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ORIGINAL RESEARCH

Exploring barriers and motivators to tuberculosis care-seeking among late presenters in rural Hhohho, Eswatini

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Abstract

Introduction: Tuberculosis (TB) remains the second leading cause of death from a single infectious agent worldwide, after COVID-19. Africa and South-East Asia account for approximately 70% of the global TB burden, with HIV/AIDS continuing to drive TB morbidity and mortality in sub-Saharan Africa. In high-burden settings such as Eswatini, effective TB control depends on both quality health services and timely care-seeking. This study explored attitudes, perceptions, and socio-cultural beliefs influencing TB care-seeking behaviour among late-presenting patients at a rural health centre in the Hhohho region of Eswatini.

Methods: The study was conducted at a rural health centre serving a catchment population of approximately 30,000 people, including referrals from satellite clinics, within a low-income, semi-subsistence farming area. An exploratory qualitative design was used. Fourteen adults enrolled in TB care as late presenters between January 2020 and December 2021 were purposively sampled. Semi-structured interviews were conducted in siSwati or English in private settings sensitive to TB-related stigma. Interviews were audio-recorded, transcribed verbatim, and analysed thematically using a reflexive approach.

Results: Three main themes emerged: perceived individual-level barriers to timely care-seeking, perceived health system barriers, and perceived motivators for care-seeking. Individual-level barriers included limited or inaccurate TB knowledge, misinterpretation of symptoms, and socio-economic and geographic constraints that delayed health facility attendance. Health system barriers included anticipated and internalised stigma, insufficient community education and health promotion, and negative or apprehensive experiences with healthcare workers. Motivators for care-seeking included worsening symptoms and perceived threat to health, as well as encouragement from family members and social networks.

Conclusion: Delayed TB care-seeking in rural Eswatini is driven by a combination of knowledge gaps, symptom misattribution, socio-economic constraints, stigma, and health system challenges. Strengthening community-based TB education, reducing stigma, improving patient-provider interactions, and decentralising TB services could promote earlier care-seeking and improve TB outcomes in rural settings.

Keywords: Tuberculosis, care-seeking, barriers, motivators, Eswatini.

Abstract in Español at the end of the article

INTRODUCTION

Tuberculosis (TB), although preventable and curable, remains a major global public health challenge and continues to cause substantial morbidity and mortality worldwide [1]. The disease is caused by Mycobacterium tuberculosis and is primarily transmitted through inhalation of infected droplets, most commonly affecting the lungs, although it can disseminate to other organs. Typical symptoms include persistent cough, fever, loss of appetite, and unintentional weight loss [2]. TB is treat-able with pharmacological therapy, with drug combinations and treatment duration determined by the strain of the infecting organism [3-5]. These strains are broadly classified as drug-sensitive or drug-resistant, resulting in drug-sensitive TB (DS-TB) and drug-resistant forms, including multidrug-resistant (MDR-TB) and extensively drug-resistant TB (XDR-TB) [4, 6].

Despite decades of global control efforts, TB remains among the top twenty causes of death worldwide and is the second leading cause of death from a single infectious agent after COVID-19, surpassing HIV/AIDS [1]. Although global TB incidence has declined by approximately 2% per year, mortality remains unacceptably high, with 1.5 million TB-related deaths recorded in 2020, little changed from the 1.4 million deaths reported in 2011 [7, 8]. Africa and South-East Asia together account for nearly 70% of the global TB burden, though the underlying drivers differ. In Africa, HIV/AIDS remains the primary contributor to TB incidence and mortality, while in South-East Asia, poverty-related barriers to accessing TB services play a dominant role [8].

Eswatini's health system has been profoundly shaped by the long-standing dual epidemic of HIV and TB, which in the early 2000s resulted in some of the highest TB mortality rates globally. In response, the Ministry of Health, with support from partners such as PEPFAR and the Centers for Disease Control and Prevention (CDC), established the National Tuberculosis Control Programme (NTCP). Over time, TB services have been integrated into primary healthcare facilities, reflecting a strategic shift toward decentralisation and community-based care. Key interventions, including directly observed treatment, drug-resistant TB management, and TB/HIV collaborative services, have been introduced to address the high co-infection burden. TB control in Eswatini is therefore not a stand-alone initiative but a critical indicator of health system resilience and equity.

