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Barriers and facilitators to accessing mental health services among young people living with HIV and healthcare professionals in Mozambique: a content and sentiment analysis using the capability, opportunity, motivation and behaviour (COM-B) framework

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Abstract

Background Ensuring timely and effective access to mental health (MH) services is crucial in Mozambique, where the suicide rate is 13.7/100.000, twice that of sub-Saharan Africa. This is particularly significant for a MH at-risk group, such as young adults (YA) living with HIV. This study aimed to assess barriers/facilitators to access MH services for YAs, comparing by HIV status, in Beira, Mozambique.

Methods A cross-sectional study using focus groups and key-informant interviews was conducted between July and August 2023, involving YAs (18–24 years) with (YALHIV) and without HIV (YAHIV-) and MH staff of five health centres (HCs). A deductive approach was adopted using the COM-B framework to classify themes referring to barriers/facilitators to access MH services. Two researchers carried out the content analysis independently, assessing the inter-rater agreement through Cohen's K.

Results A total of 48 YAs (half with HIV), and 15 MH providers were involved. Of the 650 themes identified, 347 (53.4%) were labelled as barriers. Opportunities were the most frequent barrier (57.7%): social ones were related to community stigma, while physical ones to staff shortage, lack of community services, and distance from HCs. Physical opportunities were a more frequent barrier in YAHIV- ($p < 0.001$) and females ($p = 0.013$). Automatic motivation was related to self-stigma and preconceived distrust. It was more common as a barrier among YAHIV- (65.6% vs. 35.5%, $p = 0.032$). Reflective motivation was the most frequent facilitator (33.1%): YALHIV reported good knowledge of their MH risk factors, and YAHIV- had previous positive experiences with MH services for people close to them.

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Psychological capability was a barrier for both YAs and MH staff, related to a lack of knowledge of health services and MH in general.

Conclusions Addressing community and self-stigma and scaling up community MH services, increasing MH staff, are the two main action points that emerged to improve access to MH services. More attention should be paid to YAHIV-, which showed significant access barriers.

Keywords Mental health services, Accessibility, PLHIV, Adolescent and young adults, Mozambique

Introduction

In sub-Saharan Africa, adolescents and young adults (aged between 15 and 24 years) were estimated at 201,000,000 in 2017 and are expected to reach 412 million in 2050 [1]. In this age group, a prevalence of 27% has been reported for depression, 30% for anxiety disorders, 41% for behavioral and emotional problems [2].

Mozambique is a country particularly affected by mental health (MH) problems. It has an estimated suicide rate of 13.7[7.8–21.8]/100,000, more than double the average for the African region (6.0/100,000) and is the sixth country with the highest suicide rate in the African region [3]. It is also essential to consider that Mozambique is a country with the eighth world highest HIV prevalence, and where 22.4% of the population is aged between 15 and 24 years [4]. The psychological stressors associated with a positive HIV diagnosis, ongoing antiretroviral treatment, and potential social stigmatization contribute significantly to the deterioration of MH. Data on 2108 adolescents and youths showed that people living with HIV had higher scores than people without HIV for all the four tools tested, with a prevalence of 7.5% anxiety, 10% depression, 12% post-traumatic stress disorder, and 23% alcohol and drug abuse [5]. Moreover, MH plays a pivotal role in shaping adherence to treatment regimens, overall health outcomes, and the quality of life of HIV-positive individuals. Consequently, addressing MH within the context of HIV is a key necessity for comprehensive healthcare. However, despite the recognition of the symbiotic relationship between MH and HIV care, access to MH services remains a significant challenge, particularly in resource-limited countries such as those in SSA.

Mozambique stands as an exemplar of these challenges and paradoxes. Although Mozambique was one of the first African countries to introduce legislation and specific actions aimed at MH (a task-shifting strategy through the development of a 30-month training program for psychiatric technicians), only 4% of annual consultations at primary care level are for mood disorders, a considerably lower rate than expected given the estimated prevalence of depressive and anxiety disorders [6, 7]. There are numerous studies on the barriers to the provision and utilisation of MH services, but the lack of context-specific data and at-risk populations precludes the identification of good practices that can be adopted to effectively address these challenges [8]. That's why studying the multifaced factors that prevent young adults, both living with HIV (YALHIV) and without (YAHIV-), from accessing MH services is essential to guide policy-makers in successfully targeting resources and investments in Mozambique.

The approach of qualitative research turns out to be an indispensable tool because it offers insights that stem directly from the experiences and perspectives of YALHIV and YAHIV- [9]. Moreover, the culturally oriented lens of qualitative research aligns with the values of patient-centered care, recognizing that MH interventions must resonate with the cultural norms, values, and belief systems of specific populations. Therefore, this study aims to use focus group discussions (FGD) and key informant interviews (KII) to identify barriers and facilitators in accessing mental health services for young adults in Beira, Mozambique's second largest city. The secondary objectives were to assess possible gender differences in barriers and facilitators of access to services for MH and based on HIV serostatus.

Methods

Ethical approval

The research was performed following the ethical standards of the 1964 Declaration of Helsinki and was approved by the Inter-institutional Bioethics Committee for Health of Sofala (Comité Interinstitucional de Bioética para Saúde, CIBS– Sofala) on the 06 of July 2023 (protocol number 003/CIBS/2023).

