

## Peer-Review comments and authors responses

“The Role of Social Support in Quality of Life After Mastectomy for Breast Cancer: A Systematic Review”

### Reviewer 1

Dear Reviewer, thank you for your valuable feedback and insightful suggestions. All comments have been carefully considered and addressed in the revised manuscript, as detailed below.

**Comment:** I would suggest adding what kind of mastectomy were considered, as many types as possible (total, skin-sparing, nipple-sparing,  $\pm$  reconstruction).

**Response:** *Addressing the first comment, we added the phrase: “without reconstruction, regardless of the type of surgical procedure performed”, to clarify which kinds of mastectomies were included.*

**Comment:** The conclusion could be framed with a slightly more cautious tone, given the heterogeneity and risk of bias in the studies.

**Response:** *According to your recommendation both sections were improved, using a more cautious tone, given the heterogeneity and risk of bias in the studies.*

**Comment:** At the end, the domains of QoL to be analyzed could be mentioned to add clarification.

**Response:** *This section was improved to add clarification.*

**Comment:** The description of Covidence software is extremely detailed and it could be shortened to maintain focus on the methodological aspects (as for example is it not necessary to add the defined criteria to pass to the following phase if the articles met the inclusion criteria).

**Response:** *The description of Covidence software was summarized to help maintain focus on the methodological aspects, while still retaining the essential elements of transparency. Excessive operational data of the software was removed, as well as inclusion/exclusion criteria which were already defined. It keeps reference to dual screening, conflict resolution, and documentation of reasons for exclusion, which are required for reproducibility.*

**Comment:** The text reports many numerical details (that could be seen in detail in the tables) instead of focusing only on key patterns, making the text dense and difficult to read at times. Whenever possible, try to standardize results to improve clarity (as sometimes effect sizes are described and sometimes only raw scores).

**Response:** *We revised the Results to focus on key patterns (e.g., proportion of studies with significant improvement) and to standardize reporting: the main text now emphasizes effect direction and significance, while all numeric details and any reported effect sizes are consolidated in Table 1A, 1B and Supplementary Material 2. This removes repetitive numbers from the prose and improves readability.*

**Comment:** At the end of each domain, a brief summary could be added to highlight the key aspects.

**Response:** *At the end of each domain, a brief summary was added highlighting the main aspects. This makes it easier for the reader to understand.*

**Comment:** As there is risk of bias due to the quality of evidence, a slightly more cautious statement about the findings would strengthen credibility (could and might are options for cautious writing).

**Response:** *The “Conclusions” section was improved to reflect a more cautious wording, according to suggestion. This will help strengthen credibility on the results of the study.*

### Reviewer 2

Dear Reviewer 2, we appreciate your thoughtful review and constructive input. The manuscript has been revised accordingly, and our detailed responses are provided below.

**Comment:** I recommend including some key figures in the results section of the abstract, to be more objective.

**Response:** *We agree that including specific numerical results enhances the objectivity and informativeness of the abstract. We have revised the Results section of the abstract to incorporate key quantitative findings with effect estimates, 95% confidence intervals, and p-values from studies showing positive associations.*

**Comment:** The figures provided in the first paragraph of the introduction are referred to as incidence rates, but they are not provided in person-years. Incidence rates should have time in the denominator. Perhaps you are referring to cumulative incidence instead? Please double-check.

**Response:** *We intended to report annual crude rates from GLOBOCAN rather than cumulative incidence. To avoid ambiguity, we now explicitly state the time unit and the metric in the text.*

**Comment:** In the second paragraph of the introduction, the abbreviation QoL is introduced without any explanation of its meaning. This is relevant, considering that this abbreviation of quality of life is used throughout the manuscript.

**Response:** *We have now defined the abbreviation “QoL” (quality of life) at its first mention in the Introduction (second paragraph) to ensure clarity for the reader.*

**Comment:** Please cite the Supplemental Material under the “search strategy” section

**Response:** *We have included the search strategy in the supplementary material and cited it under the 'Search Strategy' section.*

**Comment:** The eligibility criteria section needs to be written in a more formal tone. For example, I would recommend using passive voice here.

**Response:** *The corresponding section was written in a more formal way, using passive voice, as recommended by the reviewer. We agree that writing it in a passive voice makes it sound more formal.*

**Comment:** Under the section “study selection”, I would suggest removing the excerpt “which automatically managed the reviewer assignments and tracked the decisions. Independent reviewers participated in the Covidence algorithm, which assigned each reference to reviewer pairs to ensure unbiased dual screening.” The clarification is unnecessary, and the independence of reviewers is evident in the next paragraph.

**Response:** *The requested text has been removed as recommended, and the section was rewritten to present a concise methodological description without redundant operational details. The revised version now emphasizes the dual independent screening process and conflict resolution, in line with PRISMA standards.*

**Comment:** Under study selection: “The 194 articles that passed...” belongs to the results section. I suggest changing to “Articles that passed...”

