

## Research Article

# Depression and Quality of Life of People Accused of Witchcraft and Living in Alleged Witches' Camps in Northern Ghana

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In Northern and Northeast Ghana, women accused of witchcraft are banished from society to live in special locations designated “witches camps.” The processes leading to their banishment, admission, and living in the camps may affect their psychological wellbeing and quality of life. This study was conducted to determine the prevalence of depression and assess the quality of life of 277 alleged witches in four camps located in these two regions in Ghana. A structured questionnaire was developed and administered using the open data collection kit (ODK). The Patient Health Questionnaire-8 (PHQ-8) and the World Health Organisation Quality of Life (WHOQOL) questionnaires were adopted to measure depression and health-related quality of life, respectively. The data were analysed using STATA version 16. The prevalence of depression among the alleged witches was 52.7%. Out of this, 37.2% had moderate depression, 7.2% had moderate or severe depression whilst 2.9% had severe depression. The sociodemographic factors that have a statistically significant association with depression included gender, marital status, being widowed or separated, and not having biological children. Over 97% of alleged witches have a low or extremely low quality of life. In conclusion, the majority of the people accused of witchcraft have a low or extremely low quality of life with high-probable depression.

## 1. Introduction

Depression is the commonest mental health condition in the general population worldwide [1] characterised by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness, and poor concentration [2]. In its most severe form, depression can lead to death by suicide [3] and an increased risk of mortality. Depression often runs a chronic course and substantially impairs an individual's occupational potential and quality of life [4]. The World Health Organisation (WHO) has reported that depression is ranked second in the global disease burden and is one of the priority conditions covered by the WHO's Mental Health Gap Action Programme [5].

The global prevalence of depression and depressive symptoms has been increasing in recent decades. The number of incident cases of depression worldwide increased from 172 million in 1990 to 258 million in 2017, representing an increase of 49.86% [6]. The lifetime prevalence of depression ranges from 20% to 25% in women compared to 7% to 12% in men [7]. When comparing sexes, years of healthy life lost due to disability (YLD) rates in females were nearly twice higher than in males for depressive disorders [8]. Prior studies among the general population have revealed that sociodemographic factors such as older age, parents' occupational status, marginalisation [2], female gender [3], lower education levels of parents, and living conditions of parents [9] were important risk factors for depression. In

addition, psychosocial risk factors for depression are family disputes, low-socioeconomic status, and undesirable academic performance [10]. A recent study has identified marginalisation and socioeconomic status as risk factors for depression [11]. Depression has also been reported to have a positive correlation with the quality of life among the general population [12].

Quality of life (QOL) is defined as the perception of individuals or groups that their needs are being fulfilled and they are not being denied opportunities to achieve happiness and satisfaction. It incorporates both a cognitive component (satisfaction) and an emotional component [13]. Quality of life issues is crucially important because they may powerfully predict an individual's capacity to manage their disease and maintain long-term health and wellbeing [14]. There is a broad consensus that various factors that influence QOL include physical, psychological, social, and environmental health [15]. Most studies on QOL have focussed on the general population, with little known about people alleged to be witches and banished from society.

The belief in witchcraft is a global phenomenon [16, 17]. Evans-Pritchard identifies that the witches have innate powers that are inherited from their parents, which are used in influencing the lives of people [18]. This influence could be positive or negative. Historically, witchcraft belief and practice have been reported across continents; however, it has been reported to be more widespread in countries with weak institutions, conformist culture, and in-group bias [19]. Although it is an old belief system, there has been renewed interest in this concept because of the human rights abuses that are associated with the practice. There are abundant cases of human rights violations across the African continent [20]. Many such violations and abuses thrive on and are clearly visible in political, ethnic, and religious conflicts in some countries. This has therefore renewed calls for interventions to address these concerns [21].

In Ghana, alleged witches are frequently subjected to ridicule, ostracism, assault and torture, exile, and murder and sent to alleged witches' camps. Admission to the alleged witches' camps located in the four districts is conducted on a daily, weekly, or even monthly basis. It often starts with the person accused (alleged witch) of using his or her spiritual powers to cause misfortune or evil to another person or selected community or family members (accusers). The accusers can be men, women, youths, and children who are directly or indirectly affected by the alleged occult harm. Accusers make allegations on the grounds that they or their relatives or friends have suffered some misfortune such as sickness, death, accidents, poor harvest, or infertility [22]. Drawing on his studies of witches' camps in Gambaga, Wiafe argued that alleged witches seek shelter at the alleged witches' camps to avoid being beaten and lynched by community members [23]. The property of an alleged accused witch may be seized by family members, and social privileges such as access to communal foods, water, and land may be limited [20]. Denying people of such basic needs can negatively affect their QOL [24] as well as increase their risk of developing depression in societies where witchcraft is a negative belief or based on superstition. In 2011, the

Ministry of Gender, Children, and Social Protection (MoGCSP) announced that the alleged witches' camps should be closed by 2012 [25]. This is, however, yet to be conducted while women continue to be accused of witchcraft and banished to these camps. To give meaning to Ghana's quest to ensure universal health coverage and having access to better living conditions, it is important to document evidence on various segments of the population, especially the vulnerable. This study was therefore conducted to determine the prevalence of depression and assess the quality of life of women living in the alleged witches' camps.

