The Effects of the Emotional Stress Release Technique on Cardiac Parameters

Abstract:

This pilot experiment was carried out to see if holding your forehead known as the emotional stress release (ESR) technique has an effect on cardiac parameters during times of stress. A sphygmomanometer was used to measure blood pressure and pulse rate during stress, and then again during stress while holding points on the forehead. The control was the resting rate of blood pressure and pulse. Results showed a significant difference in cardiac parameters while holding the ESR points. The null hypothesis that there will be no difference in blood pressure or pulse rate when a person is stressed using the ESR technique was rejected. The conclusion of the study is that holding the ESR points while stressed will lower blood pressure and pulse rate to normal resting rate.

The intention of this work is to investigate whether or not a technique called Emotional Stress Release (ESR) technique has an effect on blood pressure and pulse rate.
ESR was first researched by Terrence Bennett D.C, a Californian Chiropractor, who using a fluoroscope and a contrast dye, held various points on the head and documented where the blood flow went. He recorded that holding gently on the forehead, halfway between in eyebrows and the hairline, and in line with the pupils of the eyes, (also known as the frontal eminences) the contrast showed the flow of blood increasing to the stomach and the frontal lobe of the brain. During times of stress blood vessels constrict when adrenalin releases, and blood flow moves to the large skeletal muscles to accommodate the flight /fight response. Holding lightly on the ESR points while the person thinks about a stressful situation is believed to have a calming action and restore the blood flow to normal during times of stress.

The hypothesis is that there is a difference in blood pressure and pulse parameters, if the person uses the ESR technique while thinking of a stressful situation, as opposed to not using this technique when stressed.

The null hypothesis is that there will be no difference in blood pressure or pulse rate when a person is stressed using the ESR technique.

Method:

1. Using a sphygmomanometer, the resting blood pressure and pulse was measured three times over a five-minute interval. At 0 minutes, 2.5 minutes and 4.5, minutes.

2. The person thought and talked of a particularly stressful event, and the blood pressure and pulse were again measured three times over 5 minutes as before.

3. The person continued to think and talk about the stress while the ESR points were held and the blood pressure was measured three times over 5 minutes.

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Results:

At rest the people in this study showed normal rage blood pressure and pulse reading for therr age.
Mean average: Systolic 111 mmHg,
Diastolic 67.2 mmHg,
Pulse rate: 72.6 beats per minute (bpm)

During Stress both systolic and diastolic blood pressure increased as did the pulse rate

Mean average: Systolic 125.2 mmHg,
Diastolic 78.2mmHg,
Pulse rate 84.2 bpm

While still thinking about the stress and holding the ESR points the blood pressure fell to around normal levels, despite the fact that the subjects was still visibly upset and stressed.
Mean average: Systolic 108mmHg,
Diastolic 68mmHg,
Pulse rate: 68 bmp.

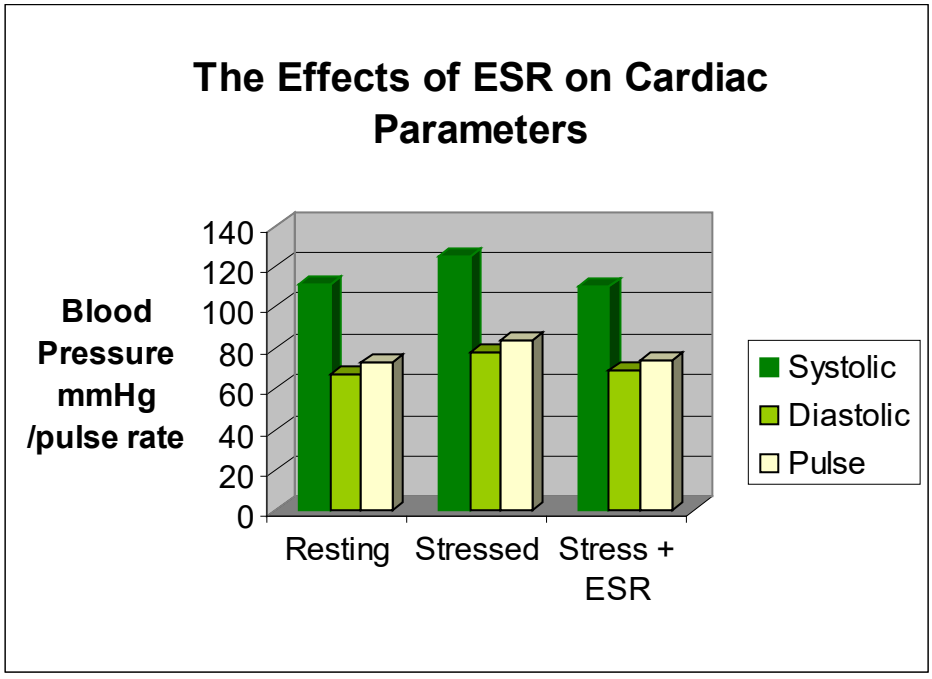

Figure 1: Comparison of results of experiment, showing mean averages for Systolic BP, Diastolic BP and Pulse rate, during resting, thinking about stressful event and thinking about stressful event and holding the ESR points on forehead.

Results of t –tests

Systolic Blood Pressure

T-test: Resting vs. Stressed p = 0.0014

Stressed vs. Thinking of Stress + ESR p = 0.0007

Resting vs. Thinking of Stress + ESR p = 0.8824

Diastolic Blood Pressure

T-test: Resting vs. Stressed p = 0.0007

Stressed Vs. Thinking of Stress + ESR p = 0.0039

Resting Vs. Thinking of Stress + ESR p = 0.4346

Pulse Rate

T-test: Resting vs. Stressed p = 0.0014

Stressed vs. Thinking of Stress + ESR p = 0.0075

Resting vs. Thinking of Stress + ESR p = 0.5334

Discussion:

In this experiment the null hypothesis has been rejected. T-test shows a significant difference between the control, resting and thinking about stress, in systolic, diastolic and pulse rate. There is also a significant difference between thinking about a stressful situation and thinking about the same situation while holding ESR points. There is no significant difference between resting state and thinking about a stressful situation while holding the ESR points.

This data suggests that holding the ESR points during times of stress can help reduce blood pressure and pulse rate

Further experiments that I intend to do as a follow on to this study is to conduct a similar study on a large amount of people, using much the same techniques, with a control group of people monitoring blood pressure and pulse rate while resting versus a stressful situation. The second group would have the same parameters checked while resting versus a stressful situation and holding ESR points. A third group would have the same parameters monitored while resting versus holding a different part of the head or face, to see if simply human touch is enough to lower blood pressure and pulse rate, and not necessarily any particular point.

In conclusion, this was an experiment to see if holding points on the forehead known as ESR points first discovered by Terrence Bennett D.C. have an effect on cardiac parameters while thinking about stress Blood pressure was monitored while the person was resting, thinking of a stressful situation, and thinking about the same stressful situation while holding the ESR points. Results show that there was a significant difference in cardiac parameters between thinking about a stressful situations and thinking about the same situation while holding ESR points so the null hypothesis, that there will be no difference in blood pressure or pulse rate when a person is stressed using the ESR technique was rejected.