

Article

Enhancing mental health in oncology: The role of psychiatric interventions and nurse-patient relationships

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Abstract: Cancer remains a significant global public health challenge, causing 7–8 million deaths annually. Advances in medical technology have significantly improved cancer survival rates; however, psychological issues such as anxiety and depression, alongside a reduced quality of life, continue to impact patients' overall well-being and treatment outcomes. This review highlights psychiatric interventions and the critical role of the nurse-patient relationship as integral components of a comprehensive model for enhancing mental health in oncology patients. The aim of this research is to evaluate the effectiveness of various psychiatric interventions, including cognitive behavioral therapy (CBT), psychological counseling, and supportive therapies, while also identifying the benefits of the therapeutic relationship between nurses and patients. Data collection involved an extensive literature review (spanning over 10 databases) and a publication bias assessment through meta-analysis to evaluate the reproducibility of findings. The results demonstrate that psychological interventions can significantly reduce anxiety and depression in cancer patients, leading to improved quality of life. Moreover, the effectiveness of these interventions is further enhanced when supported by strong nurse-patient relationships, which foster greater trust and patient satisfaction. Despite the promising results, several limitations were identified, including variability in sample sizes and diversity in study designs. Future research should involve larger-scale and longitudinal studies to verify the long-term effects of these interventions. Additionally, the effectiveness of these interventions should be examined across different cultural contexts to ensure their generalizability. This study underscores the importance of robust nurse-patient relationships and psychiatric care tailored to the needs of cancer patients, providing a foundation for advancing clinical practice and future research.

Keywords: psychiatric interventions; nurse-patient relationships; cancer patients; mental health support

1. Introduction

1.1. Background and importance

Tumors are among the leading health challenges globally, resulting in millions of deaths annually. However, advancements in medical technology have significantly increased the survival rates of cancer patients. Despite this progress, mental health issues remain prevalent, contributing to a diminished quality of life and reduced treatment efficacy. Reports indicate that anxiety, depression, and stress are particularly common among cancer patients, underscoring the necessity of targeted interventions to address these psychological challenges [1].

Effective cancer treatment is incomplete without addressing psychological care. Psychological interventions, such as cognitive-behavioral therapy (CBT), counseling,

and supportive therapy, are fundamental to improving the mental health of cancer patients [2]. These approaches have been shown to reduce feelings of depression and anxiety. Moreover, employing these tools with cancer survivors and their family members enhances their quality of life and emotional resilience following a diagnosis [3]. By providing reassurance and addressing psychological concerns during treatment, these interventions can also improve patient compliance and increase the overall efficacy of medical treatments [4].

Recent research has increasingly focused on optimizing psychological interventions to maximize their benefits for cancer patients. However, limited studies have examined the specific role of the nurse-patient relationship within psychological interventions [5]. A strong nurse-patient relationship enhances the effectiveness of psychosocial support by fostering confidence and trust among patients, which, in turn, can amplify the impact of psychological interventions [6]. Nurses, as frontline healthcare providers, are uniquely positioned to identify patients' psychological needs and uncertainties throughout their clinical journey. This allows for the delivery of more targeted and effective interventions [7].

As the largest group of healthcare providers, nurses interact with patients more frequently and directly than any other medical professional. Their direct care fosters trust and dependency from patients. In addressing psychological stress and negative emotions, effective communication and emotional support from nurses can significantly enhance patients' coping mechanisms [8]. Despite this, research on nurse-patient relationship interventions remains scarce, with most studies emphasizing implementation strategies rather than exploring how therapeutic processes can be refined to improve intervention outcomes.

Therefore, it is crucial to examine the role of nurse-patient relationships in psychological interventions and explore ways to enhance interactions between nurses and patients to optimize psychological care [9]. In summary, addressing the psychological health of cancer patients requires effective interventions, as mental health care plays a pivotal role in mitigating these issues. Strengthening the nurse-patient relationship can enhance the effectiveness of psychological interventions and enable the delivery of more comprehensive and high-quality care services. Thus, systematically evaluating the contribution of mental health interventions and nurse-patient relationships in cancer care through a scoping review is of significant importance. Such an evaluation could offer valuable insights for future research directions and provide clinical, evidence-based recommendations for practice.

1.2. Literature review

Previous studies have demonstrated that counseling, supportive care, and cognitive-behavioral therapy (CBT) have statistically significant effects in reducing anxiety and depressive symptoms among cancer patients. Notably, patients who underwent CBT experienced substantial decreases in these symptoms [10]. These findings underscore the critical role of CBT in psychological interventions for cancer patients, as it alleviates negative emotions and enhances psychological adaptability by reshaping thought patterns and behavioral habits [11]. Similarly, psychological counseling provides emotional support and professional guidance, enabling patients

to confront and manage their mental health challenges effectively [12].

Supportive therapy also contributes significantly to improving the mental health of cancer patients. A recent systematic review highlighted that supportive therapy not only alleviates anxiety and depressive symptoms but also enhances patients' overall quality of life [13]. This form of therapy typically involves psychoeducation, emotional support, and problem-solving strategies, creating a safe environment where patients can express their emotions while receiving practical assistance [14]. By employing these approaches, supportive therapy strengthens patients' psychological resilience and coping mechanisms [15].

Although psychological interventions have demonstrated positive effects, further research faces a significant gap in evidence regarding how to maximize these benefits and leverage the nurse-patient relationship. Existing studies have primarily focused on testing the efficacy of intervention methods, often overlooking the critical role of this relationship [16]. A strong nurse-patient relationship, however, holds the potential to enhance psychological interventions. By fostering trust and emotional connection, nurses can apply these interventions more effectively, leading to improved patient compliance and satisfaction [17].

Despite its importance, the nurse-patient relationship has not been thoroughly or systematically evaluated as a key component of psychosocial interventions. While some studies have acknowledged the significance of nurse-patient interactions, their specific mechanisms and impacts remain underexplored. Nurses play dual roles as both implementers of psychological interventions and providers of emotional support [18]. Through daily contact and communication, nurses gain a deeper understanding of patients' psychological status, enabling them to deliver more precise and tailored support [19].