## 2. Methods and Materials

*2.1. Study Area.* The study was conducted in four alleged witches' camps located in Nanumba South (Kpatinga), Yendi Municipal (Ngani), Gushiegu, and East Mamprusi Municipality (Gambaga) in Ghana. These camps are the largest and are located in the northern and northeast regions of Ghana. The camps mainly serve as a residence and a place of refuge for witches and in some instances their grandchildren. Some family members who may be opposed to the banishment tend to offer their children (grandchildren of the alleged witches) to support them in their domestic activities at the camp. This, however, is conducted after the alleged witch has been admitted to the camps. It has been reported that some of these women have lived in the camps for as long as 40 years [22].

*2.2. Study Design.* The research involved surveying all individuals accused of witchcraft and living in the four alleged witches' camps (census). Initial interactions with caretakers of the alleged witches, in the camps, revealed that the number of people in the camps has decreased over the years. As such, the study included all individuals who were admitted into the camps on witchcraft accusations.

*2.3. Study Population and Selection of Participants.* The population for this study included people accused of being witches and living in the alleged witches' camps. In all, 277 participants were recruited for the study.

*2.4. Data Collection Tools and Procedures.* A structured questionnaire was developed for the survey. The survey collected data on the sociodemographic characteristics, socioeconomic status, risk factors for depression, and general wellbeing of the alleged witches. The survey was developed using the Open Data Collection Kit (ODK) for on-site electronic data collection. The structured questionnaires were preloaded on android tablets and translated into two common local languages (Dagbani and Mamprusi) during data collection. The translation was contextual rather than literal, meaning that questions were translated to convey the best meaning in local languages. The prevalence of depressive disorder was assessed using Patient Health Questionnaire 8 (PHQ-8), which has been shown to be valid and reliable for assessing a current depressive disorder in the general

population [11] and in Ghana [26]. The PHQ-8 is a self-reported questionnaire that is composed of eight items that correspond to the DSM-IV diagnostic criteria for a major depressive episode, excluding thoughts of death and suicide. The recall period for this scale corresponds to the previous two weeks and the response scale ranges from 0 (not at all in 14 days) to 3 (nearly every day of the 14 days). The WHO health-related quality of life (WHOQOL) questionnaire was adopted for this study. The WHOQOL comprises of four domains—physical, psychological, social, and environmental, which are assessed on a five-point Likert scale [12]. The physical domain comprises of multiple-choice questions (6), psychological (6 questions), social (3 questions), and environment (8 questions). Both surveys were completed through a face-to-face interview, while maintaining physical distance, and observing COVID-19 protocol.

**2.5. Data Analysis.** STATA version 16 was used to analyse the data. Descriptive statistical methods were first used to summarise the distribution of the data across the demographic characteristics of the study participants and the prevalence of depression. In determining the prevalence of depression, a PHQ-8 score was used. The PHQ-8 response set was standardised by asking the number of days in the past 2 weeks the respondent had experienced a particular depressive symptom. The modified response set was converted back to the original response set: 0 to 1 day = “not at all,” 2 to 6 days = “several days,” 7 to 11 days = “more than half the days,” and 12 to 14 days = “nearly every day,” with points (0 to 3) assigned to each category, respectively. The scores for each item were summed to produce a total score between 0 and 24 points. A total score of 0 to 4 represented no significant depressive symptoms. A total score of 5 to 9 represented mild depressive symptoms; 10 to 14, moderate; 15 to 19, moderately severe; and 20 to 24, severe [27]. Any participant who had 10 or higher was deemed to be positive for current depressive disorder (sensitivity over 85% and specificity over 88%) [28, 29]. Pearson’s Chi-Square and Fisher’s exact models were used to determine the association between sociodemographic characteristics and depression.

The study adopted the WHO Quality of Life tool (WHOQOL) with its associated scores. The WHOQOL-26 questionnaire contains two items on self-rated overall QOL and general health and 24 items on the satisfaction that are divided into the following four domains: physical health with 6 items (DOM1), psychological health with 6 items (DOM2), social relationships with 3 items (DOM3), and environmental health with 8 items (DOM4). Each item was rated on a 5-point Likert scale and was scored from 1 to 5 on a response scale with a maximum score of 120. The domain scores were scaled in a positive direction (i.e., higher scores denote higher QOL). The following values of scores were extracted from the reviewed studies and were applied in the current study: score  $\leq 45$ , extremely low QOL; score 46–65, low QOL; score 66–86, moderate QOL, score 87–101, relatively high QOL, and score  $\geq 102$ , excellent QOL [30]. The reliability of this scale was determined as 0.87 which is similar to an earlier study in Ghana [26].

