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Mental Health Screening Tools for Cancer Patients, and Their Caregivers: An Umbrella Review

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ABSTRACT

Background: Cancer negatively affects patients' physical status as well as their mental health, increasing the burden of family members and caregivers as well. Thus, the screening of psychological and cognitive functioning is key for the referral to mental health specialists.

Aim: Identify available and validated screening tools to assess psychological, psychosocial and cognitive impairment in cancer patients (adults and children), caregivers and family members.

Methods: An umbrella review was conducted according to PRISMA guidelines. The search strategy was applied to five databases. Reviewers screened titles/abstracts, and the articles included in this initial phase were retrieved for full-text assessment. All conflicts during the screening phase were discussed, and a third reviewer was consulted if discrepancies were not solved. A narrative synthesis and tabulated summaries of results were conducted.

Results: A total of 2304 records were initially identified through systematic searches. Following screening and eligibility assessment, 67 systematic reviews were included. Across the included reviews, 586 different tools were identified and classified into nine thematic domains: (1) Anxiety and Depression, (2) General Mental Disorders, (3) Distress and Fear of Cancer Recurrence, (4) Body Image, Sexuality, and Self-Perception, (5) Caregiving and Social Impact, (6) Cognitive Functioning, (7) Coping Assessment, (8) Unmet Needs, and (9) Other miscellaneous constructs.

Laura Ciria-Suarez and Melissa Heifez contributed equally to this study.

Cristian Ochoa-Arnedo and Guilhem Paillard-Brunet share the last position.

Conclusions: A wide variety of mental health screening tools are available, covering key psychosocial and cognitive aspects relevant to cancer care. Although most instruments were not specifically developed for oncological populations, many have been validated in this context and appear to perform adequately.

1 | Introduction

The global cancer burden is indeed rising, with projections indicating a significant increase in both cases and deaths by 2050. According to the GLOBOCAN database, in 2022 there were more than 4 million newly registered cancer cases and almost 2 million deaths due to cancer across Europe [1], including pediatric cancer [2]. Cancer not only affects the physical well-being of patients but can also represent a substantial burden on their emotional, psychological, cognitive, and social well-being. Throughout its trajectory, cancer may cause mental health issues such as anxiety, depression, emotional distress, fear, fatigue, insomnia, and cognitive difficulties [3]. This can also apply to long-term cancer survivors. Previous studies have highlighted the chronicity of the likely symptoms of the disease, including mental and emotional impairment such as sadness, depression, anxiety, anger and hostility, along with other struggles related to quality of life [4]. These negative effects not only affect the patient but can also extend to their caregivers and family members [5].

Cancer-related cognitive impairment (CRCI) is also frequently reported during and after cancer treatments, including chemotherapy, radiotherapy, hormonal therapy and immunotherapy, which strongly impacts patients' long-term quality of life [6–8]. Related symptoms to CRCI mainly include memory, executive functions, attention and processing speed [9]. Current evidence suggests that early detection of CRCI is crucial to lowering its burden and consequent quality of life decline [10].

Additionally, cancer patients and caregivers are not always aware of existing mental healthcare services in the local institutions and they could encounter relevant barriers when accessing them [11, 12]. Hence, the European Society for Medical Oncology (ESMO) developed clinical practice guidelines for psychological screening and assessment of anxiety and depression, as well as guidelines addressing insomnia disorders, to support their implementation into routine cancer care. The guidelines recommend the need for frequent mental health evaluation across the patient's cancer pathway [13]. Still, these only include guidelines to tackle mental health issues in adult cancer patients and do not provide any specific protocol for pediatric cancer patients and caregivers who accompany the patients during their cancer journey. Previous findings highlight the need for an integrated screening routine in Adolescents and Young Adults (AYA), as these patients are likely to meet an increased risk of mental health difficulties and impaired quality of life [6]. The need for validated screening instruments in oncology and appropriate training of healthcare professionals is imminent to timely and efficiently detect mental health needs and offer the necessary supportive intervention [14]. Not only are these needs reported by patients, but evidence outlines the high impact of cancer on families, especially children, and the need for a mental health assessment to identify probable distress and other negative emotions [15, 16]. Previous systematic reviews have sought to identify specific instruments used to assess certain constructs within defined populations. However, to date, no study has mapped all validated tools employed in a general oncological context.

This study is conducted under the project ALTHEA: tAckLing menTal Health cancer patients and their families: digital solutions for bEtter cAre, funded by the EU4Health program. The ALTHEA project aims to improve mental health outcomes for patients with cancer, their caregivers and family members through the development and implementation of a digital intervention. Specifically, the project seeks to promote systematic screening and early identification of psychological and cognitive impairment; improve access to tailored psychosocial and psychological support; develop guidance and best practices for integrating mental health into cancer care pathways; establish methodologies to identify individuals at risk of mental health problems; and reduce inequalities in access to mental health care.

On these bases, this umbrella review aims to (a) identify mental health screening tools with evidence of validity used in adult and pediatric cancer patients, survivors, caregivers and family members' assessing mental health issues, including psychological, psychosocial, and cognitive difficulties within published systematic reviews and meta-analyses and (b) to determine patterns of use in clinical practice, identify gaps in the availability or application of mental health screening tools and examine the frequency of reporting of the screening tools across the literature.

2 | Methods

2.1 | Research Design and Methods

This research study follows an umbrella review structure, compiling multiple systematic reviews and meta-analysis to provide a single overview of mental health screening tools for cancer patients, caregivers, and family members. It was registered in PROSPERO (CRD 42024628563), and it adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guideline [17].

2.2 | Database Source and Search Strategy

A literature search was conducted on December 3rd 2025 across five electronic databases: Medline (PubMed interface), Cochrane Library, Scopus, Embase, and PsycINFO to identify systematic reviews and meta-analysis published between 2000 and 2025, as from the early 2000s onwards formal recommendations for routine psychological screening in oncology care were introduced [18, 19].

To ensure accurate retrieval of relevant articles, the search was conducted in PubMed using MeSH terms and keywords, which were then adapted to the other databases. The search was based on the PICO framework, and used terms related to cancer patients, caregivers and family members, mental health domains and screening tools, and study types such as systematic reviews or meta-analysis, combined with Boolean operators ("AND", "OR", "NOT"). The search strategy is detailed in Supporting Information S1.

2.3 | Eligibility Criteria

The screening of searched articles and its subsequent full-text review were conducted on the basis of the following inclusion criteria: (a) systematic reviews and meta-analysis that include persons diagnosed with cancer of any age, caregivers and family members, (b) systematic reviews or meta-analysis which addressed mainly the utilization or assessment of mental health screening tools, (c) studies published in English, (d) studies published between 2000 and 2025.

Studies were excluded if they (a) were not systematic reviews and meta-analysis, (b) the research study did not include patients with cancer or their caregivers, (c) included the utilization of the tool to assess an intervention, and (d) included tools primarily assessing domains such as quality of life, pain, fatigue, frailty, and delirium.

2.4 | Evidence Selection

The retrieved articles were imported into the online software Rayyan [20], a research management software. Through Rayyan, duplicates were eliminated automatically, and independent researchers were involved in the article's selection process in two phases:

The first phase consisted of screening titles and abstracts to retrieve articles that potentially met the inclusion criteria. A calibration process was performed at the beginning to improve consistency between reviewers, which was measured by calculating Cohen's Kappa. This process involved screening a sample of studies by title and abstract, conducted by the reviewers to minimize discrepancies. This step was repeated a second time due to a high discrepancy rate reaching finally a moderate agreement (Cohen's Kappa = 0.44). The second phase consisted of selecting eligible studies through full-text assessment.

To minimize errors, all articles of the screening process were reviewed by paired authors and discrepancies were resolved through discussion or by a third member of the research team who acted as a moderator.

2.5 | Data Extraction and Synthesis

In the same way as the screening process, independent reviewers of the research team conducted the data extraction (by duplicate), using a pre-piloted form created based on the JBI Data Extraction Form for Review for Systematic Reviews and Research Syntheses [21]. The following data was collected from the included studies: Study characteristics (first author and year of publication), objective of the review, participant (type by age group and role), cancer type, sources searched, range of years included, number of studies included, countries of origin of included studies, and if the study conducted a Risk of Bias assessment and with which tool.

A detailed overview of the screening tools identified across studies was also collected, including the name of the tool, the domain assessed (e.g., anxiety, depression, fear of cancer recurrence, cognitive function), administration method (self-reported or clinical-administered), number of items, psychometric properties (e.g., reliability, validity, sensitivity and specificity, cultural adaptation or translation), and the frequency of reporting.

The findings of this review were synthesized through a narrative synthesis approach, as this method is the most appropriate for summarizing studies with highly heterogeneous outcomes, and offers a comprehensive overview of the identified screening tools, highlighting patterns, gaps, and frequently used tools across psychosocial and cognitive assessment.

2.6 | Overlapping and Risk of Bias

To avoid bias, overlapping has been assessed. The degree of overlap is the estimation of the corrected covered area (CCA) [22], calculated as a percentage with the following formula:

$$CCA = (N - r)/(rxc - r)x100$$

Where N is the number of primary studies from the reviews selected for the umbrella review, r are the rows and c the columns. The categorization was as follows: very high CCA $>$ 15%, high CCA between 11% and 15%, moderate CCA between 6% and 10%, and slight CCA from 0% to 5% [22].

The ROBIS tool (Risk of Bias in Systematic Reviews) was the tool used to assess the risk of bias of the articles included. Four domains were evaluated: (1) study eligibility criteria, (2) identification and selection of studies, (3) data collection and appraisal, and (4) synthesis of findings. Each domain includes specific signaling questions, and judgments are rated as 'low', 'high', or 'unclear' risk of bias [23]. To minimize errors, two authors independently conducted the assessments, and any disagreements were resolved through discussion or with a third reviewer.

