ISSN: 2475-5435

Research Article

International Journal of Psychiatry

Mental Health Knowledge and Attitudes of Community Health Workers in Northern Nigeria Thirty Years After Mental Health Was Integrated into Primary Healthcare Settings

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Submitted: 2025, Jan 31; **Accepted**: 2025, Feb 24; **Published**: 2025, Mar 03

Citation: Taru, M. Y., Akinnusi, P., Philip, T. F., Armiyau, A. Y., Nnaemeka, C. N., et al. (2025). Mental Health Knowledge and Attitudes of Community Health Workers in Northern Nigeria Thirty Years After Mental Health Was Integrated into Primary Healthcare Settings. *Int J Psychiatry, 10*(1), 01-09.

Abstract

Background: *The knowledge and attitudes of community health workers are essential in expanding mental health services, particularly in countries like Nigeria. Despite over thirty years of attempts to integrate mental health into primary healthcare, challenges remain. Many community health workers lack sufficient mental health training and harbor negative, stigmatizing attitudes towards mental health. Additionally, Nigeria's mental health policies often lack adequate implementation strategies, further complicating efforts to meet the mental health needs of the population.*

Objective: *The aim of this study was to assess the knowledge and attitudes of Community Health Extension Workers (CHEWs) towards mental health, thirty years after its integration into primary healthcare in Nigeria.*

Methods: *This study evaluated the mental health knowledge and attitudes of 130 Community Health Extension Workers in northern Nigeria. A cross-sectional survey design was employed, with data collected using a consecutive sampling method and a self-administered questionnaire adapted from a previous study conducted in Nigeria.*

Results: *Analysis revealed that 49.2% of respondents had inadequate knowledge of mental health, and 48.5% held negative attitudes towards mental health. Respondents from the northeastern region exhibited significantly lower knowledge of mental health compared to those from the north-central region (mean difference = 2.12, $p = 0.007$), and the north-western region (mean difference = 1.91, $p = 0.030$). A statistically significant association was observed between knowledge and attitudes ($p < 0.001$).*

Conclusion: *Despite over three decades of efforts to integrate mental health into primary healthcare settings in Nigeria, progress remains limited in both knowledge and attitudes toward mental health among community health workers, especially in Northern Nigeria, with particular challenges in the northeastern region. This highlights the critical need to revisit and actively advance the integration of mental health services into primary healthcare systems.*

Keywords: Mental Health, Community Health Extension Workers, Knowledge and Attitudes, Northern Nigeria

1. Introduction

Mental health disorders are increasingly recognized as major contributors to global disease burden, currently affecting approximately 13.9% of the world's population [1,2]. A significant proportion of those affected live in low- and- middle-income countries (LMICs), where ongoing conflicts, economic instability, and limited access to healthcare have greatly exacerbated the mental health crisis [3,4]. Nigeria serves as a prime example of a developing country where mental health disorders are widespread; with estimates indicating that between 20% and 30%

of the population is affected [5]. Anxiety, depression, and post-traumatic stress disorder (PTSD) are particularly common in regions impacted by conflict [3]. Though mental health disorders are widely recognized as a leading cause of disability, placing a significant burden on patients, their families, and the healthcare system while also contributing to substantial economic loss, Nigeria faces a severe shortage of mental health professionals; with only one psychiatrist per 700,000 people, mental health services remain largely concentrated in major cities [6,7]. Meanwhile, mental health care within the Primary Health Care (PHC) system is virtually nonexistent [8].

It is widely agreed that integrating mental health into primary health care (PHC) is the most effective way to scale up services for individuals with mental health needs, especially since PHC is the first point of contact with the healthcare system in most LMICs [9,10]. Additionally, PHC is expected to facilitate timely referrals to higher levels of care. However, this expectation is rarely met for mental health conditions within primary care services in many LMICs, including Nigeria. Contributing factors include inadequate training of primary care providers, resulting in poor recognition of mental health conditions, a lack of support and supervision, fragmented referral pathways, and policy neglect often reflected in insufficient funding and lack of medication supplies for mental, neurological, and substance use (MNS) disorders [11-13].

Furthermore, the stigma surrounding mental illness especially those stemming from traditional beliefs about its origins is another major barrier [14,15]. This stigma not only affects the general public but also shapes the attitudes of healthcare providers, influencing their willingness and readiness to engage in the treatment of mental health conditions [15]. Paradoxically, a large number of patients often present to primary health care workers with somatic symptoms of mental health disorders, many of which go unrecognized [16]. This lack of awareness among PHC workers significantly contributes to the hidden burden of mental illness [15].

