Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

Dyadic coping among patients with breast cancer and their spouses:an evidence and gap map

Jiaxun Zhao
First Affiliated Hospital of Dalian Medical University
Xiamei Zhu
First Affiliated Hospital of Dalian Medical University
Tongtong Jiang
First Affiliated Hospital of Dalian Medical University
Tieying Shi
sty11177@163.com

First Affiliated Hospital of Dalian Medical University

Research Article

Keywords: breast neoplasms, dyadic coping, evidence and gap map, spouses, oncology nursing

Posted Date: November 19th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11192379/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License. Read Full License

Additional Declarations: No competing interests reported.

Abstract

Background

Breast cancer affects patients and their partners through interconnected emotional, relational, caregiving, sexual and physical consequences. This study mapped the content and methodological functions of research on breast cancer patient-partner dyads and identified underrepresented combinations.

Methods

PubMed, Web of Science Core Collection, Embase, CINAHL, China National Knowledge Infrastructure and Wanfang Data were searched for Chinese- and English-language publications from 1 January 2016 to 1 September 2026. Two reviewers screened records and extracted study characteristics. Title and abstract content was coded into seven mutually exclusive primary content themes and five research functions. Theme-function combinations were displayed in an evidence and gap map.

Results

The review included 169 publications, comprising 158 primary-study publications and 11 reviews. Cross-sectional studies were most common (n = 65, 38.5%), followed by randomised controlled trials (n = 36, 21.3%). Psychosocial adaptation and emotional outcomes was the largest content theme (n = 73, 43.2%), followed by intimacy, sexuality, body image and reproductive health (n = 33, 19.5%). Observational association or trajectory was the predominant research function (n = 83, 49.1%); intervention evaluation accounted for 42 publications (24.9%). The largest theme-function cell comprised observational studies of psychosocial adaptation and emotional outcomes (n = 40). Measurement and methodological development was represented by one publication.

Conclusions

Research is concentrated on psychosocial outcomes and observational associations, while measurement development, contextual caregiving research and intervention development remain limited. Future nursing research should use longitudinal dyadic designs, develop and test culturally responsive interventions, report patient-, partner- and relationship-level outcomes, and evaluate implementation in routine care.

Background

Breast cancer is one of the most common malignant tumors among women worldwide [1]. With the development of early screening and comprehensive treatment, patients' survival has continued to improve, and the focus of breast cancer care has gradually expanded from acute treatment to long-term symptom management, psychosocial adjustment, and quality-of-life improvement [2, 3]. This shift has also highlighted the persistent impact of the disease on intimate relationships and family life. Physical changes in body image, sexual dysfunction, fear of recurrence, adjustments in family roles, and financial toxicity that arise during diagnosis, treatment, and rehabilitation not only affect patients themselves but may also reshape marital communication, intimate relationships, and family functioning [4–8]. Therefore, breast cancer should not be viewed merely as a clinical event occurring to an individual patient; it should also be understood as a long-term relational stressor experienced jointly by couples.

Patients and their spouses not only experience shared stress throughout the course of breast cancer but also influence each other through their respective cognitions, emotions, and behaviours. A patient's psychological distress may increase the spouse's emotional burden and caregiving stress; conversely, the spouse's coping strategies, supportive behaviours, and communication patterns may also affect the patient's adaptation to the disease and health outcomes [9]. This interdependence means that studying patients and spouses as independent individuals may fail to fully explain the process, direction, and outcomes of couples' joint adaptation. Spouses are also important participants in treatment decision-making, symptom management, daily caregiving, and long-term rehabilitation, while directly confronting couple-specific issues such as the patient's body image, intimate relationship, and sexual health [10, 11]. Therefore, the patient–spouse dyad constitutes a clearly defined and clinically meaningful unit of study in the psychosocial care of patients with breast cancer.

The Dyadic Coping Theory further conceptualizes illness-related stress as a challenge jointly faced by couples, emphasizing that both partners regulate the impact of illness through stress communication, supportive dyadic coping, delegated dyadic coping, common dyadic coping, and task sharing [12]. Within this relational system, one partner's coping is associated not only with their own outcomes but may also influence the other partner's emotional well-being, quality of life, and family adjustment through partner effects [13, 14]. Accordingly, simultaneously collecting paired data from both partners and employing methods such as the Actor–Partner Interdependence Model (APIM), which can effectively account for data interdependence, can help distinguish actor effects, partner effects, and dyadic-level effects, thereby providing a more accurate understanding of couples' interaction pathways [15, 16]. This theoretical and methodological shift provides a foundation for identifying both partners' caregiving needs and developing interventions that involve couples jointly.

In recent years, research on breast cancer patients and their spouses has expanded into areas such as stress communication, dyadic coping, role adjustment, intimate relationships and sexual health, psychosocial outcomes, and interventions involving both partners [17–20]. However, the growth of knowledge has not yet resulted in a clear and balanced body of evidence. Previous reviews have typically focused on the effects of dyadic interventions, specific psychological outcomes, or single issues such as intimate relationships and sexual health [21–23], making it difficult to assess the overall development and methodological foundations of different research topics. In particular, it remains unclear which theme–design combinations have received the most attention, which types of research are primarily relied upon for each theme, which areas lack longitudinal, qualitative, and intervention studies, and to what extent existing studies have adopted truly dyadic designs and analyses capable of reflecting interdependence between spouses. The heterogeneity

of research topics, theoretical frameworks, study designs, and outcome measures further limits an overall assessment of the knowledge structure in this field and its future research needs.

Evidence mapping is suitable for broad fields containing diverse study designs and heterogeneous outcomes because it can show where publications are concentrated, sparse or absent [24, 25]. In this study, content analysis was used to classify what each publication examined, while research function was coded separately to distinguish observational, intervention, experiential, developmental and synthesis work. This separation prevents intervention status from replacing the substantive topic of a publication. The objectives were to describe the scale, thematic focus and methodological distribution of research on breast cancer patient-partner dyads; identify underrepresented theme-function combinations; and inform priorities for dyadic nursing research and intervention development.

Methods

Study design and reporting

This evidence and gap map combined systematic searching with qualitative content analysis. Literature identification and selection were reported in accordance with PRISMA 2020 [26], and the search process was reported with reference to PRISMA-S [27]. The map describes the volume and distribution of publications and does not assess methodological quality, certainty of evidence or intervention effectiveness. The protocol was registered retrospectively on the Open Science Framework on 19 August 2026 (https://doi.org/10.17605/OSF.IO/HZD2R), before the search period ended.

