

Effects of a combined aerobic exercise and meditation programme on physiological markers in women aged 60-85 years

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Introduction

Cardiovascular disease (CVD) is the number one killer of women in NZ. Hypertension is one of the major risk factors associated with CVD. Because of the huge costs associated with antihypertensive medications there is a growing interest in exploring methods to reduce blood pressure (BP) through non-pharmacological treatments. Aerobic exercise (AE) and meditation (MED) are proven nonpharmacological treatment options for lowering BP (1, 3). While previous research has investigated the independent effects of AE and MED on BP, none have explored a combined effect. Therefore, The purpose of this study was to explore the effects of a combined AE and meditation programme on BP and heart rate (HR) in women aged between 60-85 years old.



Results

Table 1.

Group outcome for systolic and diastolic blood pressure and heart rate expressed in mean and standard deviation.

Metric	Baseline	Post-exercise	Post-meditation
Systolic (mmHg)	273.2 ± 23.5	270.4 ± 25.5	266.4 ± 28.3
Diastolic (mmHg)	153.2 ± 22.8	161.0 ± 25.6	155.2 ± 23.4
Heart rate (bpm)	148.4 ± 13.2	145.2 ± 20.5	144.7 ± 19.8



Method

- Ten women (mean age 71.6-years) were recruited from Ngaruawahia Health Centre.
- Participants performed one 30-minute aerobic exercise session followed by a five-minute meditation, once a week for two-weeks.
- BP and HR were measured prior to exercise, immediately after exercise and immediately following meditation session.



Findings

- AE followed by a five-minute MED decreased mean SBP by -3% and HR by -2.5%. These findings are in line with current literature which supports exercise and meditation as effective modalities for reducing BP and RHR in individuals with hypertension (1, 3).
- AE and MED increased DBP by 5.7% and 2.7% respectively. Increases in diastolic values may be as a result of hypercholesterolemia and type 2 diabetes and their inhibitory effects on the body's vasodilation mechanisms (2).

