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Effectiveness of Psychoeducational Interventions on Caregiving Burden among Informal Caregivers of Patients with Cancer in Southern Nigeria: A Scoping Review

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ABSTRACT

Background: *The rising prevalence of cancer in Nigeria has increased reliance on informal caregivers, who are typically family members providing unpaid physical, emotional, and psychological support. These caregivers face significant multidimensional burden that adversely affects their well-being and quality of life. Despite global recognition of psychoeducational interventions as effective strategies for alleviating caregiver burden, evidence of their effectiveness in Southern Nigeria remains scarce and fragmented.*

Methods: *A scoping review was conducted following the Arksey and O'Malley five-stage framework and reported per PRISMA-ScR guidelines. The PEOs framework guided the review (Population: informal caregivers of cancer patients in Southern Nigeria; Exposure: psychoeducational interventions; Outcomes: physical and psychological Page 2 caregiving burden). Four electronic databases (PubMed, Google Scholar, SAGE Journals, Springer Link) and manualsearches of African-focused journals were searched for studies published between 2014 and 2025. Of 136 records identified, 3 studies met the inclusion criteria. Data were charted and appraised using CASP checklists. Contextual evidence from comparable LMIC settings was integrated.*

Results: *Two cross-sectional studies described caregiver burden and health-promoting behaviours, while one quasi experimental study implemented structured psychoeducation. Findings revealed a significant inverse relationship between caregiver burden and patient functional ability, a strong influence of support systems on health promoting behaviours, and evidence that psychoeducation improved caregiver preparedness and reduced unmet needs, though quality of life was paradoxically poorly*

influenced post-intervention. Methodological limitations included the absence of randomised controlled trials, small sample sizes, lack of control groups, and limited follow-up.

Conclusions: *Evidence on psychoeducational interventions for informal caregivers in Southern Nigeria is scarce but indicates potential benefits for caregiver preparedness and unmet needs. The paradoxical decline in quality-of-life post intervention underscores the need for multidimensional, culturally sensitive approaches. Future studies should employ rigorous randomised controlled trials, culturallytailored interventions, and broader geographic coverage.*

Keywords

Psychoeducational interventions, Informal caregivers, Cancer, Caregiver burden, Quality of life, Southern Nigeria, scoping review, Low- and middle-income countries, Palliative care, Caregiver preparedness.

List of Abbreviations

CASP: Critical Appraisal Skills Programme, GLOBOCAN: Global Cancer Observatory, HRQoL: Health-Related Quality of Life, LMIC: Low- and Middle-Income Country, MeSH: Medical Subject Headings, PEOs: Population, Exposure, Outcomes, study design, PRISMA-ScR: Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews, QoL: Quality of Life, RCT: Randomised Controlled Trial.

Background

Cancer remains one of the most significant causes of morbidity and mortality worldwide. According to the Global Cancer Observatory (GLOBOCAN) 2022 estimates, approximately 20 million new cancer cases and 9.7 million cancer-related deaths occurred globally in 2022, with the disease burden projected to rise substantially over the coming decades [1]. The burden is disproportionately felt in sub-Saharan Africa, where health systems are often under-resourced and access to early detection, treatment, and palliative care remains limited [2,3]. In Nigeria, GLOBOCAN 2022 data indicate an estimated 127,763 new cancer cases and 79,542 cancer-related deaths, with breast, cervical, prostate, and colorectal cancers among the leading sites [4,5].

These figures likely underestimate the true burden, given the weaknesses in population-based cancer registries and the underreporting characteristic of the region [6].

The escalating cancer burden in Nigeria has placed enormous demands on families, who constitute the primary source of care for patients. Owing to the limited access to formal healthcare systems, informal caregivers; family members or community members without professional training, are essential in providing physical, emotional, and psychological support throughout the cancer trajectory [7]. In many Nigerian and broader African contexts, caregiving is deeply embedded in cultural and familial obligations, with women disproportionately assuming these roles [8,9]. This responsibility imposes considerable physical, emotional, and financial strain on caregivers, often compromising their own health and well-being [10].

Caregiving burden is a multidimensional construct encompassing social, emotional, psychological, physical, and economic repercussions on the caregiver [11]. The negative health outcomes forinformal caregivers who provide intensive support are substantial, as they are often assigned multiple roles without adequate preparation or support [12]. Research across low- and middle-income countries (LMICs) has consistently demonstrated that cancer caregivers experience high levels of burden, reduced quality of life, and significant psychological distress [13]. In Vietnam, for instance, caregivers of cancer patients reported lower quality of life scores, with financial concerns being the most significant contributor to burden [14].

Similarly, in Uganda, family caregivers of hospitalised cancer patients experienced severe burden driven by generalstrain, disappointment, and isolation [15]. A systematic review of sub-Saharan African studies confirmed that quality of life for both cancer patients and caregivers is significantly affected by coping resources, symptom burden, and religious beliefs [16]. One of the key predictors of adverse outcomes in caregivers is the level of caregiving burden itself: as burden increases, caregivers become more vulnerable to anxiety and depression, resulting in a reduced quality of life [17]. In Ethiopia, lower caregiver quality of life has been significantly associated with being a spouse, having a chronic illness, and experiencing depression, anxiety, or lower social support [18,19]. These findings underscore the urgent need for targeted interventions to support informal caregivers, particularly in resource-constrained settings where formal support structures are limited.

Psychoeducational interventions have emerged as a promising strategy for alleviating caregiver burden and improving well-being. These interventions typically combine educational components (disease information, treatment expectations, caregiving skills) with psychological support (counselling, emotional validation, coping strategy development) to enhance caregiver self-efficacy, preparedness, and adaptive coping [20]. A comprehensive meta-analysis of psychoeducational interventions among caregivers of cancer patients demonstrated significant improvements in short-term anxiety, depression, quality of life, burden, and self efficacy, as well as long-term physical health [21]. Another meta-analysis of psychosocial interventions for cancer caregiver burden, based on randomised controlled trials, found thattherapeutic counselling and skills training can reduce caregiver burden, although long-term effects remain uncertain [22]. Interventions targeting caregiver preparedness have shown promise, with programmes focused on female caregivers demonstrating greater effectiveness [23].

In the Nigerian context, Onyeka et al. [24] introduced a structured psychoeducational intervention for family caregivers of Nigerian children with cancer (the RESCUE Study), showing promising reductions in caregiver burdenand increased preparedness for palliative care.

Similarly, Gabriel and Mayers [25] demonstrated that a psychosocial intervention significantly reduced caregiver burden and improved quality of life among primary caregivers of women with breast cancer. More recently, Gabrielet al. [26] developed a theory-based, culturally tailored psychoeducational intervention for adult Nigerians withcancer and their family caregivers, aiming to improve health-related quality of life through enhanced social and spiritual support, health literacy, and coping. Despite these promising developments, psychoeducational interventions are not yet mainstream in adult oncology settings or widely studied across Southern Nigeria, and the evidence base remains fragmented.

