



Unequal Smiles: Gendered Barriers to Oral Health Services in Resource-Constrained Settings

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ABSTRACT

Background: Oral health inequities remain a neglected public health concern in low- and middle-income countries, where access to dental services is shaped not only by resource constraints but also by gendered social relations. In Pakistan, limited public oral healthcare infrastructure intersects with entrenched gender norms, potentially producing unequal access to services, particularly for women.

Objective: This study explored gendered barriers to access and utilization of oral health services in resource-constrained settings of Khyber Pakhtunkhwa (KP), Pakistan.

Methods: An exploratory qualitative study was conducted in rural and peri-urban communities of Mardan and Peshawar districts, KP. Data were collected through six focus group discussions with community members (four with women and two with men; $n = 42$) and six in-depth interviews with public-sector dental providers and frontline health workers ($n = 6$). Participants were purposively selected to capture diversity in gender, age, and socio-economic background. All discussions and interviews were conducted in Pashto or Urdu, audio-recorded, transcribed verbatim, and analyzed thematically using an inductive-deductive approach informed by a gender analytical framework.

Results: The findings reveal that access to oral health services is deeply gendered and shaped by interlinked household, socio-cultural, economic, and health system factors. Women's oral health needs were consistently deprioritized within households, normalized as non-urgent, and delayed until pain became severe. Limited decision-making autonomy, financial dependency, and mobility restrictions significantly constrained women's ability to seek care, particularly in rural areas. Systemic deficiencies in public oral healthcare including inadequate

staffing, equipment shortages, and poor service availability further exacerbated gender disparities. Low preventive awareness and normalization of oral disease contributed to delayed care-seeking among both genders, with disproportionately adverse consequences for women. These barriers were mostly pronounced at the intersection of gender, poverty, and rural residence.

Conclusion: Unequal access to oral health services in KP is not solely a function of service scarcity but is structurally produced through gendered power relations and institutional neglect of oral health. Addressing oral health inequities requires gender-responsive health system strengthening, integration of oral health into primary care, financial protection mechanisms, and community-based interventions that challenge restrictive gender norms.

Introduction

Oral health is a fundamental component of overall health and well-being, yet it remains persistently marginalized within public health systems, particularly in low- and middle-income countries (LMICs). Oral diseases including dental caries, periodontal disease, and tooth loss are among the most prevalent noncommunicable diseases globally, affecting an estimated 3.5–3.7 billion people worldwide (Peres et al., 2019; World Health Organization [WHO], 2022). These conditions contribute substantially to pain, infection, impaired nutrition, reduced productivity, and diminished quality of life. Despite their largely preventable nature, oral diseases continue to impose a disproportionate burden on socially and economically disadvantaged populations, reflecting broader inequities in health systems and social determinants of health.

In recent years, global health discourse has increasingly emphasized the role of social, economic, and structural determinants in shaping oral health outcomes. The WHO's *Global Oral Health Status Report* underscores that unequal access to oral healthcare is closely linked to poverty, geography, and weak health systems, with oral health often excluded from universal health coverage (UHC) benefit packages (WHO, 2022). Consequently, access to preventive and curative dental services remains highly stratified, favoring urban, wealthier populations while marginalizing rural and low-income communities. These inequities are further compounded by gender, which operates as a cross-cutting determinant influencing health needs, care-seeking behavior, and access to services (Riaz et al., 2024b). Gendered health inequities are well documented across a range of health outcomes, with women in many LMICs experiencing systematic disadvantages due to sociocultural norms, restricted autonomy, and economic dependency (Kabeer, 1999; Sen & Östlin, 2008). Within patriarchal contexts, women's health needs are frequently deprioritized relative to men's productive roles, particularly when healthcare is perceived as costly or non-essential. Such dynamics have been extensively observed in maternal, reproductive, and general healthcare utilization in South Asia, including Pakistan, yet remain underexplored in relation to oral health (Das Gupta, 2015; Sen et al., 2007). Pakistan faces a particularly severe oral health burden, compounded by chronic underinvestment in the health sector. Public health expenditure remains below 1% of gross domestic product, limiting the scope and quality of publicly funded services (Ahmed et al., 2022). Oral healthcare is largely excluded from primary healthcare delivery and receives minimal institutional priority. Public sector dental services, where available, are typically concentrated in tertiary-level teaching

hospitals and district headquarters, offering limited procedures such as tooth extractions, with inadequate staffing, equipment shortages, and irregular service provision (Basharat & Shaikh, 2016; Ahmed et al., 2022). As a result, much of the population relies on out-of-pocket payments for private dental care or delays treatment altogether.