Neither the categorization of overlap nor the risk of bias evaluation was used as an exclusion criterion.

3 | Results

3.1 | Study Selection

In the original database search, a total of 2304 articles were identified (see Figure 1). After removing duplicate records (n = 780), 1524 references were screened by assessing their titles

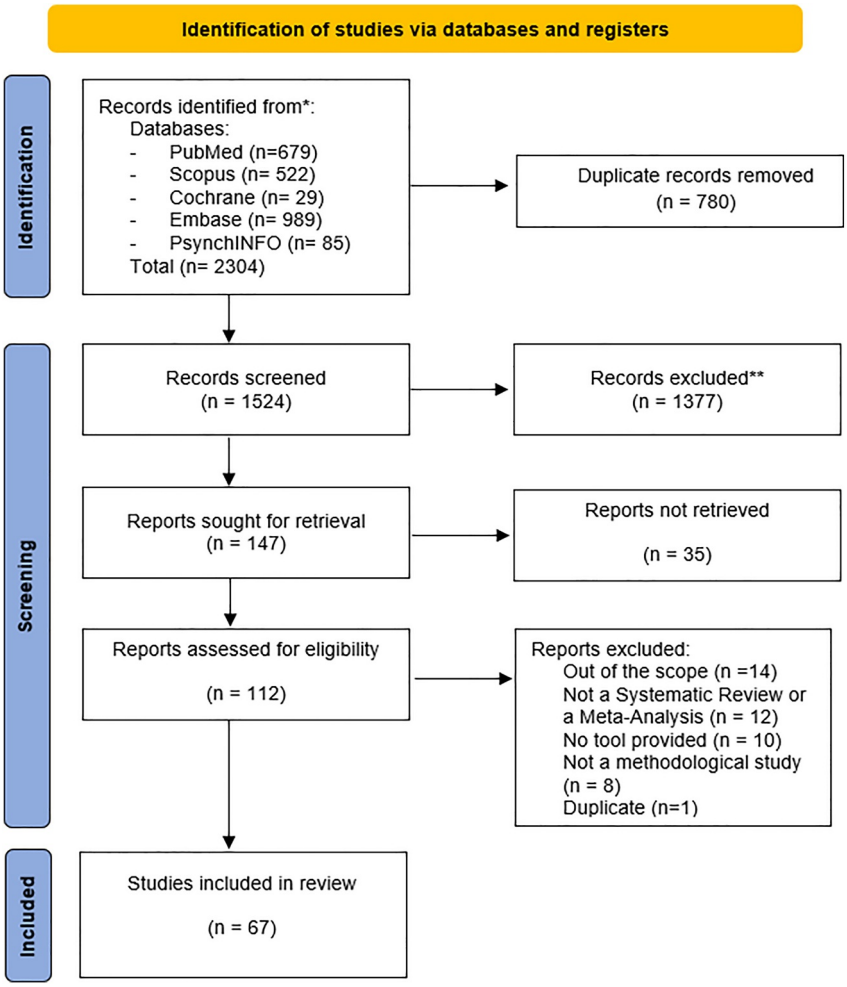

FIGURE 1 | Flow diagram depicting the systematic review screening process.

and abstracts. During this first screening phase, 1377 articles were excluded, as they did not meet the eligibility criteria. Thus, 147 articles were sought for retrieval of these, 112 full-texts were successfully retrieved and assessed for eligibility. During this second screening phase, 45 studies were excluded for various reasons (not a systematic review or a meta-analysis [$n = 12$], not a methodological study [$n = 8$], articles that recommend mental health assessment but do not provide a tool [$n = 10$], duplicate [$n = 1$], out of scope [$n = 14$]). Thus, 67 articles published between 2000 and 2025 were finally included in the current umbrella review. The references of these articles can be found in Supporting Information S1.

3.2 | Studies Included

Table 1 summarizes the characteristics of studies included in this umbrella review. The table provides details on various aspects of these reviews, including:

Author and Year: The studies were published between 2007 and 2024, indicating a comprehensive coverage of recent literature. **Study design**: 49 were systematic reviews and 9 were meta-analysis. **Objectives**: All studies identify and evaluate various mental health assessment tools used in cancer patients, caregivers, and family members. These include measures for depression, anxiety, distress, cognitive function, body image, sexual function, coping assessment, unmet needs and other psychosocial aspects. **Participants**: The studies cover a wide range of users, including adults and pediatric patients, AYA's, survivors, and caregivers. **Cancer Types**: Some reviews focus on various types of cancer, and some are specific to certain cancers like breast, lung, head and neck, or brain. **Search Methods**: Most reviews utilize multiple databases such as PubMed, EMBASE, PsycINFO, and CINAHL. **Study Inclusion**: The number of studies included in each article varies widely, from as few as 6 to as many as 211. **Geographical Coverage**: The reviews include studies from multiple countries and continents, providing a global perspective. **Risk of Bias Assessment**: Many reviews conducted risk of bias assessments using various tools such as COSMIN, QUADAS, and custom checklists.

3.3 | Psychological and Cognitive Screening Tools

This umbrella review compiled mental health screening tools identified across the included systematic reviews and meta-analysis. Several tools that were identified were excluded from the final selection based on predefined exclusion criteria. Specifically, instruments that focused on physical or medical

TABLE 1 | Characteristics of included systematic reviews and meta-analyses.

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Afseth, J., 2018	Identify and assess tools for holistic needs assessment in brain cancer	Adult patients	Brain cancer patients (primary and benign brain tumors)	MEDLINE, CINAHL, PsycINFO	Up to Feb 2018	9	UK, USA, Australia	Yes, COSMIN risk of bias checklist
Artürk, Z., 2025	Evaluate the accuracy of the GAD-7 and GAD-2 scales (or either one) through a comparative analysis against a comprehensive diagnostic interview administered by a qualified healthcare professional	Adult patients	Not reported	MEDLINE (Ovid); Embase (Ovid); PubMed-not-MEDLINE subset (NLM); PsycINFO (Ovid).	1990–2022	48	Not reported	Yes, quality assessment of diagnostic accuracy Studies(QUADAS-2)
Alappattu, M., 2017	To identify self-report measures for assessing sexual dysfunction and evaluate psychometric properties and relevance to patients with cancer	Adult patients	Various types of cancer	CINAHL, MEDLINE, PsycINFO	1995–2015	21	Not reported	Yes, cancer EDGE task force outcome measure rating form
Al-Hussaini, M., 2024	Assess prevalence of psychological disorders (depression, anxiety, distress) in cancer patients in MENA	Not reported	Various types of cancer	PubMed/MEDLINE, Cochrane/ CENTRAL, and WoS	2000–2023	83	14 MENA countries (mostly Iran, Saudi Arabia, Jordan)	Yes, 8-item checklist
Annunziata, M.A., 2012	Review body image assessment instruments for cancer patients	Adult patients	Various types of cancer	PubMed and PsycINFO	1990–2010	81	Global	Not reported

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Arvaniti, C.K., 2025	Identify neurocognitive evaluation tools in intracranial meningioma patients; synthesis of cognitive domains affected and the relationship between the disease and cognitive outcomes.	Adult patients	Brain cancer	PubMed Scopus Dimensions	Up to January 2025	30	Not reported	No
Bartula, I., 2013	Critique and compare self-report scales for sexual dysfunction in breast cancer survivors	Adult female patients (survivors)	Breast cancer	Embase, MEDLINE, PubMed, CINAHL, PsycINFO	1992–2013	129	Not reported	No formal risk of bias tool reported
Boaro, A., 2019	To review the neurocognitive evaluation in patients with butterfly glioma	Adult patients	Butterfly glioma	PubMed, Embase, Cochrane library	Up to 2018	19	Asia, North America, Europe	No
Boonyathee, S., 2017	Assess accuracy of ESAS for depression screening in cancer patients	Adult patients	Various types of cancer	PubMed, Scopus, CINAHL, and Cochrane library	Up to Sept 2016	6	Europe, North America, Asia	Yes, QUADAS-2
Bowie, J., 2020	Review tools for body image, masculinity, self-esteem in prostate cancer and establish the validity and suitability of these tools for use in men with prostate.	Adult male patients	Prostate cancer	MEDLINE, Embase, PsycINFO, CINAHL, web of Science, EMBASE (gray lit)	Not reported	46	Global	Yes, COSMIN risk of bias checklist

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Brandes, K., 2015	To review the effectiveness and characteristics of QPL interventions in oncology	Not reported	Various types of cancer	PsycINFO, MEDLINE, CINAHL, CENTRAL, snowball method	Up to 2012	16	Not reported	Yes, Cochrane Collaboration Back review group criteria
Bray, V.J., 2018	To evaluate self-reported cognitive function and its associations with neuropsychological tests and patient-reported outcomes in adult cancer patients treated with chemotherapy for solid tumors	Adult patients (predominantly survivors)	Various types of cancer (mainly breast cancer)	MEDLINE, Ovid at Nursing, PsycINFO, Allied and Complementary Medicine (AMED)	1936–2017	101	Not reported	Yes, standard quality assessment criteria for quantitative studies
Capetti, B., 2025	To identify most common neuropsychological tools used to screen cognitive function in non-CNS cancer patients within research contexts.	Adult patients	Non-CNS cancer	PubMED, Embase, Scopus	2011–2023	178	Global	Yes, Mixed Methods appraisal tool
Carlson, M.A., 2023	To identify cognitive assessments which are pragmatic and acceptable for use in clinical settings for adults with brain cancers	Adult patients	Primary brain cancer, brain metastases	MEDLINE, Embase, PsycINFO, CINAHL, Cochrane	1990–2021	27	USA, Germany, UK, Australia, The Netherlands, India, others	No
Chambers, B., 2025	To identify PROMS developed, adapted and validated to assess health outcomes in AYAs	AYA patients	Not reported	MEDLINE EMBASE CINAHL PsycInfo AMED Cochrane library	Up to 2023	35	Global	Yes, COSMIN risk of bias checklist