Given that mental health services are virtually nonexistent in most Nigerian primary healthcare settings, information on the reach of mental health care within northern Nigeria's PHC system remains scarce [8].

This study aims to evaluate the knowledge and attitudes of Community Health Extension Workers (CHEWs) regarding mental health in northern Nigeria. We believe that this data will also help assess the level of mental health integration within primary healthcare in northern Nigeria since its introduction in 1991. The findings are expected to provide valuable baseline data to inform the development of policies targeted at training and support programs for PHC workers, with the goal of scaling up mental health services and bridging the existing gap

2. Methods

2.1 Study Design

It was a cross-sectional study design

2.2 Study Area

The study focused on examining community health extension workers' knowledge and attitudes, regarding mental health in northern Nigeria. The research was conducted at the College of Community Health, Jos University Teaching Hospital, in Jos, Nigeria. The college offers an advanced diploma program to train community health officers (CHOs). The program attracts students from across Nigeria, predominantly from the northern region. Nigeria's population is expected to surpass 200 million, growing at an annual rate of 3.2% [17]. Primary health care (PHC) accounts for approximately 88 percent of all health facilities in Nigeria, with over 30,000 institutions across the country [18] . In spite of this, mental health services are virtually nonexistent in Nigeria's primary healthcare facilities [8].

The survey was conducted between September and October of 2022, 2023, and 2024, and focused on newly admitted students at the college, who typically begin their academic activities during this period.

2.3 Study Population and Sampling Technique

All first-year CHO students who were present during the data collection period were considered for inclusion in the study. Students who declined to participate or had conditions that made participation impossible were excluded. A consecutive sampling method was used to recruit eligible participants who met the inclusion criteria.

2. 4 Instruments

A self-administered structured questionnaire that has been modified from previous research carried out in Nigeria and Ethiopia was utilized to collect data [19,20]. The questionnaire was divided into four parts. The first part asked about the demographics of the students, including their age, sex, ethnicity, and so on. The second part was a 33-item questionnaire designed to assess respondents' mental health knowledge, which included their understanding of mental health disorders, including their causes and risk factors, symptoms (manifestation), and treatment. The questions required dichotomous yes or no responses, which were scored as 1 for yes and 0 for no responses. Those who scored higher than or equal to the overall mean score of the 33-item knowledge questionnaire were considered to have good knowledge, while those who scored lower than the total mean score was considered to have poor knowledge. The next part was a 25-item questionnaire that was used to assess attitudes regarding mental illness. Each attitude-related question was graded on a 5-point Likert scale, with 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). Those who scored higher or equal to the overall mean score on the 25-item attitude questionnaire were thought to have a favorable attitude, while those who scored lower than the total mean score had an unfavorable attitude.

To ensure the applicability of the questionnaires and the quality of the data collected, the researchers practiced using them under the supervision of an experienced co-researcher. After that, the questionnaires were pretested on ten community health practitioners who met the inclusion criteria and agreed to be interviewed but did not form part of the sample size. They were drawn from primary healthcare facilities in Jos and the surrounding areas. The results of the pre-testing were then used to reconstruct the questionnaire and address any flaws that may interfere with the smooth conduct of the main study.

2.5 Procedure

Ethical approval for this study was obtained from the Health Ethics Committee of the Jos University Teaching Hospital, as well as permission from the Coordinator of the College of Community Health. Four researchers approached potential respondents during a lecture-free hour in their lecture hall. After explaining the purpose and objectives of the study, informed consent was sought from all respondents. They were assured that any information provided would be kept confidential and that participation in the study was entirely voluntary. Students were informed that their decision to participate or not would have no impact on their academic standing. This was clearly communicated in writing. Respondents who agreed to take part in the study signed the consent form before being invited to a private office for a face-to-face interview. This process was repeated weekly until all eligible respondents had completed the interview within three consecutive visits.

2.6 Data-Analysis

The data were analyzed using the Statistical Package for Social Sciences version 25 (SPSS-25). Descriptive statistics were used to summarize the results. Analysis of variance was used to compare the overall mean knowledge of mental health between the three regions and chi-square test was applied to examine differences and associations between categorical variables. Statistical significance was set at a p-value of less than 0.05.

