

(Cost-)effectiveness of Cognitive Behavioural Therapy and Physical Exercise for Alleviating Treatment-induced Symptoms in Breast Cancer Patients

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Background

Cancer therapy can lead to an early onset of menopausal symptoms, such as hot flashes and night sweats, with symptoms being more severe than after natural onset.

Standard treatment for the symptoms is contraindicated or has side effects. Cognitive behavioral therapy and physical exercise are non-pharmacological treatments that were observed to be effective in alleviating the symptoms.

Objective

To evaluate the cost-effectiveness of cognitive behavioral therapy, physical exercise, and the combination of both for alleviating treatment-induced menopausal symptoms in breast cancer patients.

Methods

Cost-effectiveness analysis from the health care system perspective, based on a randomized controlled trial in which **cognitive behavioral therapy (CBT)**, **physical exercise (PE)**, and the **combination of both (CBT+PE)** were compared to a waiting list control group (WLC).

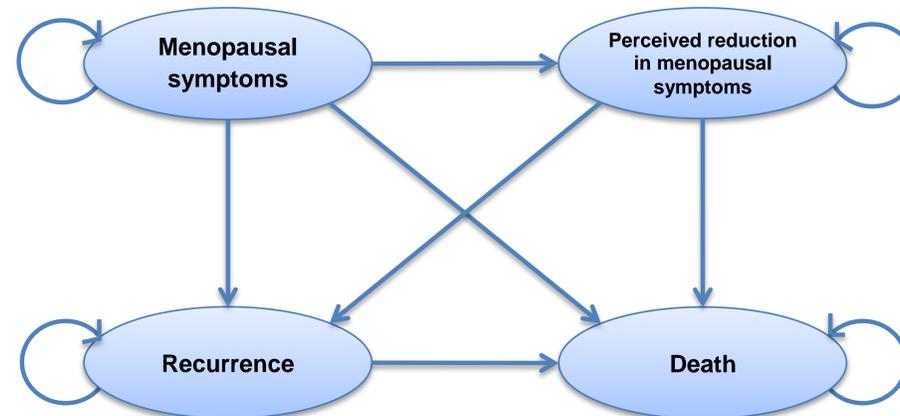


CBT: Six weekly group sessions, aiming at changing the perception of the symptom burden.

PE: A 12-week home-based, individual exercise program, aiming at reducing the frequency of symptoms.

A Markov model was used to propagate costs and quality-adjusted life years (QALYs) over a five-year period. The results were expressed as incremental costs per QALY (gained).

Model structure



The main effectiveness outcome in the trial was the Hot Flush Rating Scale (HFRS), which measures the perceived symptom burden. Patients who had a clinically relevant improvement on the HFRS moved from the health state “menopausal symptoms” to “perceived reduction in menopausal symptoms”.

Model input:

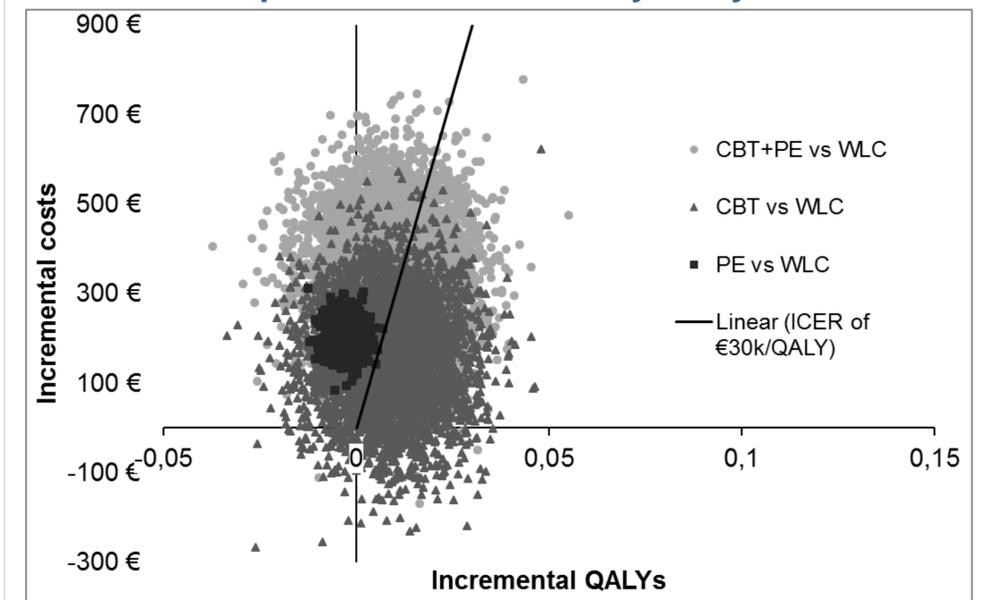
Costs included the interventions' costs, medication costs, and other health care resource use. Effects were measured in QALYs.

Results

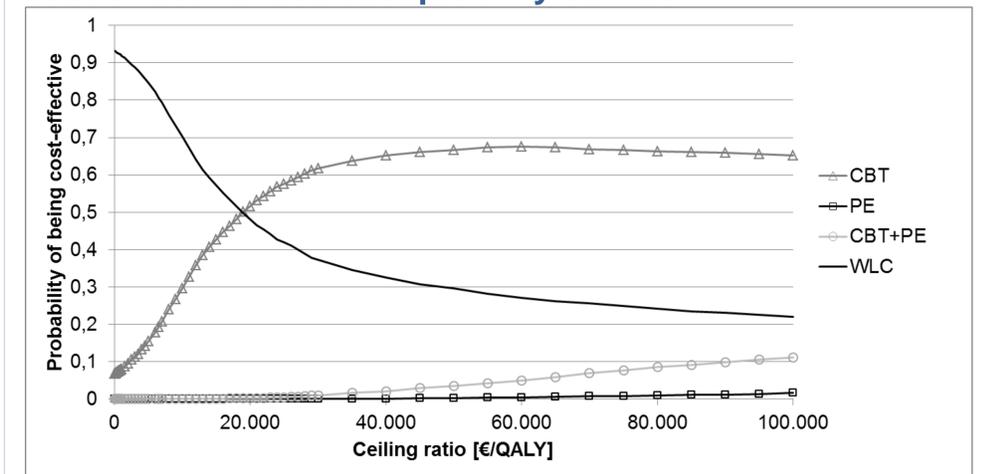
	CBT	PE	CBT+PE
ΔQALYs*	0.0087	-0.0016	0.0085
ΔCosts*	€162	€202	€360
ICER	€18,655	€-128,423	€42,375

*Comparing the intervention groups to the waiting list control group

Results of the probabilistic sensitivity analysis



Cost-effectiveness acceptability curves



Conclusion

Of the three treatments investigated, cognitive behavioral therapy is most likely to be cost-effective compared to the waitlist control group.

