Effects of a home-based breathing training on menopausal symptoms among community postmenopausal women

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Background
- Postmenopause may be at increased risk for cardiovascular disease.
- Vasomotor symptoms are related to autonomic activity, and late onset of vasomotor symptoms are associated with increased cardiovascular disease risk and all-cause mortality.
- Slow breathing is widely applied to provide relaxation and improve autonomic functions.

Methods
- **Study design**: is a prospective, triple-blinded and randomized controlled trial (clinicaltrial.gov identifier - NCT 03082040)
- **Participants**:
  1. Women aged from 45 to 64 reporting cessation of menstrual cycles with natural causes ≥ 12 consecutive months
  2. Greene Climacteric Scale (GCS) scores ≥ 1
- **Instruments**:
  1. Menopausal symptoms: GCS
  2. Autonomic functions (blood pressure, heart rate, and heart rate variability): ProComp Infiniti
- **Study groups**: randomly assigned to:
  1. Intervention group, who underwent a home-based slow breathing assisted with biofeedback device twice daily for 4 weeks
  2. Waiting-list control group, who participated the same breathing training after a four-week waiting period
- **Data collections**: before breathing training (baseline), week 4, and week 8.

Results
- Fifty-four postmenopausal women with mean age of 56.09 ± 4.31 year-old participated.
- Menopausal symptoms:
  1. Hot flashes was associated with increased anxious and depressed symptoms (β=.366, p=.007 and β=.449, p=.001, respectively)
  2. Somatic symptoms also result in more anxious and depressed symptoms (β=.617 and β=.711, respectively, all p<.001).
  3. Adjusting for baseline pNN50, hot flashes and somatic symptoms, a) Intervention group (n=24): significant decreased menopausal symptoms, including the total scores, anxious, depressed and psychological symptoms, after the four-week breathing training (p<.001, p=.009, p=.001 and p=.002, respectively) and keep descending after a four-week follow-up but without statistical significance (all p>.05).
  b) Waiting-list controls (n=30): significant decreased menopausal symptoms in total scores, anxious, depressed and psychological symptoms after the same four-week breathing training (p<.001, p=.002, p<.001 and p<.001, respectively).

Conclusion
- This four-week home-based breathing training assisted with biofeedback has a beneficial impact on menopausal symptoms, especially the anxious and depressed symptoms, among community menopausal women.
- Home-based breathing training is recommended to popularize for community menopausal women to practice at home.

Purpose
- To evaluate the effects of a home-based breathing training assisted with biofeedback on menopausal symptoms and autonomic functions among community menopausal women in Taiwan.