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Mental health services for the deaf: an exploratory study of the aetiology, sources of information, and access to mental health services among deaf persons in Ghana

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Abstract

Background The global burden of mental health disorders is on the increase, which has contributed to discussions on mitigation strategies. While mental health discourses in respect of access to services are still ongoing, there is limited focus on vulnerable groups. Deaf persons are at risk of exclusion from health services due to their unique modes of communication. In order to advocate for the inclusion of deaf persons in mental health services, there is a need for a study eliciting information on their knowledge about mental health and accessibility to services.

Method The study was guided by a mixed-methods design and a two-phase data collection. In phase one, a questionnaire was distributed to 284 deaf persons to gather information on their knowledge of mental health conditions, causes, sources of information, and accessibility of services. Frequencies were used to report the trends identified in the data. Following this, an interview guide was designed based on the trends identified in the first phase to develop an in-depth insight into the experiences of deaf persons ($n=40$) in respect of awareness and accessibility to mental health services.

Results The results showed convergences and divergence between the qualitative and quantitative data. For instance, they were convergences between both datasets relative to knowledge on and causes of mental health conditions.

Conclusion The study highlights the need for health policymakers to leverage the information gathered on the study participants' knowledge to develop appropriate mental health training programmes for deaf persons.

Keywords Deaf persons, Mental health, Mixed methods, Attitudinal barriers, Ghana

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Introduction

According to the World Health Organization (WHO) [1], mental health refers to an individual's state of mental well-being and explains one's ability to perform daily activities, such as coping with stress and making decisions, as well as relationships with other persons in society. There is global recognition that mental health is a public health concern because it has a devastating effect on the overall wellbeing of individuals and their families [2]. Mental illness is a major cause of disability among both youth and adults, with dire consequences on both the patients and their families [3]. Unfortunately, the prevalence of mental health cases is on the rise worldwide, which has culminated in attempts aimed at addressing this public health concern. Notably, mental health cases account for 12% of the global disease burden, and this figure is expected to rise to 15% [4]. The most affected age group are adolescents, with a prevalence of between 16% and 22% [5]. In low- and middle-income countries, the situation is much grimmer, with the prevalence as high as 65% [6]. The prevalence among adults in sub-Saharan Africa for some conditions, such as anxiety and depression, is between 20% and 60% [7]. The WHO estimate that in Ghana approximately 2.1 million people could be living with a form of moderate mental disorder and 650,000 living with much more severe cases [8]. However, in the Ghanaian context, there are inadequate structures in place to support the care of persons with mental health problems [9–12]. This lends support for an exploration of mental health awareness, particularly among marginalized groups, such as deaf persons, who are at risk of exclusion in Ghanaian society.

Many mental health conditions remain undetected, underdiagnosed, and undertreated, and many sufferers receive treatment very late in their condition's progression [13]. The low mental health literacy among the populace has contributed to late or undetected mental health conditions [14, 15]. There is also evidence that a lack of or low mental health literacy worsens the condition and can result in patients resorting to inappropriate medication and support services [14]. People with high mental health literacy are more likely to identify their condition early, which can aid early detection and prevention, thus reducing the impact of the condition on them. Mental health literacy is therefore very important in the treatment and management of mental health conditions.

Adults with disabilities are reported to experience more mental health problems than those without disabilities; they are almost five times more likely than adults without disabilities to have mental health issues [16]. For instance, there is evidence that persons with disabilities are more susceptible to suicide or suicidal thoughts than their peers without disabilities [17, 18]. However, the social constraints that people with disabilities regularly

encounter are largely responsible for this situation and not their disabilities per se [19]. There is also evidence that where resources are scarce in the healthcare setting, persons with disabilities are often excluded [20]. Consequently, many persons with disabilities are likely to be excluded from mental health care or support services.

However, compared with the hearing population, including those with disabilities, mental health issues are higher among deaf people; deaf people are in greater danger of mental health issues than their hearing counterparts. Deaf persons are two times more likely to have mental health problems than the general population [21–23]. Mental health conditions such as schizophrenia, anxiety, depression, phobias, psychoses, and social behaviours are particularly widespread among deaf people. This situation can be attributed to several factors. It is apparent that interventions (i.e. assessment and services) available to cater for the mental health requirements of the general population fail to adequately serve the unique needs of deaf people. For instance, mental health evaluations designed for general hearing individuals have repeatedly proved unreliable and inadequate when adopted for deaf people [24]. Communication difficulties with healthcare providers compound the situation for the deaf community. Studies have found that lip-reading is inadequate, and skilled interpreters are often scarce [25, 26].

To the best of our knowledge, there is a scarcity of literature on knowledge of mental health among deaf people in Ghana. Specifically, there is limited information on mental health issues affecting deaf people – for example, the knowledge of mental health in the deaf community, the level of knowledge on mental health issues, the attitude of health workers towards them, how they access mental health services, and how they navigate the mental health care system. This suggests that the mental health care needs of deaf people are not evident to policymakers and service providers. The current study aims to provide useful information to policymakers on the awareness of mental health among deaf persons and offer future policy guidelines on the mental health needs of the deaf community.

Deafness in Ghana

Disability is defined as a sensory, cognitive, or physical impairment that interferes with the day-to-day living experiences of an individual [20]. Deafness is a sensory disability that is characterized by partial or total hearing loss. In Ghana, deafness is defined as an inability to speak, hear, or both. According to the 2021 Population and Housing Census, an estimated 470,737 people were living with various forms of deafness [27]. While some deaf persons can speak, others may not be able to speak or hear, necessitating unique forms of communication

such as sign language, lip reading, and finger spelling. Due to their unique modes of communication, deliberate attempts ought to be made before they could be included in public goods such as mental health programmes.