Eligibility criteria

Eligibility criteria were developed using the population-concept-context framework. Eligible publications examined adults with breast cancer and their spouses or stable intimate partners, or reported breast cancer-specific findings from broader cancer dyads. Both members of the dyad had to participate or the publication had to examine partner involvement, interaction, interdependence, mutual influence, shared adaptation or a couple-oriented intervention. Eligible evidence included cross-sectional, longitudinal or cohort, qualitative, randomised, quasi-experimental or pre-experimental studies and systematic reviews or meta-analyses. Publications had to be in Chinese or English and published from 1 January 2016 to 1 September 2026. Protocols, conference abstracts, case reports, editorials, commentaries and publications without extractable dyadic or partner-related findings were excluded.

Information sources and search strategy

PubMed, Web of Science Core Collection, Embase, CINAHL, China National Knowledge Infrastructure and Wanfang Data were searched from 1 January 2016 to 1 September 2026. Search concepts covered breast cancer, spouses or intimate partners, and dyadic coping or related relational and caregiving processes. Controlled vocabulary and free-text terms were adapted for each database. Reference lists of included publications and relevant reviews were screened manually. Complete strategies are provided in Additional file 1, Table S1.

Study selection and data extraction

Records were imported into EndNote and duplicates were removed. Two reviewers independently screened titles and abstracts and then assessed potentially eligible full texts. Disagreements were resolved through discussion and, when necessary, adjudication by a third reviewer. A standardised extraction form captured bibliographic details, publication language, evidence layer, study design, cancer or treatment context, population eligibility, abstract, coding source, primary content theme, subtheme and research function. All 169 included publications were coded from titles and abstracts; no title-only provisional records remained in the final dataset.

Content analysis and coding framework

Each publication was the unit of analysis. Reviewers read the title and abstract, condensed the stated objective or focus into a meaning unit, assigned descriptive initial codes and grouped related codes into subthemes. Each publication was then assigned to one mutually exclusive primary content theme according to its dominant objective. Research function was coded on a separate axis so that the substantive topic remained distinct from the role of the research. Multidimensional initial codes were retained even though each publication contributed once to the primary theme-function matrix.(Table. 1)

Table 1
Data extraction framework and coding descriptions

Dimension	Extraction item	Coding description
Bibliographic information	Author, year, language and source	Extract author, year, language, source, and doi, PMID, or URL when available
Study location	Country or region	Use the reported setting; if absent, apply the prespecified proxy hierarchy and retain an unreported category
Participation	Patient–partner participation type	Classify as patient–spouse/partner dyads, patient participants with partner involvement, patient–caregiver/family dyads, or patient-focused/participation unclear
Clinical context	Treatment phase	Classify the dominant context as diagnosis/early-stage care, surgery/reconstruction, systemic/radiation treatment, survivorship/post-treatment, advanced/metastatic disease, mixed context, or multiple/unspecified phases
Participant characteristics	Population and sample size	Record patient and partner characteristics and the reported number of patients, partners, caregivers, or dyads
Study design	Study type	Classify as cross-sectional, longitudinal/cohort, randomised controlled trial, quasi-/pre-experimental, qualitative, or systematic review/meta-analysis
Theoretical framework	Theory or analytical model	Record dyadic coping theory, APIM, family systems theory, or another reported framework
Study content	Intervention, exposure and outcomes	Extract the dyadic process, intervention components, principal variables, outcomes, and analytic approach
Content analysis	Primary theme and subtheme	Assign one primary theme and one subtheme; retain secondary codes without counting the publication again
Research function	Purpose of the research	Classify as observational association/trajectory, intervention evaluation, experience/needs/process exploration, intervention development/feasibility/implementation, or evidence synthesis
Evidence-map linkage	Subtheme × research function	Link each publication to one subtheme × research-function cell

Note: The publication was the unit of analysis. Each publication received one primary content theme, one subtheme, and one research function. We retained additional descriptive codes but did not count secondary topics as separate publications. APIM, actor–partner interdependence model.

Research function was classified as: (1) observational association or trajectory; (2) intervention evaluation; (3) experience, needs or process exploration; (4) intervention development, feasibility or implementation; or (5) evidence synthesis. The final dataset contained one primary theme, one subtheme and one research function for every included publication.(Table. 2)

Table 2
Operational definitions of the seven primary content themes

Theme code	Primary content theme	Operational scope
Y1	Psychosocial adaptation and emotional outcomes	Emotional distress and adjustment; fear of recurrence and uncertainty; positive adaptation, growth, resilience, hope, and related psychosocial outcomes
Y2	Intimacy, sexuality, body image and reproductive health	Sexual functioning and couple intimacy; body image, mastectomy and reconstruction; fertility and reproductive concerns
Y3	Communication, relationship functioning and mutual support	Communication, disclosure and protective buffering; relationship quality and mutuality; partner support and shared decision-making
Y4	Dyadic coping, illness appraisal and shared management	Dyadic or communal coping; illness appraisal and perception; shared illness management and interdependence
Y5	Physical health, lifestyle, symptoms and quality of life	Lifestyle and physical activity; symptoms, functioning and rehabilitation; quality of life and survivorship health
Y6	Caregiving, family roles and contextual resources	Caregiving roles and burden; family adaptation and developmental roles; cultural, spiritual, social, financial, and practical resources
Y7	Measurement and methodological development	Development or evaluation of measures, psychometric properties, and methods for studying dyadic processes

- Note: Y1–Y7 identify the seven mutually exclusive primary content themes. Each publication was assigned one primary theme and one subtheme according to its main research question, outcomes, and analytic focus. Research function was coded separately. Secondary content was retained descriptively but was not counted again in the evidence matrix.

Evidence mapping and analysis

Counts and percentages were calculated for publication year, evidence layer, study design, publication language, primary content theme, subtheme and research function. Content themes were cross-tabulated against research functions to construct the primary evidence and gap map. Study-design

distributions were analysed separately. Data management and visualisation were completed using Python (version 3.14), and totals were checked against the 169-publication coding dataset and PRISMA counts. Empty or sparsely populated cells indicate limited publication volume, not weak evidence or lack of clinical importance.

Ethical considerations

This study analysed published literature and did not involve human participants or identifiable individual-level data. Ethics committee approval and informed consent were therefore not required.

Results

Study selection

The searches identified 3,708 records: PubMed (n = 1,888), Web of Science (n = 502), Embase (n = 420), CINAHL (n = 280), China National Knowledge Infrastructure (n = 364) and Wanfang Data (n = 254). After 1,329 duplicates were removed, 2,379 records were screened and 1,358 were excluded. The full texts of 1,021 reports were assessed; 852 were excluded, leaving 169 publications in the evidence and gap map (Fig. 1).

