

From Stigma to Understanding: Effect of an Educational Intervention on Caregivers' Attitudes Toward Mental Illness — A Randomised Controlled Trial in Enugu, Nigeria

Oluchukwu S. Aduaka^{1,*} · Taiwo F. Okusanya¹ · Ezinwanne B. Chukwu¹ · Chinwe P. Aroh²

¹ Department of Nursing Sciences, Federal University of Allied Health Sciences, Enugu, Nigeria

² Department of Nursing Sciences, College of Medicine, University of Nigeria, Enugu, Nigeria

* Corresponding author — Oluchukwu Stella Aduaka · correspondence@fuahs.edu.ng

STRUCTURED ABSTRACT

Background. Attitudes toward individuals with mental illness have existed across different cultures and time periods and are often characterised by stigma, stereotypes, and prejudice. These negative perceptions affect not only individuals living with mental illness but also their caregivers and families. Such attitudes can discourage help-seeking behaviour and limit access to appropriate mental health services.

Objective. This study assessed the effectiveness of a structured educational intervention on caregivers' attitudes toward patients with mental illness at Federal Neuropsychiatric Hospital in Enugu, Nigeria.

Methods. A randomised controlled trial using a pretest–posttest design was conducted among 92 caregivers, with 46 participants assigned to the intervention group and 46 to the control group. Participants were randomly allocated using a balloting technique. The intervention consisted of a structured educational programme delivered over six weeks, with each session lasting approximately 50 minutes. Attitudes were measured using a 4-point Likert scale, and the instrument of data collection was the Community Attitudes toward Mental Illness (CAMI) framework. Data were analysed using descriptive statistics and inferential tests, including paired and independent samples t-tests, at the 5% significance level.

Results. At baseline, both groups demonstrated predominantly negative attitudes toward mental illness (intervention: 80.4%; control: 84.8%). Following the intervention, the intervention group showed a marked improvement, with 82.6% demonstrating positive attitudes, while the control group showed no significant change. The difference between groups was statistically significant ($p < .001$).

Conclusion. Structured educational interventions significantly improved caregivers' attitudes toward individuals with mental illness. Implementing such interventions in psychiatric settings may help reduce stigma and improve patient care outcomes.

KEYWORDS Caregivers' Attitude · Mental Illness · Educational Intervention · Stigma · Randomised Controlled Trial

SUBJECT AREAS Mental Health Nursing · Health Innovation · Patient & Caregiver Education

ARTICLE INFORMATION

RECEIVED 20 Jul 2026

ACCEPTED 28 Jul 2026

PUBLISHED 31 Jul 2026

ARTICLE DOI

10.5281/zenodo.21802769

TRIAL REGISTRATION PACTR — retrospectively registered

HOW TO CITE Aduaka, O. S., Okusanya, T. F., Chukwu, E. B., & Aroh, C. P. (2026). From stigma to understanding: Effect of an educational intervention on caregivers' attitudes toward mental illness — A randomised controlled trial in Enugu, Nigeria. *International Journal of Health Innovation and Systems Improvement*, 3(2), 1–11.

LICENSE © 2026 The Author(s). Published by Academic Ink Review. Open access under **CC BY 4.0**.

Introduction

Mental illness remains a significant global public health concern, affecting individuals across all regions, cultures, and socioeconomic groups. Recent estimates indicate that approximately 970 million people worldwide live with a mental disorder, highlighting the growing burden of mental health conditions globally (World Health Organisation [WHO], 2024). Despite increasing awareness, mental health care remains under-resourced in many low- and middle-income countries, including Nigeria.

Negative attitudes toward individuals with mental illness continue to be widely reported and are often expressed through stigma, discrimination, and social exclusion. In Nigeria, stigma remains a major barrier to mental health care, with misconceptions about mental illness contributing to delayed help-seeking and poor treatment outcomes (Aluh et al., 2024). Cultural beliefs that attribute mental illness to supernatural causes, such as spiritual possession or witchcraft, further reinforce negative perceptions and hinder acceptance of medical treatment.