Empirical evidence indicates a high prevalence of untreated oral disease in Pakistan. A systematic review reported widespread dental caries across age groups, with particularly high unmet treatment needs in rural and low-income populations (Anwar et al., 2021). Studies consistently identify cost, distance to facilities, lack of awareness, and fear of treatment as key barriers to care (Ahmed et al., 2019; Javed et al., 2022). However, most of this evidence is derived from quantitative surveys that inadequately capture the gendered and relational dimensions of access, particularly how household power structures and sociocultural norms shape oral health-seeking behavior.

Gender differences in oral healthcare utilization in Pakistan reflect broader inequalities in decision-making power and resource control. Women often lack independent financial resources and must rely on male household members for permission and funding to seek healthcare, leading to delayed or foregone treatment (Shaikh et al., 2019; Naz et al., 2022a; Naz et al., 2022b; Ishtiaq et al., 2025). Research from peri-urban and rural settings shows that women are more likely to normalize oral pain, rely on home remedies, and seek care only at advanced stages of disease, whereas men are more likely to access treatment when oral health problems interfere with paid work (Javed et al., 2022). These patterns suggest that oral health is embedded within gendered valuations of productivity and care, reinforcing unequal outcomes.

In Khyber Pakhtunkhwa (KP), these challenges are intensified by conservative gender norms, limited female mobility, and pronounced rural–urban disparities (Naz et al., 2023a). Women’s movement outside the home is often constrained by social expectations and caregiving responsibilities, restricting their ability to access distant health facilities without male accompaniment (Naz et al., 2022a; Ishtiaq et al., 2025). When combined with the scarcity of functional public dental services at the primary care level, these constraints disproportionately disadvantage women, particularly those from poor and rural households. Yet, despite KP’s unique sociocultural and geographic context, qualitative evidence on gendered experiences of oral health access in the province remains scarce.

Globally, there is growing recognition that oral health inequities cannot be addressed through service expansion alone. The Lancet Oral Health Series emphasizes the need for system-level reforms that integrate oral health into broader health and social policy frameworks, with explicit attention to equity and social justice (Peres et al., 2019; Watt et al., 2019). Gender-responsive health systems those that acknowledge and address gender-based power relations are increasingly viewed as essential for achieving equitable access to care (Morgan et al., 2016; Sen & Östlin, 2008). However, such approaches remain largely absent from oral health policy and research in Pakistan.

Against this backdrop, the present study seeks to address a critical evidence gap by qualitatively examining gendered barriers to oral health service access in resource-constrained settings of Khyber Pakhtunkhwa. By centering the lived experiences of women and men alongside perspectives from public-sector healthcare providers, the study moves beyond individual-level explanations to illuminate how household dynamics, sociocultural norms, economic constraints, and health system deficiencies interact to shape oral health access. Understanding these gendered pathways is essential for informing policies and interventions that move toward more inclusive, equitable, and gender-responsive oral healthcare systems.

