| **Section and Topic** | **Item #** | **Checklist item** | **Location where item is reported** |
| --- | --- | --- | --- |
| **TITLE** | | |  |
| Title | 1 | Identify the report as a systematic review. | Title page – The title includes “A systematic review approach.” |
| **ABSTRACT** | | |  |
| Abstract | 2 | See the PRISMA 2020 for Abstracts checklist. | Abstract – Presents study purpose, databases searched, inclusion criteria, and main findings. |
| **INTRODUCTION** | | |  |
| Rationale | 3 | Describe the rationale for the review in the context of existing knowledge. | Section 1 Introduction – Explains background, rationale, and significance of studying the mental health of left-behind children (LBC) in China. |
| Objectives | 4 | Provide an explicit statement of the objective(s) or question(s) the review addresses. | Section 1 Introduction – States the objectives of synthesizing existing evidence on LBC’s mental health and influencing factors. |
| **METHODS** | | |  |
| Eligibility criteria | 5 | Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses. | Section 2.2 Eligibility Criteria – Defines inclusion (peer-reviewed, English, relevant to LBC mental health) and exclusion (duplicate, non-empirical) criteria. |
| Information sources | 6 | Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted. | Section 2.1 Literature Screen – Lists EBSCO and Web of Science as databases used. |
| Search strategy | 7 | Present the full search strategies for all databases, registers and websites, including any filters and limits used. | Section 2.1 Literature Screen – Describes search terms (“left-behind children” AND “mental health”) and filtering (English, peer-reviewed). |
| Selection process | 8 | Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process. | Section 2.1 Literature Screen – Describes screening of titles, abstracts, and full texts against exclusion criteria. |
| Data collection process | 9 | Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process. | Section 2.3 Data Extraction – Explains how data were extracted independently by two reviewers using standardized forms. |
| Data items | 10a | List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect. | Section 2.3 Data Extraction – Defines primary outcomes (depression, anxiety, resilience, suicidal ideation, etc.) and includes all measures reported across studies. |
| 10b | List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information. | Section 2.3 Data Extraction – Extracted variables include authors, year, method, population, and context; missing data clarified by comparing with study text or excluding unclear results. |
| Study risk of bias assessment | 11 | Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process. | Section 2.4 Quality Assessment – CASP, JBI, and MMAT tools applied by two independent reviewers; Cohen’s kappa used for inter-rater reliability; no automation used. |
| Effect measures | 12 | Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results. | Section 3 Results – For qualitative synthesis, outcomes summarized narratively without quantitative effect measures. |
| Synthesis methods | 13a | Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)). | Section 2.1 Literature Screen – Studies selected based on relevance to LBC mental health and alignment with inclusion criteria. |
| 13b | Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions. | Section 2.3 Data Extraction – Data standardized in table format; duplicates and incomplete records removed. |
| 13c | Describe any methods used to tabulate or visually display results of individual studies and syntheses. | Section 3 Results – Data summarized in tables and visualized in figures showing distribution and themes. |
| 13d | Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used. | Section 2.5 Data Synthesis – Qualitative thematic synthesis used; no meta-analysis conducted due to study heterogeneity. |
| 13e | Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression). | Section 2.5 Data Synthesis – Examined heterogeneity through subgroup comparison (e.g., intervention type, age group). |
| 13f | Describe any sensitivity analyses conducted to assess robustness of the synthesized results. | Section 2.5 Data Synthesis – Results cross-checked by reviewer comparison to confirm consistency. |
| Reporting bias assessment | 14 | Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases). | Section 2.4 Quality Assessment – Discusses publication and reporting bias risks qualitatively; no formal quantitative bias test used. |
| Certainty assessment | 15 | Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome. | Section 2.4 Quality Assessment – Evaluates confidence in findings using MMAT and consistency across reviewers. |
| **RESULTS** | | |  |
| Study selection | 16a | Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram. | Section 3 Results – Reports total records retrieved (692), excluded (655), and included (37), summarized in PRISMA-style flow description. |
| 16b | Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded. | Section 2.2 Eligibility Criteria – Explains exclusions (e.g., duplicates, non-peer-reviewed, irrelevant focus). Specific excluded studies listed in screening notes. |
| Study characteristics | 17 | Cite each included study and present its characteristics. | Section 3 Results – Table summarizing included studies by author, year, method, sample, and findings. |
| Risk of bias in studies | 18 | Present assessments of risk of bias for each included study. | Section 3 Results – Summarizes quality scores from CASP, JBI, and MMAT; provides narrative overview of bias levels. |
| Results of individual studies | 19 | For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots. | Section 3 Results – Provides descriptive summaries of main findings (depression, anxiety, resilience, suicidal ideation); qualitative synthesis, no quantitative effect measures. |
| Results of syntheses | 20a | For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies. | Section 3 Results – Synthesizes findings by themes and notes methodological quality across studies. |
| 20b | Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect. | Not applicable – No statistical synthesis or meta-analysis conducted due to heterogeneity of designs. |
| 20c | Present results of all investigations of possible causes of heterogeneity among study results. | Section 4 Discussion – Compares heterogeneity sources such as region, age, and intervention type. |
| 20d | Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results. | Section 2.5 Data Synthesis – Reviewer comparisons and repeated coding confirmed robustness of qualitative synthesis. |
| Reporting biases | 21 | Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed. | Section 4 Discussion – Discusses potential publication bias and limited reporting detail among included studies. |
| Certainty of evidence | 22 | Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed. | Section 4 Discussion – Evaluates confidence in findings using MMAT scores and cross-validation among reviewers. |
| **DISCUSSION** | | |  |
| Discussion | 23a | Provide a general interpretation of the results in the context of other evidence. | Section 4 Discussion – Interprets findings alongside prior reviews and empirical studies; highlights convergence on depression/anxiety prevalence and correlates. |
| 23b | Discuss any limitations of the evidence included in the review. | Section 4 Discussion – Notes limited recent studies, rural focus (excluding urban LBC), small or cross-sectional samples, and potential publication/language bias. |
| 23c | Discuss any limitations of the review processes used. | Section 4 Discussion – Acknowledges restricted keywords, lack of PROSPERO registration, qualitative synthesis without meta-analysis, and reliance on English-language sources. |
| 23d | Discuss implications of the results for practice, policy, and future research. | Section 4 Discussion – Details implications for rural–urban disparities, school-based supports, community interventions, and migration policy; outlines priorities for future research. |
| **OTHER INFORMATION** | | |  |
| Registration and protocol | 24a | Provide registration information for the review, including register name and registration number, or state that the review was not registered. | Section 2.1 Literature Screen – States adherence to PRISMA 2020 and clarifies that the review was not registered in PROSPERO. |
| 24b | Indicate where the review protocol can be accessed, or state that a protocol was not prepared. | Section 2.1 Literature Screen – Notes that no separate review protocol was prepared. |
| 24c | Describe and explain any amendments to information provided at registration or in the protocol. | Not applicable – No registration or protocol amendments were made. |
| Support | 25 | Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review. | Section 5 Funding – States that this research received no specific grant or financial support from funding agencies; the authors conducted the work independently. |
| Competing interests | 26 | Declare any competing interests of review authors. | Section 5 Declarations – Authors declare no conflicts of interest. |
| Availability of data, code and other materials | 27 | Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review. | Section 5 Data Availability – States that all extracted data, summary tables, and PRISMA checklist are included within the article and supplementary materials; no code was used. |

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