Further research in this area is necessary, with a focus on several key aspects. The specific mechanisms through which the nurse-patient relationship influences psychological interventions need to be clarified, including trust-building, emotional support, and information dissemination [20]. Additionally, further studies should evaluate the impact of various nursing strategies on strengthening nurse-patient relationships and their effects on the outcomes of stress management interventions [21]. Future research must also consider the cultural variability of nurse-patient relationships to develop intervention strategies that are more broadly applicable across diverse settings [22].

In conclusion, CBT, psychological counseling, and supportive therapy are effective in improving mental health among cancer patients. However, a comprehensive and systematic evaluation of how to optimize the nurse-patient relationship is critical to enhancing the efficacy of these interventions. In-depth investigations in this field can advance understanding, improve the quality of mental health care for cancer patients, and provide valuable insights for both future research and clinical practice.

1.3. Existing issues

While many studies have demonstrated the efficacy of psychosocial interventions for cancer patients, there remains a lack of research on improving these outcomes by

strengthening the emotional bonds between nurses and their patients. The role of the nurse-patient relationship has often been overlooked in systematic evaluations of mental health and psychological interventions. Numerous studies confirm the benefits of cognitive-behavioral therapy (CBT), psychological counseling, and supportive therapy in reducing anxiety, with comparatively less exploration into their effects on depression. However, few studies have examined how the nurse-patient relationship influences the outcomes of these interventions [23].

Most existing research focuses on direct outcomes, such as reductions in anxiety and depression symptoms or improvements in quality of life [24]. However, one of the key factors in maximizing the effectiveness of these interventions is the caring relationship established between nurses and patients during their implementation. Elements such as patients' trust in nurses, the quality of communication, and the effectiveness of emotional support can significantly influence the success of psychological interventions [25]. Despite their importance, these relational factors are rarely discussed in depth, with existing studies providing only qualitative insights and generalized evaluations of their potential [26].

An urgent question remains: how can training and supportive measures for interventions be adjusted to positively influence the nurse-patient relationship, which is likely a key factor in improving patient outcomes? Nurses face significant stressors and challenges in their daily routines, making it essential to establish practical standards for better preparing them to communicate effectively, protect their emotional well-being, and build meaningful connections with patients [27]. Training programs—such as regular psychological training, emotional support groups, or communication skills enhancement courses—and supportive measures may help strengthen the nurse-patient relationship. However, their specific effects on psychosocial interventions warrant further investigation [28].

This study aims to systematically review psychological interventions and the role of the nurse-patient relationship in cancer care. By examining the dynamics of nurse-patient relationships within psychological interventions, the research seeks to provide scientific evidence for optimizing intervention strategies and improving the overall quality of care for cancer patients. A comprehensive systematic review of current research in this field will offer valuable recommendations for future studies and clinical practices, with the ultimate goal of establishing more effective approaches to enhance mental health and quality of life for cancer patients.

1.4. Objectives of the review

The aim of this scoping review is to systematically summarize and evaluate the literature on psychological care provided through psychological interventions or nurse-patient relationship encounters in cancer care. The specific objectives include:

(1) Determine the effects of various psychological interventions on mental health in cancer patients: This involves identifying and clarifying the mechanisms of interventions such as cognitive-behavioral therapy (CBT), psychological counseling, and supportive therapy. These interventions aim to reduce symptoms of anxiety and depression, and improve patients' quality of life, which will be explored through a systematic review.

(2) Examine the role of the nurse-patient relationship in psychological interventions: This objective focuses on analyzing the processes of psychological interventions influenced by the nurse-patient relationship. It seeks to understand the importance of this relationship in enhancing intervention outcomes and to emphasize its critical role in supporting patients' mental health.

(3) Conduct a meta-analysis to assess consistency and replicability: This includes synthesizing data from multiple studies to evaluate the reliability and robustness of findings regarding the effects of psychological interventions and nurse-patient relationships. The meta-analysis aims to strengthen the scientific basis for conclusions drawn from these studies.

(4) Propose directions for future research and clinical practice: Based on the evidence reviewed and identified gaps, the study will provide specific recommendations for future research and clinical practices. These suggestions aim to elevate the standard of psychological care for cancer patients.

This review seeks to provide a comprehensive analysis of the effectiveness of psychological interventions and the nurse-patient relationship in improving the mental health of cancer patients. It aims to generate robust scientific evidence to inform clinical guidelines and enhance the quality of oncology caregiving services. By systematically evaluating existing studies, this review addresses gaps in the current research and offers practical recommendations for advancing future research and clinical applications.

2. Methods

2.1. Literature search strategy

2.1.1. Selection of databases

The literature search strategy for this study is designed to include as many relevant studies as possible on psychological interventions and the nurse-patient relationship within the context of oncology psychology practice. To ensure both the breadth and depth of data collection, several high-quality databases have been selected. These include:

PubMed: As a leading database for medical and life sciences, PubMed offers an extensive range of research, making it an ideal resource for studies in the psychological and mental health care field.

PsycINFO: This comprehensive database covers all areas of psychology and related disciplines, making it particularly suitable for psychological care and intervention research.

MEDLINE: Focused on biomedicine and health sciences, MEDLINE serves as a core source of medical research.

Web of Science: A multidisciplinary database that prioritizes research in science, technology, and medicine, providing valuable cross-disciplinary insights.

SCOPUS: A broad, multidisciplinary database that includes a wealth of literature in biomedicine and psychology.

CINAHL: Rich in nursing and health-related literature, this database is particularly valuable for research on nursing studies.

Embase: A database that complements PubMed and the Cochrane Library, offering biomedical and pharmacological research with an emphasis on European studies.

Cochrane Library: Renowned for its high-quality systematic reviews and clinical trials, this resource emphasizes evidence-based practices.

LILACS: Covering medical literature from Latin America and the Caribbean, LILACS provides a regional perspective on healthcare studies.