In alignment with global targets to end TB, Eswatini adopted a national strategic plan for 2016–2020, aiming to achieve at least 90% TB case notification by 2018 [7, 9]. However, TB case notification stagnated at approximately 65% between 2015 and 2018, falling well below the target [9]. This shortfall cannot be attributed solely to diagnostic capacity limitations. Rather, it highlights a critical and under-addressed challenge: delays in care-seeking by patients [10]. Studies in Eswatini report an average delay of 102 days from symptom onset to diagnosis, with patient-related delay accounting for approximately twice the duration of health system diagnostic delay [10]. This is further underscored by findings from the 2018 national TB prevalence survey, which showed that an estimated 58% of individuals with TB symptoms did not seek care [9].

Barriers to TB care-seeking are complex and multi-layered. They include individual factors such as symptom perception, demographic characteristics, and limited TB knowledge; socio-cultural practices such as self-medication, use of home remedies, and consultation with religious or traditional healers, particularly in rural settings; and health system factors, including poor access to services and negative interactions with healthcare workers [11-20]. Many patients only seek formal care after self-medication fails, symptoms become severe, or they are prompted by family members or peers [21]. The use of antibiotics and painkillers has been shown to delay diagnosis by temporarily masking symptoms and creating a false sense of recovery [22]. Similarly, unsuccessful treatment by faith or traditional healers can result in advanced disease by the time patients present at TB treatment facilities [21].

In Eswatini, TB control efforts have largely prioritised strengthening diagnostic capacity through healthcare worker training and the introduction of rapid molecular diagnostic tools [23]. While these interventions have reduced health system-related delays, patient-related delays remain poorly understood and insufficiently addressed, contributing to ongoing transmission, late presentation, and preventable mortality [24]. This study therefore aimed to explore the barriers and motivators influencing TB care-seeking behaviour among late presenters, with the goal of informing more effective, patient-centred TB control strategies.

METHODS

Study design

An exploratory qualitative study design was employed to examine participants' perspectives, perceptions, beliefs, and attitudes underlying delayed presentation to TB treatment facilities. Guided by a naturalistic qualitative paradigm, this approach enabled participants to freely describe their lived experiences and the meanings they attached to them, allowing for in-depth exploration of care-seeking behaviour [25].

Study setting

The study was conducted at a rural health centre located in the north-western Hhohho region of Eswatini, approximately 60 km from the country's commercial capital [26]. The area is characterised by mixed flat and hilly terrain, with access largely dependent on unpaved roads that become difficult to navigate during the rainy season [27].

The local economy is predominantly based on semi-subsistence farming, supplemented by small-scale mining. The area is economically disadvantaged, with most households experiencing financial hardship despite the absence of formal poverty statistics [28]. To mitigate vulnerability, the Government of the Kingdom of Eswatini provides several social support programmes, including Neighbourhood Care Points, Orphaned and Vulnerable Children support, education grants, food aid, school feeding programmes, and elderly grants [28]. Seasonal labour migration to South Africa is also common. Culturally, the population is strongly rooted in traditional beliefs and practices and resides in a mix of rural homesteads and peri-urban settlements, with a relatively young population structure [28].

The health centre serves an estimated catchment population of approximately 33,000 people, including self-referred patients and referrals from several satellite clinics, and has a maximum bed capacity of 40 beds [29]. Patients may travel up to 30 km to access care, often relying on limited public transport or walking long distances. The region carries a TB burden comparable to the national average and has a high HIV/TB co-infection rate of approximately 65% [30].

The facility provides comprehensive TB services, including screening, diagnosis, and treatment of both drug-sensitive and drug-resistant TB. Additional services include HIV/AIDS care, maternity services, and general outpatient care [31]. TB services are provided free of charge, although a nominal registration fee of approximately US$0.50 applies to other services [32].