Study design, setting and population

This is a cross-sectional study using focus group discussions (FGD) and key conformant interviews (KII). It was carried out in the city of Beira, province of Sofala (Mozambique). It has an estimated population of 2,528,442, of which 897,467 (35.5%) are aged between 10 and 24 years. The city of Beira has 18 health centers (HC). The study involved the adolescent and youth-friendly service (*serviço amigo dos adolescentes e jovens* - SAAJ) of four HC to recruit the study population. These services provide education, prevention, and treatment for target population aged between 10 and 24 years. Each HC has a psychology service, which provides both psychotherapy sessions and psychosocial support activities, and a

psychiatry service, which can provide pharmacological therapy in addition to clinical psychotherapeutic interviews. The four HCs were selected on the basis of staff availability and the number of people assisted to facilitate reaching the sample size. Moreover, two peripheral and two central HCs were chosen to have a better representativeness of the setting.

All persons aged between 18 and 24 years who accessed SAAJ services during the study period were considered eligible for FGD. For YALHIV, those who had been diagnosed less than six months before the study period were excluded. The first months of HIV diagnosis are indeed a particularly difficult time with specific mental health needs and demands that were outside the aims of this study. For the KIIs, all healthcare workers (HCW), employed in the psychology and psychiatry services of the HCs linked to the SAAJs involved, were included.

Sample size

According to the available literature, a sample of six focus groups is considered sufficient to achieve a saturation of 90% of the possible topics expressed in the focus group discussion [10]. Therefore, six FGDs were organised and included in the analysis with 8 persons per group. People were enrolled at SAAJ level in a non-probabilistic method, by convenience, asking progressively those who met the inclusion/exclusion criteria and accepted to participate. Before each FGD and KII, the research team interviewer provided detailed information about the study and its procedures to the participants and asked them to sign an informed consent form. Those who agreed to participate in the study by signing the informed consent were included in the FGDs and KIIs. Study participants were informed that their responses would remain anonymous. None of those who were asked to participate refused.

Data collection

The six FGDs and the KIIs were conducted between July and August 2023. A total of 15 HCWs were involved in the KIIs. The groups were homogenous for HIV serostatus being three groups with YALHIV (1 all females, 1 all males and 1 heterogeneous by sex) and three with young HIV-, with the same sex distribution as the previous ones.

This distribution was used to promote self-expression in the homogeneous groups and to stimulate discussion in the heterogeneous ones by maximising the production of topics [11, 12].

All FGDs and KIIs were conducted in local language (Portuguese) by a pair of local researchers (HC and IC, CA and NC). The KIIs were conducted by a single researcher (HC). Both the FGDs and the KIIs were conducted following a question guide and topics to be covered (Annex 1 and 2). In the FGDs the questions 1, 2, 4, 5, 6, 7 and 8 were related to MH in general while questions 3, 9, 10, 11, 12, 13 were specifically about MH services.

The FGDs and the KIIs were recorded and transcribed. All the text transcriptions were analysed in Portuguese and translated only for data presentation.

Content analysis

A deductive quantitative content analysis was conducted. The COM-B (Capability, Opportunity, Motivation and Behaviour) framework was adopted (Fig. 1) [13].

In the COM-B framework, capability refers to a person's psychological and physical ability to undertake a behaviour, thereby accessing mental health services. Psychological capacity mainly includes the knowledge required to perform the behaviour, but also attention, memory or decisional skills. Physical capacity refers to body-related aspects.

Fig. 1 The Capability, Opportunity, Motivation and Behaviour framework (COM-B) framework [13]

Opportunity refers to the external factors - physical and social - that allow the behaviour. Physical opportunity refers to the environment where behaviour takes place, but also to physical resources such as money or time. Social opportunity involves the socio-ecological context and the people who are closest and most significant to us. Motivation involves all the internal processes that either activate or inhibit a behaviour. These processes can be reflexive, involving plans, beliefs, attitudes or goals, and automatic, involving emotions and habits that may not be conscious [13].

Factors that prevented, limited or hindered people from accessing services were defined as barriers. Facilitators, on the other hand, were factors that encouraged, made it easier or helped people to access mental health services.

The "theme" was selected as a unit of analysis (i.e., to the basic text element to be classified during content analysis). Themes can be expressed as single words, phrases, sentences, or paragraphs [14].

Two researchers (AS and CM) read through all the FGDs and KIIs and labelled the relevant themes according to the COM-B framework categories. Discrepancies in the labelling process were discussed and resolved by involving a third rater (RB).

The following steps were applied to identify and codify the relevant themes in the FGDs and KIIs: (1) read the text repeatedly to obtain a complete overview; (2) highlight elements in the text that appear to capture a theme of interest; (3) reread the transcript of FGDs and KIIs and label the relevant themes as main areas (Capability, Opportunity or Motivation); (4) distinguished the areas in subareas accordingly with the COM-B framework; (5) assign each subarea a value as facilitator or barrier, based on the effect on access MH services.

Statistical analysis

A descriptive analysis was first conducted; frequency rates and percentages were used for categorical variables and medians with interquartile range for continuous variables.

To identify the issues that were discussed more frequently by the participants, a frequency count of all areas and subareas retrieved in the 6 FGDs and in the KIIs was performed. To explore the participants barriers and facilitator to access to MH services, a bivariate frequency distribution of the positive/negative values given by the participants for each subarea was constructed.

The "Cohen's k" was calculated to assess the agreement between the two raters for both the areas and the sub-areas. The "Cohen's k" is a statistical coefficient representing the degree of accuracy and reliability between two qualitative assessments carried out on the same statistical units. It was considered satisfying for values between 0.61 and 1.00 (from moderate to almost perfect level of agreement) [15].