There are several viewpoints of deafness and, thus, several ways to perceive being deaf [28]. One way of perceiving deafness is the traditional construction [29, 30]. As with many forms of impairment, the traditional view construes deafness as a curse from a supernatural being, such as the gods or ancestors, for perceived sins committed by a member of the family or the deaf person themselves [29, 30]. This belief is common with many types of impairments, and it is predominant in traditional settings in Ghana [31]. With this notion of deafness, spiritual cleansing or exorcising is often seen as the best remedy for deafness [32, 33]. This construction stigmatizes deaf people and makes it difficult for them to use services such as healthcare on an equal basis with others.

Another construction sees deafness as a sociocultural phenomenon. With this notion, deafness is not seen as a disability, pathology, or impairment but as a sociocultural condition [34, 35]. Within this context, deaf people are seen as a linguistic-cultural group who have a language and distinct cultural values that are different from the values of the hearing community. Thus, there is a difference between 'Deaf' and 'deaf'. Deaf, with a capital 'D', refers to a cultural identity, which many deaf people take pride in being a member of. Conversely, 'deaf', beginning with lowercase 'd', refers to a continuum of hearing loss, a medical condition. Therefore, the medical perspective of deafness, which is often held by professionals, is strikingly different from the sociocultural perspective. The medical perspective of deafness sees deafness as an illness or a disability that must be cured [36], and this may adversely affect the provision of specialist communication services such as sign language interpreters for deaf people [26, 37, 38].

Deafness is a multifaceted construct. Although it may be seen as a homogenous entity by outsiders, is made up of people with different deaf identities and experiences [39]. For example, there are deaf people with varying degrees of hearing loss, different levels of fluency in sign language, educational attainment, onset of deafness, and degree of integration into the community, among others [28, 40]. These multiple identities of deaf people have implications for the provision and use of services, such as those in healthcare. Deaf people expect the hearing population to understand and respect their cultural values. They also expect service providers to consider their unique values as well as customize services to suit their uniqueness. This means that the utilization of mental health services must be personalized to suit the values of deaf people.

The uniqueness of deaf people has become a common ground for their exclusion from basic services such as education [41], and participation in healthcare [42–45]. In healthcare, deaf people are more likely to have limited access to services [46, 47], notably reproductive health services [45, 48–51]. In qualitative studies [52, 53], many deaf persons indicate that reproductive health services are limited for them as they are not treated equally at health facilities. One common challenge faced is communication barriers, where deaf people are unable to understand spoken language, while health professionals lack proficiency in sign language to communicate with them. They also face exclusion due to limited education. As they are unable to understand spoken language, many deaf persons are uneducated and, thus, unable to read and write [50, 54]. In view of this, they find it difficult to navigate health facilities as well as read prescriptions and instructions. Another challenge identified in the literature is stereotypical attitudes, which impact negatively on access to health services [26, 37, 52, 55]. Many deaf persons mentioned that they are denied health services as health professionals discriminate against them, and they are not accorded the necessary respect.

State of mental health services in Ghana

In the Ghanaian context, mental health services are provided in health facilities across the country. Health facilities are categorized into regional, metropolitan, districts, and clinics. In 2012, the government of Ghana developed a Mental Health Act to enhance the provision of care for individuals with mental health problems [56]. Since the formulation of the act, the living conditions of persons with mental health problems have not improved, culminating in the development of the national Mental Health Policy 2019–2030 to expedite efforts towards promoting accessible mental health services to persons with mental health disorders [57]. However, the two main instruments shaping access to mental health service provision do not include or make provision for persons with disabilities, although legal and legislative frameworks such as the Convention on the Rights of Persons with Disabilities [58] and Disability Act 715 [59] have made provision for the extension of mental health services to deaf persons. While there exists a national health insurance scheme that covers the costs of certain healthcare expenses, the expenditure on mental health services is not payable under the insurance scheme [60].

To the best of our knowledge, there is no study on the understanding of mental health challenges among deaf persons in the Ghanaian or similar sub-Saharan African contexts. The available studies on deaf persons have reported on barriers to healthcare generally [47] or specific services such as reproductive health [53]. However, on the general population, there is a large body of

literature on accessibility [61, 62], myth [63], misinformation [64], stigmatization [65], and barriers to mental health knowledge and services [66]. For instance, studies have reported that mental health services were inaccessible to many people in the country [67, 68]. Factors such as poverty, geographical location, and limited health facilities have been noted as barriers to access to mental health in Ghana and similar contexts [12, 69].

There are nuances on studies reporting on knowledge of mental health [65, 68]. While some studies have found that many people in society are ignorant about mental health issues [11, 70], other studies have reported the opposite [71]. The limited knowledge about the onset of mental health conditions has led to stereotypical conceptions or understandings of mental health issues [66]. Some studies have also reported that the causes of mental health are linked to superstitions or activities of evil forces in society [72–74]. It is clear that such misconceptions can explain the stigmatization of people who have been diagnosed with mental problems. In many instances, people in society dissociate from people with mental health problems [75]. This contributes to isolation or discrimination against people living with or diagnosed with mental health conditions [76].

Due to the poor notions about mental health, there is consensus that governments need to institutionalize mental health policies to promote acceptance and provide support to people living with mental health problems [9, 10, 67, 68]. However, there is also a need to extend discussions on mental health to deaf persons, who are at high risk of exclusion from mental health programmes and policies. This study aims to develop a baseline of information in respect of knowledge on mental health and accessibility to mental health services for deaf persons in Ghana. The following research questions were answered:

- What is the level of knowledge, sources of information and accessibility of mental health services to deaf persons in Ghana?
- How do deaf persons perceive their awareness and accessibility of mental health services in Ghana?