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Crist, J.V., 2012	To identify key factors associated with fear of recurrence among cancer patients	Adult patients	Various types of cancer	MEDLINE, PsychINFO, Embase, organic search (backward and forward citation)	1806–2011	43	Not reported	Yes, adapted checklist from established quality assessment tool
Díaz-Periánez, C., 2025	Identify and evaluate validated screening tools used to assess FCR in adult survivors of cancer	Adult survivors	Various types of cancer	PubMed/Medline Cochrane library CINAHL Web of Science Scopus LILACS	2001–2023	18	Global	Yes, COSMIN risk of bias checklist
Dincer, A.N., 2021	To critically analyze and evaluate the psychometric properties of QoL, anxiety, and depression PROMs in testicular cancer	Adult patients and survivors	Testicular cancer	PubMed, Embase, PsycInfo, ClinicalTrials.gov (gray literature)	Up to Aug 2020	8	Not reported	Yes, COSMIN risk of bias checklist
Godoy, P.B.G., 2020	Investigate effects of ALL treatment on executive function and assessment instruments used	Pediatric survivors	ALL	MEDLINE (PubMed), PsycInfo, WebOfScience, LILACS, IBECS	Up to Sep 2018	26	Not reported	Yes, QUADAS-2
Ho, M.H., 2024	Pool prevalence and summarize assessment tools for cancer-related CRCI in lung cancer survivors	Adult survivors	Lung cancer	PubMed, Cochrane library, Embase, CINAHL, CNKI	2008–2023	12	Asia (6), Europe (4), North America (2)	Yes, Newcastle-Ottawa scale
Holmer, P., 2023	Identify available screening tools, professionals involved, and timing for mental health screening in childhood cancer survivors	Pediatric survivors (childhood cancer), caregivers, teachers	Various types of cancer (childhood)	PubMed, PsycINFO, CINAHL	1996–2023	32	USA, Netherlands, Canada, Australia, China, France, Germany, Norway, Korea, South Africa, Switzerland, UK	Yes, QUADAS, checklist for systematic reviews

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Hoole, J., 2015	To review patient-reported outcome instruments recording concerns about intimacy, sex, and function in cancer patients to help develop a tool for use in head and neck cancer.	Adult patients	Various types of cancer	MEDLINE, Embase, HaPI, Science citation index, Ovid evidence based Medicine, PsychINFO	Up to 2015	20	Not reported	Yes, review of validity and reliability; Smith et al. Proforma
Hughes, K., 2024	Identify psychosocial measures used/ available for AYA cancer patients, and describe psychometric properties	AYA patients	Various types of cancer	OVID MEDLINE, OVID Embase, OVID PsychInfo, EBSCO CINAHL, WoS	Up to May 2023	40	USA, Canada, China, Germany, Australia, UK, Japan, India, Singapore	Yes, COSMIN, custom tool
Jansen, C.E., 2007	Evaluate sensitivity of neuropsychological tests for detecting cognitive impairment post-chemotherapy in breast cancer	Adult patients	Breast cancer	PubMed, PsycINFO, CINAHL, OVID, references	1966–2006	13	Not reported	Not reported
Jeffrey, D., 2015	Identify and characterize self-reported sexual function measures used in women with cancer, describe the measures with	Adult female patients	Various types of cancer (mostly breast, gynecologic, colorectal)	PubMed, Scopus	2008–2014	171	36 countries such as USA, Netherlands, Italy, Germany, Australia, Canada	No

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
	respect to the purpose, sexual function domains assessed, number of items, psychometric properties and samples studied, and summarize some of the sexual function outcomes.							
Kayser, K., 2012	Evaluate cultural sensitivity and psychometrics of distress screening tools in diverse ethnic groups of cancer patients	Adult patients	Various types of cancer	PsycINFO, MEDLINE, social work abstracts	2008–2012	148	32 countries (Europe, North America, Asia, etc.)	Yes, psychometric properties, cultural sensitivity criteria
Kolva, E., 2019	To investigate the prevalence, risk factors, intervention, and assessment of SI in patients with cancer	Adult patients	Various types of cancer	MEDLINE, PsycInfo, Embase, CINAHL, Cochrane database of systematic reviews, Cochrane central	2008–2018	44	Asia, North America, Europe, South America, Middle East	Yes, Newcastle-Ottawa scale (observational); Cochrane risk of bias tool (RCTs)
Krebber, A.M.H., 2014	Estimate prevalence of depression in cancer patients by interviews and self-report; compare prevalence by instrument, cancer type, phase	Adult patients	Various types of cancer	PubMed, PsycINFO, Embase, CINAHL	Up to Dec 2011	211	Not reported	Yes, custom 13-item bias list

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Lazor, T., 2017	Describe anxiety measurement instruments used in children/adolescents with cancer or HSCT and summarize content/ psychometric properties	Pediatric and AYA patients	Various types of cancer (including HSCT)	MEDLINE, Embase, PsycINFO, CINAHL, HAPI	1806–2016	78	Mainly USA (48/78), also Canada, taiwan, Greece, Hong Kong, Israel, others	Yes, modified quality/risk of bias assessment
Luckett, T., 2010	Identify optimal PROMs for anxiety, depression, and distress in psychosocial intervention studies	Adult patients	Various types of cancer	MEDLINE, PsycINFO, Embase, AMED, CENTRAL, CINHAl, references	1999–2009	42	English-speaking countries	Yes, criteria-based checklist for validity/reliability, and other properties
Ma, X.L., 2014	To assess diagnostic accuracy and optimal cut-off of the DT in cancer patients	Not reported	Various types of cancer	PubMed, Embase, Cochrane library, PsycINFO, CNKI, WanFang, VIP	2003–2013	42	20 countries (majority from Europe, Asia, Australia, USA)	Yes, QUADAS tool
Macefield, R.C., 2014	To describe methods for identifying core PRO domains from existing PROMs using esophageal cancer as an example	Adults with esophageal cancer	Esophageal cancer	MEDLINE, Embase, PsycINFO, CINAHL	2006–2011	55	Not reported in detail	No
Mahakwe, G., 2021	To identify and critically appraise self-report instruments for measuring anxiety in hospitalized children with cancer.	Pediatric and AYA patients	Various types of cancer	MEDLINE, PubMed, PsycINFO, CINAHL, Scopus, ERIC	Up to Jan 2020	19	USA, Sweden, Australia, Canada, taiwan, Brazil, China, Indonesia, Iran, Japan, Portugal, UK	Yes, QUADAS tool

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Maheu, C., 2025	Conduct a comprehensive evaluation of psychometric properties of FCR PROMs	Adult patients	Various types of cancer	MEDLINE, Embase, CINAHL, PsycINFO, and AMED	2011–2023		Global	Yes, COSMIN risk of bias checklist
Maryam, D., 2023	To identify and evaluate psychometric properties of self-report coping measures for pediatric cancer patients	Pediatric and AYA	Various types of cancer	Academic search complete, PubMed, Embase, CINAHL, MEDLINE, WoS, EPS, Shinta, Garuda	Up to Sep 2021	12	Not reported	Yes, COSMIN risk of bias checklist
Mattson, R., 2025	To identify and assess validated screening tools that evaluate grief in adult cancer patients	Adult patients	Various types of cancer	PubMed, CINHAL, PsycINFO	Up to 2024	15	Greece, USA, Turkey and Germany	No
Mekler, S., 2025	To determine types and prevalence of self-reported and clinician administered cognitive concerns in individuals with primary brain tumors	Adults	Brain cancer	PsycINFO and MEDLINE	Up to 2022	11	Global	Yes, JBI prevalence studies Critical appraisal tool
Michel, G., 2015	To review screening for psychological late effects in childhood cancer survivors	Pediatric, AYA, young adults (survivors) and caregiver proxy reports	Various types of cancer	PubMed (MEDLINE), Cochrane	Up to Dec 2014	8	Mostly USA, some UK and Australia	No

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Mitchell, A.J., 2012	To evaluate the accuracy and acceptability of depression screening/case-finding tools in cancer by an ICD10/DSM-IV criterion standard	Adult (non-palliative and palliative/advanced) and young adults	Various types of cancer	CENTRAL, CINAHL, Embase, HMIC, MEDLINE, PsycINFO, web of Knowledge	Up to Mar 2011	33	Global	Yes, own quality rating
Muzzatti, B., 2012	To systematically review instruments specifically designed to assess the social impact of cancer on patients.	Adult patients	Various types of cancer	MEDLINE, PsycINFO	2000–2011	27	Various (mostly Western/English-speaking, China, Brazil, Israel)	Yes, psychometric properties summarized per tool
Nelson, C., 2009	To determine which depression instruments are appropriate for geriatric patients with cancer	Geriatric patients	Various types of cancer	PubMed, PsycINFO, ISI, WoS, Google Scholar, Cochrane, Campbell reviews	Up to 2009	8	Global	No
Noveiri, M.J.S., 2020	Identify instruments to assess coping in family/spouse caregivers of breast cancer patients and describe measurement properties	Family caregivers, spouses	Breast cancer	MEDLINE, CINAHL, PsychINFO, ProQuest, PUBMED, Scopus, WoS, Google Scholar	1966–2019	28	Not reported, but includes USA, Australia, Israel,and Iran	Yes, COSMIN risk of bias checklist
Palagini, L., 2022	To evaluate and summarize evidence for assessment and management of insomnia/circadian sleep disorders in ovarian cancer	Adult patients	Ovarian cancer	Not reported	1990–2020	22	Global	No