Characteristics of included publications

The 169 publications comprised 158 primary-study publications (93.5%) and 11 review publications (6.5%); 139 were published in English (82.2%) and 30 in Chinese (17.8%). Publication volume increased over time and peaked in 2024 (n = 34); 19 publications from 2026 were available through 1 September. Supplementary figures describe country or region, participation type, treatment phase and study design (Additional file 1, Figs. S1-S2).

Distribution of study designs

Cross-sectional studies were most common (n = 65, 38.5%), followed by randomised controlled trials (n = 36, 21.3%), qualitative studies (n = 21, 12.4%), longitudinal or cohort studies (n = 19, 11.2%), quasi-experimental or pre-experimental studies (n = 17, 10.1%), and systematic reviews or meta-analyses (n = 11, 6.5%) (Additional file 1, Fig. S2).

Content themes and research functions

Psychosocial adaptation and emotional outcomes was the largest theme (n = 73, 43.2%). Within this theme, emotional distress and psychological adjustment accounted for 55 publications, followed by positive adaptation, growth, resilience and hope (n = 14), and fear of recurrence and uncertainty (n = 4). Intimacy, sexuality, body image and reproductive health was the second-largest theme (n = 33, 19.5%), whereas measurement and methodological development was represented by one publication. The subtheme-level evidence map is provided in Additional file 1, Fig. S3.

Observational association or trajectory was the predominant research function (n = 83, 49.1%), followed by intervention evaluation (n = 42, 24.9%). Intervention development, feasibility or implementation accounted for 12 publications (7.1%), indicating a smaller pipeline of formative and implementation-oriented work. Annual changes in research functions are shown in Fig. 2.

Evidence distribution across themes and research functions

The evidence and gap map showed an uneven distribution across the 35 possible theme-function combinations (Fig. 3). The largest cell comprised observational association or trajectory publications addressing psychosocial adaptation and emotional outcomes (n = 40), followed by intervention evaluations in the same theme (n = 21). Other prominent cells included observational work on dyadic coping, illness appraisal and shared management (n = 13), observational work on intimacy, sexuality, body image and reproductive health (n = 12), and observational work on communication, relationship functioning and mutual support (n = 11).

Caregiving, family roles and contextual resources included eight publications, with only one intervention evaluation and one development, feasibility or implementation publication. Measurement and methodological development contained a single evidence-synthesis publication and no primary empirical study. No evidence-synthesis publications focused primarily on physical health, lifestyle, symptoms and quality of life or on caregiving, family roles and contextual resources. The map represents publication distribution and should not be interpreted as an assessment of study quality, certainty or intervention effectiveness.

Discussion

Principal findings

This evidence and gap map identified 169 publications and used separate content and research-function axes to distinguish what was studied from how the knowledge was generated. Three findings are central. First, psychosocial adaptation and emotional outcomes accounted for more than two fifths of the literature, while measurement and methodological development was nearly absent. Second, almost half of publications examined observational associations or trajectories, whereas intervention development, feasibility or implementation represented only 7.1%. Third, research density was greatest for observational psychosocial studies, while caregiving context, methodological development and several formative or implementation combinations remained sparsely populated.

Concentration on psychosocial and relational outcomes

The dominance of psychosocial adaptation reflects the substantial emotional consequences of breast cancer for patients and partners. Psychological and relational consequences, including distress, coping, relationship stress and quality of life, are clinically important and responsive to nursing assessment [28–35]. However, concentration within one domain can narrow the field if physical symptoms, rehabilitation, caregiving roles and contextual resources are treated mainly as secondary variables. The separate content-function framework also shows that intervention trials do not form a single substantive topic: they address different targets, including emotional adjustment, sexuality, communication, shared management and physical functioning.

Intimacy, sexuality, body image and reproductive health formed the second-largest cluster, but the design distribution remained uneven. Qualitative and intervention publications were present, whereas longitudinal evidence was limited. Repeated dyadic assessment is needed to determine how intimacy, body image and sexual concerns change across surgery, systemic treatment, rehabilitation and survivorship and how patient and partner experiences influence one another over time [36–39].

From observational associations to dyadic mechanisms

Cross-sectional studies were the largest design group, and observational association or trajectory was the largest research function. Cross-sectional evidence can identify concurrent relationships but cannot establish temporal ordering or distinguish reciprocal partner effects from shared contextual influences [40]. Including both partners is also insufficient unless analysis accounts for interdependence. Actor-partner interdependence, common-fate and multilevel models can estimate actor, partner and couple-level effects more appropriately [41–47]. Triangulating observational evidence across designs can strengthen causal interpretation while preserving appropriate caution [48].

Future studies should align repeated measurements with clinically meaningful transitions and test prespecified bidirectional pathways. Longitudinal actor-partner models, random-intercept cross-lagged models and dyadic growth models could examine whether patient and partner outcomes change in parallel, diverge or influence one another over time [49, 50]. Qualitative and mixed-methods work remains important for explaining why communication, protective buffering, role negotiation and shared coping differ across disease stages and cultural settings. Qualitative accounts of support in other cancer dyads, longitudinal quality-of-life trajectories after breast cancer and longitudinal analysis of breast cancer patient-caregiver dyads illustrate complementary approaches [51–53].

Underrepresented content and methodological priorities

The eight publications on caregiving, family roles and contextual resources indicate limited attention to the systems surrounding the couple. Family networks, professional support, socioeconomic resources, work demands and digital access may shape both individual outcomes and the couple's capacity for shared illness management [54, 55]. These contextual factors should be examined as moderators and intervention targets rather than merely background characteristics. Studies of cancer caregiver support, breast cancer coping across life stages and chronic-illness dyads also indicate why context and relationship stage matter [31, 56, 57].

Only one publication focused primarily on measurement and methodological development. Dyadic nursing research requires measures that demonstrate validity for both partners, measurement invariance where comparisons are intended, and analytic strategies that distinguish individual from shared constructs. Methodological development is especially important when translating measures across languages, cultures, disease stages and relationship structures.

The relatively small number of intervention-development and implementation publications suggests a gap between explanatory research and scalable care. Future interventions should specify their theoretical mechanisms, target population, core components and intended patient-, partner- and relationship-level outcomes. Development should involve patients, partners, nurses and relevant specialists, followed by assessment of acceptability, recruitment, dyadic retention, fidelity, unintended effects, resource requirements and compatibility with clinical workflows [58–65]. Existing breast cancer and cancer-dyad studies offer examples of online mindfulness, uncertainty management, intervention acceptability, oncofertility education, communication protocols and feasibility work [66–72].