Methods

An attempt was made to extend the literature on mental health in deaf persons in a low-income context. The study was guided by a concurrent mixed-methods design to develop a baseline of information about awareness of mental health conditions and the availability of mental health support services for deaf persons in Ghana. A mixed-methods design was appropriate as it enabled collecting both qualitative and quantitative data to enable a

comprehensive insight [77] into the experiences of deaf persons.

Study participants

Phase one

The study was limited to members of the Ghana National Association for the Deaf (GNAD), as it is a recognized body that advocates for the deaf community. GNAD members meet monthly to discuss issues of welfare, challenges, and support activities. In the first phase, quantitative data were gathered from recruited GNAD members. Both convenience sampling and random sampling were used to select 4 out of the 16 regions (Central, Greater Accra, Northern, and Upper West regions) in Ghana where data were collected.

The inclusion criteria were as follows: (a) diagnosed as deaf, (b) at least 18 years old, (c) a member of GNAD, and (d) has the capacity to consent to participate in the study. Conversely, prospective participants were excluded if they had not been diagnosed as deaf, were below 18 years, were not a member of GNAD, or lived with other comorbid conditions that were found to have an impact on their capacity to consent to participate in the study. Deaf persons who met the inclusion criteria but lived with other comorbid condition(s) that were found to have an impact on their capacity to consent were excluded.

Based on previous studies [78–82], the estimated sample was between 300 and 500 participants. Consequently, 500 questionnaires were distributed; 301 were returned, representing a 60% response rate. However, 17 were excluded as they were incomplete, leaving 284 for reporting in this study (see Table 1 for details).

Phase two

In the second phase, participants who wished to participate in the follow-up interviews were considered. While completing the questionnaires, they were invited to participate in a follow-up one-on-one interview. During the data collection using the printed questionnaires, the contact information of 51 potential interviewees was gathered for the follow-up phase. The participants were asked if they would be interested in a follow-up study, and those who consented were considered for this phase of the study. In total, 40 could be reached to participate in the second phase; while 8 participated in face-to-face interviews, 8 focus groups made up of 4 members each were also conducted (see Table 2). Participation in face-to-face or interviews was based availability of participants.

Instruments

A mixed-methods approach was used for this study. In view of this, both a questionnaire and an interview guide were designed and used for data collection.

Table 1 Demographics of study participants

Participants	Frequency (N=284)	Percentage (%)
<i>Gender (n=274)</i>		
Male	164	60%
Female	110	40%
<i>Employment status (n=275)</i>		
Employed	169	61%
Unemployed	106	39%
<i>Age (n=277)</i>		
20–30	107	39%
31–40 years	118	43%
41 years and above	52	19%
<i>Educational qualification (n=284)</i>		
No formal or basic education	145	51%
At least secondary qualification	139	49%
<i>Religion (n=284)</i>		
Christian	167	59%
Muslims	117	41%
<i>Marital status (n=236)</i>		
Single	153	65%
Married	83	35%
<i>Place of residence (n=289)</i>		
Urban	223	77%
Rural	66	23%
<i>Region (n=284)</i>		
Northern Region	77	27%
Upper West Region	76	27%
Greater Accra	70	25%
Central Region	61	21%

Phase one

A questionnaire was developed to gather information about the demographic characteristics of the respondents; their knowledge of mental health issues [43], sources of information on mental health issues [83], and awareness of support services [84]; and the challenges they faced when accessing services [85]. The issues included in the questionnaire were based on a review of the literature [22, 86] in order to develop an extensive insight into mental health issues among the deaf. The responses were binary (Yes, No) because of deaf people's preferences for short responses or answers to survey questions (Research question 1).

The draft instrument was face validated by three academics with expertise in mental health to ensure that the items were well structured, appropriate, and elicited their intended responses. In face validation, the experts check whether the items on an instrument will help in answering the research questions as well as their appropriateness for data generation [77]. Furthermore, the draft questionnaire was given to the research team at GNAD to comment on its appropriateness for data collection.

Table 2 Detailed aggregation of participants who took part in phase two

Categories	Frequency
Participant type	
Deaf persons without mental problem	32
Deaf persons with mental problem	8
Mode of participation	
Focus group discussion	32
One-on-one interviews	8
Employment status	
Employed	19
Unemployed	21
Age range	
20–30 years	21
At least 31 years	19
Educational qualification	
No formal or basic education	24
At least secondary qualification	16
Marital status	
Married	26
Single	14
Place of residence	
Rural	31
Urban	09
Region	
Greater Accra	14
Northern Region	10
Central Region	9
Upper West Region	7

In addition, 20 deaf persons in a region outside the study site were recruited for a pilot study to determine whether the items were clear and appropriate for deaf members. Comments from the research team and participants who took part in the pilot were considered in revising the instrument used for data collection.

Phase two

Following data analysis for phase one, the key issues emerging from the quantitative phase were used to develop an interview guide employed for the data collection (Research question 2). The participants were asked to comment on the various sections of the questionnaire: knowledge of mental health issues, sources of information, awareness of support services, and barriers to accessing mental health services.

Procedure

The study and its protocols were scrutinized and subsequently approved by the Ghana Health Service and Research Committee at GNAD. GNAD recommended that consideration should be given to deaf members who were at least 18 years old. In both data collection phases, the research team were directed to respect the confidentiality and anonymity of participants. Consequently,

the participants were assured that no identifiable information would be reported, given, or revealed to a third party. Furthermore, the participants were informed that the data collected would not be made available to anyone outside the research team. Following this, the research team proceeded to collect data from the participants.