Methodology

Conceptual Framework of the study

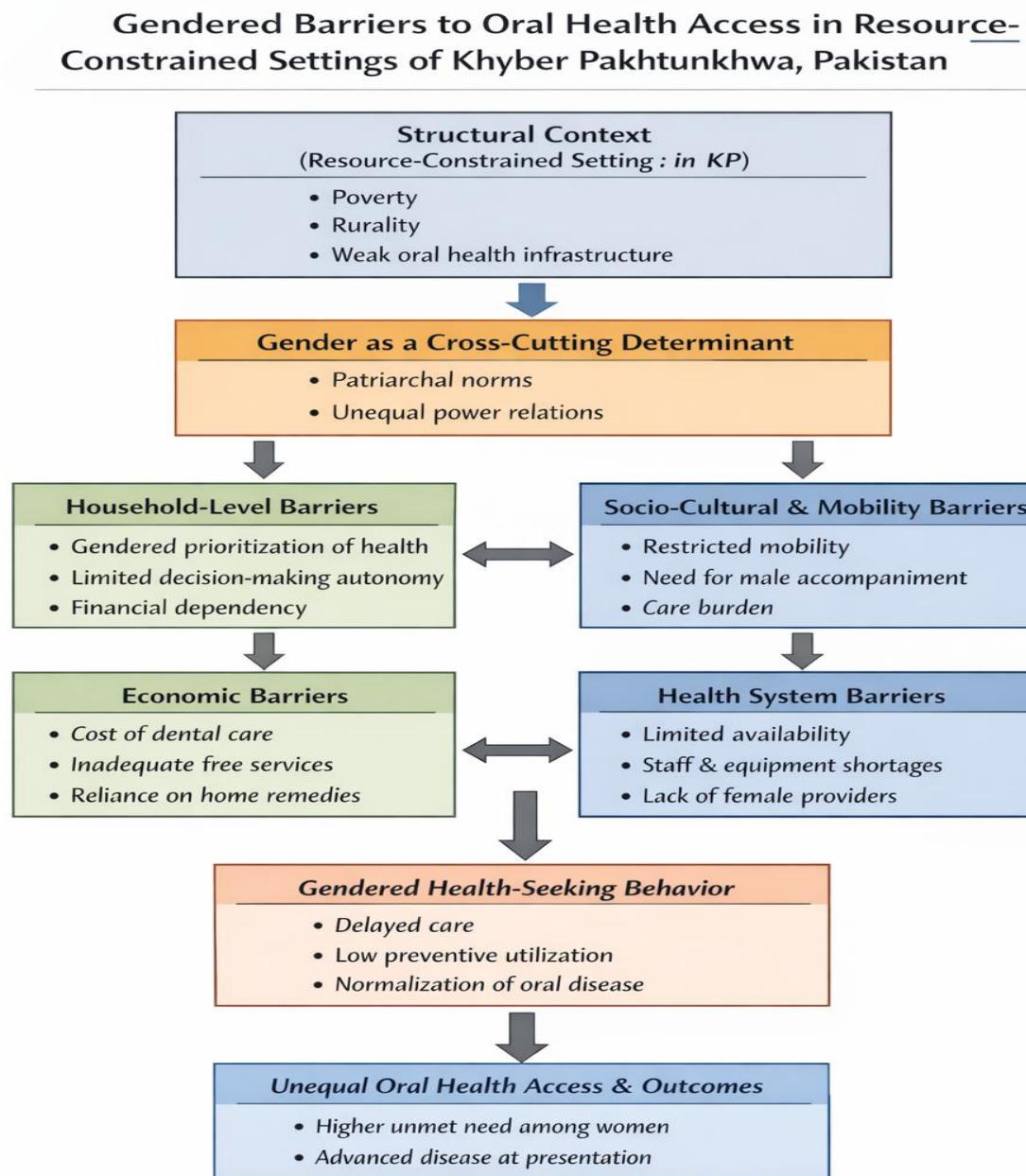


Figure 1. Conceptual framework illustrating gendered barriers to oral health access in resource-constrained settings of Khyber Pakhtunkhwa, Pakistan.

The figure depicts gender as a cross-cutting structural determinant that mediates access to oral health services through interconnected household-level, socio-cultural, economic, and health system barriers. Within a broader context of poverty, rurality, and limited public healthcare

infrastructure, gendered norms shape decision-making autonomy, mobility, and control over financial resources. These interacting constraints influence health-seeking behavior, contribute to the normalization of oral disease, and result in delayed care utilization and unequal oral health outcomes, particularly among women.

Study Design

This study adopted a qualitative exploratory research design to examine gendered barriers to access and utilization of oral health services in resource-constrained settings. A qualitative approach was considered appropriate to capture the lived experiences, social norms, and intra-household power relations that shape oral health-seeking behaviors among men and women in Khyber Pakhtunkhwa (Naz et al., 2022b; Riaz et al., 2025; Naz et al., 2025; Riaz et al., 2024a).

