to that doctor and if I break my bone I go that particular doctor." Another participant said, "it will help, if treatment is all in one place, then patients don't have to run around" (YM).

Participants' understanding of continuity of care was limited to maintenance of medical records, "medical records should be there so patients don't have to repeat their problems, this saves time" (AW);

Participants stressed on the importance of quality of training of health staff, "not like some places where people cheat and pass" (AM); "doctors should be well trained"; "not just the doctor but the whole staff should be well-trained and certified" (YW).

b. Attributes of a Physician: Good communication skills, where respect and dignity of patients were ensured, was expressed as a fundamental attribute of a good physician, "doctors' attitude is most important" (stakeholder). One adult woman commented: "with a good way of speaking half the disease is treated". Participants further elaborated on this by mentioning "good speaking tone" (AM); and "someone who treats us well" (AW)

Additionally, concern regarding the trustworthiness of the physician was raised by an adult male participant: "first of all it is important for a doctor to be honest, like we hear that doctors take commission from medicine companies and misguide patients, so we expect your team to be honest."

Impact of social determinants on health: When talking about access to health care, participants predominantly talked about social determinants and their impact on health.

Poverty: Poverty (lack of funds for healthcare) emerged as a key obstacle to good health. It was discussed by participants in all groups in different contexts. The general perception was that health care costs, including the cost of medicines and labs are unaffordable: "people generally don't go to doctor's clinic and get medicines over the counter to save money" (AM); "expenses are too high; doctors' fee … on top of that medicines and tests. That is why people (prefer to) cure themselves at home" (stakeholder); "people need to be employed. If they have money, only then they can spend on their health." (YM)

Low socioeconomic status was also linked to the attitude of healthcare providers: "quality of attention and care given is dependent on how much money someone has. Those who don't have money are not evenlooked at" (AW).

All groups recognized that there is a need of low-cost or free care for those who cannot access care due to financial constraints. Consequently, low cost of care was perceived as a key attribute of a good health facility. Multiple participants expressed "low service charges" and "low doctor fees" as factors essential for supporting poor patients.

a. Poor civic infrastructure: Participants repeatedly talked about the poor civic infrastructure and its impact on health. All of them expressed their disappointment about poor management of basic amenities and unsafe environment. Lack of cleanliness and contaminated drinking water were the topmost concerns: "People are living in unhygienic conditions" (AM); " people get sick due to lack of cleanliness" (AW); "the drinking water in this area is very dirty as water tanks are not cleaned regularly" (YM). This was followed by concern regardinglack of safety "due to broken balconies and overflowing gutters (YW); and the effects of stress and pollution: "there shouldn't be this much noise" (YW); "there is air pollution" (YW). "People here have these illnesses (hypertension) due to tension in my opinion. The environment should be better" (YW).

Participants also shared their frustration with the local government to help resolve these issues. "There is a communication problem; we are not able to take matters related to cleanliness to the union council" (YW).

b. Weak health care system: Many participants talked about system-level issues with healthcare. They pointed out the lack of emergency services and ambulance services: "even if someone has the money, they die on the way" (AM); "if a doctor is not available, nurses should be there to provide immediate care till the ambulance arrives" (AW).

c. Moreover, lack of regulation of quality and pricing of medications was highlighted as a major issue with the health system: "There should be control over prices of the medicines" (YW); "and quality of medicinesshould be good" (YM).

Unavailability of health insurance emerged as a deficiency of the system to help access: "make a membership card for us"; "you should start a health card" (AM).

d. Lack of health literacy: Lastly, participants identified lack of health literacy in the population as a major barrier to good health. They raised the need to create awareness in the community regarding risk factors, guiding them about managing their illnesses better, navigating the health care system and making better food choices. They mentioned that self-medication could also be minimized by creating awareness."Tell (about) prevention.Medicine and food choices that help strengthen the immune system" (AM); "if people eat good food theirhealth will stay better." (YM); "awareness about self-medication" (YW); "guidance is important" (AM); "there is no awareness about which doctor to go to" (YW). One female youth participant noted that "awareness sessions can be part of the health camps".

Lack of health literacy was also discussed as a function of rampant illiteracy: "if people are educated, they will be more aware regarding matters of health" (YM). "uneducated parents lack awareness regarding health as well; if children can be educated, this problem can be minimized." (YW) as well as neglect on part of the physician: "doctors are not guiding properly." (AM).

Discussion

Findings of this study suggest that a community's perception about good health are strongly influenced by factors related to a poor civic infrastructure (such as sanitation, poverty), weak healthcare infrastructure (such as unavailability of qualified health care providers), catering to cultural norms (such as preference of a female physician for women and children) and personal factors (such as poor health literacy). Community's expectations of a health facility that provides good quality care were stated as being clean, affordable, accessible, with all services under-one-roof, and qualified physicians who use medical records to allow continuity of care. Whereas adequate qualification, good communication skills and trustworthiness were perceived as attributes of a good physician.

Our findings suggest that community members recognize the barriers created by multidimensional poverty in achieving good health. The Multidimensional Poverty Index [23] that takes into consideration monetary poverty, education and basic infrastructure services (such as sanitation and provision of clean water), reports that 38% Pakistanis live in multidimensional poverty [23]. While participants identified illiteracy as a determinant, issues pertaining to basic infrastructure (such as improper waste disposal and contaminated water) are prime concerns in a low-middle income community.