Phase one

Data were collected during meetings in each of the regions. Twelve trained research assistants, three for each region, with high proficiency in Ghanaian sign language, collected data from the participants. The research assistants in each of the regions spent three months there (from January 2022 to June 2022), where data were collected at GNAD's district meetings. At the respective GNAD district meetings within the four regions, the research assistants were allowed to introduce the study, its objectives, and its importance to the deaf community. The participants were informed that involvement was voluntary and that they could withdraw from the study at any point without any consequences. The research assistants answered all queries, and those attendees who were interested were given the printed questionnaire to complete. All participants signed or thumb-printed on the informed consent form before taking part in the study. The instrument was written in English, and those who could not read were assisted by the research assistants, who explained the questions in sign language. The participants took approx. 35 min to complete the instrument on average. While no financial incentive was given to the participants, they were provided with lunch after the data collection.

Phase two

While completing the survey, participants who had been diagnosed or knew a deaf person living with a mental health problem were asked to supply their contact details for a follow-up study. They were sent text messages or WhatsApp messages to plan for data collection. The interviews and focus group discussions (FGDs) were conducted at homes or designated places that were agreed with the participants. The duration of the interviews and FGDs ranged from 44 to 180 min. The interviews were

conducted using sign language and were video-taped with consent from the participants.

Data analysis

Phase one

The questionnaire items were coded and entered into IBM's SPSS (version 28) software for analysis. Frequency counts were used to classify or summarize the data into categories (Research question 1).

Phase two

Before the analysis, the audio and video recordings were transcribed by selected field assistants into Word format (Research question 2). The excerpts of the interviews were discussed with at least one member in each of the focus group discussions to read and advise. This process is referred to as member checking to ensure accuracy and trustworthiness of the study's findings [87]. Specifically, the research assistants travelled to the regions to meet the participants to discuss key issues emerging from the interviews.

Following this, the interviews were subjected to content analysis by the second author who has experience in collecting and analysing qualitative data for deaf studies [26, 32, 37]. Content analysis was deemed appropriate as the goal was to derive meanings from the experiences of the study participants [77]. The content analysis involved the principal investigator and five field assistants reading through the transcribed data with the goal of addressing inconsistencies. The data were carefully read, noting significant statements in the left margins of the Microsoft Word file. These statements or excerpts were then condensed and assigned codes. Related codes were merged to form categories. The researchers and the assistants met to discuss and agree the underlying meanings of the categories. Following this, identical codes were merged to form themes. The themes and associated codes were extracted or transferred into a separate document to write the [Results](#) section.

Results

Phase one

Aetiology and causes

The participants rated their understanding of common mental problems as well as their causes (see [Tables 3 and 4](#)).

From [Table 3](#), for each of the conditions, the participants' ratings were at least 50%. Most participants (76%) indicated that they were aware of schizophrenia, whereas 54% indicated they know about depression.

[Table 4](#) presents information pertaining to the participants' knowledge about the causes of mental health problems. In relation to knowledge of the causes of depression, 58% indicated that the condition was caused

Table 3 Understanding of mental health conditions

Conditions	Frequency (N=284)	Percentage of cases
Do you know what schizophrenia is?	164	76%
Do you know what Attention Deficit Hyperactive Disorder (ADHD) is?	139	65%
Do you know what Bipolar?	134	62%
Do you know what Anxiety Disorder Is?	119	55%
Do you know what Depression is?	115	54%

Table 4 Causes of Mental Health conditions

Conditions	Frequency (N=284)	Percentage of cases
Depression		
Stressful life events	165	58%
Genetic factors	156	55%
Curses	150	53%
Hereditary	127	45%
Witchcraft	120	42%
Anxiety Disorder		
Stressful life events	169	60%
Genetic factors	134	47%
Curses	122	43%
Hereditary	117	41%
Witchcraft	94	33%
ADHD		
Stressful life events	143	50%
Hereditary	128	45%
Genetic factors	128	45%
Curses	110	39%
Witchcraft	98	35%
Bipolar		
Stressful life events	167	59%
Genetic factors	143	50%
Curses	126	44%
Hereditary	125	44%
Witchcraft	106	37%
Schizophrenia		
Stressful life events	148	52%
Genetic factors	141	50%
Curses	125	44%
Hereditary	126	44%
Witchcraft	100	35%

by stressful life events, compared to 53% and 42% who stated that the conditions were caused by curses and witchcraft, respectively.

In terms of anxiety, 60% attributed the cause to stressful life events compared to 33% who stated that the causes were as a result of witchcraft. However, 43% also expressed that anxiety was caused by curses. With respect to ADHD, 50% mentioned that it was caused by stressful events compared to 35% who attributed the cause to witchcraft. However, 45% indicated that ADHD was hereditary or caused by genetic factors.

Concerning bipolar disorder, 59% attributed the cause to stressful life events compared to 37% who indicated witchcraft. 50% stated genetic factors, while 44% mentioned curses or witchcraft as a cause of bipolar disorder. Last, on schizophrenia, 52% attributed the cause to stressful life events compared to 35% who mentioned witchcraft. 50% attributed the cause of schizophrenia to genetic factors, compared to 44% who stated curses or hereditary factors.