Study Setting

The study was conducted in KP, Pakistan, specifically in rural and peri-urban communities of the districts of Mardan and Peshawar. These districts were selected due to their socio-economic diversity, high reliance on public-sector healthcare facilities, and limited availability of specialized dental services. Public oral healthcare in these areas is primarily delivered through teaching hospitals, district headquarter hospitals, and basic health units with minimal dental infrastructure, making them appropriate settings for examining access-related constraints.

Study Population

The study population comprised adult men and women aged 18 years and above who had been residing in the selected communities for at least one year. Participants included community members as well as public-sector dental healthcare providers and frontline health workers involved in oral health service delivery.

Sampling Strategy and Sample Size

A purposive sampling strategy was employed to ensure inclusion of participants with diverse gender, age, and socio-economic backgrounds (Afzidi et al., 2025; Naz et al., 2024c; Naz et al., 2024d).

The total qualitative sample consisted of 48 participants, distributed as follows:

- **Focus Group Discussions (FGDs):**
 - 4 FGDs with community women (6–8 participants each; $n = 28$)
 - 2 FGDs with community men (6–8 participants each; $n = 14$)
- **In-Depth Interviews (IDIs):**
 - 6 IDIs with key informants, including public-sector dental surgeons, medical officers, and community health workers ($n = 6$)

Sampling continued until data saturation was achieved, defined as the point at which no new themes emerged from successive interviews or discussions.

Data Collection Methods

Data were collected using interview guides developed in line with the study objectives. Focus group discussions were conducted separately for men and women to encourage open dialogue and minimize social inhibition, particularly among female participants. In-depth interviews with key informants explored institutional constraints, service delivery challenges, and gender-related barriers from a provider perspective (Amin et al., 2025).

All FGDs and IDIs were conducted in Pashto and Urdu, depending on participant preference, and were audio-recorded with informed consent (Riaz et al., 2024b). Field notes were maintained to capture non-verbal cues and contextual observations.

Data Analysis

Audio recordings were transcribed verbatim and translated into English where necessary. Data were analyzed using thematic analysis (Naz et al., 2023a; Naz et al., 2023b; Naz et al., 2024a; Naz et al., 2024b), guided by a gender analytical framework. An inductive deductive coding approach was employed to identify recurring patterns related to socio-cultural norms, economic dependency, mobility restrictions, healthcare prioritization, and experiences with public oral health services. Coding was conducted systematically, and emerging themes were reviewed iteratively to ensure analytical depth and consistency.

Trustworthiness and Rigor

To enhance the rigor of the qualitative analysis, credibility, dependability, and confirmability were ensured through prolonged engagement in the field, triangulation across FGDs and IDIs, and peer debriefing during the coding process. An audit trail was maintained to document analytical decisions.

Ethical Considerations

Written informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity were strictly maintained through the use of pseudonyms and coded identifiers (Naz et al., 2023c). Gender-sensitive research practices were followed, including same-gender facilitators for FGDs where appropriate, to minimize power imbalances and ensure participant comfort (Naz et al., 2025).

Results

Analysis of the focus group discussions (FGDs) and in-depth interviews (IDIs) yielded a set of interrelated themes that illuminate the gendered barriers shaping access to oral health services in resource-constrained settings of Khyber Pakhtunkhwa. The findings reveal that oral health access is deeply embedded within broader gender norms, economic constraints, and institutional limitations, resulting in systematically unequal experiences for men and women.

Theme 1: Gendered Prioritization of Oral Health Needs within Households

Across all female FGDs, participants reported that women's oral health needs were consistently deprioritized within households. Oral health problems were widely normalized as non-urgent, particularly for women, whose health concerns were often postponed in favor of men's income-generating activities or children's needs.

Women described enduring pain, tooth decay, and gum infections for prolonged periods, seeking care only when symptoms became unbearable. In contrast, men reported comparatively earlier care-seeking, particularly when oral pain interfered with work.