3. Results

All 130 respondents completed the questionnaire fully and accurately.

3.1 Sociodemographic Characteristics

The average age of the respondents was 39.81 ± 7 years, with ages ranging from 25 to 53 years. Over half of the respondents (52.3%) were female, 78.5% identified as Christian, and 75.4% were married. All respondents held at least a diploma in community health extension work, and at least 57% of them had over ten years of professional experience. Additionally, 44.6% of the respondents were primary healthcare officers in charge. In terms of geographic distribution, 64 (49.2%) respondents were from Nigeria's north-central region, 40 (30.8%) were from the northwest, and 26 (20.0%) were from the northeast. See Table 1 for details.

Variable	Frequency	Percentage
Age group		
25-34	32	24.6
35-44	58	44.6
45-54	40	30.8
Sex		
Male	62	47.7
Female	68	52.3
Religion		
Christianity	102	78.5
Islam	28	21.5
Education		
Diploma	74	56.9
HND	24	18.5
Degree	32	24.6
Marital status		
Never married	22	16.9
Married	98	75.4
Ever married	10	7.7
Office Position		
Officer in-charge	58	44.6
Others	72	55.4

State of practice		
North central	64	49.2
North west	40	30.8
North east	26	20.0
Years of experience		
1-10	55	42.3
11-20	60	46.2
21-34	15	11.5

Table 1: Sociodemographic Characteristics of the Respondents

3.2 Knowledge of Mental Health/Problems

Among the respondents, 92 (70.8%) and 64 (49.2%) believed that women and the elderly are less likely to have psychiatric disorders, respectively. Additionally, 118 (90.8%) respondents held the view that patients with psychiatric disorders do not recover. Regarding causes of mental illness, 60 (46.2%) cited poor nutrition, while 100 (76.9%) and 58 (44.6%) identified God's punishment for past sins and evil spirit possession, respectively. Over 76% of the respondents acknowledged at least one symptom of mental disorder. However, only 12 (9.2%) respondents were familiar with at least one psychotropic medication. See Table 2 for details.

Variable	**Response**	
Knowledge of mental health and mental health problems	Yes	No
Women are less prone to psychiatric disorders	92(70.8)	38(29.2)
Children do not suffer from psychiatric problems	38(29.2)	92(70.8)
Older people are less prone to mental disorders	64(49.2)	66(50.8)
Psychiatric disorders are a kind of medical disorders	118(90.8)	12(9.2)
Contact with psychiatric patients lead to strange behavior	64(49.2)	66(50.8)
Recovered psychiatric patients are employed productively	6(4.6)	124(95.4)
Patients with psychiatric problems don't recover	118(90.8)	12(9.2)
Knowledge of cause of mental health problems		
Genetic factors	104(80.0)	26(20)
Brain structural abnormality	124(95.4)	6(4.6)
Neurotransmitter imbalances	126(96.9)	4(3.1)
Poor nutrition	60(46.2)	70(53.8)
Drug/substance abuse	120(92.3)	10(7.7)
Abuse (Physical/Sexual/Emotional)	118(90.8)	12(9.2)
Stress/tension	108(83.1)	22(16.9)
Unemployment	100(76.9)	30(23.1)
Financial problems	98(75.4)	32(24.6)
Disturbed family/conflict	112(86.2)	18(13.8)
God's punishment for past sins	100(76.9)	30(23.1)
Evil spirit possession	58(44.6)	72(55.4)
The manifestation of mental illness		
Talking/laughing alone	122(93.8)	8(6.2)
Aggression/destructiveness behaviors towards self or others	126(96.9)	4(3.1)
Hearing and seeing things that are not there	128(98.5)	2(1.5)
Suspiciousness	100(76.9)	30(23.1)
Excessive fear or worries	116(89.2)	14(10.8)
Reduced ability of concentration	112(86.2)	18(13.8)
Irritable/euphoric mood	124(95.4)	6(4.6)

Loneliness	106(81.5)	24(18.5)
Feeling sad	112(86.2)	18(13.8)
Knowledge of management of mental health problems		
Medication can be an effective treatment of mental illnesses	120(92.3)	10(7.7)
Mental illness can be managed in a psychiatric hospital	126(96.9)	4(3.1)
Psychotherapy or talking therapy, can be an effective treatment	124(95.4)	6(4.6)
Familiarity with at least one psychotropic medications	12(9.2)	118(90.8)
Traditional healers are better in effectiveness than orthodox care	20(15.4)	110(84.6)
Over all Knowledge		
Adequate	66(50.8%)	
Inadequate	64(49.2)	
Mean score ± SD	24.3 ± 3.0	