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Park, H.S., 2022	To investigate the reliability and validity of assessment tools for evaluating psychological problems in breast cancer patients	Adult patients	Breast cancer	WoS, PubMed, Embase, CINAHL	2011–2021	21	Global	Yes, structured data extraction and PRISMA checklist
Pellegrini, C., 2019	To identify and describe which assessment tools are used in pediatric oncology and neuro-oncology rehabilitation and which development neuropsychomotor assessment tools were built for children with central nervous system tumors	Children	Central nervous system tumors	PubMed, CINAHL, PEDro, Science direct, and Catalog of National institute of tumors databases and specialized journals	2010–2017	35	North America, Europe, Asia, Australia	No
Piccinelli, C., 2015	To analyze tools for assessing hope in oncologic patients	Cancer patients (adults, AYA) and caregivers	Various types of cancer	MEDLINE	Up to Dec 2012	22	Not reported	No
Pinheiro, L.C., 2018	To identify and evaluate self-report symptom instruments used in children/adolescents with cancer undergoing cancer treatment	Pediatric and adolescent patients	Various types of cancer	MEDLINE/PubMed, Embase, CINAHL, PsycINFO	Up to Oct 2016	40	Global	Yes, inter-rater reliability and screening process; no formal instrument

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Rimmer, B., 2022	Identify and evaluate instruments for unmet needs in advanced cancer patients	Adult patients	Various types of advanced cancer stage IV, metastatic or incurable disease or those undergoing palliative care	MEDLINE, CINAHL, Embase, PubMed, PsycINFO	Up to Jan 2021	30	Global	Yes, COSMIN risk of bias checklist/ GRADE
Shilling, V., 2016	To identify and evaluate patient-reported outcome measures for cancer caregivers, focusing on psychometric performance and content.	Caregiver or family member	Various types of cancer	MEDLINE, Embase, CINAHL, PsycINFO	1800–2015	10	USA, UK, Australia, Canada	Yes, appraisal against established psychometric criteria
Shunmugasundaram, C., 2019	Identify/assess body image PROMs used in HNC populations	Adult patients	Head and neck cancer (excluding thyroid)	MEDLINE, WoS, PsycINFO, Embase, and CINAHL)	2007–2017	18	Global	Not explicitly, PROM psychometric quality assessed
Shunmugasundaram, C., 2019	To identify optimal unmet needs PROM for HNC; compare coverage and psychometrics	Adult patients	Mainly head and neck cancer	Embase, WoS, MEDLINE, PsycINFO, CINAHL, PROM databases	2007–2019	14	Not reported	No
Shunmugasundaram, C., 2020	Identify/analyze PROMs to screen/ detect anxiety and depression in HNC	Adult patients and survivors	Head and neck cancer (excluding thyroid)	CINAHL, MEDLINE, Embase, WoS, PsycINFO, PROM databases (PROQOLID, POD, GEM)	2007–2020	21	Global	No
Stevens, J.M., 2024	Identify most/least common patient-reported sources of CRD and associated characteristics	Adult patients	Various types of cancer	PubMed, PsycINFO, CINAHL, Scopus	1995–2023	48	Global	Yes, MMAT

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Sun, H., 2021	To evaluate the accuracy of the DT for screening distress among Asian cancer patients.	Adult patients	Various types of cancer	Not fully specified, likely major medical databases	Not reported	Not reported	Asian countries	Yes, QUADAS
Tanco, K., 2016	Identify and summarize tools for distress among cancer caregivers	Caregivers of adult and pediatric cancer patients	Various types of cancer	MEDLINE, Embase, CINAHL, Scopus, PubMed	1937–2013	135	Global	Not reported
Taylor, J., 2020	To identify distress screening tools and management in telephone-based chronic disease (mainly cancer) services	Patients, survivors, caregivers	Mainly cancer, also COPD	MEDLINE, Cochrane, Embase, PsycINFO, CINAHL, Scopus, Google Scholar	Not reported	14	USA, Australia, France, UK, Switzerland	No
Thewes, B., 2011	To identify and critically appraise self-report questionnaires and subscales measuring FCR.	Survivors (adult and AYA)	Various types of cancer	MEDLINE, CINAHL, PsycINFO, AMED, reference lists, gray literature, expert consultation	1950–2010	20	Mostly USA, Canada, Netherlands, Germany, UK, Australia	Yes, medical outcomes trust criteria for appraisal
Thompson, J.R., 2025	To identify PROMS used in research and clinical practice in patients with melanoma	Adult patients	Melanoma	MEDLINE Embase Web of Science index Medicus, CINAHL the Cochrane Central register of Controlled trials PsychINFO	2010–2025	136	Global	No

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Tomlinson, D., 2017	To summarize psychometric evaluation of self-report symptom instruments in children < 8 with cancer	Pediatric patients	Various types of cancer	Ovid MEDLINE, Embase, PsycINFO, Science citation, social Science citation, CINAHL	1967–2016	13	Not reported	Yes, modified prognosis quality instrument
Tran, T.X.M., 2020	To review how PROMIS is used to assess PROs in cancer patients	Adult patients	Various types of cancer	PubMed, Embase, PROMIS website	2009–2019	42	Mostly USA (95%), Australia/Canada	Yes, custom framework (not COSMIN)
Vodermaier, A., 2009	To review psychometric properties of tools for screening emotional distress in cancer patients.	Not reported	Various types of cancer	MEDLINE, PsycINFO	Not reported	106	Global	Yes, custom criteria: reliability, validity, etc.
Vodermaier, A., 2011	To assess the accuracy of the HADS as a screening tool for mental disorders and depression in cancer patients.	Adult patients	Various types of cancer	Not reported (inferred major medical databases)	1990–2009	28	Global	Yes, quality appraisal by custom criteria; categories I–V
Wasteson, E., 2009	To identify assessment methods and classification systems used in studies of depression in palliative cancer care for studies of depression	Adult palliative cancer patients	Various types of cancer	PubMed, CancerLit, CINAHL, PsychINFO, Embase, AgeLine, hand search	1966–2007	202	Mainly Europe, USA, and others	No

(Continues)

TABLE 1 | (Continued)

First author, year	Objective of the review	Participant type by age group and role	Cancer type	Sources searched	Range of years of included studies	Number of studies included	Country of Origin of included studies	Risk of bias conducted: Total appraisal (yes/no, instrument)
Wayant, C., 2022	To identify PROMs for positive psychosocial constructs and evaluate their measurement properties in children and AYA with cancer	Pediatric and adolescent/young adult patients and survivors	Various types of cancer	MEDLINE, Embase, PsycINFO	1999–2018	28	Global	Yes, COSMIN risk of bias checklist
Wayant, C., 2022	To synthesize available reliability coefficients of PROMs for positive psychosocial constructs in children, and AYAs with cancer.	Pediatric, AYA patient or survivor (ages 2–39)	Various types of cancer	MEDLINE, Embase, PsycINFO	Up to 2021	71	19 countries; most studies from the USA, Sweden, South Korea	No
Zhang, L., 2022	To evaluate the positivity rate of distress using the distress thermometer screening in lung cancer patients and explore its related influential factors	Adult patients	Lung cancer	PubMed, Embase, PsycINFO, Cochrane library, hand search	Up to Dec 2021	10	USA, UK, Netherlands, China, Canada	Yes, JBI critical appraisal tool
Ziegler, L., 2011	Identify and appraise validated self-report measures of psychological distress across cancer trajectory	Adult patients	Various types of cancer	MEDLINE, PsychInfo, CINAHL, Embase, Cochrane, AMED, BNI, ASSIA, WoS, dissertations & theses, and Sociological abstracts.	Up to 2010	85	Global	Yes, Cochrane/ Downs & Black

Abbreviations: ALL, Acute Lymphoblastic Leukemia; AYAs, Adolescents and Young Adults; COSMIN, COnsensus-based Standards for the selection of health Measurement Instruments; CRCI, Cancer-Related Cognitive Impairment; CRD, cancer-related distress; DT, Distress Thermometer; EDGE, Enhancing the Development of Guidelines and Evidence; ESAS, Edmonton Symptom Assessment System; FCR, Fear of Cancer Recurrence; GRADE, Grading of Recommendations Assessment, Development and Evaluation; HADS, Hospital Anxiety and Depression Scale; HNC, Head and Neck Cancer; HSCT, Hematopoietic Stem Cell Transplantation; JBI, Joanna Briggs Institute; MENA, Middle East and North Africa; MMAT, Mixed Methods Appraisal Tool; PROs, Patient-Reported Outcomes; PROMs, Patient-Reported Outcome Measures; QUADAS, Quality Assessment of Diagnostic Accuracy Studies; QPL, Question Prompt List; QoL, Quality of Life; QUADAS-2, Quality Assessment of Diagnostic Accuracy Studies, version 2; SI, Suicide ideation; USA, United States of America; WoS, Web of Science.

assessment, as well as those assessing pain, fatigue, or quality of life, were removed, as these constructs fell outside the primary scope of psychological and cognitive screening.