Table 5 Sources of mental health information, support and accessibility of services

Sources of mental health information, support and accessibility of services	Frequency (Yes; = 284)	Percentage of cases
<i>Sources of information</i>		
Friends	148	55%
Media (TV, Radio, Movies)	135	50%
Social Media (WhatsApp/Facebook/Twitter etc.)	115	43%
School	101	38%
Parents	100	37%
Church/Mosque	78	29%
<i>Support Services for mental health</i>		
Rehabilitation Center	127	43%
Counsellors/Psychologist	102	34%
Psychiatrist	88	30%
Herbalist	83	28%
Friends	79	27%
Pastor	62	21%
Traditional Fetish Priest	53	18%
Teachers	48	16%
Family	41	14%
Mallam/Imam	32	11%
<i>Accessibility of mental health services</i>		
Have you ever got access to Mental Health Services at a Hospital?	237	88%
Was the services affordable to you?	191	71%
Are you are aware of any Hospital that offer mental health services in your region?	189	70%
Deaf people are less likely to afford the cost of Mental Health Services.	133	49%
Deaf people are less likely to be aware of the location of Mental Health Centers in their regions.	129	48%

Sources of information and access to services

The participants expressed their perspectives on sources of information, expert utilization, and accessibility of services (Table 5).

On sources of mental health information, 55% indicated that they received information about mental health from friends, whereas 29% indicated religious bodies (i.e. church/mosque). Additionally, 50% indicated the media, while 37% mentioned parents.

In relation to support services, 43% indicated they could receive mental health services at rehabilitation centres compared to 14% who indicated family members. 34% mentioned that they could receive services from counsellors/psychologists, while 27% mentioned friends.

With respect to accessibility of mental health services, over 70% of participants indicated that they were aware of health facilities providing mental health services. These participants also expressed that they were accessing mental health services and that these services were affordable. However, less than 50% of participants indicated that other deaf persons may be unaware of health

facilities providing mental health services as well as not being able to afford services.

Phase two

Knowledge of mental health conditions

Many of the participants thought that people who have mental health conditions are 'mad' or addicted to drugs and substances such as 'weed and alcohol'. One participant from Accra said: '*most "mad" people in psychiatrist hospitals and mostly drug addicts and alcoholics*' (Accra 3). Another participant who supported this view added that '*people who smoke or drink alcohol too much will have mental problems*' (Accra 1).

Some of the participants were of the view that age can cause people to have mental health problems. So, some participants erroneously associated mental health issues with old age. One participant from Tamale, for example, said '*old people, for example, women who like talking without stopping and throw stone at others due to worrying, have mental health problems*' (Tamale 1). Similarly, a participant from Cape Coast thought '*old people have weak thinking*'.

However, some participants thought that any person can have mental health issues. According to these participants, mental health conditions could be congenital, for example, acquired through taking unprescribed drugs during pregnancy, as exemplified by a participant from Accra:

Both adults and children have these mental conditions. Some people are born with this condition. For example, if a pregnant woman takes an unprescribed drug, it can affect the unborn baby's mental condition. (Accra 1)

One participant was also of the view that '*every person has mental health issues*' and this can manifest in '*our communication, behaviour, and how we visualize things*' (Tamale 4).

Some participants said people with mental conditions exhibit 'strange' behavioural patterns or dispositions, including dressing indecently, being unhygienic, being withdrawn and isolated, talking to themselves, having the inability to stay in one place (roaming about), and easily getting angry on any issue. One participant from Tamale, for example, described the changes as follows: '*the person's behaviour changes; the way he/she dresses, acts, how they see others, how to focus, or listen*' (Tamale 4). Similarly, one participant said that persons with mental health conditions '*... behave in abnormal ways such as going out or roaming whenever he/she likes*' (Wa 1), while a participant from Accra described someone with a mental health condition as '*a person with a problem in his/her mind. He or she is always quiet/nodding or easily gets angry*' (Accra 2).

People with mental health conditions are also characterized by withdrawal and isolation, shunning the company of others and refusing to talk to family members. For example, for one participant from the Central Region, '*a person with a mental condition does not like to make friends or be in the company of others. He/she is mostly found walking alone and tries to avoid crowds*' (Cape Coast 1). A participant from Accra supported this view and stated that '*the person with a mental condition doesn't like to engage in conversation with others. He/she is always quite withdrawn and doesn't talk with people or does not mind people*' (Accra 4).

Some participants described the behaviour of people with mental health conditions as talking when no one is around. To them, '*people with mental illness sometimes walk while talking alone, and they get mad at others for no reason*' (Tamale 3). Further, some participants explained that '*sometimes you may meet the person talking about things one can't understand and sometimes violent to other people nearby*' (Wa 2).

Regarding whether deafness can cause mental conditions, the majority of the participants agreed that deafness can cause mental health issues. One participant indicated that '*... deafness can cause mental conditions [because] I once had a classmate who frequently used to knock his head on a wall if somebody said something bad to him*' (Accra 4). Another participant defended his claim by saying, '*too much family disturbance and abuse [of deaf people] can cause mental health conditions*' (Accra 7). However, one participant disagreed with this viewpoint and argued that deafness does not cause mental conditions. He remarked: '*No! This is a misconception*' (Accra 3).

Sources of information on mental health conditions

Most of the participants received information on mental health conditions from the Internet (social media). Television stations, teachers, GNAD, friends, family members, and newspapers were other sources of information for deaf people on mental health issues. However, the participants indicated that most of the information received from these various sources was not accessible; information from television and family members seemed to be least accessible to the participants. In their responses, the participants mentioned that interpreters were seldom present in television broadcasts. Nonetheless, when one was available, the interpreter's on-screen image was too small to clearly discern the signing, thereby hindering the deaf viewers' understanding of the information being delivered. Family members were also unable to explain information to them. One participant elaborated:

Ghana TV sometimes shows interpreters on shorter news, but the size of the picture is too small for me to watch. That means I have to strain my eyes or move closer to the TV before I can see what is being interpreted. (Tamale 1)

Generally, the information received from television stations was not accessible to the participants; however, some participants mentioned that the stations provided some visual information on the condition of patients with mental health issues: *'The TV is not accessible, but it helps me to view the situation of patients with mental condition as well as medication and treatment procedures'* (Accra 2).