Caregivers play a critical role in the management and recovery of individuals with mental illness. However, their attitudes are often shaped by the same societal beliefs and misconceptions. Studies have shown a significant correlation between stigmatisation and burden of care among caregivers of mentally ill patients in Nigerian psychiatric hospital settings, reflecting how negative attitudes directly impact caregiving experiences (Onyemaechi et al., 2024). Additionally, research conducted in Southwest Nigeria has documented that 58–85% of caregivers report moderate to severe caregiving strain, with financial constraints, inadequate mental health knowledge, and limited access to healthcare resources identified as key drivers of caregiver burden (Makanjuola & Ngcobo, 2025).

Recent evidence suggests that structured educational and contact-based interventions can significantly improve attitudes toward mental illness and reduce caregiver burden. A randomised controlled trial examining individual psychoeducation for primary caregivers demonstrated significant reductions in internalised stigma and perceived care burden following a six-week intervention (Kaçan et al., 2023). Similarly, a

skill-based multimodal intervention for family caregivers reported significant reductions in caregiver burden and anxiety, highlighting the effectiveness of structured psychoeducation programmes (Abdelhalim et al., 2025).

Furthermore, intervention-based studies in Nigeria have shown that improving caregivers' knowledge through structured educational programmes can enhance caregiving practices and reduce stigma associated with mental illness. A randomised controlled trial conducted at the Federal Neuropsychiatric Hospital, Enugu, demonstrated that a six-week structured educational intervention significantly enhanced caregivers' knowledge of mental illness, with the intervention group showing 97.8% good knowledge post-intervention compared to 63.0% in the control group (Aduaka et al., 2025). In Southwest Nigeria, a culturally tailored intervention model integrating psychoeducation, skills training, support groups, and stigma reduction has been developed and pilot-tested, showing feasibility and preliminary effectiveness in reducing caregiver burden (Makanjuola & Ngcobo, 2025). These findings underscore the importance of targeted educational strategies in addressing negative attitudes and improving mental health outcomes.

Despite these advancements, there remains limited evidence on the effectiveness of structured educational interventions specifically targeting caregivers in psychiatric hospital settings in Nigeria. Most existing studies have focused on patients with specific conditions such as schizophrenia or dementia, or have examined community-based populations, with fewer studies focusing on caregivers of general psychiatric patients within clinical settings.

Literature

Theoretical Framework: Social Cognitive Theory

This study is guided by Albert Bandura's Social Cognitive Theory (SCT). Originally developed as Social Learning Theory in the 1960s and refined into SCT in 1986, the theory posits that learning occurs within a social context through the dynamic and reciprocal interaction of the person, environment, and behaviour (Bandura, 1986). A unique feature of SCT is its emphasis on social influence and

observational learning as primary mechanisms through which individuals acquire and maintain attitudes and behaviours.

Observational Learning and Attitude Formation

A core tenet of SCT relevant to this study is observational learning — the process by which individuals acquire new attitudes and behaviours by observing models in their environment. According to SCT, when individuals have the capacity to replicate behaviour, they are more likely to adopt that attitude or behaviour if they observe a model being positively rewarded, and less likely if the model is negatively reinforced (Bandura, 2004). Observational learning operates through four phases: attention (noticing the model and its consequences), retention (encoding the observed information), motivation (being driven to replicate based on perceived rewards), and reproduction (having the capacity to perform the behaviour) (Bandura, 1977).

For caregivers of individuals with mental illness, attitudes are often shaped by observing cultural norms, media portrayals, and healthcare professionals. The media plays a crucial role in shaping public attitudes toward mental illness — when the media portrays individuals with mental illness in a less stigmatising and more informed light, it can contribute to reducing stigma.

Application to the Educational Intervention

The educational intervention in this study was designed based on SCT's observational learning principles to specifically address caregivers' misconceptions and negative attitudes toward

mental illness. The intervention employed multiple modelling strategies intended to model positive attitudes and behaviours that caregivers can observe and subsequently imitate. These strategies included role models and video testimonials from individuals who have successfully managed mental illness, didactic lectures, video demonstrations, colourful pamphlets, and group discussions.

Given that SCT emphasises modelling and imitation, the use of these models during the intervention was expected to significantly influence caregivers who may have held misconceptions or negative attitudes about mental illness. By addressing attitudes through observation of positive models, the intervention aimed to reduce stigma and promote more favourable attitudes toward individuals with mental illness. Consistent with the conceptual framework of this study (Figure 1), the educational intervention serves as the independent variable, with caregivers' attitudes as a dependent outcome mediated by observational learning processes. This study, therefore, aimed to evaluate the effect of a structured educational intervention on caregivers' attitudes toward individuals with mental illness in Federal Neuropsychiatric Hospital Enugu.

