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Psychological distress among family caregivers of Chinese female breast cancer survivors: a systematic review

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ADMINISTRATIVE INFORMATION

Support - School of Nursing and Midwifery at the University of Southern Queensland.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202660069

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 June 2026 and was last updated on 15 June 2026.

INTRODUCTION

Review question / Objective 1. What is the prevalence and types of psychological distress among family caregivers of breast cancer survivors in Mainland China?
2. What factors are associated with psychological distress among family caregivers of breast cancer survivors in Mainland China?
3. What coping strategies do family caregivers of breast cancer survivors report in relation to psychological distress?

Rationale Breast cancer remains the most common cancer among women. Advances in treatment have significantly improved patient survival rates and led to a growing population of survivors (Wei et al., 2016). Family caregivers play a critical role in providing physical, emotional, and practical support throughout the cancer trajectory. However, caregiving responsibilities may expose caregivers to considerable psychological distress,

including anxiety, depression, stress, fear, uncertainty, and emotional burden (Areia et al., 2018).

Many existing studies reported that caregivers experience psychological distress, and the severity of this distress is comparable to or even more severe than cancer survivors (Borstelmann et al., 2022; Teo et al., 2023). Despite this, the mental health needs of caregivers are often overlooked in cancer care and research (Lambert et al., 2012; Lewandowska et al., 2020). Furthermore, previous reviews (Ge et al., 2020; Li et al., 2020) have often focused on caregivers of mixed cancer populations across different regions and study designs, or specific psychological outcomes, such as anxiety or depression, rather than providing a comprehensive synthesis of psychological distress among family caregivers of breast cancer survivors in China. Focusing on Mainland China is particularly important because caregiving experiences may be influenced by unique sociocultural values, family expectations, and

healthcare system factors that differ from those in Western countries. There also remains a significant gap regarding factors associated with caregiver distress and the coping strategies used to manage these challenges.

This systematic review aims to synthesise current evidence on psychological distress, associated factors, and coping strategies among family caregivers of breast cancer survivors in Mainland China.

Reference

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Condition being studied Psychological distress among family caregivers of breast cancer survivors in Mainland China.

Psychological distress refers to subjective negative emotional such as anxiety, depression, stress, sadness and worry, that affect daily functioning or quality of life, and is viewed as a non-diagnostic emotional response rather than a clinical mental disorder In line with the National Comprehensive Cancer Network (2026) framework, distress is described as “an unpleasant experience of a mental, physical, social, or spiritual nature. It can affect the way you think, feel, or act”.

Family caregiver refers to an unpaid family member, friend, or neighbor who provides care to an individual who has an acute or chronic condition and needs assistance to manage a variety of tasks, from bathing, dressing, and taking medications to tube feeding and ventilator care.

Reference

- National Comprehensive Cancer Network. (2026). NCCN Guidelines Version 1.2026 Distress Management. https://www.nccn.org/docs/default-source/patient-resources/nccn_distress_thermometer.pdf
- Reinhard, S. C., Given, B., Petlick, N. H., & Bemis, A. (2008). Supporting Family Caregivers in Providing Care. Nih.gov; Agency for Healthcare Research and Quality (US). <https://www.ncbi.nlm.nih.gov/books/NBK2665/>

METHODS

Search strategy MeSH terms, entry terms, and keywords will be used to identify relevant studies, including: breast cancer, breast neoplasms, caregiver, spouse, psychological distress, anxiety, depression, stress, fear, worry, coping, China, mainland China, and related synonyms. Chinese search terms will be used for Chinese databases. The search covered all available years up to June 2026.

An example of the PubMed search strategy is: ("Breast Neoplasms"[Mesh] OR "breast cancer" OR "breast neoplas*" OR "breast tumor*" OR "breast carcinoma*" OR "mammary cancer*" OR "mammary carcin*" OR "mammary neoplas*" OR "breast metasta*" OR "breast malig*" OR "breast malignant neoplas*" OR "malignant neoplasm of breast" OR "breast malignant tumor*" OR "malignant tumor of breast")

AND

("Caregivers"[Mesh] OR Caregiver* OR "Family Caregiver*" OR "Informal Caregiver*" OR "Care Giver*" OR Carer* OR Spouse*)

AND

("Psychological Distress"[Mesh] OR "emotional" OR depress* OR anxiety* OR distress* OR stress* OR stressful OR worri* OR fear* OR sad* OR "negative affect")
AND
("China"[Mesh] OR "Chinese" OR "Mainland China").