Implications for nursing practice

The findings support selective, needs-based dyadic care rather than routine enrolment of every spouse in a standard programme. With both partners' consent, nursing assessment can cover psychological distress, communication difficulties, caregiving burden, intimacy concerns, symptoms, functional needs and role negotiation. Nurses can facilitate shared understanding during education, symptom management, treatment decisions and rehabilitation, while referring couples with substantial distress, sexual health concerns or relationship conflict to appropriate specialist services [73–76].

A stepped-care pathway could range from routine information and brief dyadic screening to structured couple-based interventions and specialist referral. Digital delivery may improve access when treatment burden, work, caregiving or distance prevents joint attendance, but implementation must address privacy, digital literacy, unequal partner participation and integration with existing nursing workflows [77–79]. Joint assessment should not proceed when either partner declines or when independent safety assessment identifies coercion, controlling behaviour or serious relationship conflict.

Strengths and limitations

This study integrated systematic searching, content analysis and evidence mapping and separated substantive themes from research functions. This produced a more interpretable map than a framework in which all intervention publications are grouped as one topic. All included publications had title and abstract information, and every record received a primary theme, subtheme and research function.

Several limitations require consideration. Only Chinese- and English-language publications were included, and grey literature was excluded. Publications rather than independent studies were counted, so multiple reports from one study and reviews containing overlapping primary studies may appear simultaneously. Classification into one primary theme simplified multidimensional research, although descriptive codes and subthemes were retained. Coding relied on titles and abstracts and may not capture all details available in full texts. Methodological quality, risk of bias, certainty of evidence and effect sizes were not assessed. Finally, sparse cells should not automatically be treated as priorities; clinical importance, stakeholder preferences, feasibility and the quality of existing evidence must also guide priority setting [80, 81].

Conclusions

Research on breast cancer patient-partner dyads is concentrated on psychosocial adaptation and observational associations. Intimacy and sexual health form a second major cluster, while caregiving context and methodological development remain limited. Intervention evaluation is established, but formative development, feasibility and implementation research is comparatively sparse. Future nursing research should combine theory-driven longitudinal dyadic analysis with culturally responsive intervention development, transparent patient-, partner- and relationship-level outcomes, and implementation evaluation in routine care. The map identifies where publications are concentrated or absent; it does not establish evidence quality or intervention effectiveness.

Abbreviations

APIM, actor-partner interdependence model; CINAHL, Cumulative Index to Nursing and Allied Health Literature; CNKI, China National Knowledge Infrastructure; OSF, Open Science Framework; PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Declarations

Ethics approval and consent to participate

Not applicable. This study analysed published literature and did not involve human participants or identifiable individual-level data.

Consent for publication

Not applicable.

Availability of data and materials

The study-level coding dataset underlying the evidence and gap map is included as Additional file 2. Search strategies and supplementary descriptive results are included as Additional file 1.

Competing interests

The authors declare that they have no competing interests.

Funding

This work was supported by the 2024 Dalian Science and Technology Innovation Fund (grant 2024JJ13FG078) and the General Scientific Research Project of the Liaoning Provincial Department of Education (grant 2025020).

Authors’ contributions

JZ contributed to study conception, literature screening, data extraction, analysis, visualisation and drafting. XZ contributed to screening, data extraction and critical revision. TS and TJ contributed to study conception, methodology, supervision and critical revision. All authors read and approved the final manuscript.

Acknowledgements

Not applicable.

Use of generative AI

ChatGPT (OpenAI) was used to assist with English-language editing and readability. The authors reviewed and edited the output and take full responsibility for the manuscript.