Table 2: Respondents' Knowledge of Mental Health/Problems

3.3 Mean Difference in Knowledge between the Three Regions

The results of the analysis of variance (ANOVA) revealed a significant difference in the mean knowledge scores across the three northern regions ($F(2) = 5.050$, $p = 0.008$). Post-hoc comparisons using Tukey's test showed that respondents from the northeastern region exhibited significantly lower knowledge of mental health compared to those from the north-central region (mean difference = 2.12, $p = 0.007$), and the north-western region (mean difference = 1.91, $p = 0.030$). See the Table for details.

ANOVA	**Variable**	**F**	**Df**	**P**
	Knowledge	5.050	2	0.008
	Practice	0.178	2	0.837
Knowledge subjected to Tukey Post Hoc tests	**Geopolitical region**	**Mean Difference**	**95% CI**	**P**
	North-central VS Noth-West	0.21250	-1.1948 – 1.6198	0.932
	North-central VS Noth-West	2.12019*	0.4964 – 3.7440	0.007
	Noth-West VS North-central	-0.21250	-1.6198 – 1.1948	0.932
	Noth-West VS North-East	1.90769*	0.1488 – 3.6666	0.030

Table 3: ANOVA Showing the Mean Difference in Knowledge and Practice Scores Between the Three Regions

3.4 Attitude Towards Mental Health/Problems

The majority of respondents expressed strong agreement or agreement with the following statements: One of the leading causes of mental illness is a lack of self-discipline and willpower [24 (18.5%) and 40 (30.8%)]. Patients with mental illness need the same kind of control as a child [44 (33.8%) and 64 (49.2%)]. Patients with mental illness are a burden on society [30 (23.1%) and 40 (30.8%)]. People with mental illness are dangerous [26 (20.0%) and 54 (41.5%)]. Counseling should be left to specialists [32 (24.6%) and 38 (29.2%)]. See Table 4 for details.

Variable	**Response**				
	SA	**A**	**N**	**DA**	**SDA**
Causes include lack of self-discipline willpower	24(18.5)	40(30.8)	10(7.7)	40(30.8)	16(12.3)
Mental illness is a sign of personal weakness	8(6.2)	28(21.5)	20(15.4)	50(38.5)	24(18.5)
The mentally ill are to be kept behind locked doors	10(7.7)	22(16.9)	8(6.2)	48(36.9)	42(32.3)
The mental ill should get treatment in a hospital	78(60.0)	42(32.3)	4(3.1)	4(3.1)	2(1.5)
Need the same kind of control as a young child	44(33.8)	64(49.2)	6(4.6)	12(9.2)	4(3.1)
Mental illness is like any other medical illness	38(29.2)	42(32.3)	8(6.2)	32(24.6)	10(7.7)
The mentally ill shouldn't be treated as outcasts	56(43.1)	34(26.2)	6(4.6)	26(20.0)	8(6.2)
Less emphasis should be placed on protecting the public from the mentally ill	12(9.2)	24(18.5)	16(12.3)	50(38.5)	28(21.5)