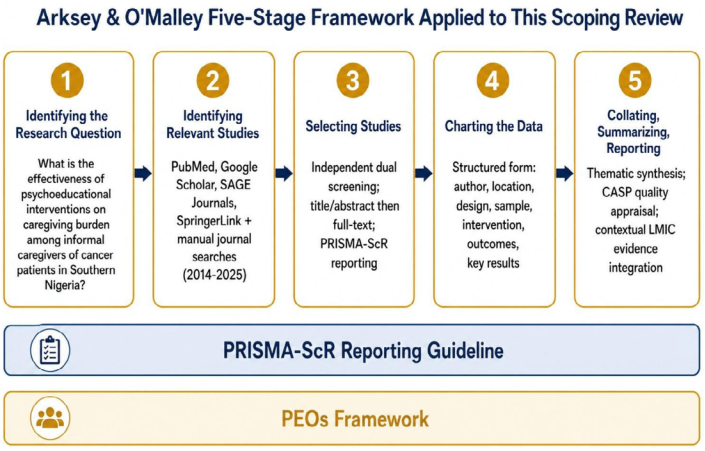
A critical gap in the current literature is the paucity of rigorous, culturally adapted intervention studies in Southern Nigeria. While international evidence from high-income countries strongly supports the effectiveness of psychoeducational interventions [27,28], the transferability of these findings to Nigerian settings is uncertain given differences in healthcare infrastructure, cultural norms, and caregiving expectations. Cultural factors; including collectivist family structures, religious and spiritual coping, and gendered caregiving roles have profoundly shape the caregiving experience in Nigeria and must be considered in intervention design [29,30]. This scoping review therefore evaluates existing evidence on psychoeducational interventions for informal caregivers of cancer patients in Southern Nigeria, maps the current research landscape, and identifies gaps critical for informing future intervention, practice, and policy. By situating the Nigerian evidence within the broader LMIC and international literature, this review seeks to provide a comprehensive understanding of what is known, what remains uncertain, and where future research efforts should be directed.

Methods

Study Design

This scoping review was conducted following the Arksey and O'Malley [31] five-stage methodological framework: (1) identifying the research question, (2) identifying relevant studies, (3) selecting studies, (4) charting the data, and (5) collating, summarising, and reporting results.

The review was reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines [32]. A protocol was developed a priori by the research team to guide the review process. The Arksey and O'Malley framework as applied to this review is illustrated in Scheme 1. As a scoping review, no formal risk-of-bias assessment was used to exclude studies; however, the methodological quality of included studieswas appraised to contextualise findings.

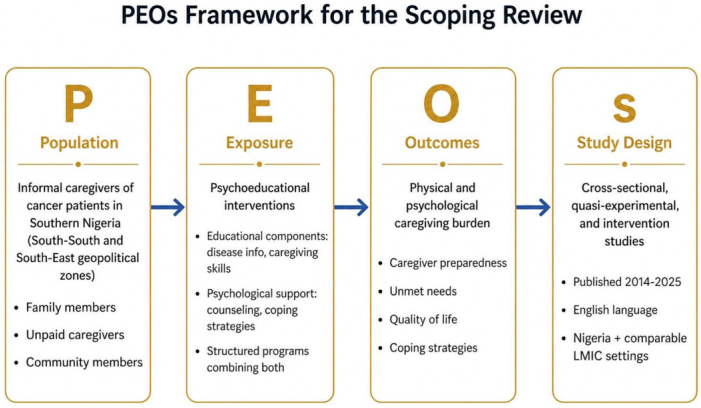


Scheme 1: Arksey and O'Malley five-stage scoping review methodological framework as applied to this review. Each stage is linked to the specific activities undertaken, with the PRISMA-ScR reporting guideline and PEOs framework providing overarching structure.

Research Question

The review was guided by the following research question: What is the effectiveness of psychoeducational interventions on physical and psychological caregiving burden among informal caregivers of cancer patients in Southern Nigeria? The PEOs framework was used to structure the question (Scheme 2):

- **Population (P):** Informal caregivers of cancer patients in Southern Nigeria (South-South and South-East geopolitical zones).
- **Exposure (E):** Psychoeducational interventions (defined as structured programmes combining educational and psychological support components).
- **Outcomes (O):** Physical and psychological caregiving burden, including caregiver preparedness, unmet needs, quality of life, and coping.
- **Study design (s):** Cross-sectional, quasi-experimental, and intervention studies.



Scheme 2: PEOs framework structure for the scoping review, showing the Population, Exposure, Outcomes, and study design components with their specific elements.

Search Strategy

A comprehensive search of the literature was conducted across four electronic databases and platforms: PubMed/MEDLINE, Google Scholar, SAGE Journals, and SpringerLink. The search was restricted to studies published between January 2014 and June 2025. The search strategy combined Medical Subject Headings (MeSH) terms and free-text keywords, including: "psychoeducational intervention," "caregiver burden", "cancer caregiving Nigeria", "informal caregivers", "coping strategies", "quality of life", and "caregiver preparedness". Boolean operators (AND, OR) were used to combine search terms. Manual searches of African-focused journals (African Health Sciences, Nigerian Journal of Clinical Practice, African Journal of Primary Health Care and Family Medicine, Nigerian Journal of Health Education) and reference lists of included studies supplemented the electronic search. The detailed search strategy by database is presented in Table 1.

This search strategy was developed in consultation among all authors and piloted before the full search was executed.

Eligibility Criteria

Inclusion criteria were: (a) studies published between 2014 and 2025; (b) studies focused on informal (unpaid, family or community) caregivers of cancer patients; (c) studies that included psychoeducational elements (educational and/or psychological support components) or assessed caregiver burden and related outcomes relevant to psychoeducational intervention design; and (d) studies conducted in Nigeria, with particular emphasis on Southern Nigeria (South-South and South-East geopolitical zones). Studies from comparable LMIC and African settings were also reviewed as contextual evidence to frame the Nigerian findings within the broader regional literature.

Exclusion criteria were: (a) studies limited to professional or formal caregivers; (b) studies without educational or psychological intervention components or relevant outcome assessments; (c) studies focused exclusively on paediatric or non-cancer populations without caregiver relevance; and (d) editorials, commentaries, conference abstracts, and dissertations without empirical data.

Study Selection

Study selection followed the PRISMA-ScR reporting framework. All identified records were imported into a reference management database, and duplicates were removed. Two reviewers independently screened titles and abstracts, followed by full-text review of potentially eligible articles. Discrepancies were resolved through discussion and consensus with a third reviewer. Of 136 records identified through database searching and 8 additional records identified through manual searches, 25 duplicates were removed. After screening 119 records by title and abstract, 98 were excluded. Twenty-one full-text articles were assessed for eligibility, of which 18 were excluded (wrong study design, no psychoeducational component, or conducted outside Nigeria). Three studies met the inclusion criteria and were included in the review. The study selection process is presented in the PRISMA flow diagram (Figure 1).

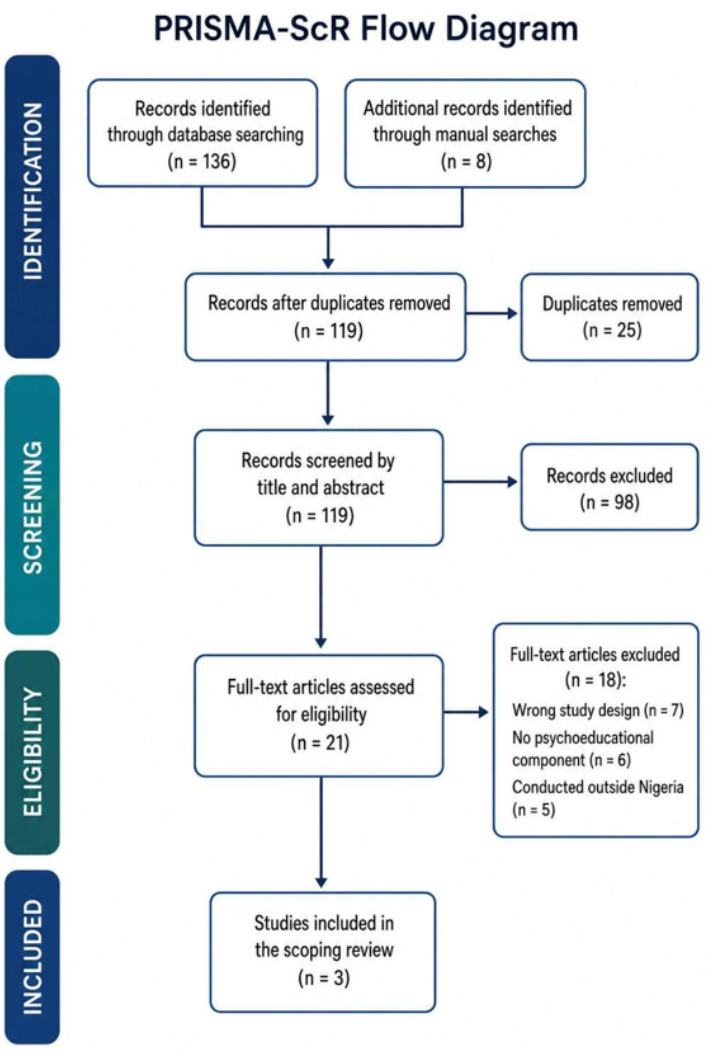


Figure1: PRISMA-ScR flow diagram of study selection process and search results. Adapted from Tricco et al. [32] and Arksey and O'Malley [31].

