

Data Skills Project

Possible Dataset #1: Foot massage and blood pressure

Objective and sampling

The dataset was collected as part of a study investigating the effects of aromatherapy foot massage on blood pressure and anxiety. The participants in the study were collected via voluntary response of Japanese adults (the study was advertised in flyers and newspapers to communities in/near Matsuyama, Ehime Prefecture, Japan). Participants ranged in age from 20 to 72 years old, must have been healthy with respect to cardiovascular health and blood pressure. A total of 57 individuals originally agreed to participate and were incorporated into the study design. However, two (2) of these individuals dropped out before the first collection of data, and another four (4) individuals dropped out of the study at various time points.

Study Design

The study design was a repeated measures design with randomization on the order of participation in two treatments. Participants were randomly assigned to one of two **groups**, “group A” and “group B”. Group A received the “intervention” treatment first, followed by the “non-intervention” (i.e. control) treatment second. Group B received the “non-intervention” (i.e. control) treatment first, followed by the “intervention” treatment second. Both groups had an initial “baseline” examination (i.e. data collection) at the start of the 8-week study.

The intervention treatment involved a 10-minute footbath, followed by a 45-minute, self-administered aromatherapy foot massage (under the guidance of a trained instructor). The foot massage involved participants smelling and massaging essential oils (a blend of lavender, chamomile, sandalwood, ylang-ylang, and marjoram in jojoba oil) into their legs, while also stimulating acupuncture points. Following the massage, participants relaxed on their back for a 5-minute period. This procedure was repeated three (3) times per week for four (4) weeks. At the end of the four (4) weeks of the intervention treatment, measurements for the response variables and cofactors were collected.

The non-intervention treatment did not consist of any activities/interactions for a period of four (4) weeks. At the end of the four (4) weeks of the non-intervention treatment, measurements for the response variables and cofactors were collected (similar to that for the intervention treatment).

All intervention treatment sessions, as well as the follow up examinations where the measurements were taken were conducted in a common environment (a fitness club) with controlled humidity and temperature.

Measurements

At each of the three timepoints for data collection (baseline [i.e. start of the 8-week study], week 4 follow up, and week 8 follow [coinciding with the end of the study]), data were collected on a variety of measurements for the response variable and cofactors as follows:

- i) blood pressure was measured using both systolic blood pressure and diastolic blood pressure (in millimetres of mercury, mmHg). At each timepoint, participants breathed deeply five times, had their systolic blood pressure (“**sysBP**”) and diastolic blood pressure (“**diaBP**”), as well as heart rate recorded (i.e. “**first** measurement” at a timepoint). They then took another two deep breaths,

and had these three measurements repeated (i.e. technical replicates at each timepoint, “**second measurement**” at a timepoint).

- ii) whether individuals regularly engaged in **drinking** alcohol was recorded using a simple yes/no style question.
- iii) whether individuals considered themselves as an **optimist** was recorded using a simple yes/no style question.
- iv) Physical characteristics of **weight** (in kilograms), **height** (in metres), and **heartrate** (in beats per minute) were measured.