**Response:** *The numerical reference to “194 articles” has been removed from the Study Selection subsection to avoid overlap with the Results section. The text now reads in general terms to maintain methodological clarity and appropriate separation of content.*

**Comment:** “The social support interventions fell into three main categories: psychological (n = 8), digital (n = 3) and multimodal (n = 6). Psychological interventions primarily consisted of individual or group counseling (n = 8), cognitive-behavioral therapy (n = 2), and emotional support programs (n = 9).” These interventions (either social or psychological) do not sum up the total of 15 studies. Could you please clarify?

**Response:** *After reviewing the definitions and the relevant articles, we identified and corrected this inconsistency in the manuscript.*

**Comment:** The information contained in the sections “Primary outcome: Total quality of life (QoL)”, “QoL Domain Results”, “Physiological and spiritual well-being”, “Physical function”, “Social Function”, “Cognitive Function”, “Role and Functional Domains”, “Attention Domain” and “Environmental, General Health and Biological” is very dense, with a lot of figures, and therefore difficult to follow. Is this

information already contained in Table 1? If so, these figures don't need to be duplicated in the main text. If it isn't, consider organizing this information in additional tables. The idea of the results section is to communicate key findings that the authors want to highlight and hopefully convey meaningful messages to readers. Presenting the whole data in the main text can be overwhelming to readers. What is the message that authors want to transmit with the results? Please be more concise with the results section.

**Response:** *We agree that the section was extremely dense and difficult to understand. We removed most numeric values from the text and centralized detailed results in Tables 1A, 1B and Supplementary Material 2. The Results now convey the core message succinctly: 13/15 studies reported significant total-QoL gains with social-support interventions; domain-level findings are briefly summarized with full details in Table 1. We believe this makes the section more concise and reader-friendly.*

**Comment:** The design of Table 1 can be improved. For example, the word "baseline" is repeated up to 114 times in this table. Instead, you could create a column for baseline and another for post-intervention values, thus avoiding repeating the same words and saving space in the table.

**Response:** *Table 1 was split in different tables for greater clarity. We agree that Table 1 was difficult to read, so we improved the design to make it easier to understand.*

**Comment:** I suggest replacing Tables 2 and 3 with "traffic lights" plot, using the robvis tool. Kindly see: <https://www.riskofbias.info/welcome/robvis-visualization-tool>

**Response:** *Table 2 has been updated following your suggestion. This modification helps in making it easier to visualize and summarize. For Table 3, however, using a traffic light plot would result in missing data.*

### Reviewer 3

Dear Reviewer 3, we sincerely thank you for your careful evaluation and helpful recommendations. These have been incorporated into the revised version of the manuscript, as outlined in our responses below.

**Comment:** the use of "quality of life (QoL)" in the Objective, but "health-related quality of life (HRQoL)" in the Background and Conclusions. Unify terminology: use QoL or HRQoL consistently..

**Response:** *To ensure consistency throughout the manuscript, we standardized terminology by using "quality of life (QoL)" or the abbreviation "QoL" in all sections, replacing "health-related quality of life (HRQoL)" where it previously appeared. This change was implemented in the Abstract, Abbreviations, and throughout the main text to maintain conceptual and stylistic coherence.*

**Comment:** "Most studies reported improvements in psychological well-being..." Suggestion: write precisely the number of studies reported.

**Response:** *Corrections were made to indicate the total number of studies that reported improvements in psychological well-being (reduced anxiety, depression, and distress), social functioning and overall QoL.*

**Comment:** The sentence "family- and group-based interventions tended to yield the most sustained improvements, while digital approaches showed promise but limited evidence" reads more like discussion than results. Abstract results should be stated more concisely.

**Response:** *The interpretive sentence has been removed to ensure a concise and objective presentation of findings, consistent with journal standards.*

**Comment:** “breast cancer and its treatment remains” missing space.

**Response:** *The missing spaces have been corrected, but later the paragraph was updated to address more suggestions.*

**Comment:** “Nevertheless, the existing literature presents considerable heterogeneity with inconsistent conclusions, reflecting variations in study designs, populations, support types and intensity, and instruments used to measure QoL outcomes” add reference.

**Response:** *References were added at the end of the statement, but paragraph was later modified to adjust to new recommendations.*

**Comment:** I suggest you add a sentence to justify why you used three languages and not other languages

**Response:** *We added a sentence explaining that these languages were included as they were the team’s working languages and to capture most relevant publications across the Americas, Europe, and parts of Africa and Asia, thereby reducing language bias.*

**Comment:** I suggest you remove this sentence from the methods and add it to the results: “The 194 articles that passed the initial screening underwent full-text assessment by the same reviewer pair.”

**Response:** *The sentence: “The 194 articles that passed the initial screening underwent full-text assessment by the same reviewer pair” was removed from the Methods section, and the Results section was also modified, according to reviewers’ recommendations.*

**Comment:** I would add in the exclusion criteria “men”, even though breast cancer is rare in Men, they are still a relevant subgroup.