Data Charting

A structured data charting form was developed a priori to extract relevant information from each included study. The form captured: author(s) and year of publication, study location, research aim, study design, sample size, intervention or instrument used, outcomes assessed, and key results. Data charting was performed independently by two reviewers and verified for accuracy. The charting form was piloted on one study and refined before application to all included studies.

Quality Appraisal

The methodological quality of included studies was appraised using the Critical Appraisal Skills Programme (CASP) checklists, which provide a structured framework for evaluating study design, sampling strategy, recruitment, data collection, data analysis, and overall methodological rigour. Each study was assessed

against 10 appraisal criteria (Table 1). Studies meeting all criteria were considered high quality; those meeting the majority were considered moderate quality. The appraisal was conducted to contextualise the findings rather than to exclude studies, consistent with the scoping review methodology.

Results

Study Selection

The PRISMA flow diagram (Figure 1) illustrates the study selectionprocess. From 136 records identified through database searching and 8 additional records from manual searches, 25 duplicates were removed, leaving 119 records for title and abstract screening. After excluding 98 records, 21 full-text articles were assessed for eligibility. Eighteen articles were excluded for the following reasons: wrong study design (n = 7), no psychoeducational component (n = 6), and conducted outside Nigeria (n = 5). Three studies met the inclusion criteria and were included in the scoping review.

Quality Appraisal of Included Studies

All three included studies were critically appraised using the CASP checklists based on study design, sampling, recruitment, data analysis, instrumentation, and methodological rigour. The appraisal criteria are presented in Table 1.

Table 1: Quality appraisal criteria adapted from the Critical Appraisal Skills Programme (CASP) checklists.

S/N	Appraisal Criterion	Yes/No/ Unclear
1	Does the study clearly state its aims and research question?	
2	Is the chosen research approach or design appropriate for the study's objectives?	
3	Is the research design well-justified and logically structured?	
4	Have ethical considerations been adequately addressed (e.g., informed consent, institutional approval)?	
5	Is the sampling strategy suitable, and does it clearly identify the study location (e.g., country, region)?	
6	Are the data collection methods appropriate and clearly described?	
7	Is the data analysis process thorough, appropriate, and well-documented?	
8	Are the findings and results clearly presented and explained?	
9	Canthe study's findings be generalized or applied to a broader population?	
10	Do the findings have relevance or implications for policy and practice?	

Note: Each study was rated against the 10 criteria as Yes, No, or Unclear. A study meeting all 10 criteria was considered high quality; one meeting 7–9 criteria was considered moderate quality; and one meeting fewer than 7 was considered low quality. Appraisal was used to contextualize findings, not to exclude studies, consistent with scoping review methodology.

Characteristics of Included Studies

Three studies were included in this review, providing insights into caregiver burden and psychoeducational interventions in Nigeria. The characteristics of the included studies are summarised in Table 2. Two cross sectional studies [33,34] described caregiver burden and health-promoting behaviors, while one quasi experimental study [24] implemented structured psychoeducation.

The methodological analysis of the included studies is presented in (Table 3). All three studies lacked randomisation and follow-up assessments, limiting the ability to draw causal inferences about intervention effectiveness.

Synthesis of Findings

The findings of the included studies were synthesised thematically into four key themes: (a) caregiver burden and its correlates, (b) health-promoting behaviours and support systems, (c) effectiveness of psychoeducational interventions, and (d) the quality-of-life paradox. A conceptual framework linking intervention components to outcomes through mediating mechanisms is presented in Figure 2. The determinants of caregiver burden and psychoeducational intervention entry points are illustrated in Scheme 3.

Theme 1: Caregiver Burden and Its Correlates

Two of the three included studies examined caregiver burden among informal caregivers of cancer patients in Nigeria. Akpan-Idan and Anarado [33], in a cross-sectional study of 210 informal caregivers in Calabar, found a significant inverse relationship between caregiver burden and patient functional ability, indicating that as patient function declined, caregiver burden increased. This finding is consistent with international evidence demonstrating that

Table 2: Characteristics of studies included in the scoping review.

Author & Year	Location	Research Aim	Design	Sample	Intervention n/ Instrument	Key Outcomes	Quality Rating
Akpan Idan & Anarado [33]	Calabar, Cross River State (South South)	Perceptions of caregiving burden among informal caregivers of cancer patients	Cross-sectional survey	210 informal caregivers	Structured questionnaire; Zarit Burden Interview	Burden perception; inverse relationship between burden and patient function	Moderate
Akpan Idiok & Asuquo [34]	South Nigeria	Influence of caregiver burden and health-promoting behaviors on informal caregivers	Cross-sectional survey	410 informal caregivers	Structured questionnaire; health- promoting behavior scale	Caregiver burden; health- promoting behaviors; influence of support systems	Moderate
Onyeka et al. [24]	Enugu, Nigeria (South East)	Impact of in-hospital psychoeducation on family caregivers of children with cancer (RESCUE Study)	Quasi-experimental (single group pre-post)	Family caregivers of pediatric cancer patients	Structured psychoeducational sessions (multiple modules)	Caregiver burden; unmet needs; preparedness; quality of life	Moderate

Source: Researchers' Compilation (2025). Quality rating based on CASP appraisal criteria (Table 1).

Table 3: Methodological analysis and risk-of-bias assessment of included studies.