Participant or population Chinese adult (≥18 years) family caregivers of breast cancer survivors in Mainland China. Family caregivers may include: spouses, partners, parents, adult children and other unpaid family members.

Intervention NA.

Comparator NA.

Study designs to be included Original studies reporting psychological distress among family caregivers of Chinese breast cancer survivors in mainland China. Including observational studies (cross-sectional, cohort, longitudinal, case-control), qualitative studies, and mixed-methods studies.

Eligibility criteria The inclusion criteria for selected studies are: (1) original studies that reported psychological distress among family caregivers of breast cancer survivors in mainland China, including observational (cross-sectional, cohort, longitudinal, case-control), qualitative, and mixed-methods designs; (2) participants were adult aged 18 years and above (for studies that include both individuals aged 18 and older and younger, the results for participants aged 18 and older must be reported separately); (3) studies focused specifically on breast cancer (for studies including mixed cancer samples, separate data for breast cancer survivors were required); and (4) studies published in English or Chinese with accessible full text.

Exclusion criteria were: (1) studies including multiple cancer types without separate results for breast cancer; (2) reviews, commentaries, editorials, conference abstracts, or case reports; (3) clinical trials, including randomized controlled trials (RCTs), non-randomised clinical trials, or other experimental intervention studies; and (4) studies primarily aimed at developing psychological assessment instruments rather than reporting psychological distress outcomes.

Information sources Two reviewers will independently search PubMed, Web of Science (WOS), Embase, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Scopus, PsycINFO, ProQuest, CNKI (China Knowledge

Resource Integrated Database) and Wanfang. Reference lists of included studies and relevant reviews will be checked, and grey literature (such as theses and conference papers) will be searched through google scholar.

Main outcome(s) The primary outcome of this systematic review will be the measures of psychological distress among family caregivers of breast cancer survivors, including the prevalence, mean scores, or severity of anxiety, depression, stress, worry and other distress-related symptoms. And the research instruments or validated scales will be used to assess these outcomes (e.g., HADS, CES-D, PHQ-9).

Additional outcome(s) Secondary outcomes will include caregiver burden, quality of life, coping strategies, and factors associated with psychological distress among family caregivers. Caregiver burden may be assessed using validated instruments such as the Zarit Burden Interview (ZBI) and Caregiver Burden Inventory (CBI). Quality of life outcomes may be assessed using instruments such as the SF-36, WHOQOL-BREF, or Caregiver Quality of Life Index-Cancer (CQOL-C).

These outcomes will be synthesised and reported descriptively.

Data management Data will be managed in EndNote X9 and Covidence.

Quality assessment / Risk of bias analysis The methodological quality of the included studies will be assessed independently by two reviewers using the Mixed Methods Appraisal Tool (MMAT). This tool provides screening questions for all study types and specific criteria by design. Disagreements will be resolved by discussion.

Strategy of data synthesis Descriptive analysis will be used to summarize psychological distress among Chinese breast cancer survivors. Due to expected heterogeneity, a narrative synthesis will present prevalence, severity, associated factors, and survivors' reported coping.

Subgroup analysis Where applicable, subgroup analysis will be performed based on:

- (1) Types of psychological distress (e.g., anxiety, depression, stress, sadness);
- (2) Relationship to the breast cancer survivor (e.g., spouse, parent, adult child, sibling, or other unpaid relative caregiver);
- (3) Factors associated with psychological distress (e.g., demographic, caregiving-related, individual and social factors);

(4) Coping strategies reported (e.g., self-strategies, family support, social support).

Sensitivity analysis NA.

Language restriction English and Chinese.

Country(ies) involved Mainland China.

Keywords Breast cancer; Family caregivers; Psychological distress; Cancer survivors; China.

Dissemination plans The systematic review will be submitted to a peer-reviewed journal for publication and the findings will be presented at academic conferences.

Contributions of each author

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