Psychiatric hospitals are an outdated means of treating the mentally ill	12(9.2)	12(9.2)	4(3.1)	34(26.2)	68(52.3)
We need to adopt a far more tolerant attitude towards the mentally ill in our society	54(41.5)	52(40.0)	6(4.6)	10(7.7)	8(6.2)
The mentally ill do deserve our sympathy	62(47.7)	48(36.9)	6(4.6)	4(3.1	10(7.7)
The mentally ill are a burden on society	30(23.1)	40(30.8)	10(7.7)	34(26.2)	16(12.3)
It is best to avoid anyone who has mental problems	8(6.2)	10(7.7)	8(6.2)	54(41.5)	50(38.5)
Should be confined to the facility for life	6(4.6)	18(13.8)	14(10.8)	64(49.2)	28(21.5)
Should receive treatment from health facilities	38(29.2)	62(47.7)	8(6.2)	18(13.8	4(3.1)
People with mental illness can lead a normal life	30(23.1)	56(43.1)	10(7.7)	26(20.0)	8(6.2)
People with mental illness are dangerous	26(20.0)	54(41.5)	16(12.3)	26(20.0)	8(6.2)
The mentally ill shouldn't be given responsibility	14(10.8)	40(30.8)	12(9.2)	40(30.8)	24(18.5)
The mentally ill be isolated from the community	10(7.7)	20(15.4)	16(12.3)	64(49.2)	20(15.4)
It would be foolish to marry someone who had a mental illness, even though fully recovered	8(6.2)	20(15.4)	14(10.8)	58(44.6)	30(23.1)
I wouldn't want to be neighbor with a mentally ill	8(6.2)	28(21.5)	10(7.7)	72(55.4)	12(9.2)
Anyone with a history of mental problems should be excluded from taking public office	8(6.2)	26(20.8)	14(10.8)	54(41.5)	28(21.5)
The mentally ill should be denied their rights	4(3.1)	6(4.6)	4(3.1)	56(43.1)	60(46.2)
Counseling should be left for the specialists	32(24.6)	38(29.2)	10(7.7)	36(27.7)	14(10.8)
Most women who were once patients in a mental hospital can be trusted as babysitters	4(3.1)	42(32.3)	30(23.1)	38(29.2)	16(12.3)
Overall mean attitude					
Favourable		67(51.1%)			
Unfavourable		63(48.9)			
Mean attitude score ± SD		75.8±11.6			

Table 4: The Attitude of the Respondents Towards Mental Health and Mental Health Problems

3.5 Association between Knowledge and Attitude

Table 5 shows that 64 (49.2%) of the respondents had inadequate knowledge of mental health while 63 (48.5%) showed negative attitude towards mental health. Chi square analysis indicated a statistically significant association between knowledge and attitude toward mental health (P<0.001). See the Table for details.

Knowledge	**Attitude**			**Statistics**		
	Poor	**Good**	**Total**	**X^2**	**df**	**P-value**
Inadequate	42(32.3%)	22(16.9%)	64(49.2)	14.868	1	<0.001
Adequate	21(16.2%)	45(34.6%)	66(50.8%)			
	63(48.5%)	67(51.5%)	130(100)			

Table 5: Relationship between Knowledge and Attitude Regarding Mental Health

4. Discussion

To our knowledge, this is the first study to assess knowledge and attitudes toward mental health among community health extension workers in Northern Nigeria. Most published research has focused on the general public [21,22]. We believe the findings of this study will play a crucial role in developing strategies to enhance mental health services in primary care settings, not only in Northern Nigeria but also in other regions. The results showed that nearly half (49.2%) of the respondents had inadequate mental health knowledge, which is consistent with previous research conducted in Nigeria [18] and Ethiopia where 41-56% of healthcare workers demonstrated similar knowledge gaps [18]. Previous studies in Ethiopia, Nepal, and Saudi Arabia reported that 28-33% of health workers showed lower levels of mental health knowledge [20, 23-26]. These findings suggest that the challenges related to mental health knowledge are not limited to community health extension workers in Northern Nigeria but rather reflect a broader issue, particularly in developing countries. Several factors likely contributed to this problem, one of which is the insufficient training provided to CHEWs in these countries, leaving them ill-

equipped to effectively address mental health concerns [24]. Even after completing their initial training, healthcare workers often face limited opportunities to apply their mental health knowledge in real-world settings, particularly in primary healthcare environments, where mental health services are frequently scarce or absent [8]. This lack of practical application contributes to the gradual fading of their mental health knowledge over time.

The disparities in findings however, can be explained by variations in study populations, cultural beliefs, mental health training, and research methodologies. Furthermore, the study found that inadequate knowledge of mental health was evident across the domains we assessed. For instance, 70.8% of respondents believed that women and 49.2% believed that the elderly were less likely to develop mental health problems. This finding aligns with a similar study conducted in Ethiopia [21]. However, a global disease burden analysis contradicts this belief, showing that both women and the elderly are significantly affected by mental health conditions [27]. Such misconceptions may lead to under diagnosis and untreated conditions, ultimately impacting the well-being and functioning of these groups.