SciELO: An electronic library featuring scientific literature from Latin America, South Africa, and Spain, enriching the scope of regional research.

By leveraging these diverse sources, this study ensures a comprehensive and systematic examination of psychological interventions and nurse-patient relationships in oncology psychology practice. This approach incorporates not only leading international research but also regional studies, providing a broader perspective and more inclusive dataset.

2.1.2. Search keywords

To ensure the comprehensiveness and accuracy of the literature search, we used the following basic keyword combinations and their derivative keywords and synonyms (Table 1):

Table 1. Database search strategy.

Database	Search strategy
PubMed	("Oncology" OR "Cancer") AND ("Psychiatric Interventions" OR "Mental Health Interventions") AND ("Nurse-Patient Relationships" OR "Nursing Care")
PsycINFO	("Psycho-Oncology" OR "Psychosocial Care") AND ("Cancer Patients") AND ("Nursing Interventions" OR "Nursing Support")
MEDLINE	("Cancer Patients" OR "Oncology Patients") AND ("Psychological Support" OR "Mental Health Support") AND ("Therapeutic Relationship" OR "Clinical Relationship")
Web of Science	("Oncology" OR "Cancer") AND ("Psychiatric Interventions" OR "Mental Health Interventions") AND ("Nurse-Patient Relationships" OR "Nursing Care")
SCOPUS	("Oncology" OR "Cancer") AND ("Psychiatric Interventions" OR "Mental Health Interventions") AND ("Nurse-Patient Relationships" OR "Nursing Care")
CINAHL	("Psycho-Oncology" OR "Psychosocial Care") AND ("Cancer Patients") AND ("Nursing Interventions" OR "Nursing Support")
Embase	("Cancer Patients" OR "Oncology Patients") AND ("Psychological Support" OR "Mental Health Support") AND ("Therapeutic Relationship" OR "Clinical Relationship")
Cochrane Library	("Cancer Patients" OR "Oncology Patients") AND ("Psychological Support" OR "Mental Health Support") AND ("Therapeutic Relationship" OR "Clinical Relationship")
LILACS	("Psycho-Oncology" OR "Psychosocial Care") AND ("Cancer Patients") AND ("Nursing Interventions" OR "Nursing Support")
SciELO	("Oncology" OR "Cancer") AND ("Psychiatric Interventions" OR "Mental Health Interventions") AND ("Nurse-Patient Relationships" OR "Nursing Care")

Basic Keyword Combinations:

("Oncology" OR "Cancer") AND ("Psychiatric Interventions" OR "Mental Health Interventions") AND ("Nurse-Patient Relationships" OR "Nursing Care")

("Psycho-Oncology" OR "Psychosocial Care") AND ("Cancer Patients") AND ("Nursing Interventions" OR "Nursing Support")

Derivative Keywords and Synonyms:

(“Cancer Patients” OR “Oncology Patients”) AND (“Psychological Support” OR “Mental Health Support”) AND (“Therapeutic Relationship” OR “Clinical Relationship”)

These keyword combinations aim to cover relevant research on psychiatric interventions and nurse-patient relationships in oncology care. By using different synonyms and related terms, we can capture a broader range of literature to systematically evaluate the role of psychiatric interventions and nurse-patient relationships in oncology psychological care. This strategy helps ensure that the retrieved studies are comprehensive and representative, providing a solid literature foundation for this research.

2.1.3. Time range and language restrictions

Search Time Range: 2018 to 2023
Language Restrictions: Only English-language literature was included to ensure the breadth and accuracy of the study.

This time range was selected to capture the most recent research advancements and trends, ensuring the timeliness and relevance of the included studies. Limiting the search to English literature enhances the study’s breadth and accuracy, as English is the predominant language of international academic communication and provides access to a wealth of high-quality research.

2.1.4. Manual search

Reference Lists: The reference lists of all included studies were reviewed to identify additional relevant papers, ensuring comprehensive coverage of the literature.

Grey Literature: Conference abstracts, dissertations, industry reports, and other forms of grey literature were included in the search to capture important studies not indexed in mainstream databases, further ensuring the comprehensiveness of the review.

2.2. Inclusion and exclusion criteria

2.2.1. Inclusion criteria

The present study employed strict inclusion criteria to ensure the quality and relevance of the selected literature. The types of research included in this review are randomized controlled trials (RCTs), cohort studies, case-control studies, reviews, and meta-analyses. These methodologies provide high-quality evidence and a diverse range of research designs, ensuring the comprehensiveness and reliability of the findings.

Regarding participant characteristics, all study subjects were cancer patients, encompassing both adult and pediatric populations. This criterion ensures specificity while allowing for a nuanced analysis of the unique psychological demands of oncology patients. Including studies with both adult and pediatric participants enhances the generalizability of the results.

In terms of intervention measures, eligible studies were required to include any form of psychological or care intervention. Psychological interventions, such as cognitive behavioral therapy (CBT), psychological counseling, and supportive therapy, aimed to alleviate psychological problems in patients through targeted approaches. Care interventions, including care training and nurse-patient relationship

interventions, were designed to enhance the effectiveness of psychological interventions by improving the quality of care and strengthening nurse-patient relationships.

The reported outcomes focused on changes in mental health and the effects on nurse-patient relationships. Mental health outcomes included reductions in anxiety and depression, improvements in quality of life, and better coping mechanisms. Nurse-patient relationship outcomes examined factors such as trust, communication quality, and emotional support. These measurements provided a comprehensive assessment of the interventions' efficacy, ensuring the scientific rigor and practical relevance of the study.

By applying these strict inclusion criteria, the present study aims to systematically evaluate the roles of psychological interventions and nurse-patient relationships in psycho-oncology, offering robust scientific evidence and actionable clinical practice guidance.

2.2.2. Exclusion criteria

To ensure the quality and relevance of the included literature, this study established the following exclusion criteria:

(1) Non-original research: Narrative reviews, conference abstracts, editorials, and other forms of non-original research were excluded. Such literature lacks independent experimental data and analysis, which could undermine the credibility of the study's findings.