**2.6. Ethical Approval.** The protocol for this study was reviewed and approved by Ghana Health Service Ethics Review Committee (GHS-ERC 014/09/21).

### 3. Results

**3.1. Sociodemographic Characteristics of Participants.** Table 1 shows the sociodemographic characteristics of the study participants. From the table, 106 (38.3%) of the alleged witches were between the ages of 70–79 years, 259 (93.5%) were females, 156 (56.3%) adhered to the Islamic faith, 94 (33.9%) were Christians, 236 (85.2%) had health insurance, and only 15 (5.4%) were engaged in some form of works to generate income such as farming and petty trading (Table 1).

**3.2. Distribution of Signs and Symptoms of Depression (PHQ-8) among Participants.** The study showed that the majority of participants experienced some form of signs and symptoms of depression on a daily basis. About 11.5% experienced little interest in pleasure nearly every day (12–14 days), while 35.0% experienced it several days in the two weeks (2–6 days). In addition, 43.7% and 15.2% reported feeling hopelessness several days in two weeks and every day of the 14 days, respectively. Participants also reported having challenges in falling asleep or sleeping too much; 60.3% experienced these several days in two weeks (2–6 days) and 19.1% experienced this for more than half (7–11) days in two weeks.

Furthermore, 39.7% and 10.1% reported feeling tired or lacking energy for their daily activities several days in two weeks and nearly every day of the 14 days, respectively (Figure 1).

Also, participants reported poor appetite as 59.6% experienced this several times in two weeks, while 18.4% experienced this symptom more than half the days in two weeks. Having a bad perception about self was also reported by 23.5%, experiencing this bad perception several days in two weeks. Again, many participants reported challenges in concentrating as well as speaking and moving slowly (Figure 2).

**3.3. Prevalence of Depression.** Using a cutoff of  $\geq 10$ , the prevalence of depression among the participants was 52.7% (Figure 3).

**3.4. Severity of Depression among Participants.** In terms of severity of depression, 23.5% had mild depression, 37.1% had moderate depression, 7.2% had moderately severe depression, and 2.9% had severe depression (Figure 4).

**3.5. Association between Sociodemographic Characteristics and Depression.** Table 2 shows that more women (49.4%) than men (16.79%) had depression and the difference was statistically significant ( $X^2 = 7.24$ ,  $p = 0.007$ ). Other variables that had a statistically significant association with depression were as follows: never been married ( $p = 0.001$ ), widowed or separated ( $p = 0.004$ ), and not having biological children ( $p = 0.004$ ).

TABLE 1: Sociodemographic characteristics (SDC) people accused of witchcraft in Northern and North regions in Ghana, 2021.

SDC	Observations	Frequency (n)	Percentage (%)
Age (in years)	40–49	10	3.6
	50–59	33	11.9
	60–69	70	25.3
	70–79	106	38.3
	≥80	58	20.9
Sex	Female	259	93.5
	Male	18	6.5
Religion	Islam	156	56.3
	Christianity	94	33.9
	Traditional	21	7.6
	No religion	6	2.2
NHIS status	Insured (valid card)	236	85.2
	Not insured	41	14.8
Marital history	Ever married	268	96.8
	Never married	9	3.2
Current marital status	Married	40	15.0
	Separated/divorced	50	18.7
	Widowed	177	66.3
Children	Have biological children	255	92.1
	No biological children	22	7.9
	Children alive	249	97.6
	Children dead	6	2.4
Education	No formal education	274	99.0
	Primary	2	0.7
	Secondary	1	0.3
Employment	Not engaged in income generating work	262	94.6
	Engaged in income generating work	15	5.4
Monthly income	GHS 5–10	232	83.7
	GHS 11–20	39	14.1
	GHS 21–30	2	0.7

Table 2 provides a summary of the association between the sociodemographic characteristics of participants and depression (Table 2).

**3.6. Sociodemographic Characteristics and Severity of Depression.** Table 3 shows the association between socio-demographic characteristics and the severity of depression using the Diagnostic and Statistical Manual (DSM-IV) classification. From the table, the severity of depression increases with age, having low income, being widowed, or divorced, and not having children (Table 3).

**3.7. Quality of Life of Alleged Witches.** The quality of life has five domains with specific questions measured on a five-point Likert Scale (1 = not at all, 5 = suffer, or experience

severe forms). In the physical domain of QOL, the study showed that the majority of the participants feel some pain and may have to depend on medication to be able to undertake their daily activities (although medication may not always be available). Psychologically, participants indicated they did not enjoy life, but had a poor perception of their life as well as a negative physical appearance of their body (body image). Poor social support was reported in the social domain (Table 4).