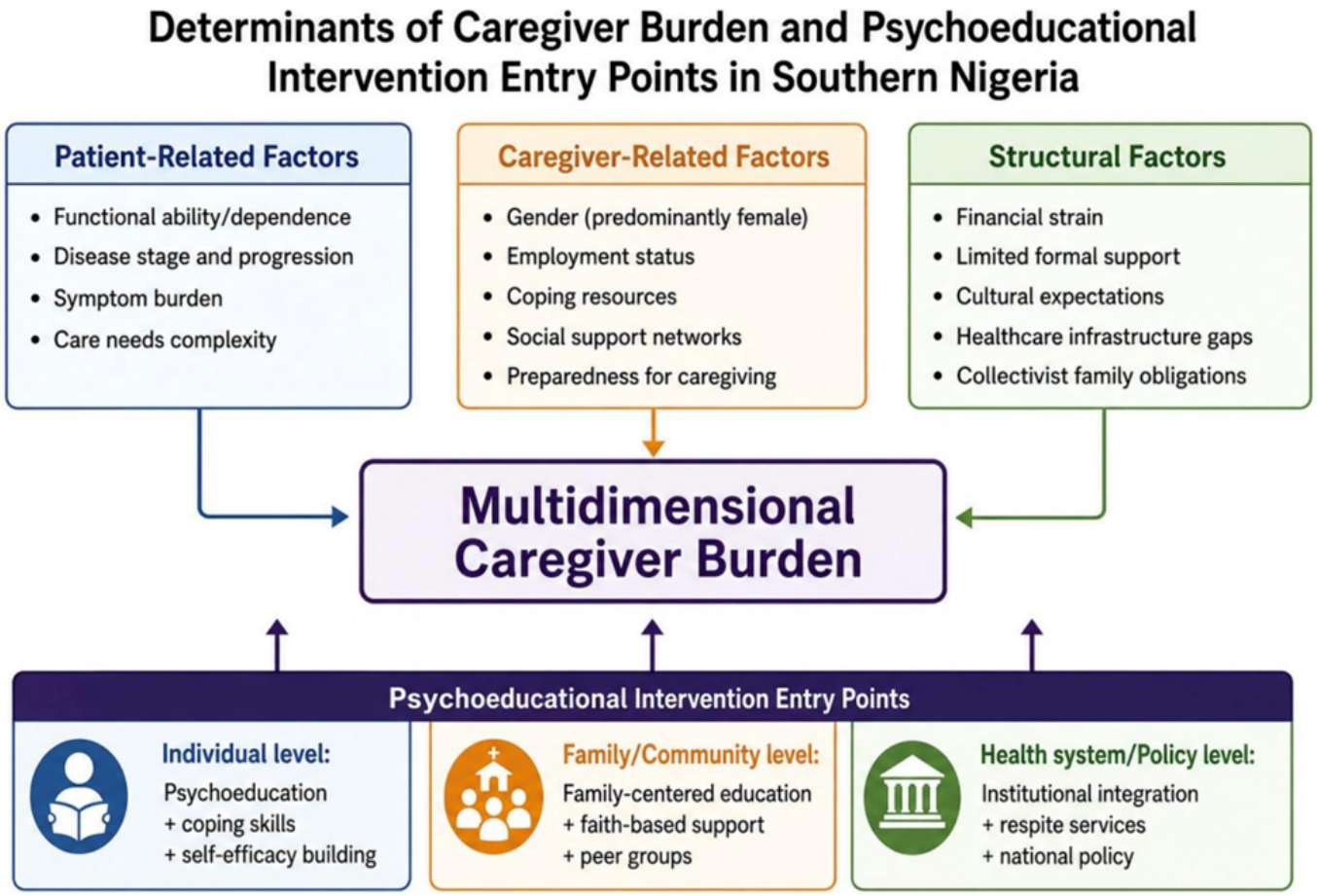
Author and Year	Pre/Post Intervention Data	Control Group	Random Assignment	Follow-Up Assessment	Overall Risk of Bias
Akpan-Idan & Anarado [33]	No (cross-sectional design)	No (descriptive study)	No (cross-sectional survey)	No	High
Akpan-Idiok & Asuquo [34]	No (cross-sectional design)	No (descriptive study)	No (cross-sectional survey)	No	High
Onyeka et al. [24]	Yes (pre-post assessment)	No (single-group pre-post design)	No (convenience/purposive sampling)	No	Moderate

Source: Researchers' Compilation (2025). Risk of bias assessed based on the presence of control groups, randomisation, and follow-up. Cross-sectional designs inherently carry high risk of bias for causal inference.

Table 4: Search strategy by database/platform.

Database/Platform	Search Approach	Search Terms	Date Range
PubMed/ MEDLINE	MeSH terms + free text keywords	"Psychoeducational intervention" OR "caregiver education" AND "caregiver burden" AND "cancer" AND ("Nigeria" OR "Africa")	Jan 2014 – Jun 2025
Google Scholar	Free-text keywords	"Psychoeducational intervention" "caregiver burden" "cancer caregiving Nigeria"	Jan 2014 – Jun 2025
SAGE Journals	Free-text keywords	"Psychoeducational intervention" "caregiver burden" "cancer caregiving Nigeria"	Jan 2014 – Jun 2025
SpringerLink	Free-text keywords	"Psychoeducational intervention" "caregiver burden" "cancer caregiving Nigeria"	Jan 2014 – Jun 2025
Manual searches	Hand-searching of journals and reference lists	African Health Sciences; Nigerian Journal of Clinical Practice; African Journal of Primary Health Care & Family Medicine; Nigerian Journal of Health Education; reference lists of included studies	Jan 2014 – Jun 2025

Note: Boolean operators (AND, OR) were used to combine search terms across all databases. Total records identified: 136 from database searching and 8 from manual searches. Complete search strings for each database are available from the corresponding authors on reasonable request.



Scheme 3: Determinants of caregiver burden in Southern Nigeria and psychoeducational intervention entry points. The framework shows patient-related, caregiver-related, and structural factors converging on multidimensional caregiver burden, with intervention entry points at individual, family/community, and health system/policy levels.

patient dependence is associated with greater caregiver stress and burden [11]. The study also revealedthat most informal caregivers were female and spouses, a pattern that aligns with global literature noting that women are the primary informal care providers while simultaneously managing multiple household and occupational responsibilities [9].

Akpan-Idiok and Asuquo [34], in a larger cross-sectional study of 410 caregivers in South-South Nigeria, corroborated these findings and further demonstrated that caregiver burden was influenced by the availability and quality of support systems. The study highlighted that caregivers with stronger support networks reported lower burdenand better health-promoting behaviours. These findings resonate with broader LMIC evidence (Table 5): in Ethiopia, lower social support was independently associated with reduced health-related quality of life among family cancer caregivers [18,19], while in Togo, approximately 61% of cancer caregivers experienced mild-to moderate burden and 15.4% faced moderate-to-severe burden, with higher burden significantly associated with advanced cancer stage [35]. In Kenya, caregivers of children with cancer experienced significant burdens and lower quality of life, though employment and flexible work arrangements helped mitigate this burden [36].

Recent Nigerian evidence further reinforces these patterns. Eze et al. [7] found varying levels of caregiving burden among informal caregivers in Enugu, with a substantial portion experiencing high to moderate burden and a predominant reliance on religious and acceptance-based coping strategies. Simon-Uriah et al. [37] identified financial strain, care-recipient dependency, and limited social support as the primary contributors to informal caregiver burden in Port Harcourt, while Amoo and Busisiwe [38] reported that informal caregivers in Southwest Nigeria experience substantial burden driven by high treatment costs and emotional distress, with 60% of caregivers being female. Collectively, these findings confirm that caregiver burden in Nigeria is high, multidimensional, and closely linked to patient functional status, financial strain, and the availability of social support.

Theme 2: Health-Promoting Behaviours and Support Systems

Akpan-Idiok and Asuquo [33] noted high health-promoting practices among caregivers in tertiary care centres, implying that the provision of support systems, which includes; psychoeducational interventions within institutions, can have a positive effect on the well-being of caregivers. This finding is significant because it suggests that the institutional environment can serve as an enabling context for caregiver support. International evidence supports this observation: a scoping review of caregiver education programmes in cancer care found that most programmes focus on psychoeducational training, though comprehensive programmes addressing the full spectrum of caregiver needs remain limited [27].

The importance of support systems is further underscored by evidence from sub-Saharan Africa. A systematic review of informal carers providing care to people with advanced cancer in Africa found that caregivers are predominantly women, show substantial caregiving burdens (up to approximately 121 hours per week) that compromise their paid work opportunities and psychological well-being [8]. A meta-synthesis of adult informal caregivers in palliative care provision for persons with advanced cancer similarly linked limited resources, inadequate formal support, and cultural expectations to elevated stress and poorer well-being [41]. These findings highlight the critical role of structured support systems, including psychoeducational interventions, in mitigating caregiver burden.

Theme 3: Effectiveness of Psychoeducational Interventions

The single intervention study included in this review, Onyeka et al. [24], provides preliminary evidence on the effectiveness of a community-built psychoeducational programme (the RESCUE Study) for family caregivers of Nigerian children with cancer. The structured psychoeducation programme significantlyimproved unmet needs, caregiver burden, and preparedness for palliative care. These findings are consistent with international evidence regarding the effectiveness of psychoeducational interventions for cancer caregivers. A systematic review and meta-analysis by Cheng et al. [21] demonstrated that psychoeducational interventions can improve short-term anxiety, depression, quality

Table 5: Summary of key findings linked to evidence gaps and supporting contextual evidence.