Lack of finances was a dominant theme in accessing quality care. Participants associated cost not just with access to a qualified physican and facility, but also the ability to get the correct workup and quality- controlled medications. In Pakistan's fee-for-service environment, the high cost of care in absence of an insurance mechanism is a barrier to access care [24]. Recent, publically-funded initiatives such as the Sehat Insaf Card for the very poor, report a high patient satisfaction due to free medical services, and support with transportation charges [25,26]. However, most low-middle income households do not meet the qualifying threshold for such initiatives, and have to rely on their own finances. We find that low- middle income communities are open to health financing such as medical insurance mechanisms. In addition, they identify free health camps as a solution for overcoming financial barriers for those who can't afford care.

Participants' satisfaction with a health facility is not only based on access but also on the presence of qualified physicians with good communication skills. Patient-provider interactions are the crux of satisfaction with health services in all socioeconomic strata. A study from a primary care clinic in an urban slum of Karachi reported patient satisfaction to be linked with doctors' listening, assessing, and counselling skills [27]. Another study from primary care clinics catering to patients from middle and high socioeconomic strata in Karachi reported patient expectation of a detailed explanation of diagnosis and management plan during the physician consultation [28]. A comprehensive literature review also reports patient satisfaction to be closely linked with responsiveness which is explained as respect, dignity, autonomy and prompt attention [29]. Similar to studies from developed countries, our population recognizes value of infection control and would be more confident in the care provided in a clean facility.

Both male and female participants expressed availability of a female doctor for women and children as an essential unmet health need. This gender-specific doctor preference is influenced by Pakistani culture, and also noted in studies from other regions sharing cultural similarities [30,31]. Despite this need, studies

from Pakistan report a lack of qualified female physicians [32]. Although 85% medical students are women, less than half continue to practice medicine after graduation [33]. Thus health facilities have to be cognizant of this need if they wish to provide care to all members of a community.

It was interesting to note that participants' understanding of basic tenets of quality in primary care werenot in line with those envisioned by primary care organizations. For example, participants consider existence of medical records as synonymous with continuity of care. Another study from primary care clinics in urban slums of Karachi also reports patient satisfaction with maintenance of personal files [27]. The American Academy of Family Physicians (AAFP) defines continuity of care as the "process by which the patient and his/her physician-led care team are cooperatively involved in ongoing health care management toward the shared goal of high quality, cost-effective medical care" [34]. While a medical record allows this process, participants in our study were unable to comprehend this aspect of quality care as they have never experienced it in its entirety. Similary, on asking about comprehensive care, participants stressed on the presence of all services-under-one-roof and having all specialists at the facilty. Again, this is very different from the AAFP's vision of comprehensive care that includes "concurrent prevention and management of multiple physical and emotional health problems of a patient over a period of time in relationship to family, life events and environment" [35]. This indicates that communityparticipants were unable to comprehend these concepts entirely, due to lack of any such previous experience at a health care facility. Promoting community empowerment through improved health literacy may help in narrowing this gap.

Participants identified lack of knowledge about health conditions (functional health literacy), [36] as an unmet health need. Participants associated this gap with impact on everyday choices such as food choices and self-medication. Lack of health awareness is a known barrier to health service utilization at the primary care level [37]. Multiple studies report a positive impact of health awareness on health outcomes [38,39,40,41]. Hence health facilities should ensure health education as a component to clinical services.

Strengths and limitations: While we were focused on the catchment population of FMHC, our study provides insights in a low-middle income community's expecations of a primary healthcare facility. Findings can be leveraged to optimise service delivery for improved access and health outcomes.

Conclusion

The co-existing structural issues of Pakistan, coupled with gaps in healthcareat the primary level have a detrimental impact on society's health. Furthermore, a lack of health awareness within the community exacerbates the situation. As we redefine PHCs into PCMHs, it is important to understand communities' expectations of such facilities, and the barriers they face in accessing care. In addition, it is important to recognize that many key aspects of quality primary care have never been experienced by many communities, making it an opportunity to improve the primary care models in communities across LMICs.

Author contributions:

Each author contributed to this manuscript in various capacities. The contributions of each author are outlined below:

Sabeen Shah:

Conception and design of the study

Acquisition of data

Analysis and interpretation of data

Drafting the manuscript

Asra Qureshi:

Conception and design of the study

Acquisition of data

Analysis and interpretation of data

Drafting the manuscript

Rabia Jaffar:

Analysis and interpretation of data

Drafting the manuscript

Shirin J. Reshamwala:

Analysis and interpretation of data

Drafting the manuscript

Yasmeen Noornabi:

Acquisition of data

Drafting the manuscript

Rashida Ferrand:

Provided feedback on the study design

Critically reviewed the manuscript

Judith Wylie-Rosett:

Provided feedback on the study design

Critically reviewed the manuscript

Unab I. Khan:

Conception and design of the study

Provided feedback on the study design

Project supervision

Drafting the manuscript

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Ethical Approval: The study was approved by Aga Khan University- Ethics Review Committee (ERC# 2021-6723-20073). All participants gave written consent for taking part in, and audio-recording of the focus group discussions (FGDs). A copy of the signed consent was shared with each participant.

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