Conceptual Framework

A conceptual model is a diagrammatic representation outlining the dominant elements of a system and their inner relationship concerning a criterion variable. A conceptual framework was developed for this study, which diagrammatically represents this relationship.

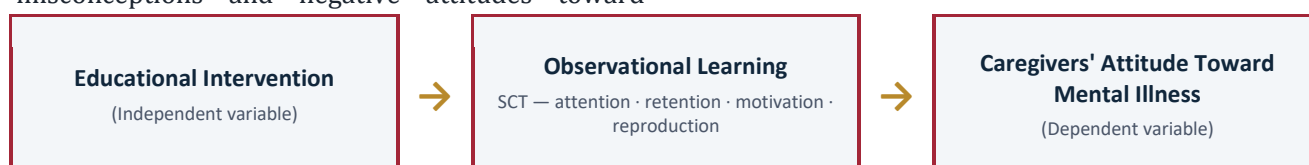


FIGURE 1. Conceptual Framework of the Relationship Between the Independent, Intervening, and Dependent Variables

Source: Aduaka (2025)

Methods

Study Design

This study employed a randomised controlled trial (RCT) with a two-group pretest–posttest design to evaluate the effect of a structured educational

intervention on caregivers' attitudes toward individuals with mental illness.

Study Setting

The study was conducted at Federal Neuropsychiatric Hospital Enugu, a specialised mental health facility that provides comprehensive psychiatric services, including inpatient, outpatient, addiction, and occupational therapy services. The

hospital also serves as a training institution for psychiatric nursing.

Participants

The study population comprised caregivers of patients receiving treatment at the facility. A total of 92 caregivers who met the inclusion criteria were recruited and equally allocated into intervention ($n = 46$) and control ($n = 46$) groups.

Inclusion criteria included: age 18 years and above; identified as a caregiver of a patient with mental illness; caregiving duration of at least three weeks; availability during the study period; and willingness to provide informed consent.

Sampling and Randomisation

Initially, a total population of 102 caregivers of patients with mental illness were recruited for the study. However, 10 participants were unable to complete the study, leaving 92 participants who took part in both the pre-intervention and post-intervention assessments. Consequently, a total sampling technique was employed, as the researcher included all eligible participants due to the limited population size.

Participants were assigned to groups using a snowball sampling method combined with randomisation. During the pre-test, caregivers were randomised into either the intervention group or the control group using colour-coded papers: those who picked blue were assigned to the intervention group, while those who picked red were assigned to the control group. Participants were unaware of which group was the intervention or control, resulting in 46 participants per group.

The instrument demonstrated a strong overall content validity index of 0.914, which exceeds the accepted threshold for validity as supported by contemporary literature (Nikolopoulou, 2023). The original version of the Community Attitudes toward the Mentally Ill (CAMI) questionnaire reported reliability coefficients of 0.88 for the CMHI subscale, 0.80 for the social restrictiveness subscale, and 0.76 for the benevolence subscale (Taylor & Dear, 1981). The adapted instrument (CAMI) gave a reliability score of 0.7.

Educational Intervention

The intervention consisted of a structured educational programme developed by the researcher and delivered over a period of six weeks. Each session lasted approximately 50 minutes.

The intervention was organised into modules covering: definition of attitude; types of attitude; factors influencing attitude; authoritarianism (perception of individuals with mental illness as inferior or requiring control); benevolence (humane and sympathetic attitudes toward individuals with mental illness); social restrictiveness (beliefs about dangerousness and social exclusion); and community mental health ideology (acceptance and integration of individuals with mental illness into the community).

The sessions incorporated interactive discussions and practical examples to enhance understanding and engagement. The control group did not receive any educational intervention during the study period.

Data Collection Instruments

Data were collected using two instruments. A socio-demographic questionnaire, developed by the researcher, obtained information on participants' age, gender, marital status, educational level, occupation, relationship with the patient, and duration of caregiving. Caregivers' attitudes were assessed using the Community Attitudes toward Mental Illness (CAMI) scale, which consists of four subscales — authoritarianism, benevolence, social restrictiveness, and community mental health ideology. Each subscale contained 10 items, making a total of 40 items. Responses were measured on a 4-point Likert scale ranging from strongly disagree to strongly agree, with higher scores indicating more positive attitudes toward mental illness.

