Patient-reported outcomes of breast reconstruction after mastectomy: a systematic review

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CRD summary
The review concluded that patient-reported outcomes of breast reconstruction after mastectomy for breast cancer were similar to outcomes for those women had undergone mastectomy without reconstruction. The authors' conclusions appeared to reflect the data presented but, given the potential for language and publication bias and the poor quality of the included studies, their reliability is unclear.

Authors' objectives
To evaluate patient-reported outcomes of breast reconstruction after mastectomy for breast cancer.

Searching
PubMed, PsycINFO, CINAHL and the Cochrane Library were searched to July 2007 for studies published in English. Articles published before 1980 were excluded. Search terms were reported. References of articles were scanned and experts in the field contacted for additional articles.

Study selection
Studies comparing patient-reported outcomes (including clinical and psychosocial) of women who had undergone breast reconstruction after mastectomy for breast cancer, compared with mastectomy only, were eligible for inclusion. Studies of women without breast cancer, of men, or studies that measured only length of stay, complication rates, cancer recurrence, survival or physician assessment of appearance, were excluded.

The included studies used immediate and delayed reconstruction and included both autologous and implant reconstruction, where reported. Outcomes included quality of life, body image and sexuality. Measurement tools of outcomes varied widely between studies and included the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire, the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire - breast cancer, Short-Form 36 Health Survey, and ad hoc questionnaires. Stage of breast cancer of participants varied between studies (where reported).

Two authors independently assessed studies for inclusion. Discrepancies were resolved through discussion.

Assessment of study quality
Validity was not formally assessed using established criteria, however the authors appeared to considered cohort studies, population-based studies and studies using multivariate adjustment to be "higher quality".

Data extraction
Data for the relevant outcomes were extracted and classified as positive (reconstruction outcomes better than mastectomy outcomes), negative (reconstruction outcomes poorer than mastectomy outcomes) and equivalent (reconstruction outcomes were equivalent to mastectomy outcomes).

The authors did not report how many reviewers performed the data extraction.

Methods of synthesis
Studies were combined in a narrative synthesis.

Results of the review
Twenty eight studies (n=9,607) were included in the review. Sample sizes range from 25 to 1,957. Seven studies used a prospective cohort design (including one RCT) and 21 studies used a cross-sectional survey design. Follow-up ranged from two weeks to five years post-diagnosis.
Quality of life (11 studies): Three studies reported better quality of life for women who had undergone mastectomy with breast reconstruction compared with women who had undergone mastectomy only. One study, that included 'younger' women, reported poorer quality of life among those who had undergone mastectomy with reconstruction compared with those who had undergone mastectomy only. However, seven studies reported no statistically significant differences between the two groups.

Body image (16 studies): Seven studies reported better body image in women who had undergone mastectomy with reconstruction compared with those who had undergone mastectomy only, but nine studies reported no statistically significant differences between the two groups.

Sexuality and sexual functioning (12 studies): Three studies reported improved sexual outcomes in women who had undergone mastectomy with reconstruction compared with those who had undergone mastectomy only, while two studies reported poorer sexual outcomes for women who had undergone mastectomy with reconstruction, and seven studies reported no statistically significant differences between the two groups.

Authors' conclusions
The findings suggested that patient-reported outcomes of breast reconstruction after mastectomy for breast cancer were similar to outcomes of mastectomy without reconstruction.

CRD commentary
The review question was clear and supported by clearly defined inclusion criteria for intervention, participants, and outcomes. Several relevant sources were searched, but limitation to inclusion of studies published only in English meant there was potential for language and publication bias. Appropriate methods were used to reduce reviewer error and bias in the selection of studies, but it was unclear whether similar steps were taken in the extraction of data.

A formal validity assessment was not conducted, although it appeared that the authors used some criteria to classify studies as "high quality". However, the full assessment was not reported, and reporting of the quality assessment in the text was unclear. A narrative synthesis was appropriate given the differences between studies in terms of study design and outcomes. Few details of patient characteristics were reported, so it may be difficult to generalise the findings. The majority of the included studies were of a cross-sectional design and these were subject to various potential biases. The authors appropriately discussed limitations of the data in the review including the small number of high-quality studies.

The authors’ conclusions appeared to reflect the data presented, but given the potential for language and publication bias and the poor quality of the included studies, their reliability is unclear.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that further research was required using a prospective design that included women undergoing mastectomy and women undergoing mastectomy with reconstruction, with a sample large enough to detect difference and measuring patients’ psychosocial characteristics, key outcomes at baseline before surgery, and use of multivariate analysis to adjust for potential confounders. In addition, patients’ preferences regarding issues that influence decisions about reconstruction should be evaluated and all patient reported outcomes should be evaluated using measures with adequate sensitivity to detect changes.

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