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Title **BRCA1 and BRCA2 Predictive Genetic Testing for Breast and Ovarian Cancers: A Systematic Review of Clinical Evidence**

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Aim

To evaluate the analytical and clinical validity of BRCA1/2 genetic testing; to assess the contribution of molecular testing to genetic counseling and clinical management; and to discuss the ethical and psychosocial issues inherent in BRCA1/2 testing.

Conclusions and results

There is no compelling evidence that one test performs better than another, and there is no clear evidence to suggest testing will lead to decisions that result in long-term health benefits. Knowledge about the association of cancer and genetics is limited in the general population. Test results influence individual risk perception, emotional states, and social issues. Counseling reduces the perceived risk and the associated anxiety, and increases the uptake of testing. Until better information becomes available, other factors such as test availability ease of implementation, regulatory considerations, and price should be considered in deciding the method used for testing.

Recommendations

Not applicable.

Methods

A defined search strategy and selection criteria were used to identify published and grey literature. A study was included for review if it met the eligibility criteria established a priori by two independent reviewers. Study quality was assessed and data were extracted regarding molecular methods, analytical validity, psychosocial impact, ethical issues, and clinical management.

Further research/reviews required

Decisions regarding BRCA1/2 testing need to be revisited. Scientific data are accumulating rapidly. If the expansion of testing and the creation of best practices are pursued, an update of this report should be considered.

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