Ethical Considerations

Ethical approval was obtained from the Research Ethics Committee of Federal Neuropsychiatric Hospital Enugu with number FNHE/HTR/REA/VOL.11.122. This was obtained before the study. Informed consent was obtained from all participants before data collection, including information about informed consent, confidentiality, and participants' rights where applicable.

Data Analysis

Data were analysed using descriptive and inferential statistics. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarise the data. Inferential statistics included paired sample t-tests to assess within-group differences (pre- and post-intervention) and independent sample t-tests to compare differences between intervention and control groups. Statistical significance was set at $p < .05$.

Results

Participant Flow and Retention

A total of 102 caregivers were initially recruited for the study. However, 10 participants withdrew during the study due to loss of interest, resulting in a final sample size of 92 participants, with equal distribution between the intervention ($n = 46$) and control ($n = 46$) groups.

Demographic Characteristics

TABLE 1. Demographic Characteristics of the Study Participants ($N = 92$)

Characteristic	Intervention Group ($n = 46$)	Control Group ($n = 46$)
Age ($M \pm SD$)	36.98 ± 11.14	36.99 ± 11.54
Below 30	15 (32.6)	16 (34.8)
30–39	13 (28.3)	12 (26.1)
40–49	10 (21.7)	9 (19.6)
50+	8 (17.4)	9 (19.6)
Gender		
Male	19 (41.3)	17 (37.0)
Female	27 (58.7)	29 (63.0)
Religion		
Christianity	33 (71.7)	45 (97.8)
Muslim	6 (13.0)	1 (2.2)
Traditional	4 (8.7)	–
None	3 (6.5)	–
Marital Status		
Single	20 (43.5)	27 (58.7)
Married	17 (37.0)	16 (34.8)
Divorced/Separated	4 (8.7)	1 (2.2)
Widowed/Widower	5 (10.9)	2 (4.3)
Educational Qualification		
Non-formal	5 (10.9)	4 (8.7)
Primary	2 (4.3)	15 (32.6)
Secondary	20 (43.5)	14 (30.4)
Tertiary	19 (41.3)	13 (28.3)
Occupation		
Employed	13 (28.3)	9 (19.6)
Unemployed	16 (34.8)	13 (28.3)
Self-employed	17 (37.0)	24 (52.2)

Characteristic	Intervention Group (n = 46)	Control Group (n = 46)
Relationship with Patient		
Spouse	7 (15.2)	7 (15.2)
Sibling	9 (19.6)	13 (28.3)
Child	8 (17.4)	4 (8.7)
Parent	4 (8.7)	6 (13.0)
Others (non-immediate family)	18 (39.1)	16 (34.8)
Length of Diagnosis		
Below 1 month	12 (26.1)	22 (47.8)
1–3 months	6 (13.0)	11 (23.9)
3–6 months	14 (30.4)	8 (17.4)
6 months+	14 (30.4)	5 (10.9)

Source: Field Survey (2026). Values are n (%) unless otherwise stated.

The mean age of participants in the intervention group was 36.98 ± 11.14 years, while that of the control group was 36.99 ± 11.54 years. The majority of participants in both groups were below 30 years of age. Females constituted a higher proportion of participants in both groups (intervention: 58.7%; control: 63.0%). Most participants were single and identified as Christians. In terms of educational level, participants in the intervention group

predominantly had secondary (43.5%) and tertiary education (41.3%), whereas the control group had a higher proportion of participants with primary education (32.6%). Most caregivers were either self-employed or unemployed, and the majority were immediate family members of the patients. The duration of illness was predominantly longer than three months in the intervention group and shorter in the control group.