Table 2 presents the tools that were reported in three or more systematic reviews or meta-analysis, categorized into thematic domains based on the constructs they are designed to assess. The domains included were: Body image, Sexuality and Self-Perception (n = 85), Cognitive Functioning (n = 169), Caregiving and Social Impact (n = 78), Distress and Fear of Cancer Recurrence (n = 72), Anxiety and Depression (n = 52), Coping Assessment (n = 35), Unmet Needs (n = 27), and General Mental Disorders (n = 16); plus Other Miscellaneous Constructs (n = 52). The complete list of these tools, including detailed descriptions of their characteristics, is provided in the Supporting Information S1.

The tables provide details on each tool (as it was described in the study), including: population (the group of individuals that the tool was applied for), number of items in the tool, administration method (how the data was collected), psychometric properties, reported frequency across studies (how often each tool appears in the studies selected) and studies included (authors of the reviews where the tool appear).

Within the most frequently reported tools, Hospital Anxiety and Depression Scale (HADS) was the most frequently reported scale, cited **23 times**, followed by the Distress Thermometer (DT; **16 times**), Brief Symptom Inventory (BSI; **14 times**), Beck Depression Inventory (BDI; **13 times**) and Center for Epidemiologic Studies Depression Scale (CES-D; **13 times**), and Patient Health Questionnaire (PHQ; **12 times**). State-Trait Anxiety Inventory (STAI) and Profile of Mood States were reported **7 times** each. Depression Anxiety Stress Scale(DASS-21) and Rey-Osterrieth Complex Figure Test were reported **6 times**. Geriatric Depression Scale – 15 items (GDS-15), Generalized Anxiety Disorder 7-item Scale (GAD-7), Symptom Checklist-90 (SCL-90), Mini-Mental State Examination (MMSE), Digit Span, Trail Making Test, Impact of Event Scale (IES), Concerns About Recurrence Scale (CARS), Fear of Cancer Recurrence Inventoryc(FCRI), and Supportive Care Needs Survey (SCNS) were reported **5 times** each. **Twelve tools** were each cited **4 times**, including the Zung Self-Rating Depression Scale (ZSDS), Beck Anxiety Inventory for Youth (BAI), Revised Children's Manifest Anxiety Scale (RCMAS), PROMIS Pediatric Anxiety and Depression, Visual Analog Scale (VAS) for Anxiety, General Health Questionnaire (GHQ), Cancer Worry Scale (CWS), Rosenberg Self-Esteem Scale (RS), Female Sexual Function Index (FSFI), Benton Visual Retention Test, Controlled Oral Word Association, and Wisconsin Card Sorting Test (WCST). Finally, twenty four **tools were each cited 3 times**, such as the State-Trait Anxiety Inventory for Children (STAIC), Zung Self-Rating Anxiety Scale (SAS), Structured Clinical Interview for DSM Disorders (SCID), Worry of Cancer Scale (WOCS), Post-traumatic Stress Disorder Checklist—Civilian Version (PCL-C), Body Image Scale (BIS), Arizona Sexual Experience Scale, Brief Index of Sexual Functioning, Golombok Rust Inventory of Sexual Satisfaction (GRISS), Watts Sexual Function Questionnaire (WSFQ), Sexual Problems Scale, PROMIS-Sexual Function, California Verbal Learning Test, Hopkins Verbal Learning Test–Revised, Raven's Progressive Matrices, Rey Auditory Verbal Learning Test, Token Test, Verbal Learning and Memory Test, WAIS visual memory and facial recognition subtests, Wechsler Adult Intelligence Scale–Revised subtests, Caregiver Reaction Assessment Scale, Mishel Uncertainty in Illness Scale, Problems and Needs in Palliative Care (PNPC), and the Cancer Needs Questionnaire.

Table 2 shows the populations in which the assessment tools were evaluated in the included studies. However, it's important to note that these categorizations do not necessarily imply that the tools are specific or limited to those age groups. The distribution reveals a predominance of studies assessing the tools (n = 25) in adult patients. Tools assessing multiple age groups were the second most prevalent (n = 14), while fewer tools assessed both patients of all ages and caregivers (n = 6), followed by tools assessed in adolescents and pediatrics (n = 3) and only 1 tool assessed only in family members and caregivers.

Regarding the administration method, Table 2 shows that the majority of tools (n = 34) are self-reported. However, various nuances can be observed in the complete data presented in Supporting Information S1. A wide range of self-reported tools were identified across domains including anxiety and depression, distress and fear of recurrence, body image, sexuality and self-perception, caregiving and social impact, and coping assessment. For the cognitive functioning and unmet needs, both self-administered and interviewer-administered instruments were used. In contrast, tools addressing general mental disorders typically employed structured clinical assessments, standardized diagnostic interviews conducted by trained professionals, rather than symptom checklists, which may limit comparability with self-reported scales.

With respect to the psychometric properties, Cronbach's alpha values fell within acceptable to excellent ranges (0.70–0.95, with some as high as 0.98), indicating good to excellent internal consistency for a high quantity of instruments. However, some showed lower alpha values (< 0.70), raising concerns about their clinical reliability. Sensitivity and specificity levels also varied. It is important to note that several tools lacked complete psychometric data, highlighting the need for more consistent validation.

3.4 | Overlap and Risk of Bias

Overlap of primary studies across the 67 included systematic reviews was evaluated using the Corrected Covered Area (CCA). The calculation yielded a result of 0.18%, suggesting a slight overlap among the systematic reviews included. This result indicates that the duplication in the primary studies across the systematic reviews is minimal. The low level of overlap between the systematic reviews strengthens the confidence in overall findings as it ensures the independence of the evidence. This lowers the concern on potential bias of duplicated data.

The risk of bias of all the reviews included was appraised with the ROBIS tool. In total, 39 studies showed low risk of bias (indicating they are reliable, with little concern about bias affecting the results), 25 studies were considered high risk of bias (studies are likely to be affected by a bias), and 3 were

TABLE 2 | Identified screening tools reported in three or more systematic reviews or meta-analyses.

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
Anxiety and depression scale - tools identified (52); tools cited ≥ 3 times (15)						
Hospital anxiety and depression scale (HADS) (HADS-T, HADS-A, HADS-D)	Adult/ Adolescent/ Pediatric	14; 7 (depression subscale); 7 (anxiety subscale)	Self-reported; by telephone	(HADS-T) Cronbach's alpha: > 0.80, 0.83; 0.74–0.87/ Sensitivity: 0.84, 0.82, 0.81, 0.72, 0.16 0.17/Specificity: 0.98, 0.96, 0.81, 0.97, 0.68 (HADS-A) clinical acceptability: Moderate/ Cronbach's alpha: = 0.78, 0,82, 0.83, 0.66)/Sensitivity: 0.84, 0.34/Specificity: 0.73 (HADS-D) moderate (Cronbach's alpha: 0.85 years 0.86)/Sensitivity: 0.23/ Specificity: 0.95 (7 items subscales) sensitivity: 0.85, 0.72/Specificity: 0.96, 0.71	23	Shunmugasundaram, 2020; Piccinelli, 2015; Boonyathee, 2018; Wasteson, 2009; Ziegler, 2011; Al-Hussaini, 2024; Park, 2023; Taylor, 2020; Palagini, 2022; Nelson, 2010; Dincer, 2021; Krebber, 2014; Luckett, 2010; Holmer, 2023; Hughes, 2024; Sun, 2021; Mitchell, 2012; Macefield, 2014; Vodermaier, 2009; Mahakwe, 2021; Chambers, 2025; Arvaniti, 2025; thompson, 2025
Beck depression inventory (BDI) (original, fast screen, version II, Short form, Portuguese version, Finnish version, Chinese version, Greek version)	Adult/ Adolescent	BDI + BDI-II: 21; 7, 13 20; single item	Self-reported	(Original 21 items version) Cronbach's alpha: Of 0.92 demonstrated IC/Clinical acceptability "Low-moderate"/IC: 0.91 (13 items version) SN: 0.94, SP: 0.63 IC and test-retest: low Validity: Moderate	13	Shunmugasundaram, 2020; Piccinelli, 2015; Wasteson, 2009; Ziegler, 2011; Kolva, 2019; Al-Hussaini, 2024; Kayser, 2012; Krebber, 2014; Vodermaier, 2009; Mitchell, 2012; Michel, 2015; Nelson, 2009; luckett, 2010
Center for epidemiologic studies depression scale (CES-D)	Adult/ Adolescent/ Family caregivers	20	Self-reported	Cronbach's alpha: 0.57/0.84/ 0.85–0.89 IC (Cronbach's alpha or Spearman – Brown rho coefficient): 0.86–0.92/0.94 Test-retest: 0,94	13	Shunmugasundaram, 2020; Boonyathee, 2018; Park, 2023; Palagini, 2022; Dincer, 2021; Nelson, 2010; Ziegler, 2011; Noveiri, 2020; Krebber, 2014; Luckett, 2010; Vodermaier, 2009; Mitchell, 2012; Chambers, 2025

(Continues)

TABLE 2 | (Continued)