Study population and sampling

The study population consisted of tuberculosis (TB) patients receiving care at a rural health centre between January 2020 and December 2021. All participants had bacteriologically confirmed TB and had been notified as TB cases following laboratory identification of Mycobacterium tuberculosis in sputum samples.

Participants were recruited using purposive sampling during their routine monthly TB review visits over the full two-year study period. Each month, TB nurses screened the clinic's TB registers and chronic care files to identify patients scheduled for review and eligible for participation. The main eligibility criterion was a documented history of TB symptoms lasting at least two weeks prior to diagnosis, as recorded in the clinical file.

From the eligible patients, nurses purposively selected individuals to invite for participation in order to capture diverse experiences among patients receiving different TB treatment models. Diversity was sought with respect to age, sex, level of education, marital and parental status, and employment status. This monthly recruitment approach ensured a steady flow of participants and allowed the study to capture a range of perspectives over time.

In total, 14 participants were recruited, comprising seven men and seven women. This sampling strategy aimed to capture varied patient experiences and enrich the depth of the data collected [33].

Individuals aged 18 years or younger, those diagnosed with extrapulmonary TB, patients with mental health conditions, and elderly individuals with dementia who were unable to provide informed consent were excluded.

Data collection

In-depth, semi-structured, face-to-face interviews were conducted in participants' preferred language (siSwati or English) and audio-recorded with informed consent. To minimise additional travel burdens, interviews were scheduled on the same day as participants' routine clinic visits.

The interviews were conducted by trained peer caregivers whose familiarity with TB care and ability to establish rapport facilitated open and comfortable discussions. Each interview lasted approximately 45–60 minutes and took place in a private, non-clinical space within the TB department to reduce perceived power imbalances and encourage openness.

Data collection took place during the COVID-19 pandemic and followed all relevant public health guidelines, including the use of face masks, hand sanitiser, and physical distancing. The interview guide was semi-structured, allowing flexibility in the wording and sequence of questions while ensuring that all core topics were covered. Conducting interviews face-to-face also enabled the observation of non-verbal cues, which enriched data interpretation [33].

Data analysis

Data were analysed using reflexive thematic analysis following the approach described by Braun and Clarke (2019) [34]. An inductive approach was adopted, with no pre-defined coding framework, allowing themes to emerge directly from participants' accounts.

Analysis began during transcription, with repeated reading of the transcripts to facilitate familiarisation with the data. During this stage, emerging ideas were noted and analytic memos were recorded to capture reflections and preliminary interpretations. This iterative process supported deep engagement with the data and informed the development of initial analytical summaries.

In the next stage, transcripts were manually coded, with codes systematically linked to relevant data excerpts and participant identifiers to ensure traceability. Related codes were then grouped into broader conceptual categories, which formed the basis for the development of candidate themes. These themes were reviewed and refined iteratively to ensure internal coherence and consistency across the dataset, while maintaining close attention to participants' language and descriptions of their experiences.

In the final stages of analysis, themes were clearly defined and named to capture the key patterns within the data. The findings were then organised into a coherent narrative that reflected both participants' experiences and the broader contextual factors shaping TB care-seeking. This reflexive analytical approach acknowledges the active role of the researcher in interpreting the data while ensuring that the analysis remained grounded in participants' lived experiences and generated insights relevant to policy and practice.

Trustworthiness

This study adhered to Lincoln and Guba's framework for trustworthiness, which includes credibility, transferability, dependability, and confirmability [35]. The framework provided a structured approach to ensuring rigour throughout the qualitative research process and was particularly appropriate given the interpretive nature of the study.

Credibility was strengthened through a transparent and systematic approach to data collection and analysis. Data review began early in the study and continued throughout the research process until data adequacy was achieved. Reflexive practices were also employed to critically examine researcher assumptions and minimise potential bias, helping to ensure that the findings remained closely aligned with participants' accounts.