References

1. Bray F, Laversanne M, Sung H, et al. Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2024;74(3):229–63.
2. Neuman HB, Schumacher JR. Follow-up and Cancer Survivorship. Surg Clin North Am. 2023;103(1):169–85.
3. Soldato D, Arecco L, Agostinetto E, et al. The future of breast cancer research in the survivorship field. Oncol Ther. 2023;11(2):199–229.
4. Valente M, Chirico I, Ottoboni G, Chattat R. Relationship dynamics among couples dealing with breast cancer: a systematic review. Int J Environ Res Public Health. 2021;18(14):7288.
5. Brunet J, Price J, Harris C. Body image in women diagnosed with breast cancer: A grounded theory study. Body Image. 2022;41:417–31.
6. Luigjes-Huizer YL, Tauber NM, Humphris G, et al. What is the prevalence of fear of cancer recurrence in cancer survivors and patients? A systematic review and individual participant data meta-analysis. Psychooncology. 2022;31(6):879–92.
7. Zimmermann T. Partnerschaftliche und familiäre Aspekte bei Krebserkrankungen [Partnership and family aspects of cancer]. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2022;65(4):446–52. German.
8. Krok D, Telka E, Moroń M. Marital satisfaction, partner communication, and illness acceptance among couples coping with breast cancer: a dyadic approach. Psychooncology. 2023;32(8):1240–7.
9. Ng JHY, et al. Gender differences in cancer spousal caregiving: a systematic review. Palliat Support Care. 2023;21(5):880–9.
10. Rolland JS. Cancer and the family: an integrative model. Cancer. 2005;104(11 Suppl):2584–95.
11. Falconier MK, Kuhn R. Dyadic coping in couples: a conceptual integration and a review of the empirical literature. Front Psychol. 2019;10:571.
12. Bodenmann G, Randall AK. General and health-related stress and couples' coping. In: Wampler KS, editor. The handbook of systemic family therapy. Volume 3. Hoboken: Wiley; 2020. pp. 253–68.
13. Chen W, Li H, Cai JZ, Qin N. Association between dyadic coping and quality of life in breast cancer patients and their spouses: An actor-partner interdependence mediation model. Asian Nurs Res. 2024;18(1):44–50.
14. Ding Z, Fan Y, Zhong G, Zhang X, Li X, Qiao Y, Cui H. A dyadic analysis of family adaptation among breast cancer patients and their spouses based on the framework of family stress coping theory. Front Public Health. 2024;12:1453830.
15. Ştefănuţ AM, Vintilă M, Tudorel OI. Perception of disease, dyadic coping, and the quality of life of oncology patients in the active treatment phase and their life partners: an approach based on the actor-partner interdependence model. Front Psychol. 2023;14:1069767.
16. Song J, Tang X, Sulaiman Z, Zhang M, Ismail TAT, Li S, Ye Y. Dyadic appraisal and dyadic coping in breast cancer couples: Family resources as mediators in an actor–partner interdependence mediation model. Eur J Oncol Nurs. 2025;78:102959.
17. Chen M, Gong J, Cao Q, Luo X, Li J, Li Q. A literature review of the relationship between dyadic coping and dyadic outcomes in cancer couples. Eur J Oncol Nurs. 2021;54:102035.
18. Suo R, Zhang L, Tao H, Ye F, Zhang Y, Yan J. The effects of dyadic coping and marital satisfaction on posttraumatic growth among breast cancer couples. Support Care Cancer. 2021;29(9):5425–33.
19. Fergus K, Ahmad S, Gardner S, et al. Couplelinks online intervention for young couples facing breast cancer: A randomised controlled trial. Psychooncology. 2022;31(3):512–20.
20. Liu W, Lewis FM, Oxford M, Kantrowitz-Gordon I. Common dyadic coping and its congruence in couples facing breast cancer: The impact on couples' psychological distress. Psychooncology. 2024;33(3):e6314.
21. Marsh S, Borges VF, Coons HL, Afghahi A. Sexual health after a breast cancer diagnosis in young women: clinical implications for patients and providers. Breast Cancer Res Treat. 2020;184(3):655–63.
22. Streck BP, LoBiondo-Wood G. A systematic review of dyadic studies examining depression in couples facing breast cancer. J Psychosoc Oncol. 2020;38(4):463–80.
23. Huang Z, Wang Z, Zhang L, et al. The effects of marital adjustment on sexual function and quality of life in breast cancer patients: A systematic review and meta-analysis. Support Care Cancer. 2023;31(7):421.
24. Saran A, White H. Evidence and gap maps: a comparison of different approaches. Campbell Syst Rev. 2018;14(1):1–38.
25. Saran A, White H, Albright K, Adona J. Mega-map of systematic reviews and evidence and gap maps on the interventions to improve child well-being in low- and middle-income countries. Campbell Syst Rev. 2020;16(4):e1116.
26. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71. 10.1136/bmj.n71.
27. Rethlefsen ML, Kirtley S, Waffenschmidt S, et al. PRISMA-S: an extension to the PRISMA statement for reporting literature searches in systematic reviews. Syst Rev. 2021;10:39. 10.1186/s13643-020-01542-z.
28. Yan Z, Zhang Q, Chang L, Liu Y, Li Y. Dyadic effects of family resilience on post-traumatic stress symptoms among breast cancer patients and their primary family caregivers: a cross-sectional study. Eur J Oncol Nurs. 2021;53:101998.
29. Zhang Y, Gao Y, Zhang N, Xu K, Zhao S. The relationship between dyadic coping and post-traumatic growth in breast cancer patients and spouses: Based on latent profile analysis. BMC Psychiatry. 2024;24:860.
30. Shrout MR, Renna ME, Leonard MJ, Friedman EM, Miller KD. Couples in breast cancer survivorship: daily associations in relationship satisfaction, stress, and health. Compr Psychoneuroendocrinol. 2024;20:100261.

31. Pasek M, Goździalska A, Jochymek M, Caruso R. Social support in a cancer patient–informal caregiver dyad: A scoping review. Cancers (Basel). 2023;15(6):1754.
32. Krok D, Telka E, Moroń M. Dyadic effects of attachment on illness acceptance in patients with breast cancer and spousal caregivers: Sense of coherence as a mediator. J Clin Med. 2024;13(21):6425.
33. Rottmann N, Hansen DG, Hagedoorn M, et al. Depressive symptom trajectories in women affected by breast cancer and their male partners: a nationwide prospective cohort study. J Cancer Surviv. 2016;10(5):915–26.
34. Boehmer U, Stokes JE, Bazzi AR, Clark MA. Dyadic quality of life among heterosexual and sexual minority breast cancer survivors and their caregivers. Support Care Cancer. 2020;28(6):2769–78.
35. Sharma A, Sriyuktasuth A, Phligbua W, Vongsirimas N. Psychological distress among breast cancer survivors and their spousal caregivers. J Nepal Health Res Counc. 2024;22(3):502–8.
36. Telli S, Gürkan A. Examination of sexual quality of life and dyadic adjustment among women with mastectomy. Eur J Breast Health. 2020;16(1):48–54.
37. Dewan MF, Gorman JR, Hayes-Lattin B, Lyons KS. Open communication and physical intimacy in young and midlife couples surviving cancer beyond the first year of diagnosis. Oncol Nurs Forum. 2021;48(6):669–79.
38. Reese JB, Porter LS, Casale KE, Bantug ET, Bober SL, Schwartz SC, et al. Adapting a couple-based intimacy enhancement intervention to breast cancer: a developmental study. Health Psychol. 2016;35(10):1085–96.
39. Rottmann N, Larsen PV, Johansen C, Hagedoorn M, Dalton SO, Hansen DG. Sexual activity in couples dealing with breast cancer: a cohort study of associations with patient, partner and relationship-related factors. Front Psychol. 2022;13:828422.
40. Savitz DA, Wellenius GA. Can cross-sectional studies contribute to causal inference? It depends. Am J Epidemiol. 2023;192(4):514–6.
41. Shamali M, Østergaard B. Implementing the actor-partner interdependence model for dyadic data analysis: an overview for the nurse researcher. Nurse Res. 2019;27(2):28–35. 10.7748/nr.2019.e1651.
42. Wang YF, Liu AK, Dai JZ, et al. The effect of illness perception on psychosocial adjustment of patients with breast cancer and their spouses: actor–partner interdependence model. BMC Psychol. 2024;12:310. 10.1186/s40359-024-01741-6.
43. Duan X, Shao Y, Zhao S, et al. Effects of dyadic coping on post-traumatic growth in patients and couples with breast cancer: an analysis based on the actor–partner interdependence model. Support Care Cancer. 2025;33:62. 10.1007/s00520-024-09091-0.
44. Yang J, Kim J, Kim M. A comparison of the methods for detecting dyadic patterns in the actor-partner interdependence model. Behav Res Methods. 2024;56:4946–57. 10.3758/s13428-023-02233-y.
45. Cook WL, Kenny DA. The actor–partner interdependence model: a model of bidirectional effects in developmental studies. Int J Behav Dev. 2005;29(2):101–9. 10.1080/01650250444000405.
46. Gistelinck F, Loeys T. The actor–partner interdependence model for longitudinal dyadic data: an implementation in the SEM framework. Struct Equ Model. 2019;26(3):329–47. 10.1080/10705511.2018.1527223.
47. Savord A, McNeish D, Iida M, Quiroz S, Ha T. Fitting the longitudinal actor–partner interdependence model as a dynamic structural equation model in Mplus. Struct Equ Model. 2023;30(2):296–314.
48. Hammerton G, Munafò MR. Causal inference with observational data: the need for triangulation of evidence. Psychol Med. 2021;51(4):563–78. 10.1017/S0033291720005127.
49. Iida M, Savord A, Ledermann T. Dyadic longitudinal models: a critical review. Pers Relatsh. 2023;30(2):356–78. 10.1111/pere.12468.
50. Lee TK, Wickrama KAS, O'Neal CW. Modeling longitudinal dyadic processes in family research. J Fam Psychol. 2021;35(7):994–1006. 10.1037/fam0000862.
51. Bodschwinna D, Weissflog G, Döhner H, et al. Couples coping with hematological cancer: support within and outside the couple—findings from a qualitative analysis of dyadic interviews. Front Psychol. 2022;13:855638. 10.3389/fpsyg.2022.855638.
52. Park JH, Jung YS, Kim JY, et al. Trajectories of quality of life in breast cancer survivors during the first year after treatment: a longitudinal study. BMC Womens Health. 2023;23:12. 10.1186/s12905-022-02153-7.
53. Thompson T, Rodebaugh TL, Haun P, et al. Longitudinal dyadic analysis of psychosocial and health outcomes in Black breast cancer patients and their informal caregivers. Cancer Control. 2025;32. 10.1177/10732748251362950.
54. Thompson T, Ketcher D, Gray TF, Kent EE. The Dyadic Cancer Outcomes Framework: a general framework of the effects of cancer on patients and informal caregivers. Soc Sci Med. 2021;287:114357. 10.1016/j.socscimed.2021.114357.
55. Darley A, Furlong E, Maguire R, McCann L, Coughlan B. Relationship and attachment to digital health technology during cancer treatment. Semin Oncol Nurs. 2024;40:151587. 10.1016/j.soncn.2024.151587.
56. Acquati C, Kayser K. Dyadic coping across the lifespan: a comparison of younger and middle-aged couples with breast cancer. Front Psychol. 2019;10:404. 10.3389/fpsyg.2019.00404.
57. Hou J, Falconier MK, Tam W, et al. Dyadic coping and relationship satisfaction among couples with a chronic illness: a meta-analytical actor–partner interdependence model. Clin Psychol Rev. 2025;119:102587. 10.1016/j.cpr.2025.102587.
58. Skivington K, Matthews L, Simpson SA et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. BMJ. 2021;374:n2061. 10.1136/bmj.n2061.
59. Hoffmann TC, Glasziou PP, Boutron I, et al. Better reporting of interventions: Template for Intervention Description and Replication (TIDieR) checklist and guide. BMJ. 2014;348:g1687. 10.1136/bmj.g1687.