Information from the Internet, however, was found to be accessible by most of the participants. Most said they had smartphones, which enabled them to easily access information from social media and the Internet, as the following remark from one participant indicates: *'I like social media and the Internet because my smartphone is more accessible, and I can read and search for information easily. It's also portable'* (Accra 1). Another participant expressed a similar view: *'The internet is accessible because I can read a lot, unlike TV where there are no interpreters for most of the programmes'* (ED, Accra). A third participant preferred *'social media and the Internet because most interpreters are not familiar with mental health issues'* (Accra 5). Although deaf people have access to a variety of information from the media, it is doubtful whether many of them understand the information they read due to the poor reading skills among many deaf people in Ghana [50].

Teachers were an important source of information for deaf people because many have basic sign language knowledge and understand deaf people's communication needs. As a result, even if they were not fluent in sign language, they were able to explain information in a more accessible format to deaf people than other members of the population. As Participant 2 observed: *'School teachers were accessible because some teachers know sign language and are able to communicate with deaf students through sign language. They also understand deaf people and help them to understand'* (Tamale 2). This suggests that a positive attitude is an important issue to consider when working with deaf people.

Support services on mental health conditions for deaf people

The main sources of support for people with mental health conditions identified by the participants were the traditional sources being used by most people in Ghana – prayer camps, traditionalist priests, and hospitals. According to the participants, deaf people with mental health conditions who were treated received their treatment from some of these traditional sources.

From the responses, it appears that traditional healing for mental health issues is very popular in Ghana and deaf people with mental health conditions utilize these services, not only for mental health issues but also for other conditions. It was observed that *'those that are not educated usually send the [patients] to traditional spiritualists'* (Accra 8). However, *'parents who are educated try to seek professional help by sending persons with mental conditions to psychiatrist hospitals'* (Accra 8). The participants thought that none of the treatment options mentioned above was effective; their *'condition remained the same after visiting all centres, nothing changed at all, so the families left them to walk around'* (Tamale 1).

The practice of keeping people with mental illness from public view by locking them up in rooms surfaced during the discussions. According to some participants, parents feel embarrassed about having a family member with mental illness and so *'they are ashamed to seek outside help, so they prefer to keep such persons at home and care for them'* (Accra 3), instead of *'... families sending them [people with mental conditions] to somewhere for treatment'* (Tamale 2).

Barriers to mental health services

Exploitation and limited access to jobs

The participants complained that deaf people with mental health conditions face a lot of challenges due to their condition. These challenges include exploitation by employers, manipulation by colleague workers, and communication barriers. They do a lot of the work at their workplaces but receive lower pay than others. They are also susceptible to abuse, but they are unable to complain.

Commenting on the low wages of deaf people with mental health conditions, Participant 4 said: *'They [deaf people with mental health conditions] are paid less although they work hard. Sometimes their hearing colleagues shift their responsibilities/assigned duties to them'* (Accra 4). Deaf people with mental health conditions *'are overworked/overburdened by their colleagues, for example, they are sent on frequent errands, washing tools/plates/utensils'* (Accra 2) and *'at times assigned extra work by their hearing colleagues without the knowledge of their bosses'* (Accra 1). However, they are not able *'... to complain, and even if they complain, they may not be understood and their complaints are instead attributed to their condition'* (Accra 3). Also, they *'... are sometimes falsely accused and because of their condition they cannot defend themselves due to communication challenges'* (Accra 1).

People with mental health conditions will rarely be allowed to handle well-paid work due to their condition. In fact, even those who have recovered have difficulty securing decent jobs. Thus, the kinds of jobs deaf people

with mental health conditions do and the treatment they receive at their workplaces are common among all persons with mental health issues, although it may be worse for deaf patients.

Attitudes of family members and spouses

During the discussions, abuse by family members emerged as one of the major challenges encountered by deaf people with mental health conditions. Participants shared that they were denied food and shelter, abandoned at prayer camps, and locked up (hidden away) in the house. One participant from Accra described the attitude of some families as ‘poor’ because ‘... they [deaf people with mental health conditions] are not given a good place or shelter/bed and served poor food’ by their family members. Some families ‘mount a lot of pressure on mental health patients who are deaf and hide them in the house and wish nobody should know that they have a mental health patient’ (Wa 1).

The capabilities of deaf persons with mental health conditions are also doubted by family members. Some of the participants indicated that some families thought deaf people with mental problems are incapable of contributing to society. They ‘can’t become anything in future’ (Tamale 2). Also, they ‘can’t marry and are seen as people who are incapable of marrying’ (Tamale 3), or people who ‘can’t have children or keep family or can’t have a stable home’ (Tamale 5). They are incapable of accessing ‘... education or incapable of getting training or succeeding through education’ (Tamale 6).

With this thinking, it is improbable that family members will spend money on their relatives who have mental health conditions. However, as indicated previously, this perception does not apply only to deaf people. All persons with mental health conditions are not treated well by their families in Ghana, and this has been a major obstacle to their care and developmental support [61].