Transferability was supported by providing detailed descriptions of the study setting, participant characteristics, and the broader socio-economic context, allowing readers to assess the potential relevance of the findings to similar settings.

Dependability was addressed through comprehensive documentation of the research process, including the study design, sampling procedures, data collection methods, coding, and analytical decisions. This documentation enhanced methodological transparency and supported the consistency of the study procedures [36].

Confirmability was ensured by maintaining an audit trail comprising interview recordings, transcripts, and field notes. This process demonstrated that the findings were grounded in participants' accounts rather than in researcher assumptions or preferences [37].

Positionality statement

At the time of the study, the lead author was a Master of Public Health student and served as the Regional TB Medical Officer for the National TB Control Programme in Eswatini, overseeing TB services in the Hhohho region, including the study site. In this role, the author was responsible for decentralising drug-resistant TB care, strengthening healthcare worker capacity in TB management, and coordinating community-based TB interventions. This professional position provided in-depth insight into TB service delivery, patient care pathways, and health system constraints.

The author acknowledges that this dual role, including prior leadership responsibilities at the study site, could have influenced the interpretation of participants' accounts. To minimise potential bias, reflexive strategies were applied throughout the research process. These included regular peer debriefing with the co-author (academic supervisor) and grounding the analysis closely in participants' narratives.

Given a professional background rooted in the biomedical model, the author remained mindful that participants' explanatory beliefs—such as spiritual interpretations of TB symptoms—might differ from personal perspectives. Interviews were therefore conducted with openness and sensitivity to these views to ensure that participants' socio-cultural understandings were authentically represented and that their voices remained central to the study findings.

Ethical considerations

Ethical approval was obtained from the University of the Western Cape Biomedical Research Ethics Committee and the Eswatini Health and Human Research Review Board. To minimise stigma and protect confidentiality, potential participants identified and listed by the TB nurses were approached discreetly by the first author and trained peer caregiver and invited to participate voluntarily, with assurance that refusal would not affect their access to care.

Participants received an information sheet in siSwati and English outlining the study's purpose, procedures, and potential risks and benefits. Written informed consent was obtained prior to participation. Confidentiality was maintained throughout the study; no personal identifiers were collected or used in the analysis due to the sensitive nature of the data.

All hard-copy data were stored in a locked cabinet in the Senior Medical Officer's office, while electronic data were securely stored at the University of Western Cape, School of Public Health data repository. Data will be retained for five years in accordance with ethical guidelines and then securely destroyed.

RESULTS

The findings indicate that delayed TB care-seeking was shaped by a combination of individual- and health system-level factors. Key barriers included limited or inaccurate knowledge of TB, misinterpretation of symptoms, stigma, poor physical and financial access to healthcare, insufficient community outreach, and negative interactions with healthcare workers. Conversely, worsening symptoms and encouragement from family members were important motivators for seeking care.

Participants profile

Fourteen participants were interviewed, comprising seven women and seven men aged between 20 and 77 years. As shown in Table 1, all male participants had at least one child, and five were living with a partner in either a married or cohabiting relationships. Among the female participants, six were single, and all but two had children.

Most participants had attained at least primary-level education, although two male participants reported having no formal schooling. Two male participants were retired mine workers, while the remaining participants were not formally employed. Their livelihoods were primarily based on semi-subsistence farming and short-term or casual employment.

Four participants were diagnosed with TB after experiencing symptoms for more than one year, three of whom were men. An additional four participants received a TB diagnosis after reporting symptoms for between six months and one year. The remaining six participants were diagnosed within two weeks to six months after the onset of symptoms.

Table 1. Socio-demographic characteristics of the study participants.