Additionally, the study found that over 90% of respondents believed individuals with psychiatric illnesses cannot recover or hold productive jobs. This perception likely arises from limited understanding of the causes and treatment of mental health disorders, with many attributing these conditions to supernatural forces [14,15]. Such misconceptions not only perpetuate stigma but also obstruct effective care and support for those affected by mental health challenges. Consequently, many individuals seek help from spiritual or traditional healers first, which delays proper treatment and exacerbates untreated psychosis, potentially leading to brain damage and poorer long-term outcomes [28]. This further strengthens the belief that individuals with psychiatric disorders are incapable of recovery or contributing productively to society.
The study also revealed that, despite demonstrating a strong understanding of the biopsychosocial causes of mental illness, a significant proportion of respondents still held cultural beliefs, such as the idea of evil spirit possession (76.9%) or God's punishment for sins (44.6%). These findings are consistent with a scoping review on cultural views of mental health in Nigeria [15].

Although over two-thirds of respondents acknowledged that psychiatric hospitals offer superior care, only 9.2% exhibited sufficient knowledge of psychotropic medications. This finding is consistent with Abiodun OA's 1991 study, which revealed that primary healthcare providers in Nigeria had limited awareness of psychotropic drugs [29]. A major barrier to the integration of mental health services into PHC settings is policy neglect, often manifested in inadequate funding and the lack of medication supplies for mental, neurological, and substance use (MNS) disorders [11-13]. Despite Nigeria's adoption of an essential medicines list intended to improve primary healthcare delivery, psychotropic drugs are frequently omitted [13,30]. This further reinforces the assertion that mental health services are virtually nonexistent in primary healthcare settings in Nigeria.

We found a significant mean difference between knowledge of mental health and the region of practice, highlighting how local cultural and religious beliefs shape perceptions of mental health disorders. In Nigeria, a country with a rich diversity of belief systems, healthcare providers' understanding and approach to mental health tend to be influenced by their local beliefs [14].
Regarding attitudes, we found that 48.5% of respondents held negative views toward mental illness, which is relatively low compared to similar studies in middle- and low-income countries [31-33]. For example, in Nigeria, over half of health workers expressed negative attitudes, while a study in Chitwan, Nepal, reported that less than a third of nurses shared similar views [31,34]. These differences in attitudes could be explained by variations in the study populations, locations, and assessment methods. For instance, the current study focused on community health extension workers, whereas the Nepal study concentrated on nurses, who may have had different levels of mental health training and exposure.

The study also revealed that negative attitudes towards mental health were evident across the various domains we assessed. Most respondents believed that individuals with mental illnesses required the same level of control as young children, often attributing their conditions to a lack of self-discipline or willpower and perceiving them as dangerous. This perception particularly the belief that individuals with mental illness are dangerous was especially prevalent among Nigerian healthcare professionals [35]. For example, Adewuya and Oguntade found that even medical doctors in western Nigeria expressed concerns about the safety of children in the care of individuals who had recovered from mental illness [22].

The study also found a significant relationship between overall knowledge and attitudes toward mental health, which is consistent with similar research conducted elsewhere [36]. This suggests that improving mental health knowledge can positively impact attitudes by increasing understanding, confidence, and empathy. As a result, this may lead to more favorable views on mental health. Conversely, a positive attitude can also promote a deeper understanding of mental health issues.

The key findings of the study indicate a persistent lack of adequate knowledge about mental illness and ongoing negative attitudes toward mental health. When compared to research conducted in Nigeria between 1991 and 2020, the study suggests that there has been no significant improvement in mental health awareness or attitudes among primary health workers. Despite recommendations made since 1991 to integrate mental health services into primary healthcare, this goal remains largely unmet.

5. Limitations

Despite the relevant findings of this study, there are notable limitations. First, while we assessed general knowledge and attitudes toward mental health, these may differ when considering a specific mental illness, which was not explored in this research. Additionally, the study primarily focused on community health extension workers, meaning our findings may not fully capture the perspectives of other primary healthcare professionals such as doctors, nurses, or other healthcare staff who may have different views on mental health.

6. Conclusion

Our study found that nearly half of the respondents lacked adequate knowledge about mental illness and held negative attitudes toward mental health, even after thirty years of efforts to integrate mental health into primary healthcare. This highlights the urgent need to revisit and actively pursue the integration of mental health services into primary healthcare. Therefore, we recommend incorporating comprehensive mental health training into the core curriculum for community health workers (CHWs) and implementing policies to ensure the effective realization of the long-standing recommendation to integrate mental health into PHC.

Acknowledgments

We are grateful for the support of the management, college of community Health, Jos University Teaching Hospital who allowed us to conduct the study, as well as our respondents who cooperated.

Potential Conflicts of Interest

The authors declare no conflicts of interest regarding this study.

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