Exercise vs Baseline

■ SYS ■ DIA ■ HR

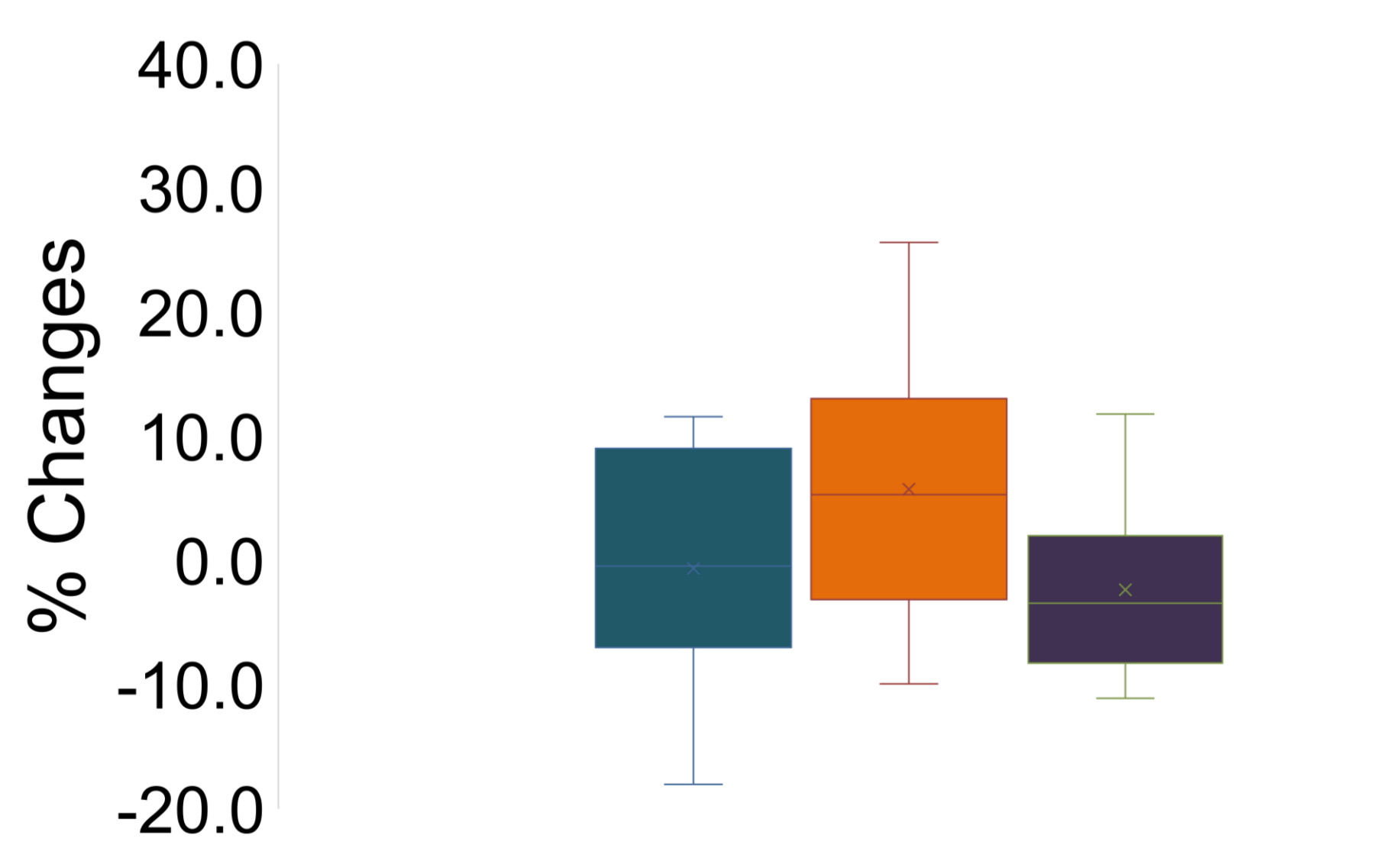


Figure 1. Percentage change in BP and HR between exercise and baseline.

Meditation vs Baseline

■ SYS ■ DIA ■ HR

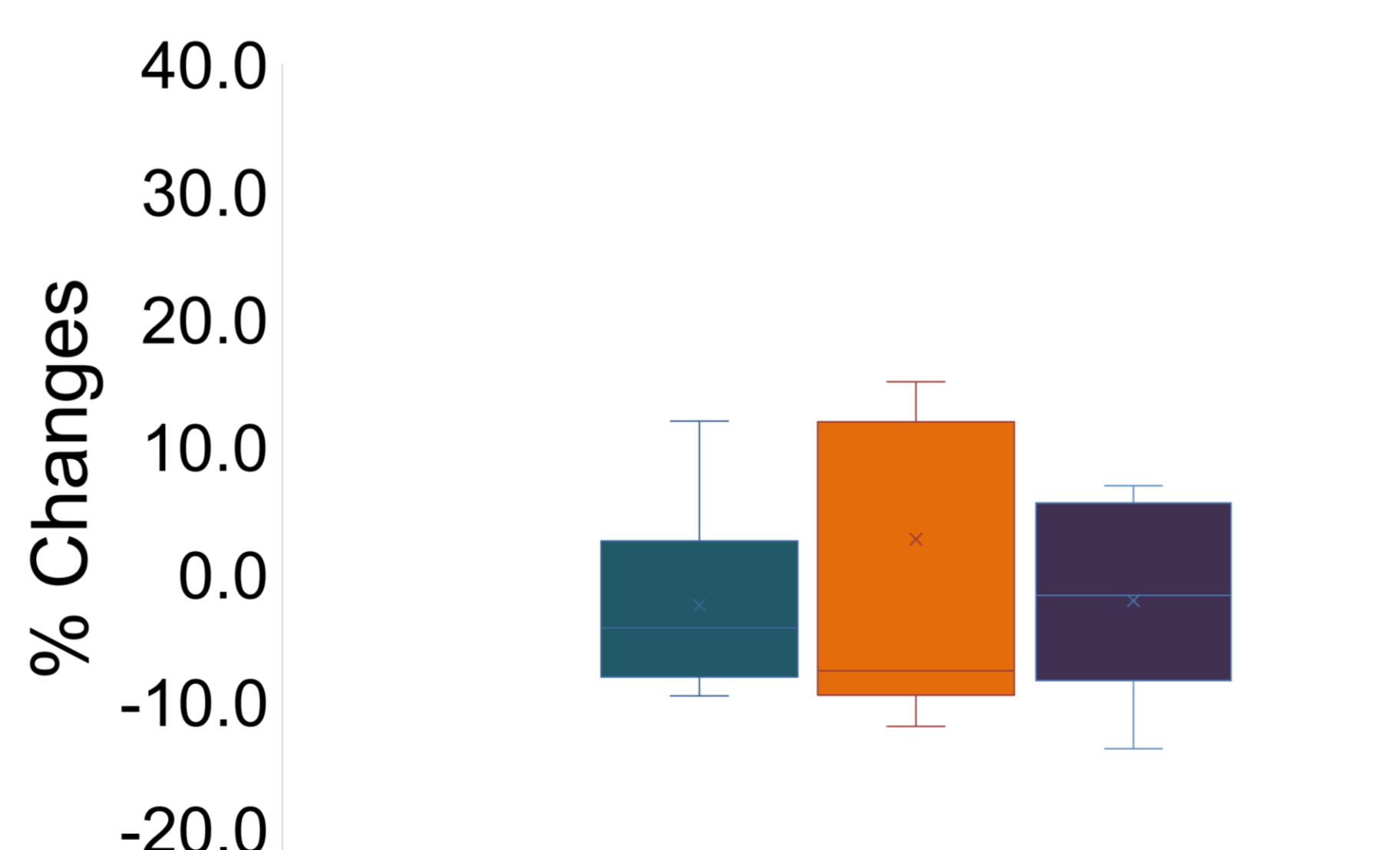


Figure 2. Percentage change in BP and HR between meditation and baseline.