	Male (n)	Female (n)	All (n)
Age			
20 – 40	2	5	7
41 – 50	1	1	2
51 – 60	1	1	2
>60	3	0	3
Marital status and children			
Single with no children	0	2	2
Single with children	2	4	6
Married/in union with children	5	1	6
Level of education			
No formal	2	0	2
Primary	1	1	2
Secondary	4	6	10
Employment			
Retired	2	0	2

NB: Some categories were merged for confidentiality purposes and to avoid potential identification

Themes

Analysis of participants' accounts identified three main themes describing factors that contributed to delayed presentation to TB care, as well as factors that eventually motivated engagement with TB services. These themes were categorised as individual-level factors, health system–related factors, and motivating factors.

Theme 1: Perceived individual-level barriers to timely care-seeking

Participants described several personal, social, and cultural factors that hindered timely health-seeking behaviour. These included limited or inaccurate knowledge of TB, misattribution of TB symptoms, socioeconomic and geographic barriers to accessing care, and anticipated or internalised stigma.

Participants' knowledge of TB varied widely, ranging from no prior awareness to partial or relatively comprehensive understanding. Some participants reported having no knowledge of TB before receiving their diagnosis:

> "…*I did not have any information at all about TB prior to coming to the hospital I only knew about traditional medicines which I learnt from my grandmother.* (Female, 51 years)"

Others demonstrated some awareness of TB transmission but had limited knowledge of its symptoms or the availability of treatment:

> "*… the delay in coming here was because TB is not the first thing one would think of judging from the symptoms I was experiencing at the time.* (Male, 41 years)"

Even among participants with greater awareness of TB, this knowledge did not always translate into timely care-seeking, highlighting a gap between biomedical understanding and health-seeking behaviour.

> "*… you can get TB if you sit next to someone who has it and is coughing. I also knew that there are different types of TB… adhering to medication given by health care workers helps. Most of this information, I got it from the clinic health talks but some of it from newspapers and other people I interact with ….* (Female, 20 years)"

Some participants misinterpreted their symptoms, attributing them to environmental or supernatural causes:

> "*… we all thought that the cough was being caused by the dust when it was actually TB. That's why it took me long to come to the hospital.* (Female, 30 years)"

Other participants decided to consult traditional healers or self-medicated with traditional medicines:

> "*… my traditional medicines usually cure most these things including coughing but this time around I... developed a lump on my neck which was not going away.* (Female, 51 years)"

For some participants, delays were driven by socioeconomic and geographical barriers. Those living far from the health centre identified transport costs and travel time as significant obstacles to seeking care:

> "*… I have to catch two buses to get here… the distance itself is not a problem for me, my issue is the money for bus fare….* (Male, 63 years)"

In some cases, even when participants suspected they might have TB, fear of negative reactions from family members or the community discouraged them from seeking care promptly:

> "*… they told me that 'if you have TB, we cannot eat with you ….* (Female, 30 years)"

Theme 2: Perceived health system barriers to timely care-seeking

Some participants described structural and interpersonal barriers within the health system that discouraged early care-seeking. These included limited community engagement and health promotion activities, as well as negative or apprehensive experiences with healthcare staff.

Several participants noted that TB awareness initiatives were insufficient, particularly for individuals who did not regularly attend clinics:

> "*… it would be best to have people go around communities to teach about TB…. This will benefit street vendors, like us, who do not have time to go to the clinics.* (Male, 38 years)"

Others recounted past or anticipated negative interactions with healthcare workers, which discouraged timely visits to health facilities:

> "*Sometimes you fear going to the clinic because nurses will shout at you asking why you delayed seeking help* …. (Female, 20 years)"

For some participants, a broader fear of hospitals also contributed to delaying care:

> "*… I am just scared of the hospitals* …. (Male, 25 years)"

Theme 3: Perceived motivators for care-seeking

Despite these barriers, participants described circumstances that ultimately prompted them to seek TB care. These included worsening symptoms, a perceived threat of death, and encouragement or support from family members.