**Response:** *Our target population is adult women; accordingly, the inclusion criteria specify ‘women aged  $\geq 18$  years who underwent mastectomy for breast cancer,’ which inherently excludes male patients. We also confirm that none of the studies we included enrolled men or mixed-sex cohorts. For this reason, we have retained the current exclusion criteria without adding ‘men,’ as doing so would duplicate what is already specified by the inclusion criteria. However, if the reviewer still considers this change necessary, we agree to implement it.*

**Comment:** You use “QoL” in some places, “quality of life” spelled out in others (in different sections including methods and discussion)

**Response:** *We have standardized the use of the term throughout the document, which makes it look more professional.*

**Comment:** There are some parts in the results section including interpretation, any interpretation for the data should move to the discussion section.

**Response:** *All sentences that included interpretation were modified so that they don’t appear in this section.*

**Comment:** Add to the limitations that some studies had short follow up and had small sample size it is worth mentioning and discussing.

**Response:** *The recommended limitations were added. This will help strengthen credibility on the results of the study.*

**Comment:** Minor corrections: “post-mastectomy care”, “predominance of RCTs”, “QoL” sometimes appears inconsistently.

**Response:** *The document has been checked for consistency on the highlighted terms.*

**Comment:** References in text has mixed styles: sometimes Author (year), other times Author, year (inconsistent)

**Response:** *We corrected the references according to the APA style.*

**Comment:** Table 1 is very dense it is hard for the reader to follow consider splitting the table or combining similar columns, reporting only key outcomes or change-from-baseline values, using footnotes for detailed domain scores, and/or splitting large sections into concise subheadings within the same table to improve readability.

**Response:** *As suggested, Table 1 was split in different tables, and information was arranged in a clearer way. Now it’s a lot easier to read and understand.*

**Comment:** Table 2 write in consistent format High vs high, Low, low; add footnote with example of other biases.

**Response:** *According to suggestion, table two has been updated to traffic light plot, which makes it easier to visualize.*

**Comment:** Ensure consistent font and size across the document.

**Response:** *Consistent font and size have been checked and will be checked again before submission.*

#### **Reviewer 4**

Dear Reviewer 4, thank you for your thorough review and constructive remarks. We have revised the manuscript to address all points raised, with detailed responses provided below.

**Comment:** If feasible, the authors should consider performing a meta-analysis on a subset of outcomes or, alternatively, presenting a forest plot of the effect sizes from each study in order to visually illustrate the consistency of the intervention benefit. In my opinion, this addition would strengthen the evidence found and would make the results easier to understand to the readers.

**Response:** *We did not perform a meta-analysis because the included studies reported heterogeneous outcomes and measures, which were not comparable across studies. For this reason, we opted to present a narrative synthesis to accurately describe and integrate the available evidence.*

**Comment:** In methods - section c, there is a confusion in the methods description regarding inclusion/exclusion criteria. The text states that “Articles were included if they clearly involved only prophylactic mastectomy, focused solely on reconstruction outcomes, were reviews or editorials, or lacked a comparison group.” : this appears contradictory, since those were reasons to exclude studies (not include them). It is probably a wording issue.

**Response:** *The mistake has been corrected.*

**Comment:** The authors try to categorize interventions into “psychological (n=8), digital (n=3), and multimodal (n=6)” categories. However, these numbers sum to more than 15, which could confuse readers (presumably some studies fell into multiple categories). My suggestion is to clarify the categorization of interventions.

**Response:** *After reviewing the definitions and the relevant articles, we identified and corrected this inconsistency in the manuscript. This section was modified for better clarification of the different types of interventions.*

**Comment:** Most included studies are from China and Iran, with limited European and/or US representation. The authors could acknowledge this and discuss how cultural and healthcare system differences may influence the effectiveness of social support.

**Response:** *The “Strengths and limitations” section has been improved to acknowledge this limitation. This will help strengthen credibility on the results of the study.*

**Comment:** While the narrative synthesis is detailed, readers might find it challenging to gauge the overall benefit of such a diverse set of interventions and the authors should explicitly discuss how this heterogeneity limits comparability.

**Response:** *According to recommendation, this section was improved so that readers find it easier to understand the findings of the review, since the high heterogeneity of the studies limits comparability.*

**Comment:** Table 1 is very detailed (which is great for thoroughness) but also very dense, so, to improve usability, the authors might consider splitting Table 1 or moving some details to an Appendix.

**Response:** *As recommended, Table 1 was split in different tables, and information was arranged in a clearer way. Now it is easier to read and understand.*

**Comment:** The manuscript is well-written, but there are some typographical errors and inconsistencies that should be corrected.

**Response:** *The entire manuscript has been carefully revised to correct minor typographical errors, inconsistent spelling, and formatting discrepancies. Abbreviations, punctuation, and terminology (e.g., “QoL,” “post-mastectomy care”) have been standardized, and the document has been rechecked for linguistic and structural consistency.*

Besides the revisions that were made following the recommendations of the peer-reviewers, the team made some other corrections, taking advantage of the opportunity given to improve the quality of the work. All corrections could be found highlighted in the “Tracked Changes” version.

When the initial submission was made a few weeks ago, four of the group members, by mistake, hadn’t been included as authors. In this revised version the authors and their affiliations were included, as they were additional affiliations from two previous authors. Aligned with this modification, the acknowledgement section was also updated to reflect the change.