In classifying the FGD texts, the sentiment analysis algorithm assigns polarity values to each word using a predefined dictionary to label the polarised words. The National Research Council Canada (NRC) Emotion lexicon was used as the dictionary as it allows the classification of texts in languages other than English (i.e. Portuguese). The NRC lexicon identifies eight groups of emotions (trust, fear, surprise, sadness, disgust, anger, anticipation, and joy) on a four-point scale, in addition to positive and negative words. The chi-square test was used to assess differences in NRC lexicon sentiments according to sex, HIV serostatus and different question groups (i.e., MH in general and MH services).

A p-value < 0.05 was considered significant. All analyses were performed using the R software (version 4.1.1).

Results

Six focus group discussions (FGD) were conducted with 48 participants. All participants were aged between 18 and 24 years, with half of them being YALHIV. In addition, 15 key informant interviews were conducted with 9 psychologist and 6 psychiatrists working in the healthcare facilities of the city of Beira. The FGDs lasted between 45 and 75 min, while KIIs between 20 and 30 min.

A total of 887 themes were retrieved from FGDs and KII and 650 were found as relevant and classified according to the COM-B framework (Fig. 2). The Opportunity area accounted for 50.2% (*n* = 326) of all themes, Motivation for 27.8% (*n* = 181) and Capability for 22.0% (*n* = 143). The interrater agreement over the main area was very good (alpha = 0.83 [0.95CI 0.79–0.87]). Frequencies of the six subareas of the COM-B framework retrieved in the analysis are shown in Tables 1 and 2. The interrater agreement over the sub-areas was also very good (alpha = 0.80 [0.95CI 0.75–0.85]).

Overall, 347 (53.4%) themes were labelled as barriers and 303 (46.6%) as facilitators to access to MH services. Opportunity area was significantly more often labelled as a barrier (72.5%) while Motivation and Capability were more frequently rated as facilitator (62.1% and 62.6% respectively, *p* < 0.001).

Opportunity

Opportunity was retrieved as a barrier in 150 themes (57.7% of all barriers). Social opportunities account for 58.0% (n = 87/150) of the opportunity barriers. It mainly refers to the idea of stigma of the community in respect to people with MH diseases:

> *"In the community they treat people with mental problems aggressively (in some cases they beat up people with mental problems)." Female YALHIV.*
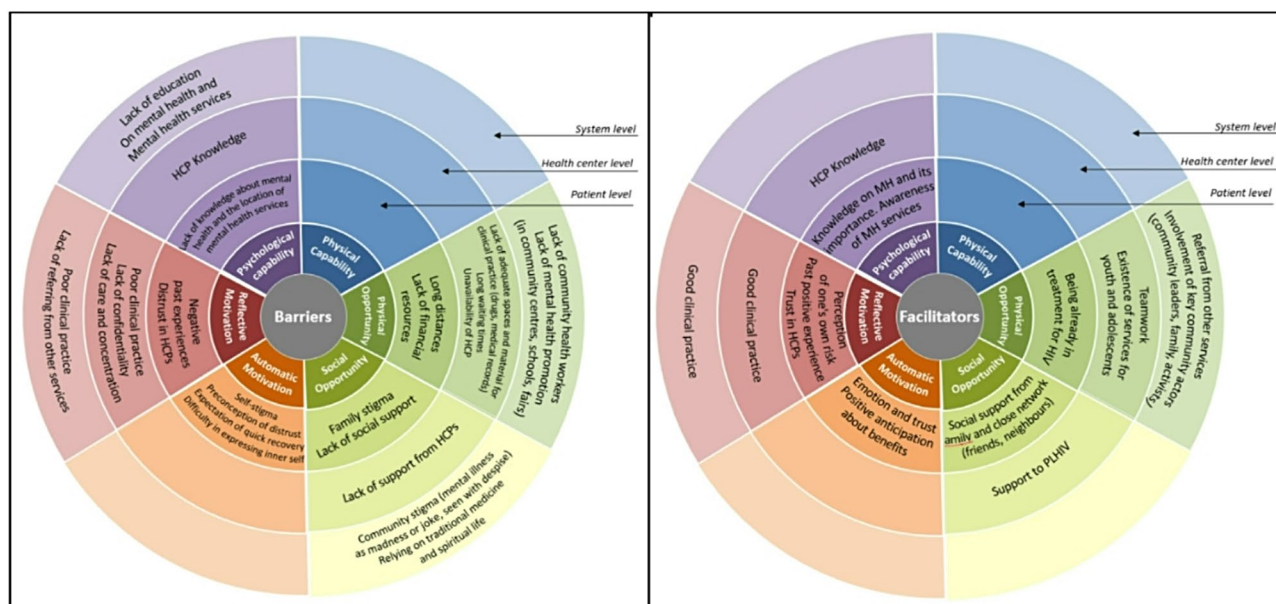
Fig. 2 Diagram of the main topics emerged from the content analysis of the focus group discussions and key informant interviews stratified according to the six sub-areas of the Capability, Opportunity, Motivation and Behaviour framework (COM-B) framework and based on the three levels (patient, health centre, system)

Table 1 Numbers and percentages of the retrieved themes in the content analysis of the focus group discussions according to the COM-B areas and subareas labelled as barriers or facilitators and distinguished by HIV serostatus and sex. Percentages for the COM-B categories were computed over the relevant themes