Persistent or worsening symptoms, such as prolonged coughing, weight loss, and fatigue, eventually overcame initial reluctance to seek care:

> "*… because of the persistent loss of weight, I became uncomfortable around people as I seemed to be attracting more attention and negative comments from people from my neighbourhood who knew my normal body size, that is why I decided to step up and seek help….* (Female, 20 years)"

> "*… once I began suspecting that I could be having TB, I resolved to seek help from the clinic because I had started to perceive TB to be a ticket to death.* (Female, 51 years)"

Family members, particularly those with health-related knowledge, also played an important role in encouraging care-seeking:

> "*After seeing my persistent weight loss, my relative who is a nurse persuaded me to go get my symptoms checked….* (Male, 41 years)"

Others sought treatment to protect their family members from infection or to regain their ability to provide financial support:

> "*… most diseases nowadays are easily transmissible, so I decided to quickly seek help to protect my family from contracting the disease too.* (Male, 52 years)"

> "*… I wanted to be cured so that I can support my family and be a valuable member of the community….* (Female, 51 years)"

DISCUSSION

This study explored factors influencing delayed presentation for TB care in a rural setting in Eswatini and identified three interrelated themes. The findings indicate that both individual-level and health system factors contribute to delayed care-seeking. Participants' decisions were shaped by a complex interplay of limited or inaccurate TB knowledge, misinterpretation of symptoms, socioeconomic and geographic barriers, stigma, limited community-based TB education, and negative experiences with healthcare workers. Although worsening symptoms and encouragement from family members eventually prompted care-seeking, this often occurred only after prolonged delays. The discussion focuses on three key issues emerging from the findings: the paradoxical role of knowledge in TB care-seeking, the influence of TB-related stigma and healthcare worker attitudes, and the impact of structural and economic barriers on access to care.

Consistent with findings from rural India and Nepal, this study confirms that limited or inaccurate knowledge about TB—particularly regarding its causes, symptoms, transmission, and treatment—can contribute to delayed care-seeking [38,39]. However, the findings also reveal a paradox: several participants demonstrated relatively good knowledge of TB but still delayed seeking care. This suggests that knowledge alone does not necessarily translate into action. Similar observations have been reported elsewhere, including studies that found no clear association between TB knowledge and patient delay, as well as evidence from Ethiopia where relatively high levels of knowledge coexisted with prolonged care-seeking delays [40,41].

Importantly, the type of knowledge appears to influence behaviour. Evidence from multi-country Demographic and Health Survey analyses indicates that knowledge of TB curability is more effective in reducing delays than knowledge of TB transmission, which may inadvertently heighten stigma and discourage care-seeking [42]. In the present study, even participants who recognised that TB is curable delayed seeking care, suggesting that informational awareness alone is insufficient when other social or psychological barriers persist. Similar findings from South Africa indicate that education initiatives that fail to address stigma and social fears often have limited impact on care-seeking behaviour [43].

These findings highlight an important implication for TB control programmes: increasing knowledge alone is unlikely to change behaviour if fear, stigma, and social consequences remain unaddressed. Delayed care-seeking reflected not only informational gaps but also perceived social risks, including fear of gossip, discrimination, and damage to social standing. TB education efforts may therefore benefit from approaches that go beyond factual messaging and instead engage with the social contexts that shape decision-making. Community-led education initiatives delivered through trusted local actors may help build trust, address disempowering beliefs, and create safer environments in which individuals feel able to act on their knowledge.

TB-related stigma emerged as an important deterrent to timely care-seeking, with some participants concealing symptoms because of fears of isolation, labelling, and social exclusion. Stigma was often associated with perceptions that TB is highly contagious, linked to poor hygiene, or indicative of poverty. Similar patterns have been documented in Ghana, across East Africa, and in Pakistan, where fear of community rejection has been shown to significantly delay care-seeking [44–46].

In high TB/HIV burden settings such as Eswatini, stigma may be further intensified by the strong perceived link between TB and HIV. Because TB is commonly associated with HIV infection, individuals with TB symptoms may fear being labelled as HIV-positive, which can further discourage early engagement with health services [5]. These findings highlight the need for deliberate stigma-reduction strategies within TB control programmes. Such strategies may include community dialogue, engagement with local leaders and traditional healers, and the use of personal testimonies from TB survivors. Public health messaging should also aim to reduce the perceived linkage between TB and HIV in order to mitigate stigma and encourage earlier care-seeking.