In the composite score, the mean QOL score was 53.3 (Standard Deviation, SD = 6.23). The majority (88.8%) of the participants had a total QOL score between 46 and 65 which means they had a low quality of life. In addition, about 8.6% had extremely low QOL (score of ≤45) while only 2.5% had moderate QOL (score of 66–86) (Figure 5). No participants belonged to relatively high QOL (score 87–101) and

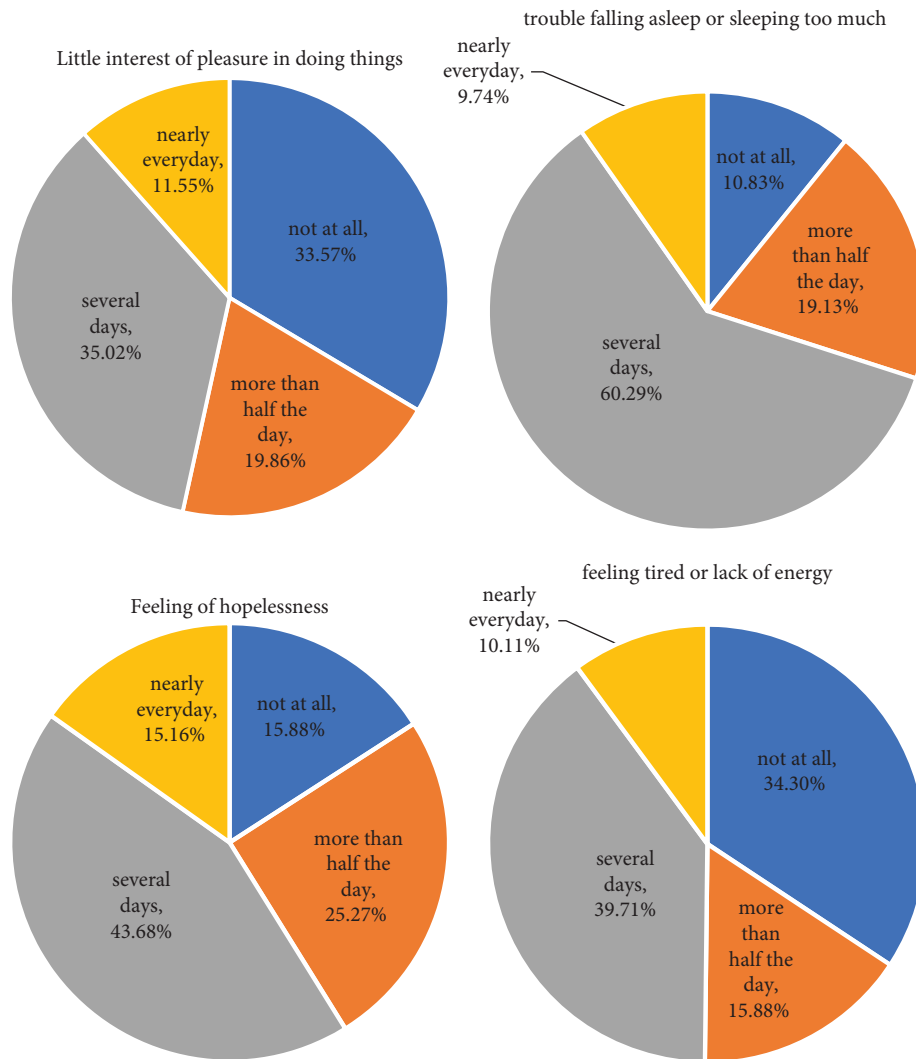


FIGURE 1: Prevalence of signs and symptoms of depression among alleged witches, 2021.

excellent QOL ( $\geq 102$ ), respectively. In summary, over 97% of alleged witches have a low or extremely low quality of life. None have a high or excellent quality of life (Figure 5).

#### 4. Discussion

**4.1. Depression among People Accused of Witchcraft.** Although witchcraft is a sociocultural phenomenon [19], this study shows it has a correlation with depression. Using a cutoff of  $\geq 10$ , the prevalence of depression among the participants was 52.7%. In terms of severity of depression, 23.5% had mild depression, 37.3% had moderate depression, 7.2% had moderately severe depression, and 2.9% had severe depression. The high prevalence of depression among people accused of witchcraft and living in these designated witches' camps may be due to multiple factors. First, the psychological trauma that comes with this accusation and banishment makes adjustment difficult. For some people, having experienced near lynching without any psychological support prior to being admitted to the alleged witches' camps leaves these women with chronic psychological distress.

Marginalisation, isolation, and living in deplorable conditions have been reported to increase the risk of depression [31]. The camps are made up of small mud huts or compounds with thatch roofs and lack social amenities. A typical living compound in the camp is occupied by a minimum of one, and as many as four accused witches. The lack of social amenities, the poor nature of their living conditions, and the inability of residents to cater to their daily needs are all triggers of psychosocial distress and precursors for mental health conditions such as depression [32].