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
Patient Health questionnaire (PHQ) (9 items + various forms)	Adult/Pediatric	8; 9; 2; 1	Self-reported	(PHQ-9) IC (Cronbach's alpha: 0.88/0.89) (PHQ-8) IC: 0.81	12	Shunmugasundaram, 2020; Al-Hussaini, 2024; Park, 2023; Kolva, 2019; Nelson, 2009; Boonyathee, 2018; Luckett, 2010; Holmer, 2023; Vodermaier, 2009; Mitchell, 2012; Hughes, 2024; thompson, 2025
State-trait anxiety inventory (STAI) (original + short form)	Adult/ Adolescent/ Pediatric	40 (original); 20 (Short form); 10; 6	Self-reported	Cronbach's alpha: 0.89/ Cronbach's alpha: State anxiety 0.81–0.89/trait 0.86 (Short form): 0.80–0.85. Reliability:	7	Lazor, 2017; Shunmugasundaram, 2020; Al-Hussaini, 2024; Park, 2023; Luckett, 2010; Mahakwe, 2021; Chambers, 2025
Depression anxiety stress scale 21 (DASS-21)	Adult	21	Self-reported	Cronbach's alpha: Depression: 0.93, anxiety: 0.83, stress: 0.91	6	Shunmugasundaram, 2020; Al-Hussaini, 2024; Park, 2023; Dincer, 2021; luckett, 2010; thompson, 2025
Geriatric depression Scale-15 (Short form) (GDS-15)	Adult	15	Self-reported	Cronbach's alpha: 0.74–0.86	5	Shunmugasundaram, 2020; Nelson 2010; Boonyathee, 2018; Piccinelli, 2015; Luckett, 2010
Generalized anxiety disorder 7-item scale (GAD-7) & GAD-2 (Short version)	Adult/ Adolescent	7; 2	Self-reported	Cronbach's alpha: 0.92 (GAD-7 version): Sensitivity of 0.68 (95% CI 0.59–0.75) and a summary specificity of 0.86 (95% CI 0.82–0.89) (GAD-2 version): Sensitivity: 0.64% (95% CI 0.56–0.72) and a summary specificity of 0.91 (95% CI 0.87–0.93)	5	Shunmugasundaram, 2020; Al-Hussaini, 2024; Hughes, 2024; Artrük, 2025; thompson, 2025
Zung self-rating depression scale (ZSDS)	Adult	20	Self-reported	IC: 0.84–0.88/0.93 Test-retest: 0.93	4	Boonyathee, 2018; Shunmugasundaram, 2020; Nelson, 2009; Vodermaier, 2009

(Continues)

TABLE 2 | (Continued)

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
Beck anxiety inventory for youth (Bai)	Adult/Pediatric	21	Self-reported	Cronbach's alpha: 0.92–0.94 sensitivity 0.83 (any depressive disorder), Specificity 0.51	4	Lazor, 2017; Shunmugasundaram, 2020; Ziegler, 2011; Luckett, 2010
Revised Children's Manifest anxiety scale (RCMAS) (original, version 2 in Mandarin, Arabic and English version, short form)	Adult/ Adolescent/ Pediatric	37; 40; 49	Self-reported	(Adult) version 2 Mandarin Cronbach's alpha: 0.88–0.90/ 0.65 (Pediatric) Cronbach's alpha: 0.30/0.63–0.64/0.87/ test of self-concept 2: 0.92/ symptom checklist: 0.86; IC: 0.78/0.90	4	Lazor, 2017; pinheiro, 2018; Holmer, 2023; Mahakwe, 2021
PROMIS Pediatric anxiety and depression (original Short form + Chinese)	Pediatric/ Adolescent/ Young adults	8	Self-reported	Evaluated for and demonstrated adequacy related to reliability and validity	4	Lazor, 2017; pinheiro, 2018; Holmer, 2023; Mahakwe, 2021
Visual Analog scale (VAS) for anxiety	Adult/ Adolescent/ Pediatric	2 questions; 1 item	Self-reported + pictorial support	NA	4	Pinheiro, 2018; Lucket, 2010; Mahakwe, 2021; Lazor, 2017
State-trait anxiety inventory for children (STAIC)	Adolescent/ Pediatric	40; 20 state; 20 trait	Self-reported	(Original version) IC: 0.89	3	Pinheiro, 2018; Holmer, 2023; Mahakwe, 2021
Zung self-rating anxiety scale (SAS) (original, Short form chines)	Adult	20; 20	Self-reported	Cronbach's alpha: 0.82	3	Lazor, 2017; Shunmugasundaram, 2020; Ziegler, 2011
General mental disorder assessment - tools identified (16); tools cited $\geq$ 3 times (3)						
Symptom Checklist-90 (original + revised)	Adult/Pediatric	90	Self-reported	Cronbach's alpha: 0.78–0.90	5	Noveiri, 2020; Holmer, 2023; Luckett, 2010; Michel, 2015; Chambers, 2025
General Health questionnaire (GHQ-12 years GHQ-28)	Adult	12; 28	NA	Sensitivity: 0.55; 0.93 specificity: 0.73; 0.92	4	Mitchell, 2012; Vodermaier, 2009; Ziegler, 2011; Sun, 2021
Structured clinical interview for DSM disorders (SCID)	Adult	NA	Interviewer-administered	NA	3	Vodermaier, 2011; Al-Hussaini, 2024; Krebber, 2014

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TABLE 2 | (Continued)

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
Distress and fear of recurrence - tools identified (72); tools cited ≥ 3 times (8)						
Distress thermometer (original + amended version + with associated problem/concern checklist+ with impact)	Adult/Pediatric	1 (original); 30 (amended version); 11-point visual analogue scale	Self-reported (+ by telephone)	(Original version) Cronbach's alpha: 0.81 clinical acceptability: High sensitivity: 0.65–0.78 depending on cut off specificity: 0.59–0.72	16	Stevens, 2024; Kayser, 2012; Holmer, 2023; Park, 2023; Ma, 2014; Luckett, 2010; Mitchell, 2012; Vodermaier, 2009; Michel, 2015; Ziegler, 2011; Zhang, 2022; Hoole, 2015; Taylor, 2020; Hughes, 2024; Chambers, 2025; thompson, 2025
Brief symptom inventory (BSI) (original + 18 items)	Adult/ Adolescent/ Pediatric/Family caregivers	53; 18; 1 (item 9 used for SI)	Self-reported	(53 items version) reliability: 0.48–0.80; 18; Cronbach's alpha: 0.70–0.93; sensitivity: ~0.78; specificity: ~0.5–0.62	14	Shunmugasundaram, 2020; Ziegler, 2011; Kolva, 2019; Boonyathee, 2018; Noveiri, 2020; Palagini, 2022; Nelson, 2009; Kayser, 2012; Holmer, 2023; Krebber, 2014; Luckett, 2010; Michel, 2015; Vodermaier, 2009; Chambers, 2025
Profile of moods States original (POMS) + Short form (POMS-SF) + 30 + Bi-polar form + 10 + 14 + 37	Adult/Family caregivers	65; 30; 10; 14; 37; 5–65	Self-reported	Cronbach's alpha: > 0.70 Reliability: 0.94–0.97	7	Macefield, 2014; Vodermaier, 2009; Bray, 2018; Ziegler, 2011; Kayser, 2012; Luckett, 2010; Noveiri, 2020
Concerns about recurrence scale (original + Dutch version + Subscale of the Collaborative Ocular Melanoma-quality of Life scale + Japanese version)	Adult	30 (original); 3 (subscale); 26 (Japanese version)	Self-reported	(Original version) overall fear Cronbach's alpha: 0.87, Subscales: Cronbach's alpha: 0.89–0.94; Dutch version: Test–retest: (Overall fear) r: 0.78, (Subscales) r: 0.77–0.89 (3 items subscale) Cronbach's alpha: 0.80 Japanese version: Cronbach's alpha: 0.86–0.94	5	Thewes, 2012; Crist, 2013; díaz-periánez, 2025; Maheu, 2025; Díaz-Periánez, 2025

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TABLE 2 | (Continued)

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
Fear of cancer recurrence inventory long form (English, Korean, Dutch, Danish, Mandarin and Chinese version) + Short form (original, Turkish, French, English, Chinese, Brazilian Portuguese)	Adult	42 – item (long version); 16-item FCRI Short form 24-Item Turkish FCRI 10-Item FCRI-C Short form 9-Item FCRI-Short form	Self-reported	FCRI English version: Cronbach's alpha: 0.95–0.96 Test–Retest reliability: ICC: 0.89–0.94. K-FCRI Korean version: Cronbach's alpha: 0.85–0.91. Test–Retest reliability: ICC > 0.70. FCRI Dutch version Cronbach's alpha: 0.93. Test–Retest reliability: ICC: 0.84 FCRI Danish version: Cronbach's alpha: 0.95. Test–Retest reliability: ICC: 0.84. FCRI Mandarin version: Cronbach's alpha: 0.93–0.96. Test–Retest reliability: ICC:0.83–0.92. FCRI-C Chinese Long form: Cronbach's alpha: 0.95 Test–Retest reliability: ICC: 0.82. Short forms: 24-Item Turkish FCRI Cronbach's alpha: 0.94. 10-Item FCRI-C Short form Cronbach's alpha: 0.95–0.96. Test–Retest reliability: ICC: 0.87. French FCRI-SF: Cronbach's alpha: 0.89 English FCRI-SF Cronbach's alpha: 0.89 Chinese FCRI-SF:	5	Thewes, 2012; Crist, 2013, Maheu, 2025; díaz-periánez, 2025; thompson, 2025

(Continues)

TABLE 2 | (Continued)