Structural barriers, particularly long distances to health facilities and the cost of transportation, were also significant constraints to timely TB care. Even participants who suspected they might have TB reported delaying clinic visits due to the financial burden of travel or the time required to reach health services. These findings align with studies from Angola and Ethiopia showing that patients living farther from health facilities or requiring longer travel times experience significantly longer delays before diagnosis [47,48].

Participants also perceived TB services and health education as being largely facility-centred, limiting access to information for individuals who do not regularly attend clinics. Similar gaps have been documented in South Africa, Ethiopia, and Myanmar, where family members or acquaintances were often the primary source of TB information, leaving households without prior TB experience particularly vulnerable to delays in recognising symptoms [49,50].

Addressing these barriers requires strengthening community-based approaches to TB care. Decentralising TB services and education through community clinics, mobile outreach programmes, and community health workers could help bring services closer to underserved populations. As highlighted by Watermeyer et al., decentralisation must be supported by clear protocols, adequate training, and strong communication systems to ensure effectiveness [51]. In addition, financial support mechanisms such as transport vouchers or travel subsidies could help reduce economic barriers for vulnerable patients. Expanding community-based TB education through trusted local networks would also improve awareness of TB symptoms, curability, and the availability of free services, helping shift TB care from a predominantly facility-centred model to one that is more responsive to community needs.

Strengths and limitations

A key strength of this study lies in its grounding in participants' lived experiences, captured through in-depth narratives expressed in their own words. Participants openly discussed both barriers and motivators to TB care-seeking, providing rich and nuanced accounts. Conducting interviews in participants' preferred language enhanced comfort and trust, facilitating open discussion and helping to ensure that participants' perspectives remained central to the study findings.

Several limitations should also be considered. First, the study included only individuals who had already accessed TB treatment. As a result, the perspectives of people with TB who did not seek care were not captured, potentially limiting the breadth of insights into barriers to care-seeking. Second, reliance on participants' self-reported timelines of symptom onset may have introduced recall bias, which could have affected the accuracy of reported delays.

Data collection took place in 2021 during the COVID-19 pandemic, a period that significantly disrupted health-seeking behaviour and TB service delivery in Eswatini and globally. Public health measures such as movement restrictions, physical distancing, and the reallocation of health resources to the COVID-19 response likely intensified some of the barriers identified in this study, including reduced access to health facilities, diagnostic delays, and heightened stigma due to overlapping respiratory symptoms between TB and COVID-19. Since then, TB programmes in Eswatini have adapted by integrating TB and COVID-19 screening, decentralising services, and strengthening community-based case finding to maintain continuity of care. Consequently, the factors influencing TB care-seeking may have evolved, and further research is needed to examine how post-pandemic adjustments have reshaped patient pathways to TB care.

Finally, interviews that were conducted in siSwati were later translated into English for analysis and reporting. As with all cross-language qualitative research, nuances in meaning, tone, and culturally embedded expressions may not have been fully preserved in translation. Idiomatic or context-specific expressions may have lost some richness, and translation decisions could have introduced subtle interpretive shifts. While necessary for analysis and dissemination, the findings should therefore be interpreted with recognition of the potential influence of the translation process.

Conclusion

This study demonstrates that delayed TB care-seeking in rural Eswatini results from a complex interplay of individual, social, and structural factors. Although limited or inaccurate knowledge about TB remains an important barrier, it does not fully explain patient delay, highlighting that care-seeking behaviour is influenced by factors beyond awareness alone. TB-related stigma—often intensified by its association with HIV—continues to discourage early presentation, while geographic distance and financial constraints further limit access to care. From a health system perspective, the centralisation of TB services and limited community-level engagement may hinder early detection and timely treatment. Despite these barriers, worsening symptoms and encouragement from family members were key motivators for eventual care-seeking.