Meditation vs Exercise

■ SYS ■ DIA ■ HR

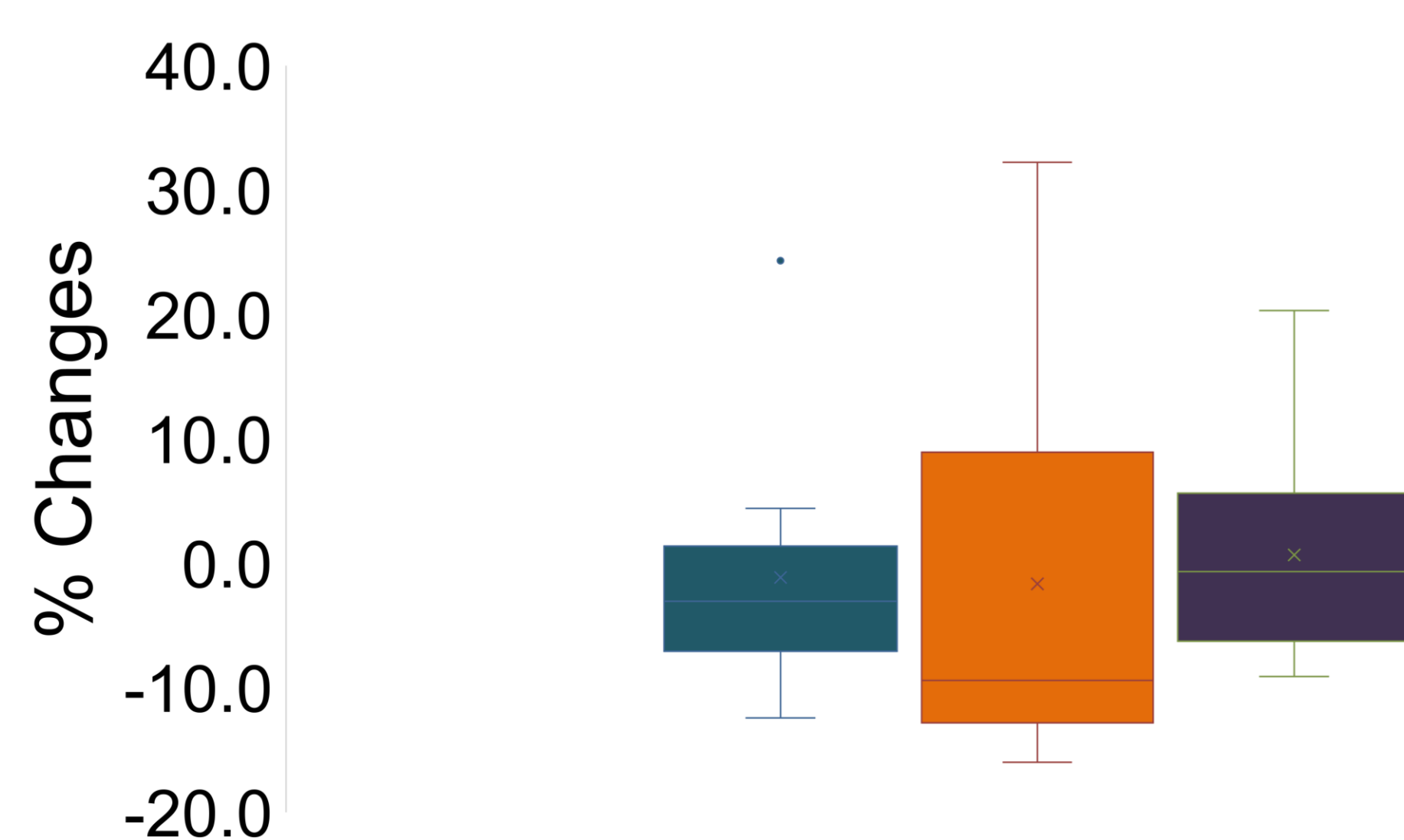


Figure 3. Percentage change in BP and HR between meditation and exercise.

Key Take Home

This research suggests that a combination of AE and MED is an effective strategy for reducing BP in hypertensive older women. However, interventions that compare the modalities against each other and are of a longer duration should be considered by future practitioners.

References

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