Some participants recounted that deaf persons with mental problems were divorced by their partners. One emphasized that divorce ‘for couples is often inevitable due to embarrassment associated with a mental health condition’ (Accra 2). Indeed, mental illness is abhorred to such an extent that even if couples give birth to a child with the condition, it could lead to divorce, as the following quotation confirmed: ‘When a wife gives birth to deaf child with a mental health condition, at times it leads to divorce because the husband blames the wife for the cause of the condition’ (Accra 2).

Apart from the shame and difficulty associated with mental problems [88], the negative attitude is rooted in the perception that mental problems are hereditary and future offspring may acquire the condition, so in-laws will put pressure on their children to divorce their spouses [66]. In fact, it is not uncommon for a planned

marriage to be cancelled if mental illness is detected in the family of the future in-law [89]. It must be noted, however, that this does not apply only to mental illness, as other forms of disabilities elicit similar attitudes; however, mental health conditions seem to be the most stigmatized [90–93].

Attitudes of the general public

The participants differed slightly in their descriptions of attitudes towards deaf people with mental health problems. The themes that emerged from this subtopic are described in the following sections.

Attitudes of the general public, including friends and neighbours, were described by some participants as generally negative, discriminatory, and lacking respect. Deaf people with mental health conditions were rejected by their colleagues, as indicated by one participant who said: ‘I witnessed a situation at his workplace where the deaf person with mental health problems was excluded from playing with peers’ (Accra 4). Another participant described the situation as ‘worrying’ because ‘the deaf with mental health conditions get more discrimination and ridicule from the public, and society show no respect at all to them’ (Wa 1).

Others recounted that their friends stopped visiting them at the onset of mental health problems. For example, ‘some friends stopped visiting them [people with mental health conditions], and their friendship slowly died because of their condition’ (Accra 2). However, some participants said the attitudes people exhibited towards deaf people with mental illness depended on ‘how aggressive the mental health condition is’ and the ‘type of mental health condition of the person. If the condition is violent, friends may hesitate to approach the person’ (Accra 3).

The treatment of landlords was a major discussion point. It emerged that some landlords ejected deaf people with mental health conditions from their houses on the realization that they had mental health issues. The landlords are said to have ‘... forced deaf tenants with mental health problems to vacate their premises or send their children with the condition to the village’ (Accra 3). Also, some co-tenants felt ‘uncomfortable’ living with deaf people with mental health issues, and ‘moved out because of the mental health condition of the deaf person’ (Accra 4).

Although attitudes were found to be negative, and deaf people with mental illness were treated with disdain, some participants said that some of their friends and neighbours treated them nicely. Some showed positive attitudes towards deaf people with mental health conditions, as they maintained their friendships, supported them with food, and even paid their hospital bills. A participant from Accra, for example, indicated that ‘mostly their [deaf people with mental health conditions] friends stayed true to them. They are often there to interact/communicate with them’ (Accra

7). Supporting this assertion, another participant said that some ‘... neighbours and friends continue to visit them despite their problems, but this is normally for deaf people because they can communicate with them’ (Tamale 2). Some even assisted ‘... in sending the person with the mental health condition to the hospital to seek treatment’ (Cape Coast 2).

Discussion

The purpose of this study was to develop baseline information about deaf persons’ knowledge of mental health issues, sources of information on mental health issues, awareness of support services, and the challenges they face when accessing mental health services. This study was conducted to fill a scholarly gap and provide useful information that could be used as a reference point for policymakers, advocates, and future researchers. Most importantly, convergence and divergence were found between the quantitative and qualitative data collected from the study participants.

First, convergence was found between the quantitative and qualitative data on knowledge of some mental health conditions and its causes. While the quantitative data showed awareness of some mental health conditions, in the qualitative data, the participants demonstrated knowledge of mental health conditions by mentioning some causes and characteristics. This finding is inconsistent with previous studies that reported the general populace’s limited knowledge about mental health conditions [70]. The trend identified in this study was unexpected, as previous studies on deaf persons have reported that they mostly have limited knowledge about health issues such as reproductive health [45, 48–51]. The finding identified in the present study could be linked to their membership of a disability organization. In other studies, it has been reported that belonging to an organization could be an important avenue for receiving mental health information as well as providing support for members to cope with a mental problem. Nevertheless, the findings in this study have shown that despite communication barriers, deaf persons are aware of mental health problems faced by themselves or others. This finding is reassuring and could serve as an important building block for the expedition of mental health education, support services, and ways to eliminate barriers to access of mental health services for deaf persons.

Additionally, convergence was found between both datasets on sources of mental health information. Both the quantitative and qualitative data showed that the media is an important source of information, which also emerged in the follow-up interviews. In the literature, the media – especially print and newspaper outlets – have been identified as useful providers for mental health education and advocacy [64, 94, 95]. The trends identified in the data show that many deaf persons lack literacy skills

[96], perhaps relying on visuals to follow the key messages being communicated. It is also possible that deaf persons find it difficult to receive messages in a tailored format [83, 97] and, thus, are pushed to source information from other outlets. Very few people are proficient in the use of sign language, which makes it difficult for deaf persons to acquire information [29, 43, 98]. Despite the challenges or difficulties faced by deaf persons in accessing information, it is refreshing that the study participants were using other outlets to access useful information. There are, thus, more outlets or opportunities for deaf persons to access mental health information. Nevertheless, health policymakers may consider tailoring mental health information and exploring diverse ways to disseminate information to suit the unique needs of deaf persons.