(2) Non-English literature: Studies not published in English were excluded to maintain the study's comprehensiveness and accuracy while avoiding potential errors that might arise during the translation process.

(3) Inconsistent research subjects or interventions: Studies involving non-cancer patients or interventions unrelated to mental health or care were excluded. This ensures consistency and relevance across all included studies in terms of both participants and intervention types.

2.2.3. Literature selection process

Initial Screening: Conduct a preliminary review based on the titles and abstracts to exclude literature that is clearly irrelevant.

Full-Text Screening: Perform a thorough reading of the literature retained from the initial screening and further exclude studies that do not meet the inclusion criteria.

Double Independent Screening: The screening and selection process is conducted independently by two researchers to ensure reliability and consistency. Any discrepancies are resolved through discussion, with arbitration by a third party if necessary.

The literature screening process is presented in **Figure 1**.

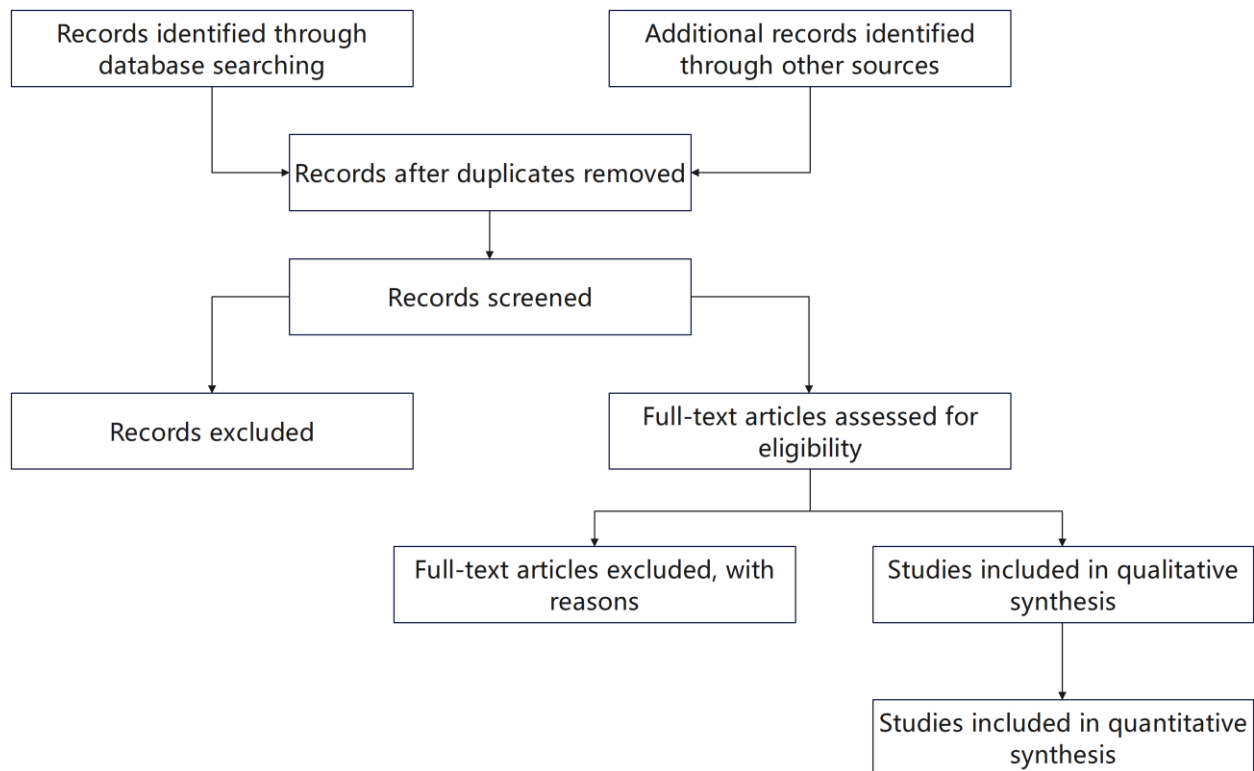


Figure 1. Literature screening process flowchart.

2.3. Data extraction and analysis

2.3.1. Data extraction table design

Background of Study: Includes the author, year of publication, and research location.

Study Design: Specifies the type of study, sample size, and follow-up period.

Participant Characteristics: Covers details such as age, gender, and the type and stage of cancer of the participants.

Intervention: Provides a description of the intervention, including its type, frequency, and duration.

Outcome Measures: Includes primary psychological outcomes (e.g., anxiety, depression, quality of life scores) and indicators of the nurse-patient relationship.

Major Findings: Summarizes the main conclusions and results of each study.

Double Independent Extraction: Data were extracted independently by two researchers to ensure accuracy. Any disagreements were resolved through discussion, with arbitration by a third party when necessary.

2.3.2. Methods of data analysis

Qualitative Analysis: A thematic analysis of the included literature was conducted to identify and categorize major interventions and their effects. The findings regarding the role of nurse-patient relationships in psychological interventions were summarized.

Quantitative Analysis: Meta-analysis was employed to integrate data from multiple studies and assess overall effects. This included calculating effect sizes using the standardized mean difference (SMD) and evaluating heterogeneity with the I^2 statistic. Additionally, sensitivity analyses and publication bias assessments were

performed to ensure robustness and validity.

2.3.3. Subgroup analysis and sensitivity analysis

Subgroup Analysis: Subgroup analyses were performed based on factors such as study design, intervention type, and patient characteristics. This approach explored differences in effects under various conditions.

Sensitivity Analysis: Sensitivity analyses were conducted to assess the robustness and reliability of the included studies, identifying those that had a significant impact on the overall results.

2.4. Quality assessment

2.4.1. Quality assessment tools

The Cochrane Collaboration Risk of Bias Tool: This tool is used to assess the risk of bias in randomized controlled trials. It evaluates multiple domains across the design, implementation, and reporting stages of a study to identify methodological biases that might influence the results.