60. Moore G, Campbell M, Copeland L, et al. Adapting interventions to new contexts—the ADAPT guidance. BMJ. 2021;374:n1679. 10.1136/bmj.n1679.
61. O'Cathain A, Croot L, Duncan E, et al. Guidance on how to develop complex interventions to improve health and healthcare. BMJ Open. 2019;9:e029954. 10.1136/bmjopen-2019-029954.
62. Proctor E, Silmere H, Raghavan R, et al. Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. Adm Policy Mental Health Mental Health Serv Res. 2011;38(2):65–76. 10.1007/s10488-010-0319-7.
63. Junqueira DR, Zorzela L, Golder S, et al. CONSORT Harms 2022 statement, explanation, and elaboration: Updated guideline for the reporting of harms in randomised trials. J Clin Epidemiol. 2023;158:149–65.
64. Eldridge SM, Chan CL, Campbell MJ, et al. CONSORT 2010 statement: Extension to randomised pilot and feasibility trials. BMJ. 2016;355:i5239. 10.1136/bmj.i5239.
65. Moore GF, Audrey S, Barker M, et al. Process evaluation of complex interventions: Medical Research Council guidance. BMJ. 2015;350:h1258. 10.1136/bmj.h1258.
66. Price-Blackshear MA, Pratscher SD, Oyler DL, Armer JM, Cheng AL, Cheng MX, et al. Online couples mindfulness-based intervention for young breast cancer survivors and their partners: a randomized-control trial. J Psychosoc Oncol. 2020;38(5):592–611.
67. Zhang Y, Kwekkeboom KL. A feasibility study of an uncertainty management intervention for patient-partner dyads experiencing breast cancer. Oncol Nurs Forum. 2020;47(5):595–608.
68. Titler MG, Shuman C, Dockham B, Harris M, Northouse L. Acceptability of a dyadic psychoeducational intervention for patients and caregivers. Oncol Nurs Forum. 2020;47(3):342–51.
69. Koizumi T, Sugishita Y, Suzuki-Takahashi Y, et al. Oncofertility-related psycho-educational therapy for young adult patients with breast cancer and their partners: randomized controlled trial. Cancer. 2023;129(16):2568–80.
70. Langer SL, Romano JM, Keefe F, Baucom DH, Strauman T, Syrjala KL, Bolger N, Burns J, Bricker JB, Todd M, Baucom BRW, Fischer MS, Ghosh N, Gralow J, Shankaran V, Zafar SY, Westbrook K, Leo K, Ramos K, Weber DM, Porter LS. Couple Communication in Cancer: Protocol for a Multi-Method Examination. Front Psychol. 2022;12:769407.
71. Chen M, Gong J, Lin C, Luo H, Li Q. A couple-based dyadic coping intervention for couples coping with colorectal cancer: A pilot feasibility study. Eur J Oncol Nurs. 2023;63:102226. 10.1016/j.ejon.2022.102226.
72. Zhou J, et al. Mutual communication intervention for colorectal cancer patient–spousal caregiver dyads: a randomized controlled trial. Br J Health Psychol. 2024. 10.1111/bjhp.12734.
73. Stiefel F, Bourquin C, Salmon P, et al. Communication and support of patients and caregivers in chronic cancer care: ESMO Clinical Practice Guideline. ESMO Open. 2024;9(7):103496. 10.1016/j.esmoop.2024.103496.
74. Fitch MI, Nicoll I, Burlein-Hall S. Screening for psychosocial distress: A brief review with implications for oncology nursing. Healthcare. 2024;12(21):2167. 10.3390/healthcare12212167.
75. Deshields TL, Wells-Di Gregorio S, Flowers SR, et al. Addressing distress management challenges: Recommendations from the consensus panel of the American Psychosocial Oncology Society and the Association of Oncology Social Work. CA: A Cancer. J Clin. 2021;71(5):407–36. 10.3322/caac.21672.
76. Smith SK, Loscalzo M, Mayer C, Rosenstein DL. Best practices in oncology distress management: Beyond the screen. Am Soc Clin Oncol Educational Book. 2018;38:813–21. 10.1200/EDBK_201307.
77. Chen M, Gong J, Li Q. The application of eHealth in cancer survivorship care: A review of web-based dyadic interventions for post-treatment cancer survivors and caregivers. Asia-Pacific J Oncol Nurs. 2022;9(10):100109. 10.1016/j.apjon.2022.100109.
78. Zhang Y, Li J, Liu F et al. Digital health psychosocial interventions in adult patients with cancer and their family caregivers: A systematic review and meta-analysis. J Med Internet Res. 2024.
79. Moore C, et al. Health literacy, eHealth literacy and their association with health outcomes among cancer caregivers. Front Psychol. 2024;15:1283227. 10.3389/fpsyg.2024.1283227.
80. Wong EC, Maher AR, Motala A, et al. Methods for identifying health research gaps, needs, and priorities: a scoping review. J Gen Intern Med. 2022;37:198–205. 10.1007/s11606-021-07064-1.
81. Nyanchoka L, Tudur-Smith C, Thu VN, Iversen V, Tricco AC, Porcher R. A scoping review describes methods used to identify, prioritize and display gaps in health research. J Clin Epidemiol. 2019;109:99–110. 10.1016/j.jclinepi.2019.01.005.