Key Finding	Supporting Evidence (Nigeria)	Supporting Evidence (LMIC/ International)	Evidence Gap
Caregiver burden is high and inversely related to patient functional ability	Akpan-Idan & Anarado [33]; Eze et al. [7]; Simon-Uriah et al. [37]	Muliira et al. [15]; Adani-Ife et al. [35]; Vatter et al. [11]	No longitudinal data on burden trajectories in Southern Nigeria
Female spouses bear disproportionate caregiving burden	Akpan-Idan & Anarado [33]; Amoo & Busisiwe [38]	Kent et al. [9]; Gambe et al. [8]; Gosse et al. [29]	Male caregivers and rural populations underrepresented
Support systems and health promoting behaviors reduce burden	Akpan-Idiok & Asuquo [34]	Tamene et al. [18]; Yihedego et al. [19]; Qan'ir et al. [16]	No RCTs testing institutional support models in Nigeri
Psychoeducation improves preparedness and reduces unmet needs	Onyeka et al. [24]; Gabriel & Mayers [25]; Gabriel et al. [26]	Cheng et al. [21]; Bilgin & Ozdemir [23]; Theissen et al. [39]	No RCTs with control groups in Southern Nigeria; limited follow-up
Quality of life may paradoxically decline post intervention	Onyeka et al. [24]	Uzar-Ozcetin & Dursun [17]; Nic Giolla Easpaig et al. [40]	Mechanisms of the QoL paradox poorly understood; no long-term studies

Source: Researchers' Compilation (2025). RCT = randomised controlled trial; QoL = quality of life; LMIC = low- and middle-income country.

of life, burden, and self-efficacy in caregivers of cancer patients, as well as long-term physical health. Similarly, Secinti et al. [22] found that psychosocial interventions, particularly therapeutic counselling and skills training, can reduce caregiver burden in adults with cancer.

The considerable improvements in unmet needs observed by Onyeka et al. [24] are confirmed by international evidence regarding the use of psychoeducational interventions in cancer caregivers [42]. A mixed-methods evaluation of a psychoeducational intervention for informal caregivers in palliative care in Germany reported high satisfaction and positive benefits, including improved preparedness, awareness of needs, and self-efficacy [39].

Furthermore, interventions targeting caregiver preparedness have been shown to improve readiness for caregiving, with programmes focused on female caregivers demonstrating greater effectiveness [23]. Self efficacy, a key mediating mechanism, has been consistently linked to improved caregiver outcomes: an integrative review by Hebdon et al. [43] indicated that psychoeducational interventions produce small to moderate improvements in self-efficacy, caregiver preparedness, and coping.

In the Nigerian context, Gabriel and Mayers [25] demonstrated that a psychosocial intervention significantly reduced caregiver burden and improved quality of life among primary caregivers of women with breast cancer. Building on this work, Gabriel et al. [26] developed a theory-based, culturally tailored four-week psychoeducational intervention for adult Nigerians with cancer and their family caregivers, aiming to improve health-related quality of life through enhanced social and spiritual support, health literacy, and coping. While this intervention reported development and feasibility outcomes rather than quantified effectiveness, it represents an important step toward culturally adapted psychoeducational programmes in Nigeria. Internationally, the adaptation of psychoeducational interventions for rural and underserved settings has been explored by Kent et al. [30], who outlined a framework for tailoring caregiver interventions to local contexts, further supporting the need for culturally responsive programme design.

Theme 4: Quality-of-Life Paradox

A notable and unexpected finding from the Onyeka et al. [24] study was that quality of life waspoorly influenced after the psychoeducational intervention, despite improvements in unmet needs and preparedness. This paradoxical result warrants careful interpretation. One plausible explanation is that greater knowledge of caregiving challenges acquired during psychoeducation may initially increase perceived burden before adaptive coping skills materialize; a phenomenon consistent with the stages of awareness and adjustment described in the caregiving literature [17]. As caregivers become more aware of the complexity and demands of their role, their subjective assessment of quality of life may temporarily decline before the benefits of enhanced coping and preparedness are fully realised.

Alternatively, this finding may indicate that psychoeducational interventions alone are insufficient to improve quality of life without complementary long-term psychological support and practical assistance. A meta-review of psychosocial support for carers of people with cancer found that while many reviews report positive associations, there is limited consistent quantitative evidence linking theory-based frameworks to improvements in coping, caregiver self-efficacy, and preparedness, indicating the need for more rigorous, theory-driven measures [44]. This suggests that the quality-of-life paradox may reflect the limitations of short-term, single component interventions and underscores the need for holistic, multidimensional approaches that encompass sustained psychological support, practical help, and structural interventions addressing the financial and social determinants of caregiver burden.

A summary of the key findings from the included studies, linked to identified evidence gaps and supporting contextual evidence, is presented in Table 6.

Discussion

Summary of Key Findings

This scoping review mapped the existing evidence on the effectiveness of psychoeducational interventions for informal caregivers of cancer patients in Southern Nigeria. Three studies met the inclusion criteria, revealing four key findings. First, caregiver burden is high and inversely related to patient functional ability. Second, support systems and health-promoting behaviours play a significant role in mitigating burden. Third, psychoeducational interventions show promise in improving caregiver preparedness and reducing unmet needs. Fourth, quality of life may paradoxically decline following psychoeducational interventions, highlighting the complexity of the caregiving experience. The review also identified a critical evidence gap: the absence of randomised controlled trials in the Nigerian context, a gap that is starkly apparent when Nigerian evidence is compared with the broader LMIC and international literature (Figure 3).

Caregiver Burden in the Nigerian and LMIC Context

The strong negative relationship between caregiver burden andpatient functional ability reported by Akpan-Idan and Anarado [33] is supported by Vatter et al. [11], who demonstrated that patient dependence is associated with greater caregiver stress and burden. This relationship has been consistently observed across LMIC settings. In Uganda, Muliira et al. [15] found that family caregivers of hospitalised adult cancer patients experienced severe burden, with general strain, disappointment, and isolation as the primary contributing factors. In Togo, Adani-Ife et al. [34] reported that approximately 61% of cancer caregivers experiencedmild-to-moderate burden and 15.4% faced moderate-to-severe burden, with higher burden significantly associated with advanced cancer stage. In Kenya, Machaki et al. [36] documented significant burdens and lowerquality of life among caregivers of children withcancer, though employment and flexible work arrangements helped reduce this burden.

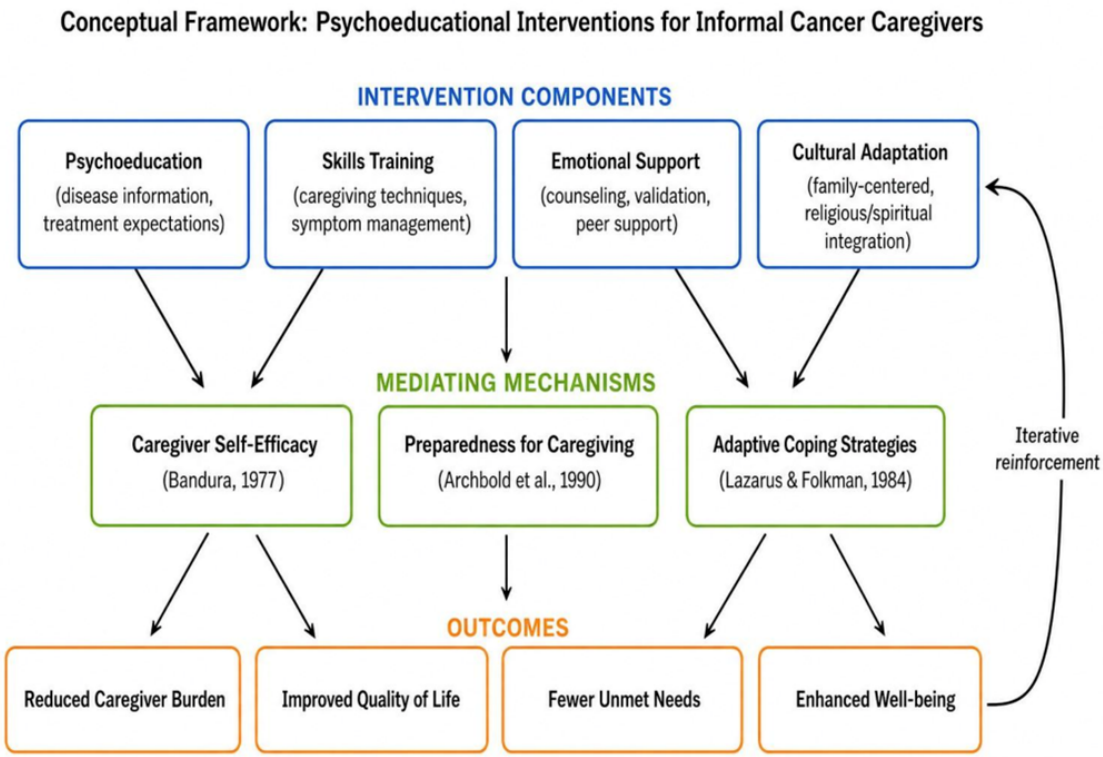


Figure 2: Conceptual framework linking psychoeducational intervention components to caregiver outcomes through mediating mechanisms. The framework integrates Bandura's self-efficacy theory, Archbold et al.'s preparedness concept, and Lazarus and Folkman's stress and coping theory.