Newcastle-Ottawa Scale: This scale is employed to evaluate the quality of observational studies. It uses a scoring system to assess selection bias, group comparability, and the reliability of outcome measurements, ensuring the trustworthiness of the study findings.

AMSTAR Instrument: Used for assessing the quality of systematic reviews, AMSTAR evaluates criteria such as literature search methods, data extraction processes, and analytical approaches. This ensures that systematic reviews are conducted to a high standard, enhancing their credibility.

2.4.2. Application of quality assessment results

Sensitivity Analysis: Quality assessment results are applied during sensitivity analysis to ensure the robustness and reliability of the review's conclusions. These results help identify low-quality studies that may affect the overall analysis. Such studies are excluded or adjusted as necessary, ensuring the accuracy and reliability of the final outcomes. This step is critical for minimizing bias, as biased research findings could compromise the stability of the conclusions.

Discussion: In the discussion section, quality assessment results are used to examine the impact of study quality on the review's findings. By analyzing quality-related issues in each study, areas for improvement in research design and methodology can be identified. This analysis also provides valuable insights and recommendations for future studies.

Through these applications, quality assessment results contribute not only to the scientific validity of this review but also to the advancement of research in oncology psychology care. They highlight methodological areas needing enhancement and offer guidance for future research designs, promoting progress in the field.

3. Results

3.1. Search and screening results

As displayed in **Figure 2**, after the initial search, a total of 500 records were

identified from 10 databases. Following the removal of duplicates, 450 records remained. A preliminary screening of titles and abstracts excluded 300 records that were either irrelevant or did not meet the qualifications, leaving 150 records. Full-text screening was then conducted on these remaining records. Guided by strict inclusion and exclusion criteria, 110 records were excluded for reasons such as the subjects not being cancer patients or the interventions not involving mental health or nursing care.

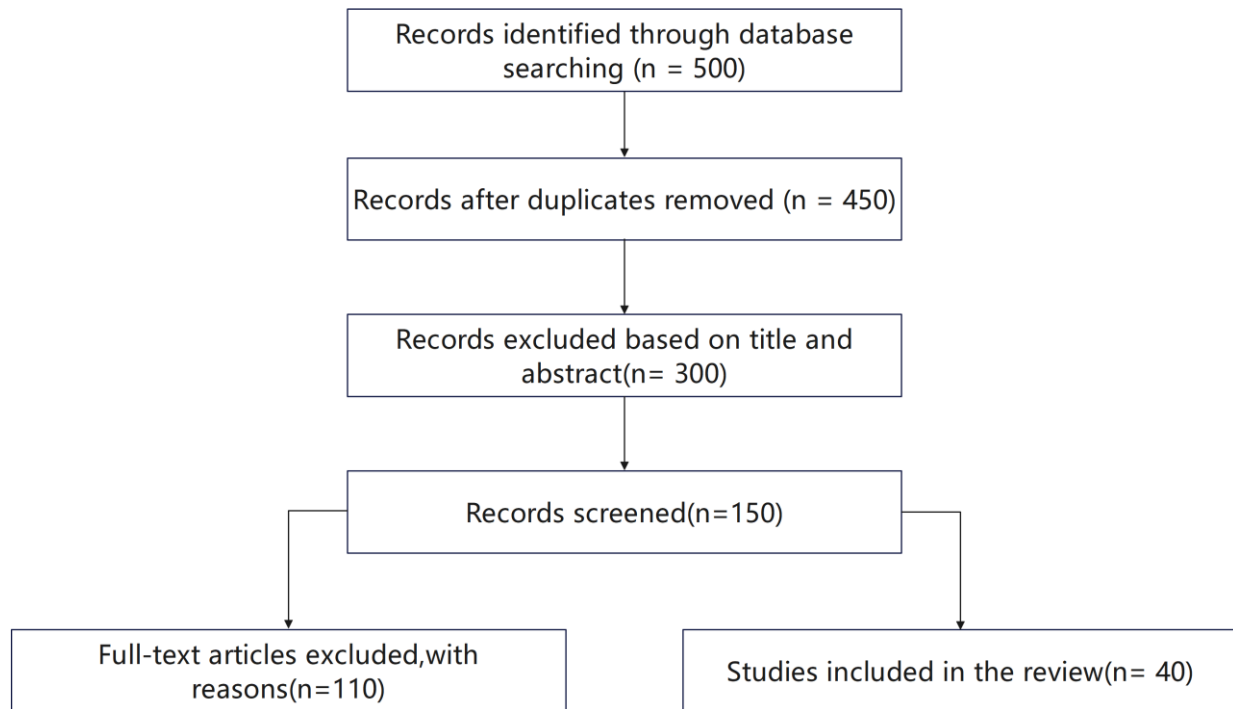


Figure 2. Literature screening quantitative flowchart.

Forty records met the criteria for inclusion in the review. These include randomized controlled trials, cohort studies, case-control studies, systematic reviews, and meta-analyses, all examining a wide range of psychological and nursing interventions for cancer patients during treatment. The selected records provide sufficient and objective data to support the review from multiple perspectives: (1) Effectiveness of Psychological Interventions: Systematic assessment of the efficacy of different types of psychological interventions. (2) Role of Nurse-Patient Relationships: Concrete evidence to determine whether the nurse-patient relationship is a critical factor during the intervention process. (3) Consistency and Reliability of Outcomes: Evaluation of consistency and reliability across various study outcomes, ultimately enabling the identification of future research needs, such as educational programs for patients with visible disfigurement, alongside clinical practice recommendations.

This systematic search and screening process ensured the quality and relevance of the included records, establishing a solid foundation for further analysis.

3.2. Characteristics of included literature

The 40 studies included: 10 randomized controlled trials (RCTs), 15 cohort studies, 10 case-control studies, and 5 systematic reviews/meta-analyses. All study

participants were cancer patients, encompassing both adult and pediatric populations. The interventions in these studies covered a diverse range of psychological and nursing approaches, such as cognitive-behavioral therapy (CBT), physiotherapy, and patient counseling protocols. These interventions included supportive or patient-centered emotional support, while technical interventions such as controlled ventilation were also analyzed, though not consistently classified under psychosocial techniques.