Figures

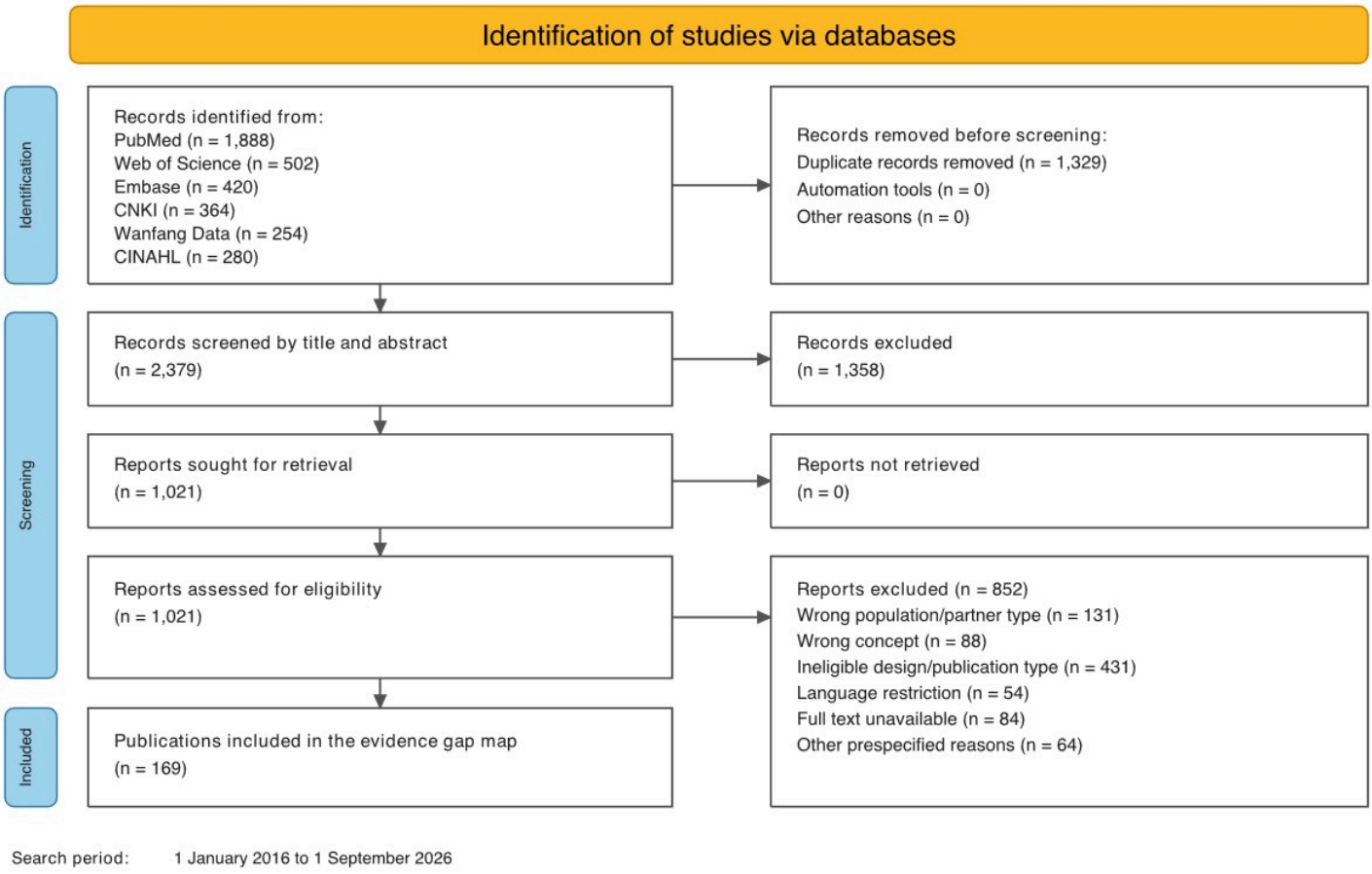


Figure 1

Identification, screening, eligibility assessment and inclusion of publications in the evidence and gap map. Searches covered publications dated from 1 January 2016 to 1 September 2026.

