Cognitive behavioral therapy and physical exercise for climacteric symptoms in breast cancer patients experiencing treatment-induced menopause

A randomized controlled multicenter trial

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Breast cancer and premature menopause

- 12,000 new cases each year in the Netherlands; 30% premenopausal
- Ovarian damage due to treatment
- Early onset of menopause
- Primary symptoms menopause: hot flushes, night sweats, vaginal dryness, urinary incontinence
- Secondary symptoms include insomnia, weight gain, psychological distress, and reduced HRQL

- Hot flushes most disruptive
- Dysfunction of thermoregulatory center in hypothalamus, due to changes in estrogen level
- Other causes
Medical treatments for menopausal symptoms

- Hormone replacement therapy (HRT)
- Non-hormonal treatment, for example:
  - Clonidine (anti-hypertensive agent)
    30-50% decrease of hot flush/ night sweat
  - SSRI (anti-depressant agent)
    effective but adverse effects limit use

No demonstrated efficacy in acute menopause
## Behavioral interventions for menopausal symptoms

- **Cognitive behavioral therapy (CBT)**
  - Information about symptoms
  - Monitoring and modifying symptoms
  - Stress management and relaxation
  - Cognitive restructuring of automatic thoughts
  - Encouraging helpful behavioral strategies

- **Physical exercise (PE)**
  - 2.5-3 hours per week/ 12 weeks
  - 60-80% maximum heart rate
  - Affect thermoregulatory system
Study objectives

To evaluate, in the context of a RCT, the efficacy of an intervention program (CBT, PE, combination CBT/PE, control) in reducing menopausal symptoms in women with primary breast cancer who undergo premature treatment-induced menopause.

Secondary outcomes will include sexual functioning, urinary symptoms, body- and self image, psychological distress and HRQL.
Study sample

Inclusion
• Minimum of 325 women; < 50 years of age; primary breast cancer
• Premenopausal at time of diagnosis
• Completed adjuvant chemotherapy; hormonal therapy
• Disease-free at time of study entry
• Presence of hot flushes, night sweats, vaginal dryness
• 5 years retrospective, 2 years prospective recruitment

Exclusion
• Lack basic proficiency in Dutch
• Serious cognitive/ psychiatric problems; serious physical comorbidity
• BMI $\geq 30$
• Concurrent studies
Study design

Identification by hospital registries and clinicians

Screening instrument

Response

Yes

Motivated? Symptoms?

Yes

Info by phone

Baseline

Response and consent

Yes

Randomization

Follow-up questionnaires

CBT

12 wk

6 mn

PE

12 wk

6 mn

CBT PE

12 wk

6 mn

Control

12 wk

6 mn

Non-response analyses

Patient characteristics

Non-response analyses
Outcome measures

- Menopausal symptoms (FACT-ES)
- Vasomotor symptoms (Hot Flush Rating Scale)
- Urinary symptoms (BFLUTS)
- Sexuality (SAQ)
- Body image & self-image (QLQ-BR23)
- Psychological distress (HADS)
- Generic health-related quality of life (SF-36)
Cognitive behavioural therapy

- 6 weekly group sessions
- 1.5 hour per session
- 6-8 participants per group
- Homework assignments (15 minutes per day)
- Social workers/ psychologists

Primary focus CBT on hot flushes, night sweats and relaxation
Physical exercise

• 4 individual contacts with physiotherapist
  - Intake
  - Telephone contact (2x)
  - Evaluation
• Individually tailored
• 2.5-3 hours per week
• 12 weeks
Flow of patients

Identification by hospital registries and clinicians

2688
Screening instrument

Response
Yes

Motivated?
Symptoms?
Yes

Info by phone

Baseline

Response and consent
Yes

Randomization

Follow-up questionnaires

109
CBT
12 wk
6 mn

104
PE
12 wk
6 mn

106
CBT PE
12 wk
6 mn

103
Control
12 wk
6 mn

1514 / 662
No

920 / 627
No

603
No

422

Non-response analyses
Patient characteristics
Non-response analyses

603 / 662

603 / 627

109

103

11

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## Patient characteristics

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Short term results

p = 0.015

p < 0.001
Short term results

**Urinary symptoms**

- Urinary symptoms showed significant improvement over time for all groups with p < 0.001.

**Health related quality of life**

- Health related quality of life also improved significantly with p = 0.004.

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Background Study objective Methods Interventions Results Conclusion

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Short term results

\[ p = 0.033 \]
Conclusion

• Cognitive behavioral therapy and physical exercise appear to reduce menopausal and urinary symptoms
• Also, these interventions affect health related quality of life of breast cancer patients who experience treatment induced menopause
• However, non compliance rate is high. Reasons for non compliance are currently being explored

If proven to be effective over the longer follow-up period, implementation of these interventions, perhaps with modifications to increase compliance, will be a welcome addition to the regular medical care of breast cancer patients
Thank you

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