	Overall (*n*=628)	YAHIV- (*n*=306)	YALHIV (*n*=322)	Female (*n*=278)	Male (*n*=350)
Opportunity	**207 (41,5%)**	**84 (36,4%)**	**123 (45,9%)**	**89 (39,2%)**	**118 (43,4%)**
Physical	90 (18,0%)	26 (11,3%)	64 (23,9%)	36 (15,9%)	54 (19,9%)
Barrier	63 (12,6%)	26 (11,3%)	37 (13,8%)	31 (13,7%)	32 (11,8%)
Facilitator	27 (5,4%)	(0,0%)	27 (10,1%)	5 (2,2%)	22 (8,1%)
Social	117 (23,4%)	58 (25,1%)	59 (22,0%)	53 (23,3%)	64 (23,5%)
Barrier	87 (17,4%)	50 (21,6%)	37 (13,8%)	39 (17,2%)	48 (17,6%)
Facilitator	30 (6,0%)	8 (3,5%)	22 (8,2%)	14 (6,2%)	16 (5,9%)
Motivation	**177 (35,5%)**	**76 (32,9%)**	**101 (37,7%)**	**83 (36,6%)**	**94 (34,6%)**
Automatic	63 (12,6%)	32 (13,9%)	31 (11,6%)	35 (15,4%)	28 (10,3%)
Barrier	32 (6,4%)	21 (9,1%)	11 (4,1%)	21 (9,3%)	11 (4,0%)
Facilitator	31 (6,2%)	11 (4,8%)	20 (7,5%)	14 (6,2%)	17 (6,3%)
Reflective	114 (22,8%)	44 (19,0%)	70 (26,1%)	48 (21,1%)	66 (24,3%)
Barrier	35 (7,0%)	8 (3,5%)	27 (10,1%)	14 (6,2%)	21 (7,7%)
Facilitator	79 (15,8%)	36 (15,6%)	43 (16,0%)	34 (15,0%)	45 (16,5%)
Capability	**115 (23,0%)**	**71 (30,7%)**	**44 (16,4%)**	**55 (24,2%)**	**60 (22,1%)**
Psychological	115 (23,0%)	71 (30,7%)	44 (16,4%)	55 (24,2%)	60 (22,1%)
Barrier	43 (8,6%)	33 (14,3%)	10 (3,7%)	15 (6,6%)	28 (10,3%)
Facilitator	72 (14,4%)	38 (16,5%)	34 (12,7%)	40 (17,6%)	32 (11,8%)
Not relevant	129 (20,5%)	75 (24,5%)	54 (16,8%)	51 (18,3%)	78 (22,3%)

"In my community they treat people with mental problems as crazy and there is no help for them, they condemn people with mental problems." Male YAHIV-.

"Mental health for my community means someone with a mental disorder being labelled as crazy, and this kind of behaviour means that people who have

problems don't seek help for fear of being judged". Female HIV-.

"In my community they treat people with mental problems as taboo, they are despised and stigmatised and people in the community are afraid of them." Male YALHIV.

Table 2 Numbers and percentages of the retrieved themes in the content analysis of the key informant interviews according to the COM-B areas and subareas labelled as barriers or facilitators and distinguished by type of healthcare staff. Percentages for the COM-B categories were computed over the relevant themes

	Overall (*n* = 259)	Psychologist (*n* = 152)	Psychiatrist (*n* = 107)
Opportunity	**119 (78.8%)**	**69 (79.3%)**	**50 (78.1%)**
Physical	96 (63.6%)	58 (66.7%)	38 (59.4%)
Barrier	47 (31.1%)	28 (32.2%)	19 (29.7%)
Facilitator	49 (32.5%)	30 (34.5%)	19 (29.7%)
Social	23 (15.2%)	11 (12.6%)	12 (18.8%)
Barrier	13 (8.6%)	6 (6.9%)	7 (10.9%)
Facilitator	10 (6.6%)	5 (5.7%)	5 (7.8%)
Capability	**28 (18.5%)**	**17 (19.5%)**	**11 (17.2%)**
Psychological	28 (18.5%)	17 (19.5%)	11 (17.2%)
Barrier	24 (15.9%)	15 (17.2%)	9 (14.1%)
Facilitator	4 (2.6%)	2 (2.3%)	2 (3.1%)
Motivation	**4 (2.6%)**	**1 (1.1%)**	**3 (4.7%)**
Reflective	4 (2.6%)	1 (1.1%)	3 (4.7%)
Barrier	3 (2.0%)	1 (1.1%)	2 (3.1%)
Facilitator	1 (0.7%)	0 (0.0%)	1 (1.6%)
Not relevant	108 (41.7%)	65 (42.8%)	43 (40.2%)

"For my community, mental health was seen as a joke because I had already suffered from mental problems and people in my community judged me for it." Male YALHIV.

"In my community they don't treat people with mental problems as something relevant, in some cases it's our own community that causes the mental problem." Female YALHIV.

It also emerged that people still rely on traditional medicine and the spiritual life to seek help when they do not feel well mentally or psychologically:

"The reference point in the community that I or anyone else uses when we don't feel well psychologically or mentally is the traditional doctor and the church." Female YAHIV-.

"The reference point in the community is the church when someone doesn't feel well psychologically or mentally, or they use traditional medicine." Male YAHIV-.

Social opportunity was perceived as a barrier more frequently by HIV- young people (*n* = 50/58, 86.2%) than YALHIV (*n* = 37/59, 62.7%, *p* = 0.007, Fig. 3), while no differences were found according to sex (*p* = 0.998, Fig. 3).