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
				Cronbach's alpha: 0.912 Brazilian Portuguese FCRI-SF: Cronbach's alpha: 0.887.		
Cancer worry scale (CWS, scale A + scale B, original + revised version, Dutch, English, Italian)	Adult	2 (CWS-B); 3 (CWS-A); 6 (original); 8 (Dutch); 6 (English); 8 (Italian)	Self-reported	(CWS-A version) Cronbach's alpha: 0.81 (Dutch version) Cronbach's alpha: 0.87 (English version) Cronbach's alpha: 0.90 (Italian version) Cronbach's alpha: 0.90; test-retest reliability: Strong	4	Thewes, 2012; Crist, 2013; thompson, 2025; Maheu, 2025
Worry of cancer scale (WOCS) (original + revised)	Adult	2	Self-reported	Cronbach's alpha: 0.85 (3 months FUP); Cronbach's alpha 0.90 (6 months FUP)	3	Crist, 2013; Macefield, 2014; Thewes, 2012
Posttraumatic stress disorder Checklist—Civilian version (PCL-C)	Pediatric	17; 50	Self-reported	IC: 0.79–0.94 Test-retest: Good	3	Holmer, 2023; Vodermaier, 2009; Chambers, 2025
Body image, sexuality and self-perception - tools identified (85); tools cited $\geq$ 3 times (9)						
Rosenberg self-Esteem scale (RS)	Adult	10	Self-reported	IC: 0.84–0.88	4	Piccinelli, 2015; Bowie, 2020; Ziegler, 2011; Boonyathee, 2018
Female Sexual function index (FSFI)	Adult	19	Self-reported	Cronbach's alpha: 0.58–0.98; Unable to recommend at this time (score 2A) (task force)	4	Bartula, 2013; Alappattu, 2017; Jeffrey, 2015; Hoole, 2015
Body image scale (BIS) (original + Italian + for cancer reconstruction)	Adult	10	Self-reported	Cronbach's Alpha: 0.78–0.85 (heterogeneous sample), 0.92–0.93 (breast cancer sample), Cronbach's Alpha: 0.72–0.90 (Men sample)	3	Annunziata, 2012; Bowie, 2020; Shunmugasundaram, 2019
Arizona Sexual experience scale	Adult	5	Self-reported	Cronbach's alpha: 0.90–0.91; Unable to recommend at this time (2A) (Task force)	3	Bartula, 2013; Alappattu, 2017; Jeffrey, 2015

(Continues)

TABLE 2 | (Continued)

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
Brief index of Sexual functioning (original + for women)	Adult/Family caregivers	30; 22 (for women)	Self-reported	Reliability: 0.62–0.95 Cronbach's alpha: 0.39–0.83; do not recommend (1) (task force)	3	Noveiri, 2020; Jeffrey, 2015; Alappattu, 2017
Golombok rust inventory of Sexual Satisfaction (GRISS)	Adult	28	Self-reported	Cronbach's alpha: 0.61–0.83/ 0.72–0.90; Unable to recommend at this time (2A) (Task force)	3	Bartula, 2013; Alappattu, 2017; Jeffrey, 2015
Watts Sexual function questionnaire (WSFQ)	Adult	15	Self-reported	Cronbach's alpha: 0.55–0.65/ 0.80; Do not recommend (1) (task force)	3	Bartula, 2013; Alappattu, 2017; Jeffrey, 2015
Sexual Problems scale	Adult	9	Self-reported	Cronbach's alpha: 0.74–0.87; Do not recommend (1) (task force)	3	Bartula, 2013; Alappattu, 2017; Hoole, 2015
PROMIS-sexual function (version 1.0 + version 2.0)	Adult	10 (version 1.0); 13 (version 2.0)	Self-reported	Unable to recommend at this time (2A) (task force)	3	Alappattu, 2017; Jeffrey, 2015; Chambers, 2025
Caregiving and social impact - tools identified (78); tools cited $\geq$ 3 times (1)						
Caregiver reaction assessment scale	Family caregivers	24	Self-reported	Reliability: 0.86; Cronbach's alpha: 0.8 to 0.9; Cronbach's alpha: 0.91	3	Tanco, 2016; Noveiri, 2020; Shilling, 2015
Cognitive functioning - tools identified (169); tools cited $\geq$ 3 times (16)						
Rey-Osterrieth Complex Figure test	Adult/Pediatric	2	Interviewer-administered	NA	6	Ho, 2024; Jansen, 2007; Godoy, 2020; Pellegrini, 2019; Capetti, 2025; Arvaniti, 2025
Mini-mental state examination (MMSE)	Adult	11	Interviewer-administered/Self-reported	NA	5	Carlson, 2023; Boaro, 2019; Ho, 2024; Capetti, 2025; Arvaniti, 2025
Digit Span (total; forward; Backward)	Adult/Pediatric-	NA	Interviewer-administered	NA	5	Boaro, 2019; Godoy, 2020; Ho, 2024; Capetti; Arvaniti, 2025
Trail making test (total; Part A; Part B)	Adult/Pediatric-	NA	NA	NA	5	Ho,2024; Jansen, 2007; Godoy,2020; Capetti, 2025; Arvaniti, 2025

(Continues)

TABLE 2 | (Continued)

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
Benton visual retention test	NA	NA	NA	NA	4	Ho, 2024; Boaro, 2019; Capetti, 2025; Arvaniti, 2025
Controlled Oral word Association	Adult	NA	NA	NA	4	Ho, 2024; Jansen, 2007; Capetti, 2025; Arvaniti, 2025
Wisconsin Card Sorting test (WCST)	Pediatric	NA	NA	NA	4	Ho, 2024; Godoy, 2020; Capetti, 2025; Arvaniti, 2025
Arithmetic, digit symbol, Similarities and Block design subtests of the Wechsler adult intelligence scale-revised	NA	NA	NA	NA	3	Ho, 2024; Capetti, 2025; Arvaniti, 2025
California Verbal learning test (version I and II)	Adult	NA	NA	NA	3	Jansen, 2007; Capetti, 2025; Arvaniti, 2025
Hopkins verbal learning test-revised	NA	NA	NA	NA	3	Ho, 2024; Capetti, 2025; Arvaniti, 2025
Raven's progressive Matrices (Raven's Colored progressive Matrices; raven Matrices 17)	NA	NA	NA	NA	3	Boaro, 2019; Arvaniti, 2025; Capetti, 2025
Rey Auditory verbal learning test (original + imediat recall version + delayed recall version)	Adult	NA	NA	NA	3	Jansen, 2007; Capetti, 2025; Arvaniti, 2025
Token test (original + short-form)	NA	NA	NA	NA	3	Ho, 2024, Arvaniti, 2025; Capetti, 2025
Verbal learning and memory test	NA	NA	NA	NA	3	Ho, 2024; Capetti, 2025, Arvaniti, 2025
WAIS - visual memory and facial recognition test	NA	NA	NA	NA	3	Boaro, 2019; Capetti, 2025; Arvaniti, 2025

(Continues)

TABLE 2 | (Continued)

Screening Tool	Population	Number of items	Administration Method	Psychometric Properties	Reported frequency across studies	Studies Included
Coping assessment - tools identified (35); tools cited ≥ 3 times (2)						
Impact of Event scale (IES)	Adult/Family caregivers	15	Self-reported (+ by telephone)	Cronbach's alpha: 0.81–0.93	5	Ziegler, 2011; Taylor, 2020; Noveiri, 2020; Vodermaier, 2009; thompson, 2025; Chambers, 2025
Mishel Uncertainty in illness scale, original version (MUIS) + revised form (MUIS-R) + community version (MUIS-C)	Adolescents/ Young adults/ Family caregivers	31 (original); NA (revised form)	Original: Self-reported Revised form: NA	(Original) reliability: 0.90 (Revised version) NA	3	Noveiri, 2020; Piccinelli, 2015; Chambers, 2025
Unmet needs - tools identified (27); tools cited ≥ 3 times (3)						
Supportive care needs Survey (59 items + 9 items + 34 short form + brain subscale + Melanoma subscale)	Adult	59; 9; 34; brain subscale 50 (Format—brain-specific "add-on" questionnaire to SCNS34); Melanoma subscale (12)	Self-reported	Cronbach's alpha: 0.86–0.96	5	Rimmer, 2021; Shunmugasundaram, 2019; Palagini, 2022; Afseth, 2018; thompson, 2025
Problems and needs in Palliative care (PNPC + Short version)	Adult	138; 33	Self-reported	Cronbach's alpha: < 0.70	3	Macefield, 2014; Shunmugasundaram, 2019; Rimmer, 2021
Cancer needs questionnaire–Short form; young people version	Adult	32	Self-reported	Cronbach's alpha: 0.77–0.94	3	Shunmugasundaram, 2019; Rimmer, 2021; Chambers, 2025

Abbreviations: IC, Internal Consistency; NA, Not Available.

unclear. A summary of the evaluation of the 4 domains and the global rating can be found in the Supporting Information S1.

4 | Discussion

This umbrella review synthesized evidence from 67 systematic reviews and meta-analyses to map the landscape of mental health screening tools for persons diagnosed with cancer (both adults and pediatric) as well as caregivers and family members. A total of 586 different tools were found, and they were classified across nine thematic domains: Anxiety and Depression, General Mental Disorders, Distress and Fear of Recurrence, Body Image, Sexuality and Self-perception, Caregiving and Social Impact, Cognitive Functioning, Coping Assessment, Unmet Needs, and Others.

The results revealed a discrepancy between the sheer number of instruments available in each domain and their frequency of reporting in the articles comprising the umbrella review. While domains such as *Cognitive Functioning* (169 tools) and *Body Image, Sexuality and Self-Perception* (85 tools) presented the highest quantity of tools, these are not the most frequently cited instruments in the studies identified. In contrast, the *Anxiety and Depression* domain, comparatively having a smaller number of tools (52), concentrated a higher frequency of citations. A similar trend was noted in the *Distress and Fear of Cancer Recurrence* domain, where two tools accounted for the majority of references, despite the presence of 72 tools overall. These disparities highlight that, while tool diversity exists, a gap regarding methodological consensus might appear limited to specific domains, particularly those addressing anxiety, depression, and distress. This explains why *Anxiety and Depression* was analyzed as a separate domain in this review, rather than being merged with broader categories such as *General Mental Disorders* or *Distress*, given its disproportionate impact on the evidence base and its established use in both clinical and research contexts.