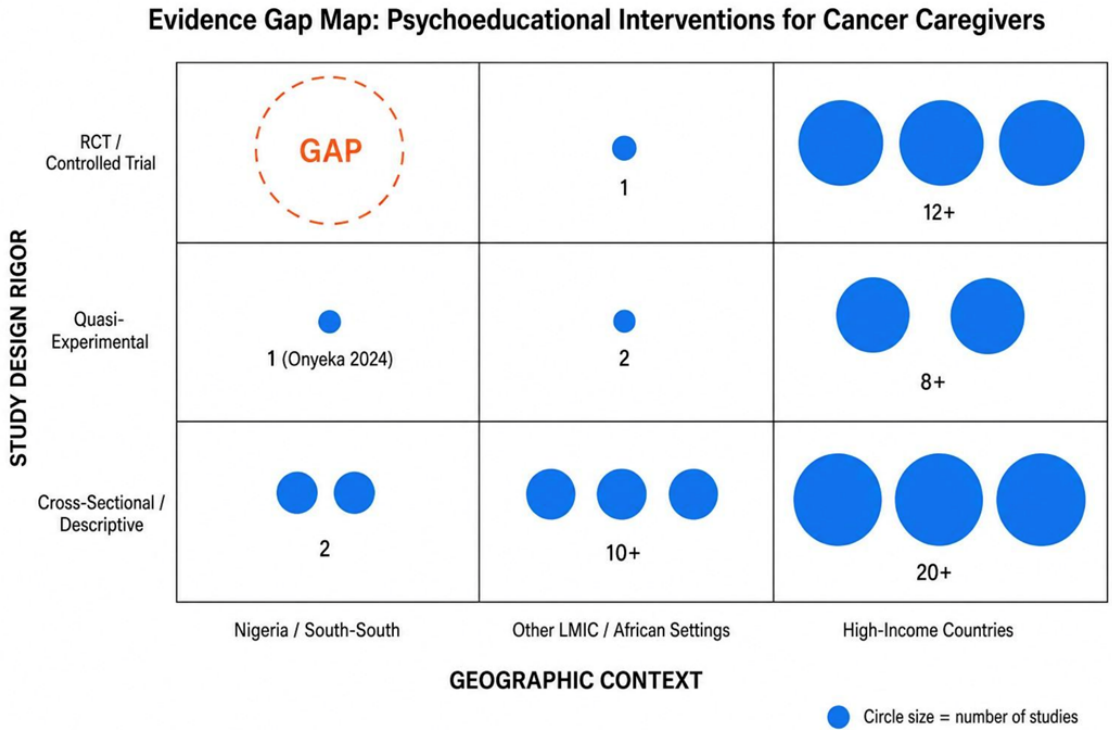


Figure 3: Evidence gap map showing the distribution of studieson psychoeducational interventions for cancer caregivers by geographic context and study design rigour. Circle size indicates the approximate number of studies. The dashed cell marked "GAP" highlights the absence of randomised controlled trials in Nigeria, representing the most critical evidence gap identified by this review.

The cultural environment in Nigeria further complicates this dynamic. Caregiving expectations are deeply embedded in collectivist family structures, where the obligationto care for sick family members is both a moral and social imperative [8]. The predominance of female caregivers observed in the included studies [33,38] aligns with international literature noting that women are the main informal care providers, who simultaneously perform various household and occupational responsibilities [9]. In Tanzania, Gosse et al. [29] found that male partners caring for women with cervical cancer experienced emotional distress, financial strain, and shifts in social responsibilities, highlighting that while caregiving is gendered, the burden extends across genders when cultural expectations demand it. These findings collectively suggest that caregiver burden in Nigeria is shaped by an interplay of patient-related factors (functional status, disease stage), caregiver-related factors (gender, employment, coping resources), and structural factors (financial strain, limited formal support, cultural expectations).

Psychoeducational Interventions: Effectiveness and Mechanisms

The single intervention study by Onyeka et al. [24] provides preliminary evidence on the effectiveness of community-built psychoeducational programmes in meeting some unmet caregiver needs. The considerable improvements in unmet needs assessment are confirmed by international evidence regarding the use of psychoeducational interventions in cancer caregivers [42]. These improvements align with broader international evidence: Cheng et al. [21] reported that psychoeducational programmes yield short-term gains across multiple caregiver outcomes, including anxiety, depression, burden, self-efficacy, and quality of life, with some benefits extending to long-term physical health. Complementing these findings, Secinti et al. [22] showed that psychosocial approaches; especially therapeutic counselling and skills-based training, can lessen caregiver burden, though the durability of these effects beyond the immediate post-intervention period remains uncertain. The mechanisms through which psychoeducational interventions exert their effects are increasingly understood. The conceptual framework presented in Figure 2 integrates three theoretical perspectives: Bandura's self efficacy theory, Archbold et al.'s concept of preparedness for caregiving, and Lazarus and Folkman's stress and coping theory. Self-efficacy, which deals with the belief in one's capacity to execute behaviors necessary to achieve desired outcomes, has been identified as a key mediator of intervention effects. An integrative review by Hebdon et al. [43] indicated that psychoeducational interventions consistently produce small to moderate improvements in self-efficacy, caregiver preparedness, and coping. Gong et al. [44] further demonstrated that interventions based on self-efficacy theory can positively impact both cancer patients and caregivers, with performance accomplishment being the key source of self-efficacy enhancement. Preparedness for caregiving, defined as the perceived readiness for the caregiving role, has been shown to improve through targeted interventions, with programmes focused on female caregivers demonstrating greater effectiveness [23]. The theoretical frameworks underpinning these mechanismsare summarised in Table 7.

In Nigeria, the work of Gabriel and colleagues represents important progress. Gabriel and Mayers [25] demonstrated that a psychosocial intervention significantly reduced caregiver burden and improved quality of life among primary caregivers of women with breast cancer. Gabriel et al. [26] subsequently developed a theory based, culturally tailored psychoeducational intervention for adult Nigerians with cancer and their family caregivers, integrating social and spiritual support, health literacy, and coping components. While this work reported development and feasibility outcomes, it establishes a foundation for culturally adapted intervention research in Nigeria. The international literature on intervention adaptation further supports this approach: Kent et al. [30] outlined a framework for adapting cancer caregiver psychoeducational interventions for rural settings, emphasising the importance of tailoring to local contexts.

Table 6: Contextual evidence from comparable LMIC and African settings.