"If my husband has pain, we must take him because he earns. If I have pain, I manage with painkillers." (*Female FGD participant, rural Mardan*)

This gendered prioritization was closely linked to women's perceived roles as caregivers rather than care recipients, reinforcing unequal access to oral health services.

Theme 2: Limited Decision-Making Autonomy and Financial Dependency

A dominant theme across women's narratives was restricted decision-making autonomy regarding healthcare. Most women reported that they could not independently decide to visit a dental facility without permission from male household members. Financial dependency further constrained women's access, as dental care was viewed as expensive and non-essential.

Men acknowledged their role as primary decision-makers, often framing dental care for women as discretionary rather than necessary.

"Dental treatment costs money, and we first think whether it is really needed. For women, we usually wait." (*Male FGD participant, peri-urban Peshawar*)

These findings underscore how control over household finances and mobility functioned as structural barriers to women's oral health access.

Theme 3: Mobility Constraints and Sociocultural Norms

Women across both districts emphasized mobility restrictions as a critical barrier. Cultural norms limiting women's movement outside the home particularly unaccompanied travel significantly reduced their ability to access distant dental facilities.

Participants highlighted the lack of nearby public dental services, requiring travel to district hospitals, which was often not feasible for women due to time constraints, childcare responsibilities, and the need for a male escort.

"The hospital is far. I cannot go alone, and my husband cannot take leave every time." (*Female FGD participant, peri-urban area*)

These constraints were less pronounced for men, who reported greater freedom of movement and flexibility in seeking care.

Theme 4: Economic Barriers and the Perceived Cost of Dental Care

Both men and women identified cost as a major deterrent to seeking oral healthcare; however, its impact was distinctly gendered. Women described dental care as an unaffordable luxury, particularly when public-sector services lacked essential equipment or medicines, forcing patients to seek private care.

Several participants reported relying on home remedies, over-the-counter painkillers, or delaying treatment altogether due to cost considerations.

"The government hospital only gives advice. For treatment, we have to go private, and that is not possible for women like us." (*Female FGD participant, rural KP*)

Economic barriers were thus compounded by systemic deficiencies in public oral health services.

Theme 5: Experiences and Perceptions of Public Oral Health Services

Participants across all FGDs expressed dissatisfaction with public oral health services, citing long waiting times, limited service availability, and frequent absenteeism of dental staff. Women, in particular, reported discomfort in overcrowded facilities and concerns about privacy.

Healthcare providers interviewed corroborated these challenges, noting shortages of dental equipment, lack of female dental staff, and minimal institutional prioritization of oral health within the public health system.

"Oral health is not considered a priority. We have limited resources and no separate arrangements for women." (*Dental surgeon, IDI*)

These systemic shortcomings disproportionately affected women, who faced additional social and logistical barriers to repeated facility visits.

Theme 6: Normalization of Oral Disease and Low Preventive Awareness

Low awareness of preventive oral healthcare emerged as a cross-cutting theme. Oral health problems were widely perceived as an inevitable part of aging or daily life, particularly among women.

Preventive practices such as routine dental check-ups were virtually absent, and women reported receiving little health education related to oral hygiene.

"We only go when the pain becomes severe. Otherwise, we think it is normal." (*Female FGD participant*)

This normalization contributed to delayed care-seeking and exacerbated gender disparities in oral health outcomes.

Theme 7: Intersection of Gender, Poverty, and Rurality

The findings highlight the intersectional nature of disadvantage, where gender interacted with poverty and rural residence to intensify barriers. Rural women experienced the greatest constraints due to distance from facilities, limited transportation, and stronger adherence to conservative gender norms.

Men from poorer households also faced barriers, but their access remained comparatively less restricted than that of women.

Overall, the results reveal that unequal access to oral health services in KP is not solely a function of resource scarcity but is deeply gendered. Women's oral health access was constrained by limited autonomy, financial dependency, mobility restrictions, and systemic inadequacies in public healthcare provision. Men, while affected by structural barriers, experienced greater agency in seeking care.

These findings directly align with the study objectives by demonstrating how gendered social relations, economic constraints, and institutional weaknesses collectively produce unequal oral health outcomes in resource-constrained settings.