Whilst it is possible that witchcraft accusations could be a risk factor for depression, mental health conditions could make an individual behave in ways akin to beliefs about the characteristics of an alleged witch. In many instances, depression may be treated as a consequence of witchcraft accusations and banishment. Nonetheless, mental disorders such as depression could also make an individual behave in ways that may lead to witchcraft accusations in communities where this practice still exists. In particular, some societies hold the belief that people with mental health conditions and disabilities have been cursed. In Sierra Leone, for example,

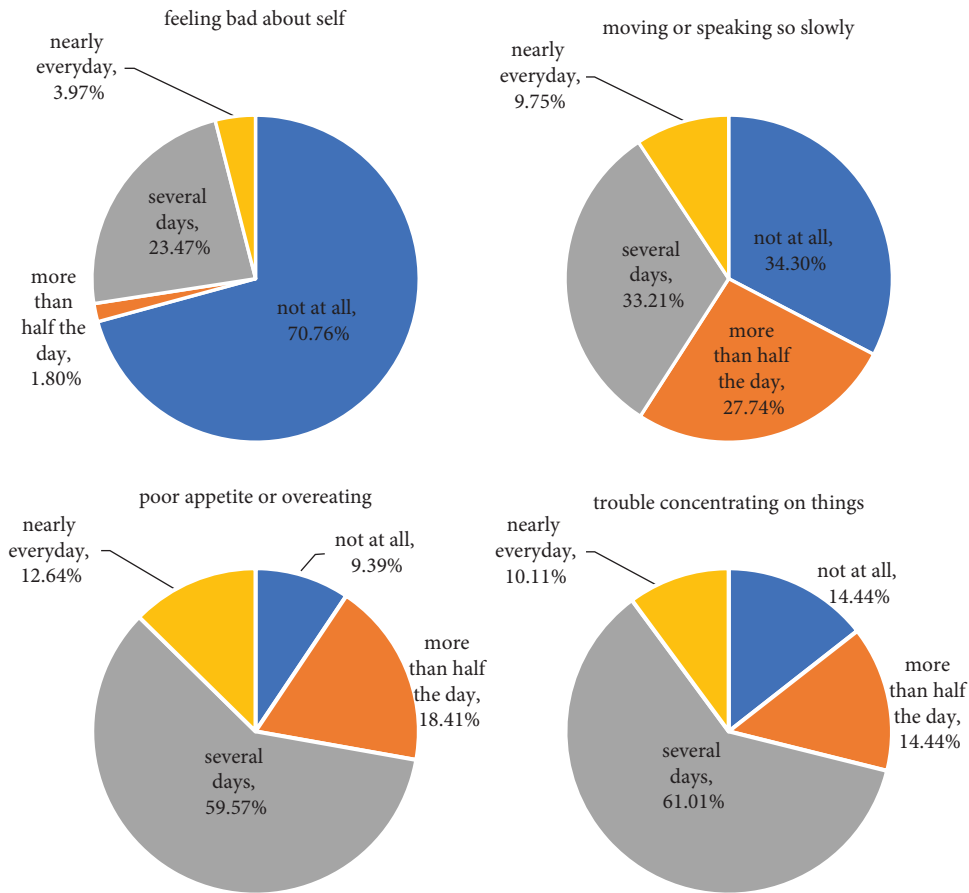


FIGURE 2: Prevalence of signs and symptoms of depressions among alleged witches, 2021.

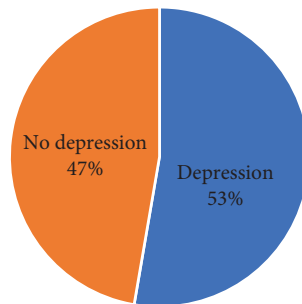


FIGURE 3: Prevalence of depression among alleged witches (cutoff PHQ ≥ 10), 2021.

local explanatory models for child and adolescent mental health problems are mostly spiritual and may include involvement in witchcraft [33]. A study in Nigeria reported that the majority (72%) of caregivers of people with mental conditions indicated mental illness had supernatural causes [34]. In Ghana, Yaro et al., in a study in three regions Northern, Brong Ahafo, and Central reported that the belief that mental health conditions could be caused by spiritual factors and a curse was common [35]. Given the wide access to mental health services (treatment) gap in Ghana [36], it is, therefore, possible that some of these women could have been accused because they had underlying mental health conditions. Mental health conditions are also common

among the elderly or aged, a critical population for witchcraft accusations.