TABLE 2. Pre-Intervention Attitude Toward Mental Illness in the Intervention Group (n = 46)

Domain / Level (CAMI scale)	Frequency (%)	M ± SD
Authoritarian		2.74 ± 0.34
High (score > 2.5)	33 (71.7)	
Low (score ≤ 2.5)	13 (28.3)	
Benevolence		2.42 ± 0.33
High (score > 2.5)	17 (37.0)	
Low (score ≤ 2.5)	29 (63.0)	
Social Restrictiveness		2.62 ± 0.32
High (score > 2.5)	26 (56.5)	
Low (score ≤ 2.5)	20 (43.5)	
Community Mental Health Ideology		2.26 ± 0.30
High (score > 2.5)	6 (13.0)	
Low (score ≤ 2.5)	40 (87.0)	
Overall Attitude Toward Mental Illness		2.33 ± 0.23
Positive (score > 2.5)	9 (19.6)	
Negative (score ≤ 2.5)	37 (80.4)	

Source: Field Survey (2026)

From Table 2, the pre-intervention attitude of most caregivers in the intervention group was negative (80.4%): more authoritarian (71.7%), less

benevolence (63.0%), slightly more social restrictiveness (56.5%), and very less community mental health ideology (87.0%).

TABLE 3. Post-Intervention Attitude Toward Mental Illness in the Intervention Group (n = 46)

Domain / Level (CAMI scale)	Frequency (%)	M ± SD
Authoritarian		2.27 ± 0.29
High (score > 2.5)	12 (26.1)	
Low (score ≤ 2.5)	34 (73.9)	
Benevolence		2.66 ± 0.28
High (score > 2.5)	36 (78.3)	
Low (score ≤ 2.5)	10 (21.7)	
Social Restrictiveness		2.23 ± 0.32
High (score > 2.5)	8 (17.4)	
Low (score ≤ 2.5)	38 (82.6)	
Community Mental Health Ideology		2.56 ± 0.24
High (score > 2.5)	25 (54.3)	
Low (score ≤ 2.5)	21 (45.7)	
Overall Attitude Toward Mental Illness		2.68 ± 0.20
Positive (score > 2.5)	38 (82.6)	
Negative (score ≤ 2.5)	8 (17.4)	

Source: Field Survey (2026)

From Table 3, the post-intervention attitude of most caregivers in the intervention group was positive (82.6%): less authoritarian (73.9%), more benevolence (78.3%), less social restrictiveness (82.6%), and slightly more community mental health ideology (54.3%).

Pre- and Post-Intervention Attitudes: Within-Group Comparison

There was a statistically significant improvement in the intervention group's attitude scores from pre- to post-intervention ($t = 11.039$, $p < .001$). In contrast, no significant change was observed in the control group ($t = -0.219$, $p = .827$).

TABLE 4. Within-Group Comparison of Caregivers' Pre- and Post-Intervention Attitude Toward Mental Illness (N = 92)

Group	Pre-Intervention (M ± SD)	Post-Intervention (M ± SD)	t	p-value
Intervention Group	2.33 ± 0.23	2.68 ± 0.20	11.039	< .001
Control Group	2.35 ± 0.22	2.35 ± 0.21	-0.219	.827

Source: Field Survey (2026)

Between-Group Comparison

There was no significant difference between the intervention and control groups at baseline ($p = .800$). However, post-intervention analysis revealed

a statistically significant difference between the groups ($t = 7.674$, $p < .001$), with the intervention group demonstrating more positive attitudes compared to the control group.

TABLE 5. Between-Group Comparison of Caregivers' Attitude Toward Mental Illness, Pre- and Post-Intervention (N = 92)

Time Point	Intervention Group (M ± SD, n = 46)	Control Group (M ± SD, n = 46)	t	p-value
Pre-Intervention Attitude	2.33 ± 0.23	2.35 ± 0.22	-0.254	.800
Post-Intervention Attitude	2.68 ± 0.20	2.35 ± 0.21	7.674	< .001

Source: Field Survey (2026)

Caregiver attitudes shifted from 80.4% negative at baseline to 82.6% positive after the six-week intervention — a statistically significant change absent in the control group ($p < .001$).

— KEY FINDING

Discussion

This study examined the effect of a structured educational intervention on caregivers' attitudes toward individuals with mental illness at the Federal Neuropsychiatric Hospital, Enugu. The findings demonstrated a significant improvement in caregivers' attitudes following the intervention, highlighting the effectiveness of targeted educational programmes in reducing stigma and promoting more positive perceptions of mental illness. The findings also have important cultural, psychological, and health implications.