Discussion

This study examined gendered barriers to oral health service access in resource-constrained settings of Khyber Pakhtunkhwa, Pakistan. The findings demonstrate that oral health access is not merely shaped by service availability but is deeply embedded within gendered social relations, economic dependency, mobility restrictions, and systemic weaknesses of the public health system. Consistent with gender and health scholarship, women's oral health disadvantages emerged as structurally produced rather than individually chosen (Kabeer, 1999; Sen & Östlin, 2008). The study reveals that women's oral health needs are consistently deprioritized within households, particularly in low-income settings where healthcare decisions are governed by perceived economic returns. Women's accounts of enduring pain and delaying care until symptoms became severe align with evidence from Pakistan and other LMICs showing that women's health concerns—especially those not viewed as life-threatening are often normalized and postponed (Shaikh et al., 2019; Peters et al., 2008).

Men's comparatively earlier care-seeking, particularly when oral pain interferes with work, reflects a utilitarian valuation of health based on income generation. This pattern reinforces gendered notions of men as economic providers and women as caregivers, a dynamic widely documented in South Asian health decision-making (Das Gupta, 2015; Sen et al., 2007). Oral health, in this context, is framed as discretionary rather than essential for women, exacerbating cumulative disease burden.

Restricted decision-making autonomy and financial dependency emerged as central barriers to women's access to oral healthcare. Women's inability to independently seek care without male permission reflects entrenched patriarchal norms governing mobility and resource control, consistent with prior studies on women's healthcare access in Pakistan (Shaikh et al., 2019; Kabeer, 1999).

Dental care was widely perceived as costly and non-essential, particularly when public facilities failed to provide comprehensive treatment. This finding resonates with evidence that out-of-pocket expenditure disproportionately constrains women's healthcare utilization, especially for services excluded from primary healthcare priorities, such as oral health (Ahmed et al., 2022; Peters et al., 2008). Financial dependency thus functions as a structural constraint that limits women's agency and reinforces gendered health inequities.

Mobility restrictions emerged as a critical gendered barrier, particularly for rural women. Cultural expectations limiting unaccompanied travel, combined with the distance to dental

facilities, significantly reduced women's ability to seek timely care. These findings align with broader research documenting how women restricted spatial mobility in conservative contexts undermines access to specialized health services (Morgan et al., 2016; Sen & Östlin, 2008).

The requirement of a male escort, coupled with men's limited availability due to work obligations, further delayed care. In contrast, men reported fewer mobility constraints, underscoring how gender norms interact with geography to produce unequal access. This differential freedom of movement contributes to delayed diagnosis and advanced oral disease among women.

While cost was a universal concern, its impact was distinctly gendered. Women's narratives highlighted how deficiencies in public oral health services such as lack of equipment, medicines, and functional dental units forced patients toward private care, which was often unaffordable. Similar gaps in Pakistan's public oral healthcare infrastructure have been well documented (Ahmed et al., 2022; WHO, 2022).

These systemic shortcomings disproportionately affect women, who face additional barriers to repeated facility visits due to caregiving responsibilities and social norms. The findings support global evidence that oral health remains marginalized within public health systems, particularly in LMICs, despite its significant contribution to pain, disability, and reduced quality of life (Watt et al., 2019; Peres et al., 2019).

The widespread normalization of oral disease, especially among women, emerged as a cross-cutting theme. Oral health problems were frequently perceived as inevitable, leading to reliance on home remedies and delayed care-seeking. This finding is consistent with literature indicating low preventive oral health awareness in disadvantaged populations, where curative care is sought only when pain becomes unbearable (Peres et al., 2019; Watt et al., 2019).

Women's limited exposure to health education further compounds this issue, reflecting broader gender gaps in access to health information. The absence of preventive orientation within the health system reinforces reactive rather than proactive care-seeking behaviors, deepening gendered oral health disparities. The study highlights the intersectional nature of disadvantage, where gender interacts with poverty and rural residence to intensify barriers to oral health access. Rural women experienced the greatest constraints due to distance from facilities, limited transportation, conservative gender norms, and economic vulnerability. While poor men also faced barriers, their relative autonomy and mobility afforded them greater access compared to women. These findings align with intersectionality-informed health research demonstrating that health inequities are produced through overlapping social hierarchies rather than single axes of disadvantage (Morgan et al., 2016). Addressing oral health inequities therefore requires interventions that move beyond service expansion to confront underlying gendered power relations.