A notable observation is the frequent mention in numerous reviews of a relatively limited set of tools used to evaluate anxiety and depression symptoms in various populations. The most cited instruments were *the HADS, the BDI, the CES-D, and the PHQ*. A similar pattern was observed for the assessment of psychological distress, with the *DT* and *the BSI* being the most commonly cited instruments. These tools are widely recognized for their brevity, ease of administration, and solid psychometric properties, which likely explains their widespread use across both clinical and research settings [24, 25].

It is important to note, however, that most of these instruments, particularly the HADS, BDI, CES-D, PHQ, and BSI, were not originally developed for oncology populations [24–28]. Although initially they were designed for use in general medical, psychiatric, or primary care settings, they were subsequently validated within these populations, demonstrating excellent psychometric properties [29–31]. In contrast, the DT stands out as a tool specifically created for use with persons with cancer, having been introduced by the National Comprehensive Cancer Network (NCCN) in 1997 as part of its guidelines for distress management in oncology [19, 32].

While these tools are widely used in clinical and research settings to assess mental health, especially depression and anxiety, there are several limitations, such as the accuracy of these tools which vary by population and disorder. Firstly, the HADS shows good diagnostic accuracy for depression in cancer patients but less so for anxiety or both disorders with inconsistent thresholds leading to false positives and negatives [33]. The PHQ-9 is a reliable tool for screening major depressive disorder in cancer patients, valued for its brevity and easy use in clinical settings [34]. However, its sensitivity and specificity are limited compared to comprehensive diagnostic interviews, needing further follow-up assessments to confirm diagnoses [33, 35, 36]. The BDI's factorial validity and interpretive objectivity are questioned in diverse populations, including cancer patients, raising concerns about its accuracy. Its lack of cancer-specific norms further complicates score interpretation [37]. Additionally, the BDI includes somatic symptoms such as fatigue, weight loss, and sleep disturbances, which overlap with common cancer symptoms, making it challenging to accurately evaluate psychological disorders in patients with cancer. This overlap raises concerns about the BDI's validity and interpretation when used with cancer patients, as it may increase depression scores by capturing physical symptoms effects rather than psychological distress [38]. Moreover, some items of the BDI may require a high level of literacy [39]. The CES-D suits large-scale epidemiological screenings due to its broad symptom coverage, but struggles to distinguish between emotional and somatic symptoms, which may reduce its specificity in populations with physical illnesses like cancer [39]. The Distress Thermometer (DT) shows variable validity depending on cancer type and patient demographics; while effective for detecting anxiety and depression in some groups, it has limitations in identifying the full spectrum of psychological distress, particularly somatization symptoms and psychiatric disorders in young adult cancer survivors [40, 41]. These limitations suggest the DT should not be used as a sole screening tool in certain populations [42]. Lastly, the BSI-18 demonstrates low sensitivity in detecting psychiatric morbidity among cancer patients, with conventional cut-off scores often failing to identify many cases confirmed by structured clinical interviews [43–45]. Although it has satisfactory internal consistency and construct validity, concerns remain about its discriminant validity and how demographic factors like sex and cancer type influence scoring and interpretation [45]. Alternative scoring methods have been proposed to improve sensitivity, but the tool's effectiveness varies across cultural contexts, limiting its universal applicability in oncology settings [44, 45].

Despite the large number of screening tools identified, a substantial gap exists in cancer-specific instruments. Only 63 tools included the word “cancer” in their name. While the use of well-validated general tools supports consistency and comparability across studies, the fact that the majority of instruments probably are not cancer specific may limit sensitivity, thus are not tailored to the unique psychosocial experiences of individuals with cancer.

Although less frequently cited, several other tools were reported across other miscellaneous domains. For instance, domains such as fear of cancer recurrence, fear of death, and worry about cancer's ongoing impact are highly prevalent among cancer

survivors and can significantly impair quality of life and emotional adjustment [46, 47], but are reported less frequently than other domains. Instruments such as the *Worry of Cancer Scale* (WOCS) and the *Cancer Worry Scale* (CWS) specifically address these anticipatory concerns. Constructs related to body image, sexuality, and self-perception, often affected by treatment side effects such as surgery, hormonal changes, or visible disfigurement [48], are captured by tools like the *Rosenberg Self-Esteem Scale* (RSES), the *Body Image Scale* (BIS), and the *Female Sexual Function Index* (FSFI). Caregiver burden, which is affecting emotional, physical and financial well-being of those providing support to cancer patients and which can lead to high levels of stress and emotional strain [49], is addressed by the *Caregiver Reaction Assessment*.

As for cognitive functioning, caused by cancer itself, treatments, comorbidities, fatigue, and mood disturbances [50], and particularly relevant in those patients receiving neurotoxic therapies is evaluated using instruments like the *Mini-Mental State Examination* (MMSE) and the *Rey-Osterrieth Complex Figure Test*. The International Cognition and Cancer Task Force (ICCTF) guidelines recommend using the Hopkins Verbal Learning Test-Revised (HVLT-R), Trail Making Test (TMT), and the Controlled Oral Word Association (COWA) of the Multilingual Aphasia Examination for assessing cognitive function [51]; however, the findings in this study align with most recent systematic reviews that identify a larger number of validated tools in an oncological context [52]. Tools such as the *Impact of Event Scale* (IES) for coping, the *Supportive Care Needs Survey* (SCNS) and the *Problems and Needs in Palliative Care* (PNPC) for unmet needs, and the *Profile of Mood States* (POMS) for emotional wellbeing have also appeared repeatedly cited in the literature.

Finally, reporting on psychometric properties varied significantly across the included studies, with indices of reliability, validity, and specificity frequently absent or inconsistently documented, highlighting a lack of supporting evidence for many instruments.

5 | Implications

The findings of this umbrella review carry important implications for both clinical practice and future research.

From a clinical practice perspective, it is particularly noteworthy that a wide range of mental health screening tools are available for both cancer patients and their caregivers. However, only a small proportion of these instruments have been specifically developed for oncology settings, which may limit their ability to capture nuanced psychosocial concerns of cancer patients and their families. Nevertheless, many of these general tools have proven to be clinically useful in oncology due to their strong psychometric properties and widespread acceptance. Importantly, the fact that a large number of the identified instruments is self-administered represents a significant advantage in clinical contexts, as it facilitates routine implementation, reduces the burden on healthcare professionals, and improves accessibility for patients and their families. This review offers a comprehensive guide of tools available for assessing mental health in cancer patients, caregivers and family members, thereby assisting healthcare professionals in selecting the most appropriate options.

Future research on mental health screening tools should prioritize the assessment and consistent reporting of psychometric properties on those tools lacking these details, including reliability indices such as Cronbach's alpha, test–retest reliability, and various forms of validity (e.g., construct, criterion-related, and content validity). Additionally, due to the high quantity of screening tools, conducting comparative studies would be beneficial for having concrete information about strengths, limitations and practical applicability of the instruments. Finally, the development of evidence-based guidelines or consensus statements would help researchers and clinicians in selecting the most appropriate tools for specific contexts.

6 | Strengths and Limitations

This umbrella review's strength lies in its comprehensive mapping of screening instruments in cancer across a wide range of mental health constructs, offering a good resource for clinicians and researchers. Furthermore, this study has been done without restriction regarding population characteristics, including both cancer patients and caregivers, which offers a broad and inclusive perspective. Regarding the methodology, the risk of bias done with the ROBIS tool has added transparency, the registration of the review in PROSPERO has reinforced the rigor, and the conduction of the search in five major databases has enhanced the comprehensiveness and robustness of the synthesis.

There are also several limitations. First, as an umbrella review, findings are inherently dependent on the quality of the underlying studies. The risk of bias (ROBIS) assessment revealed a wide range of methodological quality among the primary reviews, which introduces variability in the strength of the evidence. Second, this review was limited to English studies and oncology context, which is difficult to extrapolate to other environments. -Lastly, despite strandardized procedures and consensus meeting, the large number of reviewers, subjective judgments, and subtle nuances in study eligibility or data details resulted in discrepancies that contributed to a moderate rather than high inter-rater agreement.

7 | Conclusion

This umbrella review provides a comprehensive synthesis of mental health screening tools used in oncology settings, encompassing both cancer patients (adults and pediatric) as well as their family members and caregivers. The identification of 586 distinct instruments across multiple psychosocial domains reveals a wide landscape, with variability in tool use, also covering the key psychosocial and cognitive aspects relevant to cancer care. Although most instruments were not originally developed for oncology populations, many demonstrate good psychometric performance. The findings of this study offer an evidence-based framework for the development

of clinical guidelines. Additionally, the results of this review will inform the creation of a digital solution within the ALTHEA project.

Author Contributions

The preparation of this systematic review involved multiple contributions: conceptualization and definition of the research question (L.C.S., M.H.), development and registration of the review protocol (L.C.S., M.H.), design of the search strategy (L.C.S., M.H.), selection and screening of studies (L.C.S., M.H., S.M., I.D., D.M., V.C., M.V.F., M.R., M.L., G.P.B., N.D., A.C., L.V., O.M.), data extraction (L.C.S., M.H., S.M., I.D., D.M., V.C., M.V.F., M.R., M.L., G.P.B., N.D., A.C., L.V., O.M.), assessment of overlap (M.H., O.M.) and risk of bias (S.M., V.C., O.M.), data synthesis and interpretation (L.C.S., M.H.), drafting of the original manuscript (L.C.S., M.H.), writing review and editing (all authors).

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that supports the findings of this study are available in the supplementary material of this article and the raw data can be requested upon request from the authors.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.
Supporting Information S1: pon70465-sup-0001-suppl-data.docx.