Physical opportunities were identified as barriers in 63/150 (42.0%) themes. These barriers related to the lack of community-based MH services, to the difficult access due to the HC distance, the long waits, and the unavailability of health personnel to attend to them when they

came to services. Physical opportunities were more frequently stated as a barrier by YAHIV- (n = 26/26, 100%) than YALHIV (n = 37/64, 57.8%, p < 0.001, Table 1).

"We may encounter difficulties with transport, due to the geographical location of the unit, which is far from the patient's home." Female YALHIV.

"In my community there is no place to go for support when I don't feel well psychologically." Male YALHIV.

"There are difficulties in attending all the appointments due to the unavailability of the psychologist at the appointments [...] due to the way they are attended and to the delay in attendance" Male YAHIV-.

"I had difficulty accessing mental health services due to a lack of information because I didn't know what mental health was, and my location didn't help me either, and whenever I spoke to people around me about mental health, they told me that you had to pay for the services and as I couldn't afford them, I just gave up." Female YAHIV-.

"Focal points should be created within the community to spread information about mental health services." Female YAHIV-. "There should be more community health workers working in the SAAJ and in mental health services for the community, schools to help young people." Male YAHIV-.

Physical opportunities were found to be a facilitator only for YALHIV (n = 27/64, 42.2%). They referred to the fact that they could easily access MH services in health centres due to the linkage with SAAJs and the fact that they were already being cared for HIV. Males more often rated physical opportunities as facilitators than females (p = 0.013).

"I know someone, and that person is me, I suffered from some mental problems (depression), as I was already being treated at SAAJ and I had psychological support and I managed to move on." Male YALHIV.

"I've heard about mental health here at the health centre and I've also met some people who have had mental health problems". Male YALHIV.

In YALHIV, social opportunities were also a facilitator (n = 22/59, 37.3%). They were linked to the support of the family, the closest social network (friends and neighbours) and the healthcare staff who helped and assisted them in accessing MH services.

"Yes, I know, and I was the beneficiary because I suffered from depression. I learnt about the services
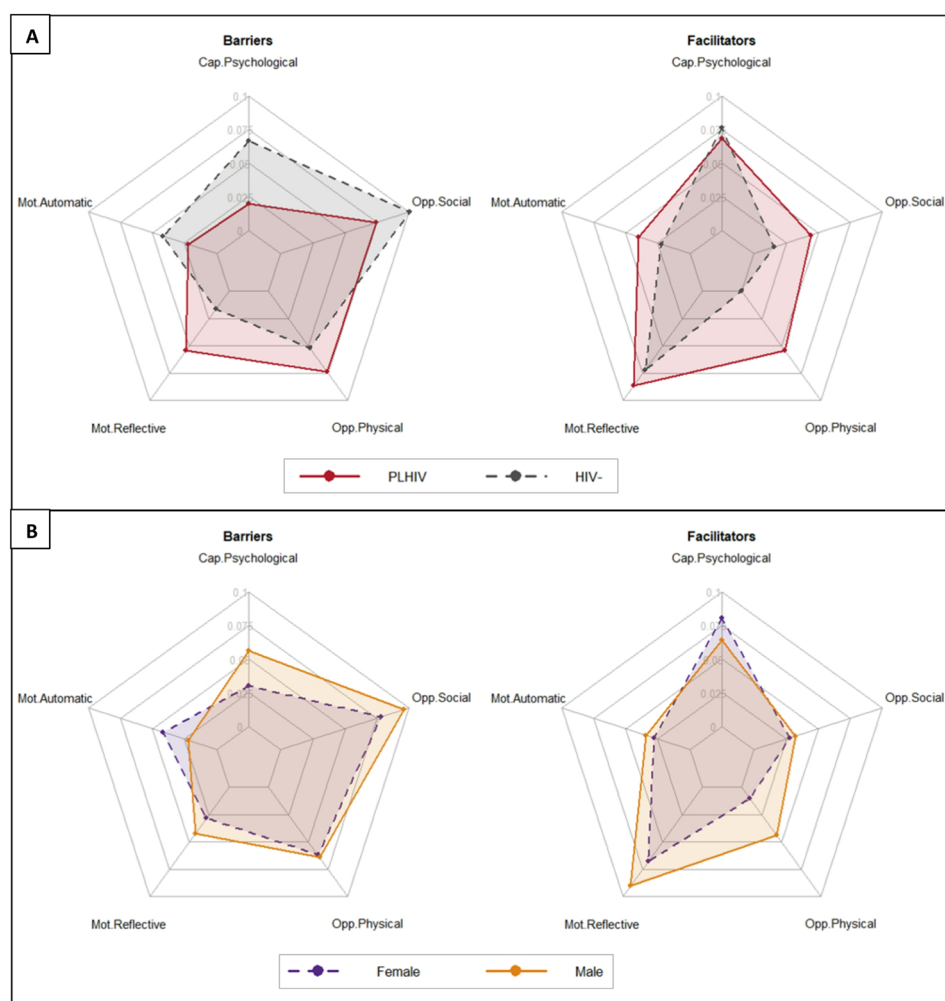
Fig. 3 Radar plot of the percentage of COM-B subarea identified in the content analysis of focus group discussion with young people about access to mental health services distinguished by HIV serostatus (panel **A**) and by sex (panel **B**). Opp = Opportunity, Mot = Motivation, Cap = Capability, PLHIV = People Living with HIV

through my father, who took me to the health centre."
Male YALHIV.
"Yes, I had heard about mental health, and I had access to services because I had mental health problems, but I was hesitant about treatment, but the technician managed to refer me to a psychologist."
Female YALHIV.
"A neighbour in the district suffered from mental health problems and met her through a friend who referred her to the health unit" Male YALHIV.