Country	Study	Design	Sample	Key Findings
Ethiopia	Tamene et al. [18]	Cross sectional	Family caregivers of cancer patients	Lower HRQoL associated with being spouse, chronic illness, depression, anxiety, lower social support
Ethiopia	Yihedego et al. [19]	Cross sectional	Family caregivers of adult cancer patients	QoL and associated factors; social support significant predictor
Uganda	Muliira et al. [15]	Cross sectional	Family caregivers of hospitalized cancer patients	Severe burden; general strain, disappointment, and isolation as primary factors
Togo	Adani-Ife et al. [35]	Cross sectional	Family caregivers of cancer patients	61% mild-to-moderate burden; 15.4% moderate to-severe; associated with advanced cancer stage
Kenya	Machaki et al. [36]	Cross sectional	Caregivers of children with cancer	Significant burden and lower QoL; employment and flexible work mitigate burden
Tanzania	Gosse et al. [29]	Qualitative	Male partners of women with cervical cancer	Emotional distress, financial strain, shifts in social responsibilities
Vietnam	Nguyen et al. [14]	Cross sectional	Cancer caregivers	Lower QoL; financial concerns most significant contributor to burden

Note: These studies were reviewed as contextual evidence to frame the Nigerian findings within the broader regional literature. They were not included in the primary synthesis but informed the discussion and evidence gap analysis. HRQoL = health-related quality of life; QoL = quality of life.

The Quality-of-Life Paradox

The paradoxical decline in quality-of-life post-intervention observed by Onyeka et al. [24] is a finding of considerable importance. This result could indicate the complexity of the caregiver experience: greater knowledge of caregiving issues acquired during education might first increase perceived burden before adaptive coping skills materialise [17]. This phenomenon may reflect a transition from a state of uninformed acceptance to one of informed awareness, during which caregivers more fully apprehend the challenges ahead. Such a transition, while initially distressing, may ultimately lead to more effectivecoping and better long-term outcomes, hypothesis that cannot be tested without longitudinal follow-up studies.

Alternatively, this finding may signal that more holistic intervention strategies are needed, encompassing not only psychoeducation but also long-term psychological support and practical assistance. A meta-review by Nic Giolla Easpaig et al. [40] found that while many reviews report positive associations, there is limited consistent quantitative evidence across psychosocial and psychoeducational interventions for cancer caregivers linking theory-based frameworks to improvements in coping, self-efficacy, and preparedness. This suggests that the quality-of-life paradox may reflect the limitations of short-term, single-component interventions. The financial strain that characterises caregiving in Nigeria [33,34] and other LMICs [12] may be particularly resistant to psychoeducational approaches alone, requiring structural interventions that address the economic determinants of burden. The Theissen et al. [37] mixed-methods evaluation of a psychoeducational intervention in Germany reported high satisfaction and improved preparedness, awareness of needs, and self-efficacy, but also highlighted the importance of ongoing support; a finding that reinforces the need for sustained, multidimensional interventions.

Cultural Considerations and a Proposed Multilevel Intervention Framework

The cultural context of caregiving in Nigeria necessitates careful adaptation of psychoeducational interventions. Several cultural factors shape the caregiving experience and should inform intervention design. First, the collectivist family structure means that caregiving is often shared among extended family members, and interventions should engage the family unit rather than focusing solely on the primary caregiver [8]. Second, religious and spiritual coping is predominant among Nigerian caregivers [7] and interventions that integrate spiritual resources may be more acceptable and effective. Third, the gendered nature of caregiving means that interventions must account for the multiple roles that female caregivers juggle, while also engaging male caregivers who are currently underrepresented in the literature.

A systematic review of quality of life among cancer patients and caregivers in sub-Saharan Africa found that coping, control, symptoms, and religious beliefs significantlyaffect quality of life [16], reinforcing the importance of culturally grounded intervention approaches. The experiences of male partners caring for women with cervical cancer in Tanzania [29] further illustrate the need for gender-sensitive intervention design. The culturally tailored intervention developed by Gabriel et al. [26] in Nigeria, which integrates social and spiritual support with health literacy and coping, represents a promising model for culturally adapted psychoeducational programmes. Drawing on the evidence synthesised in this review, we propose a culturally adapted multilevel intervention framework (Figure 4) that addresses the limitations of single-component, short-term interventions. The framework operates across three tiers—individual caregiver, family and community, and health system and policy—unified by a cultural adaptation lens that integrates family-centred values, religious and spiritual resources, gender sensitivity, and local language.

At the individual level, the framework combines psychoeducation, coping skills training, self-efficacy building, and emotional support. At the family and community level, it extends to family-centred education sessions, community and faith-based support networks, and peer support groups. At the health system and policy level, it calls for institutional integration of caregiver support into routine cancer care, caregiver recognition and respite services, and national policy and funding within cancer control plans. This multilevel approach directly addresses the quality-of-life paradox by recognising that caregiver well-being is determined not only by individual knowledgeand skills but also by family dynamics, community resources, and structural support.

Strengths and Limitations

This scopingreviewhas several strengths. It followed a rigorous methodological framework [31] and was reported in accordance

Table 7: Theoretical frameworks underpinning psychoeducational interventions for cancer caregivers.

Theory/Framework	Key Concept	Application to Caregiver Interventions	Supporting Evidence
Bandura Self Efficacy Theory	Belief in one's capacity to execute behaviors necessary to achieve desired outcomes	Performance accomplishment as key source of self-efficacy enhancement; interventions build mastery experiences	Gong et al. [44]; Hebdon et al. [43]
Archbold et al. Preparedness for Caregiving	Perceived readiness for the caregiving role	Targeted interventions improve preparedness; female-focused programmes demonstrate greater effectiveness	Bilgin & Ozdemir [23]
Lazarus & Folkman Stress and Coping Theory	Cognitive appraisal and coping strategies in response to stressors	Psychoeducation enhances daptive coping and reduces perceived stress; addresses both problem-focused and emotion-focused coping	Cheng et al. [21]; Secinti et al. [22]

Note: These three theoretical perspectives are integrated in the conceptual framework presented in Figure 2, which links psychoeducational intervention components to caregiver outcomes through mediating mechanisms.

with PRISMA-ScR guidelines [32]. The use of the PEOs framework ensured a structured approach to the research question. The integration of contextual evidence from comparable LMIC and African settings provided a broader frame for interpreting the Nigerian findings and identifying evidence gaps. The quality appraisal using CASP checklists allowed for transparent assessment of methodological rigour.

Several limitations should be acknowledged. First, the small number of eligible studies (n = 3) limits the breadth of findings and the ability to draw definitive conclusions about intervention effectiveness. Second, the restriction to English-language publications may have excluded relevant studies published in other languages. Third, the focus on Southern Nigeria, while intentional, limits generalizability to other regions. Fourth, the predominance of descriptive and quasi-experimental studies restricted the ability to draw causal inferences. Fifth, the inclusion of contextual evidence from LMIC settings, while valuable for framing, introduces heterogeneity in study populations and settings that may limit direct comparability. Sixth, the search was limited to four electronic databases and published literature; grey literature or unpublished studies may contain additional relevant evidence. The absence of searches in Embase, CINAHL, Scopus, Web of Science, PsycINFO, and African Index Medicus is acknowledged as a limitation that may have affected the comprehensiveness of the search.

Implications for Practice, Policy, and Research

For Practice

- Integrate structured psychoeducational programmes into routine cancer care in tertiary health institutions in Southern Nigeria, recognising that institutional support systems can positively influence caregiver well-being [30].
- Design multidimensional interventions that address informational, emotional, practical, and financial needs, delivered over sustained periods rather than as single sessions.
- Engage the family unit in intervention delivery, reflecting the collectivist caregiving structure prevalent in Nigerian communities.
- Incorporate religious and spiritual resources into psychoeducational programmes, given the predominant reliance on religious coping among Nigerian caregivers [7].

For Policy

- Recognise informal caregivers within the Nigerian healthcare system and develop policies that provide financial support, respite care, and structured training programmes.
- Integratecaregiversupport into nationalcancercontrolplans, aligningwithglobal recommendations for comprehensive cancer care [9].
- Support the establishment of community-based caregiver support networks, particularly in Southern Nigeria, to complement institutional programmes.