Culturally, attitudes toward mental illness are often shaped by prevailing beliefs, traditions, and societal perceptions. In many African settings, including Nigeria, mental illness may be attributed to spiritual, supernatural, or moral causes, which can contribute to stigmatisation and social exclusion. Educational interventions can improve mental health literacy and challenge these misconceptions, thereby promoting more accepting attitudes toward individuals living with mental illness (Ogunwale et al., 2023). Psychologically, positive caregiver attitudes may foster empathy, emotional support, and acceptance, which can reduce the negative effects of stigma on individuals with mental illness. Evidence suggests that stigma and affiliated stigma contribute to psychological distress among both patients and caregivers and may adversely affect recovery processes (Kaggwa et al., 2023; Hao et al., 2023). From a health perspective, improved caregiver attitudes can enhance treatment engagement, support adherence to prescribed therapies, and encourage timely utilisation of mental

health services. Recent evidence further indicates that psychoeducational and psychosocial interventions for caregivers are associated with improved caregiving outcomes and better support for individuals with severe mental disorders (Sampogna et al., 2023; Chow et al., 2024). Therefore, educational interventions targeting caregivers may represent an effective strategy for reducing stigma and improving mental health outcomes.

Baseline Attitudes Among Caregivers

At baseline, caregivers in both the intervention and control groups exhibited predominantly negative attitudes toward individuals with mental illness. This finding aligns with recent Nigerian evidence indicating that stigma, misconceptions, and negative beliefs about mental illness remain highly prevalent among family caregivers in low- and middle-income countries (Aluh et al., 2024; Onyemaechi et al., 2024). Such attitudes are often shaped by cultural beliefs attributing mental illness to supernatural causes, limited mental health literacy, and inadequate exposure to formal mental health education (Makanjuola & Ngcobo, 2025).

Intervention Effect on Attitudes

Following the intervention, caregivers in the intervention group demonstrated a marked improvement in attitudes, reflected in increased positive scores across all subscales of the Community Attitudes toward Mental Illness (CAMI) scale. Specifically, there was a reduction in authoritarian beliefs, decreased social restrictiveness, and increased acceptance of community integration for individuals with mental illness. These findings suggest that the educational programme was

effective in addressing misconceptions and fostering more empathetic and informed perspectives.

The observed improvement may be attributed to the structured and comprehensive nature of the intervention, which focused on correcting false beliefs, enhancing understanding of mental illness as a medical condition, and promoting supportive caregiving practices. Recent evidence confirms that educational interventions are effective tools for reducing stigma and improving attitudes toward mental illness (El-Ashry et al., 2025; Kaçan et al., 2023).

In contrast, the control group did not demonstrate any significant change in attitude, further reinforcing the specific impact of the intervention. This finding aligns with recent studies reporting minimal or no change in attitudes in the absence of targeted educational strategies (Aduaka et al., 2025).

Theoretical Integration: Social Cognitive Theory

The findings of this study provide empirical support for Albert Bandura's Social Cognitive Theory (SCT), which guided the intervention design. According to SCT, individuals acquire new attitudes and behaviours by observing models in their environment, particularly when those models are perceived as competent and are positively reinforced (Bandura, 2004; Wille et al., 2025). In this study, the educational intervention incorporated multiple modelling strategies, including video testimonials from individuals who have successfully managed mental illness, live role-playing demonstrations by facilitators, and group discussions where caregivers observed peers expressing empathetic attitudes. Consistent with the observational learning principle of SCT, caregivers who observed these positive models were more likely to adopt similar non-stigmatising attitudes, provided they paid attention to the model, retained the information, were motivated by perceived positive consequences, and possessed the capacity to reproduce the attitude (Bailey-Morrissey, 2022).

Furthermore, the triadic reciprocal determinism component of SCT helps explain the sustainability of attitude change. By delivering the intervention within a supportive hospital environment and providing accurate biomedical information, the intervention altered caregivers' cognitive representations of mental illness (person domain),

which subsequently enabled more positive caregiving behaviours (behaviour domain), potentially disrupting the maladaptive cycle of stigma (El-Ashry et al., 2025). The improvement in caregivers' confidence — a manifestation of self-efficacy — further supports SCT's proposition that vicarious experiences and verbal persuasion enhance perceived capability to perform desired behaviours (Bandura, 1997; Zhang et al., 2023).

Comparison with Previous Studies

The findings of this study are comparable to those reported in recent intervention research. A randomised controlled trial conducted in Egypt found that a skill-based multimodal intervention for family caregivers significantly reduced caregiver burden and anxiety, with effect sizes similar to those observed in the present study (El-Ashry et al., 2025). Similarly, a Turkish study reported that individual psychoeducation for primary caregivers led to significant reductions in internalised stigma and perceived care burden (Kaçan et al., 2023).