HCWs stated physical opportunities as a barrier in 47/96 (49.0%) themes (Fig. S1). They mainly refer to the lack of adequate room and facilities, lack of proper materials (books, medical records, tests) and drugs, and poor involvement of community health workers. On the other hand, physical opportunities were also a facilitator (*n* = 49/96, 61.0%) for HCWs, expressed by the presence of good teamwork and the connection with the

SAAJ, which acts as a focal point for the screening of adolescents and young people and for referring patients for consultation. Opportunity social was labelled as both a facilitator (*n* = 10/23, 43.5%) and a barrier (*n* = 13/23, 56.5%) by HCWs. The barrier was also here represented by the community stigma towards MH while the involvement of key community actors (community leaders, family, activists) aware of MH was a facilitator.

Motivation
Motivation was mainly rated as a facilitator, accounting for the 46.0% (n = 110/239) of all facilitators. Reflective motivation was the main facilitator (n = 79/110, 71.8%) with a lower occurrence among YALHIV (n = 43/70, 61.4%) than YAHIV- (36/44, 81.8%). YALHIV reported good knowledge of their risk factors for MH while young HIV- reported previous positive experiences with MH services, mainly experienced by people close to them.

Both showed a positive anticipation of the benefits to be gained from the support of a psychologist.

> *"The impact of HIV on an individual's mental health is that it can drive suicide, the person may not accept their status and may self-stigmatise"* Male YALHIV.
>
> *"At first I had difficulties accessing mental health services, because I didn't want to go to appointments and I didn't take my medication, but I started going to hospital more often and I started accessing mental health services and I had a huge emotional and physical change"* Female YALHIV.
>
> *"Follow-up psychology appointments build trust between the patient and the psychologist, and the latter becomes more open to talking about other issues."* Female YAHIV-.
>
> *"Yes, I met a person with mental health problems who became very depressed after the death of his father. As a result, he became addicted to drugs and his family took him to hospital to get counselling from a psychologist and after a while he began to feel better."* Male YAHIV-.

Reflective motivation was reported as a barrier especially by YALHIV (n = 27/70, 38.6%) compared to young HIV- (n = 8/44, 18.2%, p = 0.037). This was due to negative experiences with counselling and MH services related to the lack of confidentiality and the psychologists' way of providing care.

> *"The way people are attended to at the first appointment and the lack of privacy, when it's not good the person tends not to return for subsequent appointments."* Male YALHIV.
>
> *"Some of the difficulties faced in accessing mental health services are [...] the attention paid by health professionals to undetected cases who are not referred to mental health services, but who also need these services."* Female YALHIV.
>
> *"Improved professional ethics and increased space for visits."* Male YALHIV.

Automatic motivation was more common as a barrier among YAHIV- (65.6%, n = 21/32) than in YALHIV (35.5%, n = 11/31, p = 0.032). The main barriers were related to self-stigma, a preconceived distrust towards psychologists and a difficulty in expressing one's inner self. No differences were found in motivation both reflective (p = 0.922) and automatic (p = 0.167) based on sex.

> *"I had difficulty accessing mental health services because I was afraid to open up to someone I didn't know."* Female YAHIV-.

> *"One of the reasons people don't turn up for subsequent appointments is fear, shame, prejudice."* Female YAHIV-.
>
> *"The difficulty I had was [...] I didn't know what to say during the psychological consultation."* Male YAHIV-.
>
> *"One of the reasons is that they can't solve their problems in a single day at once and this already causes mental laziness and giving up."* Female YAHIV-.

YALHIV, on the other hand, showed a positive attitude towards MH issues and less self-stigma in sharing their problems.

> *"As for me, I try to raise awareness so that people with mental health problems are dealt with better."* Male YALHIV.
>
> *"As for me, I think that people with mental health problems deserve psychological and emotional support."* Male YALHIV.
>
> *"When I don't feel well psychologically, I make a habit of writing about everything I feel."* Female YALHIV.
>
> *"When I don't feel well psychologically, I go to my neighbours to talk, and this relieves me."* Female YALHIV.

Motivation reflective was stated by HCWs in four themes and in three it was a barrier related to the lack of training and knowledge of the staff of SAAJs and other services in referring patients to MH services.

Capability

Capability was only psychological since no themes were labelled as capability physical. Capability psychological was retrieved mainly as a facilitator (n = 72/115, 62.6%). This facilitator was that people were aware of the presence of MH services in health centres and knew what MH is and its importance.

> *"Yes, I already knew about the existence of a psychologist at SAAJ, before the appointment the psychologist introduced himself and that's when I learnt about his existence at SAAJ."* Female YALHIV.
>
> *"Follow-up psychology appointments are important because at the first appointment, as a first impression, the patient may not open up so much out of fear, shame, but at follow-up appointments they talk more and open up more"* Female YAHIV-.
>
> *"Mental health is the way an individual acts and thinks. It is important because it helps the individual to live together in a positive way and to live well in society."* Male YAHIV-.

"Mental health is mental well-being, because without it the individual cannot live a full life in society. Mental health is important because it prevents depression, low self-esteem, and combats suicide." Male YALHIV.

Psychological capacity was more often a barrier in YAHIV- (n = 33/71, 46.5%) than *YALHIV* (n = 10/44, 22.7%) because they had less knowledge of the presence of a psychologist in the health centres and because they did not know where and when to seek assistance properly for MH problems. Psychological capacity was also a more frequent barrier in males (n = 28/60, 46.7%) than in females (n = 15/55, 27.3%, p = 0.051).