In this study, more of the alleged witches that had depression were women (49.4%) rather than men (16.79%) and the difference was statistically significant ( $X^2 = 7.24$ ,  $p = 0.007$ ). Other variables that had a statistically significant association with depression are never being married ( $p = 0.001$ ), being widowed or separated ( $p = 0.004$ ), and not having biological children ( $p = 0.004$ ). The majority of people accused of witchcraft are women of advanced age and in their menopausal period. Generally, some women also experience specific forms of depression-related illness, including premenstrual dysphoric disorder, postpartum

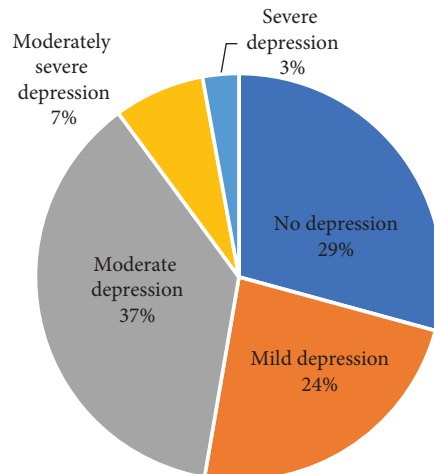


FIGURE 4: Severity of depression among alleged witches, 2021.

TABLE 2: Association between sociodemographic characteristics and depression.

SDC	No depression <i>n</i> (%)	Depression <i>n</i> (%)	$X^2$ ( <i>p</i> value)
<b>Age</b>			
40–49	6 (60.0)	4 (40.0)	6.96 (0.138)
50–59	21 (63.6)	12 (36.3)	
60–69	35 (50.0)	35 (50.0)	
70–79	61 (57.5)	45 (42.3)	
≥80	23 (39.7)	35 (60.3)	
<b>*Sex</b>			
Female	131 (50.6)	128 (49.4)	<b>7.24 (0.007)</b>
Male	15 (83.3)	3 (16.7)	
<b>Religion</b>			
Islam	78 (50.0)	78 (50.0)	4.40 (0.215)
Christianity	51 (54.3)	43 (45.7)	
Traditional	15 (71.4)	6 (28.6)	
No religion	2 (33.3)	4 (66.7)	
<b>Education</b>			
No formal education	144 (52.5)	130 (47.5)	0.91 (0.636)
Primary	1 (50.0)	1 (50.0)	
Secondary	1 (100)	0 (0)	
<b>*Marital history</b>			
Ever married	146 (54.5)	122 (45.5)	<b>10.37 (0.001)</b>
Never married	0 (0)	9 (100)	
<b>*Current marital status</b>			
Married	30 (75.0)	10 (25.0)	<b>10.91 (0.004)</b>
Separated/divorced	31 (62.0)	19 (38.0)	
Widowed	85 (48.0)	92 (52.0)	
<b>Children</b>			
*Have biological children	141 (55.3)	114 (44.7)	<b>8.62 (0.004)</b>
No biological children	5 (22.7)	17 (77.3)	
Children alive	138 (55.4)	3 (50.0)	0.79 (1.000)
Children dead	111 (44.6)	3 (50.0)	
<b>Employment</b>			
Not engaged in income generating work	136 (51.9)	126 (48.1)	1.23 (0.299)
Engaged in income generating work	10 (66.7)	5 (33.3)	
<b>Income</b>			
GHS 5–10	128 (54.2)	108 (45.8)	4.15 (0.124)
GHS 11–20	16 (41.0)	23 (59.0)	
GHS 21–30	2 (0)	0 (0)	
<b>Health insurance</b>			
Insured (valid card)	129 (54.7)	107 (45.3)	2.44(0.130)
Not insured	17 (41.5)	24 (58.5)	

\*Statistically significant at  $p < 0.05$ . The bold values show the socio-demographic characteristics of participants that have a statistically significant association with depression.

TABLE 3: Association between sociodemographic characteristics and severity of depression.