Conclusion

This study demonstrates that unequal access to oral health services in resource-constrained settings of Khyber Pakhtunkhwa is not merely a consequence of service scarcity but is fundamentally shaped by gendered social relations, economic dependency, mobility restrictions, and systemic neglect of oral health within the public healthcare system. Women's oral health disadvantages emerged as structurally produced, rooted in intra-household power asymmetries, limited decision-making autonomy, and sociocultural norms that prioritize men's productive roles over women's wellbeing. The findings reveal that women's oral health needs are consistently deprioritized within households, normalized as non-urgent, and deferred until pain becomes severe. Financial dependency and restricted mobility further limit women's ability to

seek timely care, particularly in rural areas where public dental services are distant and inadequately equipped. While men also experience barriers related to cost and service availability, their greater autonomy and freedom of movement afford comparatively better access to care.

Importantly, the study highlights how systemic weaknesses in public oral healthcare such as shortages of trained staff, lack of equipment, and minimal institutional prioritization interact with gender norms to exacerbate inequities. The normalization of oral disease and low preventive awareness further contribute to delayed care-seeking and cumulative disease burden, particularly among women. By foregrounding lived experiences from both community members and healthcare providers, this study advances understanding of oral health inequities as intersectional phenomena shaped by gender, poverty, and rurality. Addressing these inequities requires moving beyond biomedical and service-centric approaches toward gender-responsive health systems that recognize oral health as an integral component of overall wellbeing and social justice.

Recommendations

Based on the study findings, the following multi-level recommendations are proposed to reduce gendered inequities in oral health access in Khyber Pakhtunkhwa:

1. Integrate Oral Health into Primary Healthcare Services

Oral health should be systematically integrated into primary healthcare and maternal health services, particularly at BHUs and rural health centers RHCs. Strengthening first-level facilities with basic dental equipment and trained personnel would reduce travel burdens and improve access for women with mobility constraints.

2. Adopt Gender-Responsive Health System Planning

Health policies and programs should explicitly recognize gender as a structural determinant of oral health. This includes ensuring the availability of female dental providers where possible, improving privacy in public facilities, and designing service hours that accommodate women's caregiving responsibilities.

3. Reduce Financial Barriers to Oral Healthcare

Public oral health services should be subsidized or included within existing social protection and health financing schemes. Reducing out-of-pocket expenditures for essential dental treatments would disproportionately benefit women, who face greater financial dependency and healthcare trade-offs within households.

4. Strengthen Community-Based Oral Health Education

Targeted oral health awareness programs should be developed for women, focusing on preventive care, early symptom recognition, and the importance of timely treatment. Leveraging lady health workers and community health platforms can enhance outreach to women who have limited exposure to formal health information.

5. Address Sociocultural and Mobility Constraints

Community-level interventions should engage men, elders, and local leaders to challenge norms that restrict women's mobility and healthcare decision-making. Promoting shared responsibility for health within households is essential to improving women's access to care.

6. Improve Governance and Accountability in Public Dental Services: Institutional prioritization of oral health must be strengthened through improved staffing, regular availability of dental services, and accountability mechanisms to address absenteeism and service gaps. Oral health should be included in routine health monitoring and district-level planning.

7. Promote Intersectional and Qualitative Research in Oral Health

Further qualitative and mixed-methods research is needed to examine how gender intersects with class, geography, and age to shape oral health outcomes. Longitudinal and intervention-focused studies would help assess the effectiveness of gender-responsive oral health strategies.

Together, these recommendations underscore the need for structural, gender-aware, and system-level interventions to address oral health inequities. Without confronting the underlying gendered power relations that shape access, efforts to expand oral healthcare coverage in resource-constrained settings will remain insufficient and uneven.

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