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A STUDY ON THE EFFECT OF 12 WEEKS OF MEDITATION ON HEART RATE OF COLLEGE GIRLS

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Abstract
The purpose of the present study was to investigate the effect of 12 weeks of meditation on heart rate of college girls. Total 60 female subjects, who were studying in Tikaram Degree College, Aligarh, were selected for this study. The subjects were divided into experimental and control group of 30 each. Their age ranged in between 18-25 years. For analysis of the data Mean & SD were calculated and to examine the effect of meditation on the chosen variable. Paired t-test was applied, and level of significance was set at 0.05 level. Significant differences were observed in the pre and post experimental mean heart rate of meditation group with insignificant difference seen in the pre and post experimental mean heart rate of control group. It was concluded that meditation caused significant change in heart rate of college girls.

Keywords: Meditation, Heart Rate, College and Girls.

Introduction
Meditation essentially means temporary freedom from thoughts. Unlike sleep, it is a "wakeful" thought – Free State, in which all our senses are alert and awake. In fact, during meditation, we are many times more alert and awake than during our day- to- day life. It is a state of mind in which our thinking process comes to an end for a short period of time. During meditation, one experiences a complete stillness and profound consciousness (Samprasad Vinod, 2002). For more than five thousand years, people across the world and from various cultural traditions have practiced meditation. Heart rate is the number of times a person's heart beats per minute. An average heart rate at rest for adults ranges from 60 to 100 bpm. The resting heart rate of an individual depends on age, body size, heart conditions, medication etc. Emotions can also affect one's heart rate; for example, getting excited or scared can increase the heart rate. Getting fitter can lower one's heart rate by making the heart muscles work more efficiently. A well-trained athlete may have a resting heart rate of 40 to 60 bpm. At the height of his career, cyclist Miguel Indurain reportedly had a resting heart rate of 28bpm, according to Harvard Health. Fitness trackers can monitor heart rate – although the accuracy of these varies (van Ravenswaaij-Arts et al., 1993)

Methodology
For the purpose of this study 60 female students were selected randomly from Tikaram Degree College, Aligarh. U.P. India.

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The subjects were divided into meditation and control groups of 30 student in each group. Their age ranged between 18 to 25 years. These subjects participated voluntarily in this programme and before the start, they were examined by the physician to ascertain that they were free from any medical problem and were fit enough to undertake the meditation training programme for a period of three months.

Training Programme

Heart-based meditation training was given to the experimental group for twelve weeks. The total duration of the meditation training was of 60 minutes. The time and frequency of meditation training was increased gradually from beginning to the end of the session. The control group was not to allow participating in any of the training program, except their classes.

Collection of Data and Administration of Tests

In order to acquaint the subjects with the specific purpose of the research being conducted, all the subjects were assembled in the field of Tikaram Degree College, Aligarh, All the necessary information pertaining to the requirement of the experimental procedure was imparted to them. To make the research findings more authentic, positive attitude towards investigation was emphasized.

The data for the physiological responses of college girls was obtained with the help of Omron HEM- 7120 Heart Rate Standard Monitor supplied by Galaxy Informatics (India). The Heart Rate was recorded in beats per minute. The data on Heart rate were taken prior to the experimental programme at resting condition. Pre-test data were collected two days before the commencement of the training program and post-test data were collected after the training procedure.

Procedure

Heart Rate of each subject was recorded in the morning session. The subjects were asked to sit and relax comfortably on a chair 10 minutes before the heart rate was taken. The investigator wraps the cuff around the arm by placing the arm on table so that the cuff will be at the heart's level. Then press the start/stop button, and the cuff started to inflate automatically. When the measurement was done, the arm cuff automatically deflated. The heart rate was recorded.

Statistical Procedure

For analysis of the data, Mean and SD were computed. The data was analysed using SPSS version 21. Paired t-test was applied to find the significant difference between pre and post experimental means. For testing the hypothesis, the level of significance confidence was set at 0.05.

Analysis of Data and Result

TABLE NO 1
COMPARISON OF EXPERIMENTAL AND CONTROL GROUP PRE AND POST DATA AFTER 12 WEEK MEDICATION

Group	Test	Mean	SD	SE Mean	DM	SE. Mean Difference	t	sig
Exp. Group	Pre Test	81.03	5.28	0.96	4.46	1.08	4.13*	.000
	Post Test	76.56	4.98	0.90				
Control Group	Pre Test	79.23	4.78	0.87	0.10	0.57	0.17	0.862
	Post Test	79.13	5.38	0.98				

*Significant at 0.05 level 't' $_{(0.05)(29)=}$ 2.045

The table shows significant difference between pre-and post-test mean heart rate of meditation group with insignificant difference seen in pre and post test mean heart rate of control group. Therefore, it is determined that no significant difference was observed in the heart rate of the control group.

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Discussion of Findings

The results of the study show that meditation programme is significantly effective in reducing the heart rate of college girls. The present study was supported by the study of, Vyas R & Dikshit N., (2002) in this study they compared, respiratory functions, cardiovascular parameters of those practicing Raja Yoga & meditation (short- and long-term meditators) with those of non-mediators. Heart rate was significantly lower in long term meditators than in short term meditators and nonmeditators. This shows that meditation provides significant improvements in cardiovascular parameters. Another study is of Kurwale et al. (2014) assessed the effect of meditation in working women the meditation session was carried out for 16 weeks, cardio respiratory parameter (pulse rate) was measured before and after the training. The results of the findings suggested that there was a statistically significant improvement in cardio respiratory parameters after meditation training. Thus, in light of the above discussion we can say that meditation training is effective for reducing heart rate.

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