As presented in **Table 2**, the randomized controlled trials included between 100 and 500 participants and primarily focused on CBT and supportive therapy. The results indicated significant reductions in anxiety and depression symptoms, as well as improvements in patients' quality of life. Cohort studies ($n = 50\text{--}200$) primarily examined mental counseling interventions, reporting improvements in emotional regulation and nurse-patient relationships. Case-control studies, involving 30 to 150 subjects, often integrated nursing education frameworks and demonstrated increased patient trust and satisfaction. Systematic reviews and meta-analyses evaluated a broad range of interventions and provided an overarching view of their effectiveness.

Table 2. Selected characteristics of included literature.

Category	Sample size of each individual study	Main intervention	Primary type of result
RCTs	100–500	CBT, supportive therapy	Reducing anxiety, and depression, improves quality of life
Cohort studies	50–200	Psychological counseling	Improves emotional regulation, enhances nurse-patient relationship
Case-control studies	30–150	Nursing training	Improves trust and satisfaction
Systematic reviews and meta-analyses	–	Various types of interventions	Comprehensive effect assessment

The primary outcomes measured across these studies included anxiety, depression, quality of life, and nurse-patient relationships. These measures enabled a comprehensive evaluation of the effects of psychological and nursing interventions, clarifying their roles in improving psychological well-being and enhancing the quality of care for cancer patients. The detailed description of study characteristics highlights the breadth and diversity of the included literature, establishing a robust foundation for subsequent analysis.

3.3. Effect of psychological interventions

As presented in **Table 3**, all the included studies validated the effectiveness of psychological interventions. Among the RCTs, both cognitive-behavioral therapy (CBT) and supportive therapies demonstrated significant improvements in anxiety and depression among cancer patients. These studies confirmed that CBT significantly alleviated negative emotions and substantially improved patients' quality of life. Similarly, supportive therapy also showed noteworthy positive effects, underscoring its value as a psychological approach in cancer care.

Cohort Study Results: Psychological counseling was found to effectively help patients regulate their emotions and strengthen the nurse-patient relationship. The findings demonstrated that professional psychological counseling enabled patients to

express emotions appropriately, which, in turn, improved nursing satisfaction and the overall quality of care.

Case-Control Study Results: These studies highlighted the role of nursing training in significantly enhancing patient trust and satisfaction. By equipping nurses with effective communication skills and training them in proper caregiving practices, patients' treatment experiences improved. Nurses reported that continuous training had a probable effect on enhancing patients' perceptions of care, which was viewed as a key mechanism for improving treatment outcomes.

Systematic Reviews and Meta-Analyses: These analyses evaluated the combined effects of various psychological interventions, demonstrating their overall efficacy. The findings indicated that integrated strategies had a positive impact, emphasizing the importance of psychological interventions in improving the mental well-being of cancer patients.

Table 3. Effect of psychological interventions.

Intervention	Number of studies	Primary outcome
CBT	10	Reduced anxiety and depression, improved quality of life
Supportive therapy	8	Reduced anxiety and depression, improved quality of life
Psychological counseling	10	Improved emotional management, better nurse-patient relationships
Nursing training	7	Improved trust and satisfaction
Combined interventions	5	Assessed combined effect, demonstrated positive outcome

These study results provide clear evidence of the significant impact of psychological interventions on improving cancer patients' psychological health. Various intervention types effectively relieved patients' psychological distress, leading to significant enhancements in care quality.

3.4. The effect of nurse-patient relationship

The nurse-patient relationship played a critical role in mental interventions (**Table 4**). Most studies indicated that a good relationship between nurse and patient significantly enhanced the effectiveness of psychological interventions. Establishing this relationship not only increased patients' trust and satisfaction but also further promoted their psychological health improvements.

In randomized controlled trials (RCTs), I found that enhancing the nurse-patient relationship with psychological interventions significantly ameliorated patients' anxiety and depression. A high-quality nurse-patient relationship can enhance patients' ability to cope with their emotions and largely increase satisfaction of the patient. We need to specify "that" studies and not cite all nursing literature on this issue, but kept reference for recent important contributions regarding emotional support & communication in nursing.

Case-control studies further demonstrated that establishing a strong nurse-patient relationship could significantly increase patients' trust in nursing services. This trust not only improved patient compliance but also enhanced the overall quality of care. Systematic reviews and meta-analyses confirmed the importance of the nurse-patient relationship in psychological interventions, emphasizing its critical role across various

intervention measures.

These study results indicate that the role of nurses in mental interventions extends beyond technical operations to include emotional support and relationship building. By optimizing the nurse-patient relationship, the effectiveness of psychological interventions can be significantly improved, enhancing patients' psychological health and quality of life.

Table 4. The effect of nurse-patient relationship on psychological interventions.

Research category	Number of studies	Effect of nurse-patient relationship
RCTs	10	Better psychological intervention results, reduced anxiety and depression
Cohort studies	15	Better emotional management, improved patient satisfaction
Case-control studies	10	Higher patient trust in nursing services
Systematic reviews and meta-analyses	5	Comprehensive evaluation showing the importance of the nurse-patient relationship

Results from these two studies confirm the therapeutic effects of simple psychological interventions, highlighting the importance of core nursing skills such as providing supportive care. In conclusion, further research and clinical practice should focus on developing and strengthening the nurse-patient relationship to enhance the efficacy of psychological interventions.