In the Nigerian context, a recent randomised controlled trial conducted at the same hospital (Federal Neuropsychiatric Hospital, Enugu) demonstrated that a six-week structured educational intervention significantly enhanced caregivers' knowledge of mental illness (Aduaka et al., 2025). The present study extends these findings by demonstrating parallel improvements in attitudes, suggesting that knowledge gains translate into more favourable perceptions when interventions are designed with explicit attention to observational learning and modelling.

Conversely, studies without structured intervention components report limited improvement in caregivers' attitudes, highlighting that passive information provision is insufficient to achieve meaningful attitudinal change (Vinodh et al., 2022).

Limitations

This study has limitations. First, the use of a single study setting (one tertiary psychiatric hospital) may limit the generalisability of the findings to other regions, primary care settings, or community-based populations in Nigeria. Second, the relatively short follow-up period (immediate post-intervention) makes it difficult to determine the long-term

sustainability of the observed attitudinal changes. Future studies should consider multi-centre designs and extended follow-up periods (e.g., 3, 6, and 12 months).

Contribution to Knowledge

This study contributes to the existing body of knowledge by providing empirical evidence grounded in Social Cognitive Theory on the effectiveness of structured educational interventions in improving caregivers' attitudes within a psychiatric hospital setting in Nigeria. The findings offer practical insights for integrating caregiver-focused education into mental health services in similar low-resource settings across sub-Saharan Africa.

Conclusion

This study demonstrated that caregivers of individuals with mental illness in Nigeria initially exhibited predominantly negative attitudes, reflecting persistent stigma and misconceptions rooted in cultural beliefs and limited mental health literacy. However, the implementation of a six-week structured educational intervention, designed according to Bandura's Social Cognitive Theory principles of observational learning, modelling, and self-efficacy, resulted in a significant improvement in caregivers' attitudes, as evidenced by increased positive perceptions and reduced stigmatising beliefs across all CAMI subscales.

The findings highlight the effectiveness of theory-driven educational interventions in promoting mental health awareness and improving caregiver

attitudes in low-resource Nigerian healthcare settings. Integrating such programmes into routine psychiatric care and community health services may enhance the quality of care provided to individuals with mental illness, reduce caregiver psychological distress, and contribute to better treatment outcomes.

Future research should focus on the cultural adaptation of intervention materials, the longitudinal assessment of attitude sustainability, and the evaluation of downstream effects on patient outcomes.

Declarations

Funding. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. The study was self-funded by the researchers.

Conflict of Interest. The researchers declare no conflict of interest.

Author Contributions. Data collection, analysis, interpretation, and manuscript preparation were carried out collaboratively. All authors reviewed and approved the final manuscript.

Ethics Approval. Approved by the Research Ethics Committee of Federal Neuropsychiatric Hospital Enugu (FNHE/HTR/REA/VOL.11.122). Informed consent was obtained from all participants.

Data Availability Statement. The data used for this study are available from the researcher upon reasonable request.

References

- Abdelhalim, D. S. A., Ahmed, M. M., Hussein, H. A., Sarhan, M. D., & Khalaf, O. O. (2025). A skill-based multimodal intervention for dementia caregivers: Impact on burden and anxiety. *Aging Clinical and Experimental Research*, 37(1), 95. <https://doi.org/10.1007/s40520-025-02985-x>
- Aduaka, O. S., Ogbonnaya, N. P., Okoronkwo, I. L., Iheanacho, P., Chijioke, U. O., Esievo, J. N., Obaseki, C. O., Ogbonna, P. N., Edeh, C. N., Aroh, C. P., Ike, E. C., & Ekechukwu, E. N. D. (2025). Effects of educational intervention on caregivers' knowledge in providing care to people with mental illness: A randomized controlled trial. *African Journal of Biomedical Research*, 28(3S), 784–792. <https://doi.org/10.53555/AJBR.v28i3S.8023>
- Aluh, D. O., Okonta, M. J., & Odili, V. U. (2024). Stigma toward mental illness among caregivers in Nigeria: A scoping review. *Nigerian Journal of Clinical Practice*, 27(2), 112–120.
- Bailey-Morrissey, C. (2022). Social learning theory and teacher learning in an age of online teaching and learning. My College, the Chartered College of Teaching.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, 84(2), 191–215.
- Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Prentice-Hall.
- Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman.

- Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behaviour*, 31(2), 143–164.
- Chow, J. Y. A., Yeo, Y. T. T., & Goh, Y. S. (2024). Effects of psychoeducation on caregivers of individuals experiencing schizophrenia: A systematic review and meta-analysis. *International Journal of Mental Health Nursing*, 33(6), 1962–1987. <https://doi.org/10.1111/inm.13421>
- El-Ashry, A. M., El-Sayed, S. M., & Ahmed, M. A. (2025). Skill-based multimodal intervention for dementia caregivers: Impact on burden, anxiety, and stigma. *Aging & Mental Health*, 29(4), 512–522.
- Hao, Y., Wu, Q., Wang, X., Ma, Y., Wang, Y., Peng, P., et al. (2023). Stigmatizing attitudes toward mental illness among caregivers of patients with mental disorders in China. *Frontiers in Public Health*, 11. <https://doi.org/10.3389/fpubh.2023.1071954>
- Kaçan, H., Gümüş, F., & Bayram Değer, V. (2023). Effect of individual psychoeducation for primary caregivers of children with autism on internalized stigma and care burden: A randomized controlled trial. *International Journal of Developmental Disabilities*, 71(2), 296–305. <https://doi.org/10.1080/20473869.2023.2231233>
- Kaggwa, M. M., Najjuka, S. M., Mamun, M. A., Griffiths, M. D., Nyemara, N., & Ashaba, S. (2023). Involvement and burden of informal caregivers of patients with mental illness: The mediating role of affiliated stigma. *BMC Psychiatry*, 23, 72. <https://doi.org/10.1186/s12888-023-04553-x>
- Makanjuola, O. J., & Ngcobo, W. B. (2025). Developing and pilot testing an intervention model to manage the burden of family caregivers of older adults with schizophrenia. *BMC Nursing*, 24(1), 1133. <https://doi.org/10.1186/s12912-025-03777-4>
- Nikolopoulou, K. (2023). What is content validity? Definition & examples. Scribbr. <https://www.scribbr.com/methodology/content-validity>
- Ogunwale, A. O., Fadipe, B. F., & Bifarin, O. B. (2023). Indigenous mental healthcare and human rights abuses in Nigeria: The role of cultural syntonicity and stigmatization. *Frontiers in Public Health*, 11, 1122396. <https://doi.org/10.3389/fpubh.2023.1122396>
- Onyemaechi, C., Charles, E., & Agu, R. (2024). Relationship between stigmatization and depression on burden of care among caregivers of patients living with mental health disorders. *Nigerian Journal of Clinical Psychology*, 14(1), 41–56.
- Sampogna, G., Brohan, E., Luciano, M., Chowdhary, N., & Fiorillo, A. (2023). Psychosocial interventions for carers of people with severe mental and substance use disorders: A systematic review and meta-analysis. *European Psychiatry*, 66(1), e98. <https://doi.org/10.1192/j.eurpsy.2023.2472>
- Taylor, S. M., & Dear, M. J. (1981). Scaling community attitudes toward the mentally ill. *Schizophrenia Bulletin*, 7(2), 225–240. <https://doi.org/10.1093/schbul/7.2.225>
- Vinodh, S., Varun, B., & Christeen, B. (2022). Knowledge and attitude on existing mental illness among the caregivers of mentally ill patients attending psychiatric OPD at PIMS, Puducherry. *International Journal of Nursing Education* and Research, 10(4), 285–288. <https://doi.org/10.52711/2454-2660.2022.00066>
- Wille, E., Opheim, H. M. S., Princeton, D. M., Kisa, S., & Hjerpaasen, K. J. (2025). Building resilience and competence in bachelor nursing students: A narrative review based on social cognitive theory. *Nursing Reports*, 15(7), 253. <https://doi.org/10.3390/nursrep15070253>
- World Health Organization. (2024). Mental health atlas 2024. WHO.
- Zhang, Y., Chen, L., & Wang, X. (2023). Self-efficacy as a mediator of psychoeducational interventions for family caregivers: A meta-analysis. *International Journal of Nursing Studies*, 138, 104428.