SDC	No depression, n (%)	Mild depression, n (%)	Moderate, n (%)	Moderately severe, n (%)	Severe, n (%)	X <sup>2</sup> (p value)
<b>*Age (in years)</b>						
40–49	4 (40.0)	2 (20.0)	1 (10.0)	1 (10.0)	2 (20.0)	<b>47.48 (&lt;0.0001)</b>
50–59	13 (39.4)	8 (24.2)	6 (18.2)	2 (6.1)	4 (12.1)	
60–69	25 (35.7)	10 (14.3)	27 (38.6)	7 (10.0)	1 (1.4)	
70–79	26 (26.4)	33 (31.1)	36 (34.0)	8 (7.5)	1 (0.9)	
≥80	11 (19.0)	12 (20.7)	33 (56.9)	2 (3.4)	0 (0)	
<b>Sex</b>						
Female	74 (28.8)	57 (22.0)	101 (39.0)	19 (7.3)	8 (3.1)	<b>8.37 (0.066)</b>
Male	7 (38.9)	8 (44.4)	2 (11.1)	1 (5.6)	0 (0)	
<b>*Religion</b>						
Islam	57 (36.5)	21 (13.5)	61 (39.1)	12 (7.7)	5 (3.2)	<b>19.53 (0.003)</b>
Christianity	16 (17.0)	35 (37.2)	33 (35.1)	7 (7.4)	3 (3.2)	
Traditional	8 (38.1)	7 (33.3)	5 (23.8)	1 (4.8)	0 (0)	
No religion	0 (0)	2 (33.3)	4 (66.7)	0 (0)	0 (0)	
<b>*Marital history</b>						
Ever married	81 (30.2)	65 (24.2)	101 (37.7)	20 (7.5)	1 (0.4)	<b>186 (&lt;0.0001)</b>
Never married	0 (0)	0 (0)	2 (22.2)	0 (0)	7 (77.8)	
<b>*Current marital status</b>						
Married	17 (42.5)	13 (32.5)	7 (17.5)	3 (7.5)	—	<b>19.7(0.002)</b>
Separated/divorced	23 (46.0)	8 (16.0)	18 (36.0)	1 (2.0)	—	
Widowed	41 (23.2)	44 (24.9)	76 (42.9)	16 (9.0)	—	
<b>*Children</b>						
Have biological children	79 (31.0)	62 (24.3)	94 (36.9)	20 (7.8)	0 (0)	<b>98.84 (&lt;0.0001)</b>
No biological children	2 (9.1)	3 (13.6)	9 (40.9)	0 (0)	8 (36.4)	
Children alive	77 (30.9)	61 (24.5)	91 (36.5)	20 (8.0)	—	<b>0.92 (0.891)</b>
Children dead	2 (33.3)	1 (16.7)	3 (50.0)	0 (0)	0 (0)	
<b>Educational attainment</b>						
No formal education	80 (29.2)	64 (23.4)	103 (37.6)	19 (6.9)	8 (2.9)	<b>9.57 (0.156)</b>
Primary	0 (0)	1 (50.0)	0 (0)	1 (50.0)	0 (0)	
Secondary	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	
<b>Employment</b>						
Not engaged in income generating work	74 (28.2)	62 (23.7)	100 (38.2)	18 (6.9)	8 (3.0)	<b>4.27 (0.327)</b>
Engaged in income generating work	7 (46.7)	3 (20.0)	3 (20.0)	2 (13.3)	0 (0)	
<b>*Income</b>						
GHS 5–10	74 (31.7)	54 (22.9)	89 (37.7)	15 (6.6)	4 (1.7)	<b>15.34 (0.025)</b>
GHS 11–20	6 (15.4)	10 (25.6)	14 (35.9)	5 (12.8)	4 (10.3)	
GHS 21–30	1 (50.0)	1 (50.0)	0 (0)	0 (0)	0 (0)	
<b>*Health insurance</b>						
Insured	74 (31.4)	55 (23.3)	87 (36.9)	16 (6.8)	4 (1.7)	<b>10.78 (0.040)</b>
Not insured	7 (17.1)	10 (24.4)	16 (39.0)	4 (9.8)	4 (9.8)	

\*Statistically significant at  $p < 0.05$ . The bold values show the socio-demographic characteristics of participants that have a statistically significant association with severity of depression.



TABLE 4: Quality of life of alleged witches, 2021.

Domain	Elements	Minimum	Maximum	Mean (standard deviation)
<b>Physical</b>	Pain and discomfort	1	5	2.9 (0.85)
	Need medication	2	5	3.4 (1.03)
	Energy and fatigue	1	5	2.2 (0.65)
	Sleep and rest	1	5	2.3 (0.67)
	Perform daily activities	1	5	2.2 (0.65)
	Capacity to work	1	5	1.7 (0.66)
<b>Psychological</b>	Enjoy life	1	4	2.5 (0.72)
	Positive feelings	1	4	2.5 (0.56)
	Concentration	1	4	2.2 (0.66)
	Self-esteem	1	4	2.7 (0.55)
	Bodily image and appearance	1	4	2.9 (0.58)
	Negative feelings	1	4	2.4 (0.67)
<b>Social</b>	Personal relationships	1	4	2.6 (1.07)
	Social support	1	4	1.6 (0.64)
	Sexual activity	1	4	1.62 (2.09)
	Physical safety and security	1	5	3.2 (0.75)
<b>Environment</b>	Home environment	1	4	2.8 (0.74)
	Financial resources	1	4	1.6 (0.69)
	Health and social care: accessibility and quality	1	4	2.2 (0.68)
	Opportunities for acquiring new information and skills	1	4	1.9 (0.68)
	Participation in and opportunities for recreation/leisure activities	1	4	2.0 (0.52)
	Physical environment (pollution/noise/traffic/climate)	1	4	2.4 (0.73)
	Transport	1	4	2.0 (0.71)