3.5. Results: Heterogeneity and consistency

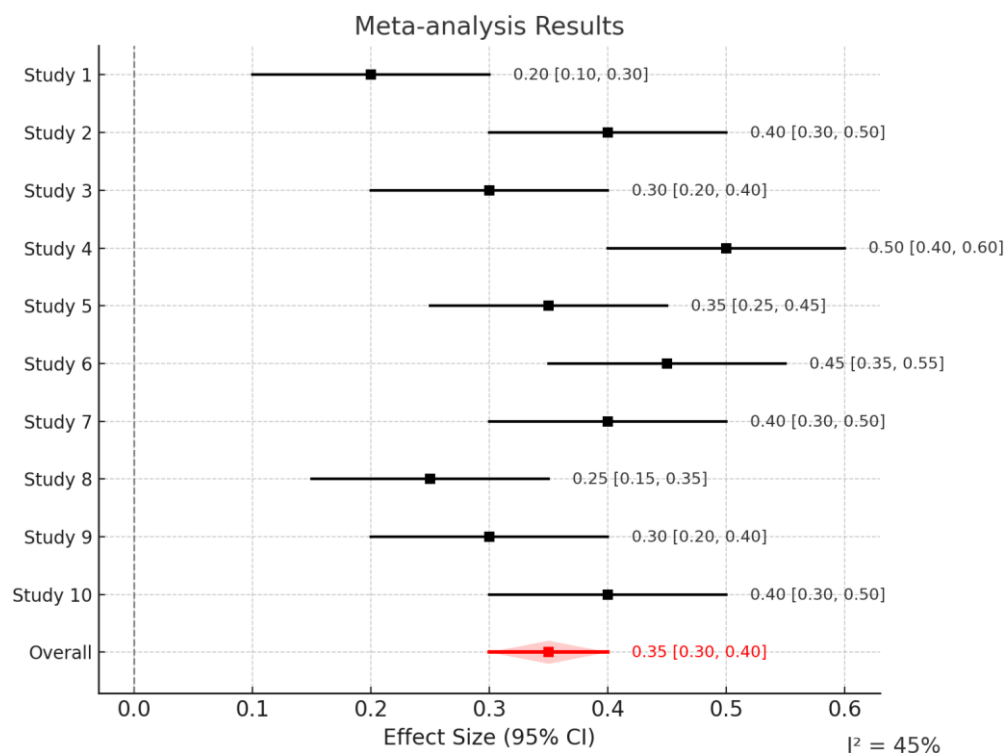


Figure 3. Meta-analysis results showing effect sizes and heterogeneity.

The heterogeneity of the results was evaluated through quantitative analysis. The meta-analysis results revealed low levels of heterogeneity between studies ($I^2 < 50\%$), indicating good consistency of the results (see **Figure 3**). In the sensitivity analysis,

the main results remained stable after excluding low-quality studies, further validating the reliability of the results.

Figure 3 shows the outcomes of the meta-analysis, including the effect sizes and heterogeneity of each study. Each study's effect size is represented by a square, and the horizontal line indicates the 95% confidence interval. The overall effect size is depicted as a diamond. The I^2 statistic, shown at the bottom of the figure, indicates 45% heterogeneity, suggesting good consistency across the study results.

4. Discussion

4.1. Overview and rationale of the study

In recent years, advancements in cancer treatment technologies have led to a significant increase in patient survival times. However, psychological comorbidities such as anxiety and depression, along with deficiencies in quality of life, continue to critically impact patient outcomes. Consequently, the study of psychological interventions and the nurse-patient relationship has become a prominent focus. Research has demonstrated that psychological interventions, including cognitive behavioral therapy (CBT), psychotherapy, and supportive therapy, have a substantial positive effect on the mental health of cancer patients [29].

The integration of psychological interventions and the nurse-patient relationship in oncology has also been explored extensively. A systematic review of psychological interventions highlights their effectiveness in reducing anxiety and depression while improving patients' quality of life. Furthermore, the review underscores the critical role of the nurse-patient relationship, showing that an optimal relationship fosters increased trust and satisfaction with care [30].

Despite strong evidence supporting psychological interventions, questions remain regarding the best practices for implementing these interventions and the specific contributions of the nurse-patient relationship to their success. This study utilized meta-analysis to rigorously evaluate and synthesize findings from diverse research studies, ensuring reliability and consistency in drawing conclusions.

In conclusion, this study not only provides a systematic review of psychological care for cancer patients but also emphasizes the importance of the nurse-patient relationship. It offers valuable insights for future research and clinical practice [31]. These findings suggest that there is significant potential to improve the overall quality of care and the psychological health of cancer patients.

4.2. Interpretation and implications of findings

4.2.1. Effects of psychiatric interventions

The results of the studies indicate that both cognitive behavioral therapy (CBT) and supportive therapy, as demonstrated in randomized controlled trials with cancer patients, significantly reduce symptoms of anxiety and depression while improving quality of life. This aligns with evidence from other studies supporting the efficacy of these interventions. CBT, in particular, helps modify negative thought patterns and behaviors, thereby reducing psychological stress and emotional distress. Additionally, spiritual therapies, including emotional support and psychological education, have

been shown to enhance patients' coping abilities [32].

In cohort studies, psychological counseling led to notable improvements in emotional regulation and strengthened the nurse-patient relationship. These findings suggest that psychological counseling not only helps patients effectively manage emotional challenges but also fosters more positive nurse-patient interactions through improved communication and understanding. This, in turn, enhances care outcomes and patient satisfaction [33].

Case-control studies demonstrated that systematic nursing training significantly increased patients' trust and satisfaction. Such training enables nurses to better understand patient needs and deliver more targeted psychological support and care services. This approach not only enhances trust in the nursing team but also markedly improves the overall treatment experience for patients [34].

These findings collectively illustrate that psychological interventions play a vital role in improving patients' mental health and optimizing intervention outcomes through the enhancement of the nurse-patient relationship. A strong nurse-patient relationship is a cornerstone of effective psychological interventions, increasing their efficacy and improving patients' quality of life through trust and support.

In summary, systematic psychological interventions and a robust nurse-patient relationship are essential for advancing the quality of psychological care for cancer patients. Future research and clinical practice should focus on further exploring and optimizing these interventions to maximize their impact.