Conversely, divergence was found between the qualitative and quantitative data on awareness of support services. In the quantitative data, many participants indicated their preferred service as rehabilitation centres. However, in the qualitative data, the participants mainly mentioned traditional/religious bodies as support services they have utilized. In the literature, traditional/religious bodies have emerged as one of the outlets treating mental health conditions [63, 65, 71]. However, the utilization of traditional/religious sources has been linked to the traditional understanding of mental health conditions as a spiritual problem and not as a health condition that requires rehabilitation support [73]. The findings identified in this study suggest that the study participants may be confused regarding which outlet to visit for treatment. In principle, they might indicate a preference for rehabilitation centres; however, in practice, some might utilize the services of faith-based bodies. The traditional/faith-based organizations have been critiqued as unauthorized sources of mental health treatment. The findings show that Ghana may need a clear policy and plan for mental health treatment in the country. This would spell-out where deaf persons should visit as well as appropriate professionals providing mental health treatment.

Although convergence was found between both datasets on some barriers to accessibility of mental health services, there were slight disparities. For instance, while the quantitative data showed that deaf persons may face challenges in areas of cost and lack of knowledge about facilities, the qualitative data highlighted attitudinal barriers. There is a large body of literature on attitudinal barriers faced by persons diagnosed with mental health problems [9, 66, 88, 89, 92, 99]. It is useful to mention here that living with deafness serves as its own attitudinal barrier for individuals. This includes discrimination and isolation [55] from other members of society, which could have an adverse impact on their mental well-being [25]. The emergence of attitudinal barriers towards deaf

persons diagnosed with mental health problems suggests a double-edged sword or discrimination. One of the most important sources of support for individuals with mental health problems is acceptance by society and family members. Their rejection has the potential to compound the vulnerability of deaf persons living with mental problems.

Another challenge recounted by the participants was exploitation and abuse by employers. In the follow-up interviews, the study's participants discussed that they were not accorded the same working conditions following mental health treatment. This finding is somewhat consistent with previous studies that reported low remuneration given to persons who have been diagnosed with mental health conditions [100, 101]. Furthermore, previous studies have reported that deaf persons struggle to access jobs in Ghana as result of discrimination and negative attitudes [102, 103]. The few who are employed are at risk of losing their jobs or being offered poor salaries. The effect of poor remuneration to deaf persons is twofold. First, it may impact on their ability to cater for themselves and their families, rendering them dependent on other members of society. However, in the literature, there are discussions on the need for deaf persons to support themselves rather than depending on other members of society [104, 105]. Second, unequal working conditions could have adverse effects and, as such, contribute to mental health relapse. There is, therefore, a need for policymakers to educate society about mental health acceptance and provide guidelines on equal remuneration for all persons.

Study limitations

This study is not without limitations. First, the participants were drawn from four out of the 16 regions in Ghana and, thus, might not be generalizable to deaf persons living in other areas of Ghana. However, the situation of deaf persons is similar, utilizing similar resources and services. In view of this, the findings could reflect the views of participants living outside the study areas. Second, the participants were members of GNAD, which means that non-members were excluded from this study. However, there are also deaf individuals who are not members of GNAD living in Ghana, and they may have a differing perception of deafness and mental health in society. The views expressed in this study could also mirror the views of those who were excluded from this study. Additionally, the study drew on adults only without including the voices of adolescents. It is recommended that future studies replicate this study on adolescent deaf populations. Moreover, the participants who took part in the follow-up interviews had been diagnosed with mental health problems, and it is possible that their conditions could have influenced their responses.

Conclusions and implications for practice

This study has sought to generate useful information that should be considered by health policymakers in Ghana and, perhaps, similar developing contexts. This study utilized a mixed-methods design and aimed to develop baseline information about knowledge, sources of information, and accessibility of mental health services for deaf persons. While there was convergence between the qualitative and quantitative data, there was also divergence between the participants' responses. For instance, convergence was found between the quantitative and qualitative data on knowledge of mental health, sources of information, and barriers to accessibility of mental health services. Conversely, divergence was noted on responses on the support services that deaf persons utilize to address mental health problems. In the quantitative data, while many participants selected rehabilitation centres as their preferred avenue to seek mental health treatment, the qualitative data showed that traditional/religious outlets were mainly prioritized by deaf persons.

Mental health is a public health menace that underscores the need for all persons to be included in policy and practices. Consequently, the study findings could have implication for policymaking. First, the study's participants demonstrated some understanding of mental health issues. This could be capitalized on by policymakers by decentralizing mental health education to the deaf community. The education programme could cover aetiology, causes, and available services in the community to address mental health problems. Second, needs-based assessment could also be conducted to understand the mental health support/education required by the deaf community. This could ensure that tailored mental health support is made accessible to the deaf community. Third, there is a need for societal engagement about mental health issues to enable society to understand the ways in which they could support individuals with mental health problems. Fourth, policymakers could make provision for equal working rights, remuneration, and incentives offered to individuals diagnosed with mental health conditions. This could serve as a control mechanism against relapse and enable persons diagnosed with mental health problems to see themselves as equal members of society.

Supplementary Information

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Supplementary Material 1

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Authors' contributions

MPO, WKM, JD, EMG, WN and LAK contributed to the conception of the study. WKM and JD collected the data. MPO, WKM and JD analysed and interpreted the data. MPO, WKM, JD, EMG, WN and LAK contributed to the writing, and all authors read and approved the final manuscript.

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Data availability

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

All methods were carried out in accordance with relevant guidelines and regulations. The Research and Development Division at Ghana Health Service reviewed and approved the study protocols (GHS-ERC 026/09/21). The Institutional Review Committee at Ghana Health Service approved the study and its protocols. All participants signed or thumb printed on the informed consent form before participating in this study.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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