"The difficulty I had was the lack of information, because I didn't know there were mental health services at the health centre." Female YAHIV-.
"In my community they treat people with mental health problems like madmen, and I think they could look after people with mental health problems by giving them baths and food." Male YAHIV-.
"In my community they treat people with mental health problems like madmen by taking them to church, and as far as I'm concerned, I think you should take the person to church." Male YAHIV-.
"In my opinion, mental health services should increase the number of talks in hospitals and schools, because there are people who suffer from these problems and don't know where to turn." Female YAHIV-.

Psychological capability was also stated by HCWs as a barrier due to the lack of knowledge about MH in general and the presence of dedicated healthcare services (*n* = 24/28, 85.7%).

Sentiment analysis

The general sentiment of the FGDs text rated as positive or negative according to the different questions is shown in Figure S2. A total of 1717 words were labelled with a specific sentiment (Table S1). The most common were *sadness* (26.5%) and *trust* (22.8%). The *trust* and *joy* sentiment were higher in answers related to general MH questions subgroup while *anger* and *anticipation* were more frequent in the MH services questions subgroup (*p* < 0001, Table S2).

YALHIV showed *anticipation*-related words more frequently than YAHIV- (*p* < 0.001). Also joy and surprise were more common among YALHIV. In contrast, more words related to fear and sadness emerged in young HIV-positive people. These differences between the two groups were attributable to the general MH-related questions (*p* < 0.001) since no statistically significant

differences were found in the subgroup of MH services-related questions. (*p* = 0.909). The frequency of sentiment-related words did not differ based on the sex of the FGDs participants (*p* = 0.703).

Discussion

This study aimed to assess the barriers and facilitators for access to mental health services in Mozambique for YAs based on HIV serostatus. The most frequently reported barriers were related to the opportunity area of the COM-B framework. Community stigma, as social opportunities subarea, was found to be the main barrier. Physical opportunities as barriers were more frequent among YAHIV- and women. Similarly, knowledge about MH and MH services was lower in YAHIV- than in YALHIV. On the other hand, the main facilitator was the area of motivation, which was more prevalent among YALHIV. These results were confirmed by the sentiment analysis, which revealed a higher frequency of positive feelings (anticipation, joy and surprise) in YALHIV compared to YAHIV-, especially with regard to the idea of MH in general.

Adolescence and the first years as a young adult are a critical period in an individual's development and particularly at risk for MH disorders. In fact, a recent meta-analysis showed a point prevalence of depression, anxiety disorders and suicidal ideation of 26.9% (IQR 20.1–31.1), 29.8% (18.6–36.65) and 20.8% (IQR 13.2–23.6), respectively, among adolescents in SSA [2]. Indeed, the burden of this phenomenon has led to an attempt to address it. in various SSA countries, 57 different interventions were implemented over the past 15 years. Interestingly, more than half (53%) of these interventions were conducted in only 3 countries (Uganda, Kenya, and South Africa). Most of these interventions were community and school based, and only 3 were targeted at HCs [16, 35].

Social opportunity was stated by all participants and by MH providers as the main barrier for accessing MH services, identifying it as the stigma by the community. In a survey on stigmatizing attitudes towards MH conducted in 2017 in central Mozambique over 2933 individuals, it was found that 34% of the respondents agreed that people with MH illness should be locked in their homes, and 70% didn't want to have a friend with MH illness [17]. Community stigma continues to be a pervasive underlying issue that prevents access to health care facilities due to fear of judgment as expressed by the words of the YAs of the FGDs in this study. Tackling community stigma is particularly important because it is one of the main barriers to accessing care for people in need of psychological support [18]. In fact, it is recognised by the Centers for Disease Control and Prevention (CDC) as one of the risk factors for suicide [19]. It may be a contributing factor in the onset of suicidal ideation and its progression from suicidal thoughts to suicidal behaviour and death.

Benoni *et al. BMC Public Health*   (2025) 25:1736

Page 10 of 12

YALHIV also reported social opportunity as a facilitator that was mainly reflected in support from the family. Awareness-raising interventions to combat HIV stigma within the family and create a more cohesive and supportive family nucleus may have led to this result with YALHIV having a perception of the family as a supportive element in health issues [20, 21]. The family support is particularly important because has been shown to moderating the negative effect of stigma and mental illness on suicidal thoughts and behaviour [22]. On the contrary physical opportunities were a barrier mainly in YAHIV- and females. These were mainly the long waiting time, the lack of staff and the distance to health centres. Compared to YALHIV who are a prioritised category, as being at higher risk and having dedicated psychosocial support services to cope with the HIV diagnosis and improve adherence to therapy, YAHIV- may often have access difficulties [23]. The shortage of staff and adequate rooms, also acknowledged by the interviewed MH providers, contribute to the fact that a growing demand for psychosocial support services for not only known at-risk groups cannot be met [18]. According to the Global Burden of Diseases Network, the prevalence of MH disorders in Mozambique in 2019 was higher (12,730/100,000) than that for the rest of SSA (11,967/100,000) for people aged 10–24 years [24]. In the same age group, the number of deaths per 100,000 attributable to MH disorder increased from 0.0008 in 2009 to 0.0011 in 2019 [24]. Physical opportunity was a more frequent barrier also in females compared to males. It was mainly linked to geographical distance and time needed to reach the HF and to economic hardship. In a survey of adolescents from 73 countries, in all of them it was found that females had higher levels of psychological distress than males [25]. Despite this greater need, females often recognize several barriers to accessing health care services especially in SSA countries where traditional gender role, poor health decision-making power, and financial dependence are still strongly in place [26].

