SHORT-TERM EFFECTS OF SAMARPAN MEDITATION ON CARDIO-RESPIRATORY RESPONSES

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ABSTRACT
The aim of present study was to evaluate the effect of Samarpan Meditation on cardio-respiratory responses. After taking written consent 82 participants enrolled in the study were in the age range of 20 to 60 years. After baseline measurement, the participant performed meditation for 30 min and was reassessed. The participant’s pulse rate and blood oxygen saturation were measured using a pulse oximeter. Study revealed significant decrease in pulse rate while blood oxygen saturation was significantly increased after performing Samarpan Meditation.

KEYWORDS: Meditation, Pulse Oximetry, Cardio-Respiratory Responses.

INTRODUCTION
In recent years non-communicable life style diseases like cardio-respiratory are on rise. World Health Organization stated that cardiovascular diseases (CVDs) take the lives of 17.9 million people every year, 31% of all global deaths.[1] Therefore we need alternative and complementary medicine to reduce incidences on large scale. Some investigators have revealed effect of yoga and meditation on autonomic nervous system influencing heart and lung functions. Meditation lead to increased parasympathetic activation that underlies a relaxation response, also elicit enhanced sympathetic activation that underlies a robust arousal response.[2] Although many investigators have reported the clinical benefit of yoga and meditation in reducing cardiovascular events, morbidity, and mortality, evidence supporting these conclusions is somewhat limited, thereby emphasizing the need for large, well-designed randomized trials that minimize bias and methodological drawbacks.[3] Hence studies are required to evaluate short-term effect of meditation.

The present investigation is an attempt to evaluate the effect of Samarpan Meditation on cardio- respiratory system. Samarpan Meditation is a type of meditation in which participants need to observe the coming thoughts and emotions throughout the time of 30 min. By the time participants may achieve thoughtless state of mind through which one can enter in the state of meditation. In state of meditation body performs required function very efficiently that results to improve health.

MATERIALS AND METHODOLOGY
The present study was conducted at Dandi Samarpan Ashram, Navsari, Gujarat, India. The study was approved by Gujarat University Ethics Committee. Participants were selected on the bases of inclusion and exclusion criteria. Inclusion criteria: Age of participant must be ranged 20 to 60 years. They were healthy and doing meditation for at least 6 months. Exclusion criteria: Unhealthy individuals and fellow with age below 20 year or above 60 year were excluded from the study. Total 82 participants were enrolled after taken written consent. Pulse Oximeter was used to measure pulse rate and blood oxygen saturation on 0th and 30th min of meditation. Data was collected and analyzed using Student's t-test.

RESULTS
The results shown in Table-1 revealed significant reduction in pulse rate in total as well as different age groups 20-29, 30-39, 50-59 years. However there was no significant difference observed in age group of 40-49 years. Maximum reduction in pulse rate was observed in age group of 30-39 years followed by total.
The authors declared no conflict of interest.

DISCLOSURE

The authors declared no conflict of interest.

Table 1: Showing effect of meditation on pulse rate.

<table>
<thead>
<tr>
<th>Age Groups (years)</th>
<th>Pulse rate (beats per min)</th>
<th>0 min</th>
<th>30 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>86.54±1.62</td>
<td>79.90±1.91*</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>78.27±4.42</td>
<td>70.54±4.45*</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>74.80±2.94</td>
<td>75.06±3.15</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>74.10±1.41</td>
<td>69.10±1.42*</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>83.80±1.41</td>
<td>76.60±1.40*</td>
<td></td>
</tr>
</tbody>
</table>

Values are mean±SEM
Values are significantly different at
* p < 0.05 as compared with 0th min

The results shown in Table-2 revealed significant increase in blood oxygen saturation in total as well as different age groups 20-29, 30-39, 40-49, 50-59 years. Maximum increased in blood oxygen saturation was observed in age group of 20-29 years followed by total.

Table 2: Showing effect of meditation on blood oxygen saturation.

<table>
<thead>
<tr>
<th>Age groups (Years)</th>
<th>Blood oxygen saturation (%)</th>
<th>0 min</th>
<th>30 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>97.58±0.33</td>
<td>98.58±0.19*</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>98.54±0.24</td>
<td>99.00±0.23*</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>97.82±0.15</td>
<td>98.47±0.19*</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>97.42±0.23</td>
<td>98.04±0.29*</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>97.80±0.13</td>
<td>98.40±0.14*</td>
<td></td>
</tr>
</tbody>
</table>

Values are mean±SEM
Values are significantly different at
*p < 0.05 as compared with 0th min

DISCUSSIONS

The present study revealed significant reduction in pulse rate and increased blood oxygen saturation with 30 min of meditation. No adverse effect was observed. These changes might be due to change in functioning of autonomic nervous system.

Yoga and meditation benefit participants by reducing dyspnea, fatigue and pulse rate and improving functional performance and peripheral capillary SpO$_2$. Yoga can now be included as an adjunct to conventional therapy for pulmonary rehabilitation programs for chronic obstructive pulmonary disease (COPD) patients. Heartfulness processes of cleaning and meditation had a positive effect on sympathovagal balance. Meditation play key role for mental stability as well as awaken of positiveness in ourself. Yoga and Meditation has shown promise as a useful lifestyle intervention that can be incorporated into cardio-respiratory disease management algorithms.

ACKNOWLEDGMENTS

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REFERENCES