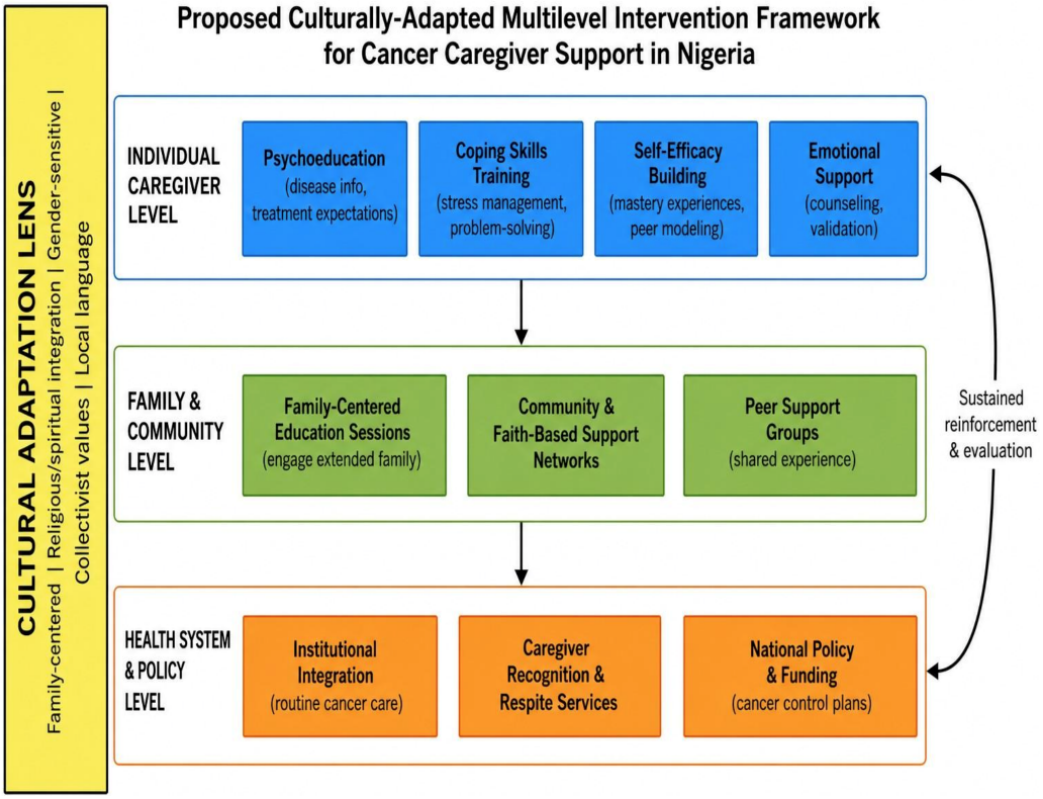


Figure 4: Proposed culturally adapted multilevel intervention framework for cancer caregiver support in Nigeria. The framework integrates individual, family/community, and health system/policy levels, unified by a cultural adaptation lens (family-centred values, religious/spiritual integration, gender sensitivity, collectivist norms, and local language).

- Allocatefunding for culturally adapted psychoeducational interventionresearch within national health research priorities.

For Research

- Conduct rigorous intervention studies with randomised controlled designs, adequate sample sizes, and extended follow-up periods to establish causal evidence on the effectiveness of psychoeducational interventions.
- Develop and test culturally adapted psychoeducational programmes that reflect Nigerian social, familial, and religious contexts, building on the foundational work of Gabriel et al. [26] and Onyeka et al. [24].
- Expand research to underrepresented populations, including male caregivers, rural communities, and caregivers of adult cancer patients, to ensure that interventions address the full spectrum of caregiving experiences.
- Adopt standardised measurement tools for caregiver burden (e.g., Zarit Burden Interview), quality of life (e.g., Caregiver Quality of Life Index-Cancer), and intervention outcomes to facilitate cross-study comparison and meta-analysis.
- Investigate the mechanisms underlying the quality-of-life paradox through longitudinal studies that track caregiver outcomes over extended periods, examining whether initial declines in quality of life precede longer term improvements.
- Broad engeographic coverage beyond Southern Nigeriato include all geopolitical zones, enabling a comprehensive national evidence base.

Conclusion

This scoping review demonstrates that psychoeducational interventions show promise for alleviating informal caregiver burden in Southern Nigeria, particularly in improving caregiver preparedness and reducing unmet needs. However, the current evidence base remains limited and inconclusive, comprising only three studies two cross-sectional and one quasi-experimental, with no randomized controlled trials identified. The paradoxical decline inquality-of-life post-intervention underscores the complexity of the caregiving experience and the need for multidimensional, culturally sensitive approaches that extend beyond psychoeducation to address the financial, social, and structural determinantsof caregiver burden.

Comparison with evidence from comparable LMIC and African settings confirms that caregiver burden is consistently high across the region, while international meta-analytic evidence supports the effectiveness of psychoeducational interventions when delivered with rigour. The critical gap is the absence of high-quality intervention research in Nigeria. Future research must prioritise randomised controlled trials, culturally tailored interventions, standardised outcome measures, and nationwide representation. Strengthening the evidence base in this area is critical to informing policy, improving caregiver well-being, and enhancing cancer care outcomes in Nigeria and similar resource-constrained settings.

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Author Contribution

Patricia Atagwung Simon-Uriah and Jerry A. Ombor conceived and designed the review, developed the search strategy, screened studies, charted data, performed data verification and data interpretation, and drafted the manuscript. Jerry A. Ombor critically revised the manuscript for important intellectual content. All authors participated in quality appraisal. All authors contributed to writing the manuscript, and read and approved the final manuscript.

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Supplementary Material: PRISMA-ScR Checklist Compliance

The following table (Table 8) maps each PRISMA-ScR checklist item to its location in the manuscript, demonstrating reporting compliance with the Preferred Reporting Items for Systematic Reviews and Meta Analysesextension for Scoping Reviews (PRISMA-ScR) guidelines [32].

Table 8: PRISMA-ScR checklist item compliance mapping.

Item	PRISMA-ScR Requirement	Description	Section/Location in Manuscript
1	Title	Title indicates this is a scoping review	Title page
2	Abstract	Structured abstract summarizing key elements	Abstract
3	Rationale	Rationale for the review within the context of what is already known	Background, paragraphs 1–3
4	Objectives	Objectives and research question using PEOs framework	Background, final paragraph; Methods, Research Question
5	Protocol	Protocol developed a priori; registration status indicated	Methods, Study Design
6	Eligibility criteria	Inclusion and exclusion criteria with rationale	Methods, Eligibility Criteria
7	Information sources	Databases, platforms, and manual searches with dates	Methods, Search Strategy; Table 5
8	Search	Full search strategy for at least one database	Methods, Search Strategy; Table 5
9	Selection of sources of evidence	Selection process including number of screeners	Methods, study Selection
10	Data charting process	Data charting form and process	Methods, Data Charting
11	Data items	List of data items charted	Methods, Data Charting
12	Critical appraisal	Critical appraisal tool used and process	Methods, Quality Appraisal; Table 1
13	Synthesis of results	Synthesis approach described	Results, Synthesis of Findings
14	Characteristics of sources of evidence	Summary of included studies	Results, Characteristics; Table 2
15	Critical appraisal within sources of evidence	Results of critical appraisal	Results, Quality Appraisal; Table 3
16	Results of individual sources of evidence	Study-by-study results presented 17thematically	Results, Themes 1-4
17	Synthesis of results	Synthesis with supporting evidence and gap identification	Results, Table 4; Discussion
18	Summary of evidence	Summary of key findings with evidence gaps	Discussion, Summary of Key Findings
19	Limitations	Strengths and limitations of the review	Discussion, Strengths and Limitations
20	Conclusions	Conclusions and implications	Conclusion; Implications for Practice, Policy, and Research

Note. PRISMA-ScR = Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews. This table is provided as a supplementary file to accompany the manuscript submission.

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