The main facilitator identified was instead the Motivation area. The reflective motivation as facilitator had two different connotations; for YALHIV it was related to their good knowledge of the MH risk factors resulting from their HIV status, for YAHIV- on the other hand it was associated with having had relatives or friends with previous positive experiences at psychology services. Adolescents with HIV in SSA showed high prevalence of MH problems; 24–27%% were estimated to score positive for any psychiatric disorder (i.e., depression, anxiety, post-traumatic stress disorder, suicidality) and 30–50% to have emotional or behavioural difficulties [27]. Therefore, their awareness of being a risk group for MH disorders is important for prevention and timely access to MH dedicated services. This awareness also translates into a better attitude towards MH services, YALHIVs showed automatic motivation more often as a facilitator than YAHIVs-. On the other hand, previous negative experience with MH services was reported by YALHIV. Shortage of staff and their lack of training may be one of the major barriers to promoting access to care for MH and especially to facilitating patient engagement in follow-up and maintaining adherence to visits [28]. The MH providers interviewed in our study also complained about a lack of MH training by other HC staff. Although Mozambique was one of the first countries in SSA to have dedicated health policies for MH, human resources in this area still remain a serious problem [29]. Integrating MH services within HIV services has helped reduce this gap however much still needs to be done to overcome barriers to access and make the service available to all [6]. Indeed, automatic refection was a main barrier in YAHIV-. It was expressed by self-stigma and preconceived distrust of psychological services, mainly due to fear of lack of confidentiality. Similar results were found in the sentiment analysis; in YAHIV- was retrieved a higher frequency of words related to feelings of fear and sadness, according to the NRC Emotion Lexicon, in questions about MH in general, while anticipation and joy prevailed in YALHIV. Self-stigma and distrust are widely recognized sociocultural barriers, along with considering MH as a spiritual or religious affair. Moreover, many people also think that MH problems are not serious and will simply go away on their own, showing a generally low level of knowledge and attitude toward MH [30].

Lastly, the subarea of psychological capability covers knowledge of MH concepts and services. Although knowledge about MH has been previously reported to be low in sub-Saharan Africa in both the general population and HCWs, a generally positive level of knowledge about the presence of MH services and what is MH emerged in our sample [31, 32]. However, males and YAHIV- still showed a poor level of knowledge that may affect their access to MH services. An interesting insight is that religion and spirituality are concepts closely tied to MH. This may have a positive influence, as religious coping has been shown to be associated with a lower risk of mental disorders, but it may also result in delayed access to care, as MH is treated as a spiritual or religious problem and not as a health-related condition [33]. The World Health Report "Mental health: new understanding, new hope" by WHO back in 2001 highlighted the critical role of MH in promoting the well-being of individuals with 10 recommendations for the development of MH services globally, but especially in LMICs. Despite this still little progress has been made. Increased investment and research by international agencies and organizations may not be enough, especially in Africa, without a socially and culturally oriented approach taking into account local health

Benoni *et al. BMC Public Health*   (2025) 25:1736

Page 11 of 12

traditions as they resonate with the lives of the people they target [34].

This study has some limitations. First, it was conducted in only one district and may not be representative of the national situation. However, the study was not intended to generalise the results, but to get a better understanding of people's behaviour in relation to access to MH services. Secondly, the deductive approach and the subjectivity of the researchers (reflexivity bias) may be a limitation for our study. However, having used the COM-B framework, a tool widely used to explore access in healthcare settings, and because the codes were identified by a second researcher reduces subjectivity and gives robustness to the findings. Furthermore, participants were not assessed for the presence of mental health conditions, so some may already have had previous experience of mental health services for reasons related to their own health. Lastly, focus groups and interviews have inherent limitations, such as the tendency among participants to let certain types of socially acceptable opinions prevail (social desirability bias) and for some to dominate the debate that could bias the results.

Conclusions

The main barriers to accessing MH services in Beira have been those related to physical and social opportunities. Both stigma and self-stigma are still important factors preventing access. Interestingly, physical barriers were more common for YAHIV- and females. Although knowledge of MH is increasing, as stated by both healthcare workers and young adults, there is still a gap that needs to be filled, especially for YAHIV-, to increase MH awareness. Mozambique is one of the SSA countries with the highest suicide rate, but access to MH services is still limited. The study of context-specific and culturally oriented factors that can foster it is critical to guide effective interventions to promote MH in this population and in at-risk groups.

Abbreviations

CDC	Centers for Disease Control and Prevention
COM-B	Capability, Opportunity, Motivation and Behaviour
FGD	Focus Group Discussion
HC	Health Center
HCW	health care workers
KII	Key Informant Interviews
LMIC	Low Middle Income Countries
MH	Mental Health
SSA	Sub-Saharan Africa
YA	Young Adults
YAHIV-	Young Adults HIV negative
YALHIV	Young Adults Living with HIV

Supplementary Information

The online version contains supplementary material available at https://doi.or g/10.1186/s12889-025-22695-3.

Supplementary Material 1

Data availability

The datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study was approved by the Inter-institutional Bioethics Committee for Health of Sofala (Comité Interinstitucional de Bioética para Saúde, CIBS–Sofala) on the 06 of July 2023 (protocol number 003/CIBS/2023). Written informed consent was provided by all the participants.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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