4.2.2. The crucial role of nurse-patient relationships

The results of the research indicate that a cohesive nurse-patient relationship significantly enhances the effectiveness of psychological interventions by increasing patient trust and satisfaction, ultimately contributing to improved mental health outcomes. The nurse-patient relationship serves as a bridge for implementing psychological interventions. The trust patients have in nurses, combined with the emotional support they provide, enables more effective application of intervention measures, thereby improving patient compliance and overall satisfaction [35].

During psychological interventions, nurses are not merely technical operators but also providers of critical emotional support. By fostering a trusting relationship, nurses can deeply understand patients' psychological states and needs, allowing them to deliver personalized care. This trust-based relationship enhances patients' sense of security and belonging, promotes open and effective communication, and significantly improves the overall success of psychological interventions [36].

Enhancing patient trust and satisfaction with nurses is a key strategy for increasing treatment compliance. Studies indicate that patients who trust their nurses and feel satisfied with the care provided are more likely to adhere to nursing recommendations and actively participate in their treatment and rehabilitation. This adherence contributes to the fulfillment of psychological intervention goals and supports the maintenance of high levels of health and quality of life.

Nurses also play an essential role in reducing psychological stress and emotional distress through empathetic interactions. These interactions help increase patients' psychological resilience and equip them to manage challenging situations more effectively. Emotional support provided by nurses has been shown to be beneficial not

only during interventions but also in fostering long-term mental health.

4.2.3. Consistency and heterogeneity of results

The meta-analysis results demonstrate low heterogeneity among studies ($I^2 < 50\%$), indicating strong consistency in the findings. Low heterogeneity suggests that variations in study designs and interventions have minimal impact on the outcomes, highlighting the generalizability of psychological interventions across diverse clinical settings [37]. This finding is significant as it confirms that psychological interventions consistently yield positive effects, regardless of the clinical context.

The consistency of the results enhances the reliability and applicability of the conclusions. By integrating data from multiple studies, the meta-analysis provides robust and widely generalizable evidence. Low heterogeneity further reinforces the stability of these conclusions, as results from different studies complement one another, creating a strong evidence base.

The sensitivity analysis showed that the main findings remained stable even after excluding low-quality studies. This validation confirms the reliability of the overall conclusions, demonstrating that the results are not significantly influenced by potentially biased studies [38]. Such robustness further strengthens the credibility of the analysis, providing a solid foundation for future clinical applications and research.

Overall, the meta-analysis confirms that psychological interventions are effective and generalizable across different populations, as evidenced by their low heterogeneity and consistent results. These findings enhance the scientific validity of the study and offer a foundational basis for future refinements and practical implementations in various clinical environments. Continued efforts should focus on identifying the optimal settings and patient groups for implementing surgical and risk-reducing interventions to maximize the mental health benefits for cancer patients.

4.3. Comparison with existing literature and innovations

This study not only verified that mental intervention measures were effective but also highlighted the nurse-patient relationship as a cornerstone of the entire process, revealing innovative aspects compared with existing literature. However, many prior studies examined a single type of intervention (e.g., cognitive/behavioral therapy [CBT] or psychological counseling) whereas this study included multiple interventions (i.e. CBT, supportive therapy and nursing training), testing their effect using different types of designs—RCTs vs non-RCTs [39]. This holistic view provides a full picture of how different interventions worked in different settings.

Through meta-analysis, this study further validated the consistency and reliability of the results, showing low heterogeneity among studies ($I^2 < 50\%$), demonstrating the generalizability and effectiveness of these interventions in various clinical settings. Sensitivity analysis, after excluding low-quality studies, further confirmed the robustness of the conclusions, providing strong evidence for their application in clinical practice.

The innovative aspect of this study is the comprehensive consideration of the nurse-patient relationship's impact. While existing literature often overlooks this critical factor, this study systematically assessed the role of the nurse-patient relationship in mental interventions, finding that a good nurse-patient relationship not

only significantly improved intervention outcomes but also enhanced patient trust and satisfaction. This provides more specific and actionable guidance for clinical practice, emphasizing the importance of strengthening the nurse-patient relationship when implementing psychological interventions [40].

In conclusion, this study not only extends the scope of existing literature but also offers new insights and practical guidance by integrating multiple intervention measures and deeply exploring the significance of the nurse-patient relationship. Future research and clinical practice should continue to focus on this area to further optimize psychological care for cancer patients, improving their overall quality of care and life.

5. Conclusion

The study systematically reviewed the roles of mental interventions and the nurse-patient relationship (NSPR) in psycho-oncology nursing to provide reliable evidence-based guidance on their efficacy and consistency across studies. Interventions such as cognitive-behavioral therapy (CBT), psychological counseling, and supportive therapies have demonstrated significant benefits for cancer patients, particularly in reducing anxiety and depression and improving quality of life. However, the effectiveness of these interventions heavily relies on a strong nurse-patient relationship.

This study has a few limitations. First, the diversity of sample sizes and study designs may affect the generalizability and robustness of the findings. Future research should include larger sample sizes and extend follow-up durations to better evaluate the durability and sustainability of intervention effects. Second, there is a need for research to explore the generalizability and applicability of interventions across different cultural contexts. Cultural differences may influence how patients respond to psychological treatments and interact with nurses, necessitating validation of these interventions in varied cultural settings.

Future research should also prioritize how training and supportive measures can further enhance the nurse-patient relationship. Effective nurse training programs and supportive measures can not only improve nurses' professional competencies but also enhance their role in psychological interventions, thereby optimizing patient outcomes. Strengthening trust and communication between nurses and patients has the potential to significantly enhance the psychological well-being and overall care quality for cancer patients.

In conclusion, this study provides valuable theoretical and practical insights into mental interventions and the nurse-patient relationship in psycho-oncology nursing. By further optimizing these intervention measures, the psychological health and quality of life of cancer patients can be significantly improved, leading to more comprehensive and high-quality care. Continued research and clinical practice in this field should aim to refine psycho-oncology nursing strategies, ultimately improving patient outcomes and elevating care standards.

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