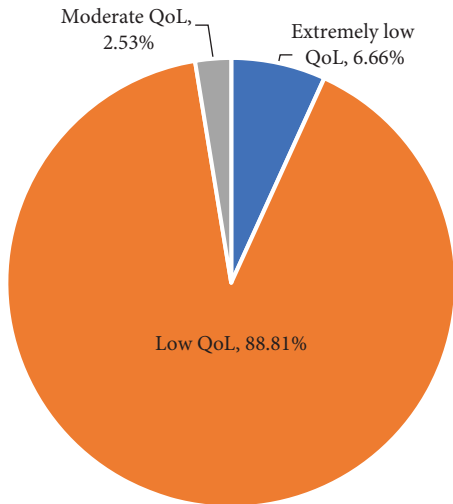


FIGURE 5: Quality of life of alleged witches, 2021.

depression, and postmenopausal depression which are associated with changes in hormones and could contribute to the increased prevalence in women [37]. Although in this study menopausal women represent the highest number of people suffering from depression, it is important to note that witchcraft accusation is not limited to menopausal women [19].

In addition, earlier studies have reported a higher prevalence of depression among widowed and separated women. Widowhood and divorce are significantly distressing events in the life of an individual, with associated psychological ramifications. Generally, women are more likely than men to be widowed for two reasons. First, women live longer than men, as highlighted by worldwide data regarding differences in the life expectancy of men and women. In addition, women tend to marry older men in Ghana, although this gap has been narrowing. Because women live longer and marry older men, their odds of being widowed are much greater than men's [38]. The psychological stresses that come with widowhood are further compounded among women owing to particular social and cultural aspects, which lead to increased feelings of guilt, remorse, and aloofness. This underscores the need to improve social support for widows. Availability and access to self-help groups to assist with emotional management during widowhood have been reported to improve mental wellbeing and reduce the risk of mental disorders such as depression. This can help counter loneliness and promote the survivor's reintegration into society [39].

**4.2. Health-Related Quality of Life of People Accused of Witchcraft.** The overall QOL was computed using the four domains of the WHOQOL, with a minimum score of 24 and a maximum score of 120. The average score for this study was 53.3 which is classified as low QOL. The findings show that nearly 100% of the participants have a low or extremely low quality of life across all the following four domains: physical, psychological, social, and environmental (88% had

low QOL and 8.6% had extremely low QOL). None have a high or excellent quality of life. The health-related quality of life of individuals living in poverty is lower than that of the general population, and the mental health dimension is most affected by poverty among respondents who are middle-aged [40]. There is, therefore, an urgent need to develop strategies to alleviate the poverty level among people resident in the alleged witches' camps. Health creates wealth and is one of the key contributors to sustainable development goals, especially for poverty reduction and the promotion of health and wellbeing.

Some of the people in the camps are still active and could be supported with financial resources to engage in trading. Some funding sources could include budgetary allocation from district assembly common funds as is currently conducted for people with disabilities. The inclusion of the alleged witches in the 3% disability fund portion of the district assembly common fund could potentially improve their livelihood. Again, the economic empowerment of these people would not only improve their quality of life but also reduce mental disorders as well. Poverty and income inequality also induce poor mental health via multiple material and psychosocial channels [41, 42].

Furthermore, ensuring the alleged witches have access to the Livelihood Empowerment Against Poverty (LEAP) cash transfer system is critical to improving their quality of life. This underscores the need for district assemblies and the social welfare department to ensure that women in alleged witch camps receive their LEAP cards and benefit from this social welfare system. The LEAP programme provides conditional cash transfers to the extremely poor with no alternative means of meeting their subsistence needs. To this end, unconditional grants are also provided to individuals with no productive capacity, e.g., the elderly, the poor, and persons with severe disabilities. Enrolling the alleged witches in the LEAP scheme can invariably affect their grandchildren who are their caretakers. One of the conditions of the LEAP beneficiaries is a commitment to enrol and retain all school going age children in the household in public basic schools. Furthermore, LEAP is integrated with other social protection policies such as the National Health Insurance Scheme (NHIS). This provision allows older persons aged 65 years and above who are registered on the LEAP cash transfer programme, an exemption from the payment of registration fees as premiums to access health services under the NHIS.

## 5. Conclusion

In conclusion, the majority of women accused of witchcraft have a low or extremely low quality of life with high depression. Having depression was strongly associated with being female and having a marital status of divorced, widowed, or separated. These factors and quality of life synergistically likely contributed to depression. Expanding health care to women living in these alleged witches' camps is critical to achieving universal health coverage in a way that leaves no one behind.

## Data Availability

The data for this study are available upon request from the administrator of the Ghana Health Service Ethics Review Committee on ethics.research@ghsmail.org

## Conflicts of Interest

The authors declare that they have no conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Authors' Contributions

LA, AKS, PBY, and LAK conceived the idea and sourced for funding, PT-NT developed the protocol and participated in data and analysis, and PT-NT wrote the draft manuscript, which was reviewed by LA, AKS, PBY, and LAK. All authors read and approved the final version of the manuscript.

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