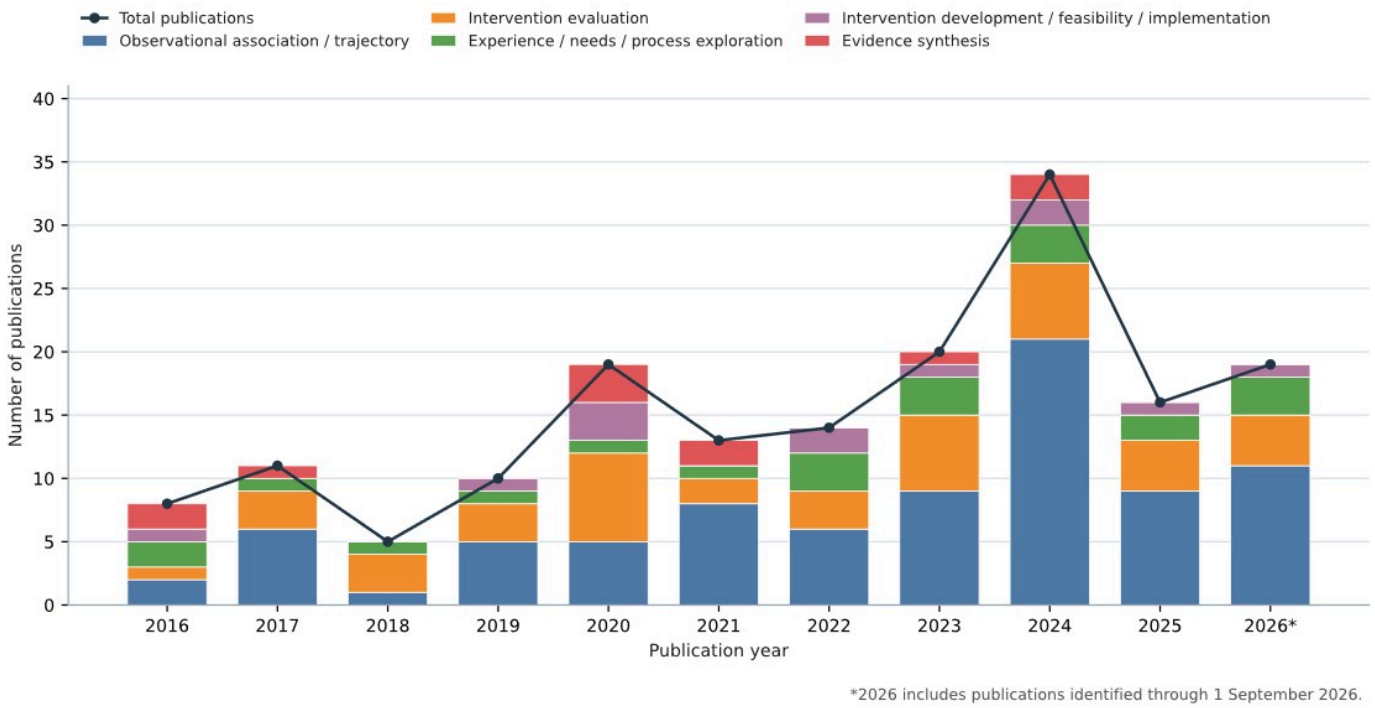


Figure 2

Annual distribution of included publications by research function, 2016–2026. Each publication was assigned to one research function and counted once. Data for 2026 include publications available up to 1 September 2026.

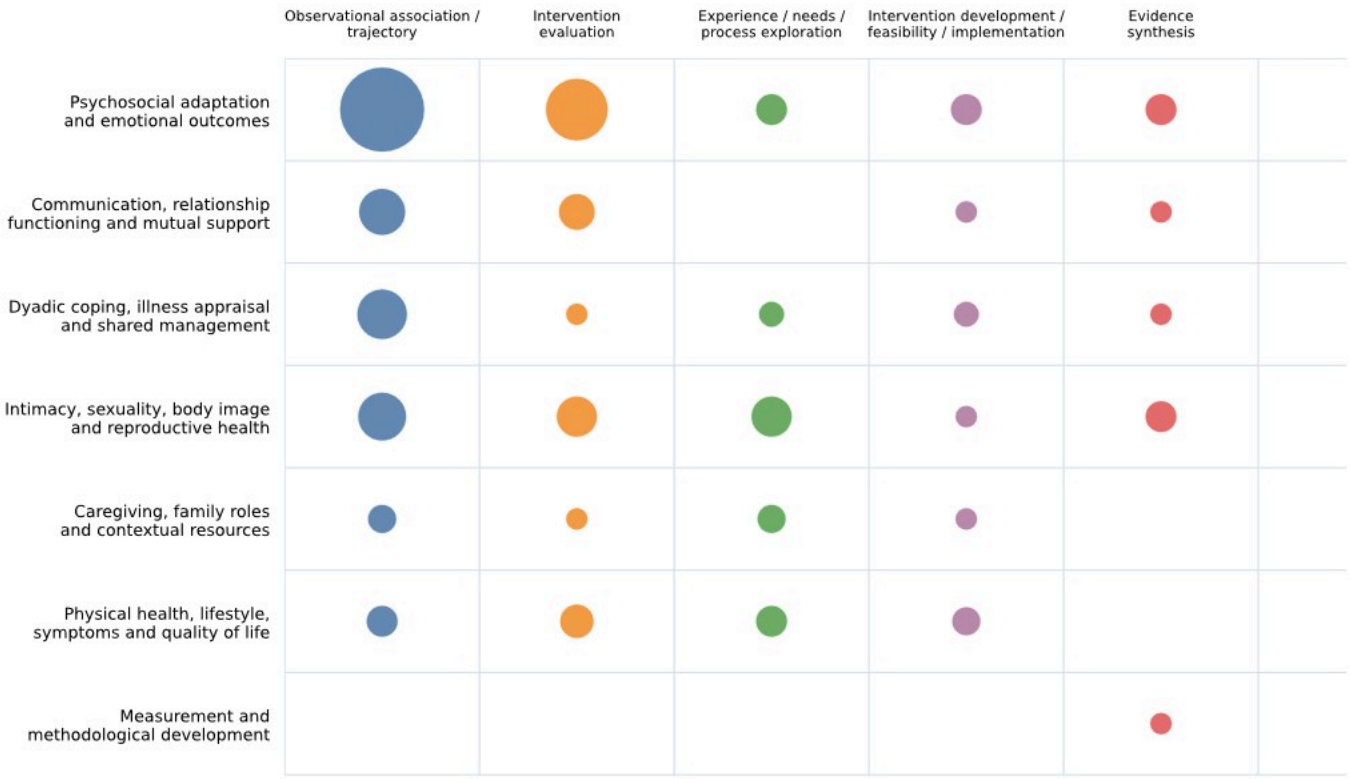


Figure 3

Evidence and gap map of content themes and research functions. Bubble area represents the number of publications in each theme–function cell; blank cells indicate that no included publication was mapped to that combination. Each publication was assigned to one primary content theme and one research function and was counted once. The map describes publication volume and distribution, not methodological quality, certainty of evidence, effect size or intervention effectiveness.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Additionalfile1.Supplementarymaterials.Completedatabasesearchstrategiesdescriptivecharacteristicsandsupplementaryfigures.docx
- Additionalfile2.Studylevelcontentanalysisandthemecodingdataset.Publicationlevelbibliographicinformationandcodingassignmentsforall169includedpubli
- SupplementaryFigureS2.pdf
- SupplementaryFigureS3.pdf
- SupplementaryFiguresS1.pdf