These findings align with evidence from neighbouring South Africa and other high TB-burden settings, reinforcing the need for integrated demand- and supply-side approaches to TB control in rural and resource-limited contexts. On the demand side, interventions should focus on improving TB knowledge, reducing stigma, and addressing socioeconomic barriers that delay care-seeking. On the supply side, expanding community-based TB services and outreach could improve access to diagnosis, treatment, and follow-up beyond facility-based care.

Overall, strengthening community engagement and decentralising TB services, alongside consistent communication and counselling, may help promote earlier care-seeking and improve treatment outcomes. Such efforts are essential for advancing TB control in Eswatini and supporting broader goals of equitable and resilient health systems.

DECLARATIONS

AI utilization

AI-assisted tools were used to improve grammar and language clarity.

Competing interests

The authors declare no competing interests.

Funding

None.

Author contributions

The lead author, ETN, was responsible for the conceptualization, writing of the original draft, review, and editing. AN was responsible for the supervision of the study and the review and editing of the manuscript.

Data availability

The raw data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to participant confidentiality and ethical restrictions.

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ABSTRACT IN SPANISH

Explorando las barreras y los factores motivadores para la búsqueda de atención por tuberculosis entre personas que acuden tardíamente a los servicios de salud en la zona rural de Hhohho, Eswatini

Introducción: La tuberculosis (TB) sigue siendo la segunda causa de muerte por un solo agente infeccioso a nivel mundial, después de la COVID-19. África y el Sudeste Asiático concentran aproximadamente el 70% de la carga mundial de TB, y el VIH/SIDA continúa impulsando la morbilidad y mortalidad por TB en África subsahariana. En contextos de alta carga, como Eswatini, el control eficaz de la TB depende tanto de servicios de salud de calidad como de la búsqueda oportuna de atención. Este estudio exploró las actitudes, percepciones y creencias socioculturales que influyen en la búsqueda de atención por TB entre pacientes que acudieron tardíamente a un centro de salud rural en la región de Hhohho, Eswatini.

Métodos: El estudio se realizó en un centro de salud rural que atiende a una población aproximada de 30.000 personas, incluyendo derivaciones de clínicas satélite, en una zona de bajos ingresos basada en la agricultura de subsistencia. Se utilizó un diseño cualitativo exploratorio. Catorce adultos que iniciaron atención por TB como presentadores tardíos entre enero de 2020 y diciembre de 2021 fueron seleccionados mediante muestreo intencional. Se realizaron entrevistas semiestructuradas en siSwati o inglés en espacios privados y sensibles al estigma asociado a la TB. Las entrevistas fueron grabadas en audio, transcritas literalmente y analizadas mediante análisis temático con un enfoque reflexivo.

Resultados: Surgieron tres temas principales: barreras percibidas a nivel individual para la búsqueda oportuna de atención, barreras percibidas relacionadas con el sistema de salud y factores motivadores para buscar atención. Entre las barreras individuales se identificaron el conocimiento limitado o inexacto sobre la TB, la mala interpretación de los síntomas y las limitaciones socioeconómicas y geográficas que retrasaban la asistencia a los servicios de salud. Las barreras del sistema de salud incluyeron estigma anticipado e internalizado, educación comunitaria y promoción de la salud insuficientes, y experiencias negativas o de aprensión con el personal sanitario. Entre los factores motivadores destacaron el empeoramiento de los síntomas y la percepción de amenaza para la salud, así como el apoyo y la recomendación de familiares y redes sociales.

Conclusión: La búsqueda tardía de atención por TB en zonas rurales de Eswatini está impulsada por una combinación de brechas de conocimiento, mala interpretación de los síntomas, limitaciones socioeconómicas, estigma y desafíos del sistema de salud. Fortalecer la educación comunitaria sobre la TB, reducir el estigma, mejorar las interacciones entre pacientes y proveedores, y descentralizar los servicios de TB podría promover una búsqueda más temprana de atención y mejorar los resultados de TB en entornos rurales.

Palabras clave: Tuberculosis, búsqueda de atención, barreras, motivadores, Eswatini.

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