Body image after bilateral prophylactic mastectomy: an integrative literature review
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CRD summary
The review concluded many women suffered a negative effect on body image after bilateral prophylactic mastectomy (BPM). However, many reported satisfaction with their decision. The author also concluded that the review results should be interpreted with caution due to lack of robust evidence. Given the uncertain methodological rigour of the review and the included studies, the reliability of the author’s cautious conclusion is difficult to determine.

Authors' objectives
To evaluate the effect of bilateral prophylactic mastectomy (BPM) on women's body image following surgery.

Searching
MEDLINE, CINAHL, Kluwer and PsycINFO databases were searched from 1984 to 2004. Search terms were reported. Bibliographies of published studies and related articles were also conducted to identify relevant studies. Only studies published in English were eligible for inclusion.

Study selection
Studies evaluating the effect of BPM on women's body image after surgery were eligible for inclusion. To be included, studies had to assess women who had no previous diagnosis of breast cancer. BPM was defined as the surgical removal of both breasts performed for the purpose of preventing cancer.

The majority of studies included in the review were retrospective in design and included quantitative, qualitative, and mixed qualitative and quantitative methods (text and tables differ in description). The age of the women included in the review ranged from 29 years to 50 years and all had a family history of breast cancer. The majority of the included participants were white. Outcomes assessed included sexual changes, satisfaction or regret, femininity and body image. The body image outcomes measurement was conducted using questionnaires developed by researchers for most of the quantitative studies.

The author did not state how papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The author did not state that validity was assessed.

Data extraction
Data were extracted onto a standardised form but the author did not state how many reviewers performed the data extraction.

Methods of synthesis
Data were analysed using Ganong's six-step methodology. Studies were combined in a narrative synthesis, structured by outcomes assessed, and additional information was given in a study table.

Results of the review
Thirteen studies were included in the review (n=1,091). Ten studies were retrospective and three were prospective in design. Eight studies were described as quantitative, four as qualitative and one as mixed qualitative and quantitative design (text and tables differ in description).

Decreased sexual function/sexual relationships (11 studies (number in table and text differ)): Six studies reported no detrimental effect on sexual functioning or sexual relationships for the majority of women who had undergone BPM (text and tables differ). However, between 3.3% and 55% of women reported decreased sexual function or sexual relationship (nine studies, n=918). In one study (n=15) five women reported anticipating the loss of their breasts.
Satisfaction/Regret (nine studies): Six studies (n=842) reported that between 52% and 100% of women expressed satisfaction of undergoing BPM. Three studies (n=89) reported that women included in the study would recommend BPM to other women. One study (n=60) found that younger women were less satisfied with BPM, while all women over 50 years reported being extremely satisfied. Three studies (n=39) found that women had no regrets of undergoing BPM, although three studies (n=700) did report between 5% and 18% of women expressing regret.

Femininity (three studies): One study (n=572) found that 67% of women reported no change to feelings of femininity, however two studies (n=131) reported between 29% and 94.1% of women reported changes. Generally, although women experienced changes to femininity they did not report negative sexual changes (data not reported).

Negative effects on body image (10 studies): two studies (n=139) reported no detrimental effect on body image. Six studies (n=732) found that between 23% and 88.2% of women experienced negative effects on body image. One study (n=10) reported most women were concerned about the loss of their nipples.

**Authors' conclusions**
Most of the included studies found that many women suffer a negative effect on body image after BPM. However, despite the negative responses, the majority of women reported they were satisfied with their decision to undergo BPM. Where reported, studies found that few women regretted their decision to undergo BPM. The results should be interpreted with caution due to lack of robust evidence.

**CRD commentary**
Inclusion criteria were clearly stated in terms of intervention, participants and outcomes but were not stated for study design. Several relevant sources were searched but no attempts were made to minimise either publication or language bias. Methods used to select studies and extract data were not described, therefore it is not possible to determine the potential for bias and error. Study validity was not assessed, so results from these studies and any synthesis may not be reliable. Some characteristics of the included studies were presented in a table or reported in the text. The majority of included studies were retrospective in nature and were non-randomised, and these are subject to various potential biases. Therefore, results from these studies and any synthesis may not be reliable. Given the uncertain methodological rigour of the review and the included studies, the reliability of the author's cautious conclusion difficult to determine.

**Implications of the review for practice and research**
Practice: The author stated that women should be counselled thoroughly about their decision to undergo BPM to reduce negative responses in terms of body image and should be balanced with positive outcomes such as reduced risk, worry and anxiety of developing breast cancer.

Research: The author stated that future studies should evaluate changes in body image prospectively using standardised approaches to measurement.

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