EFFECT OF YOGIC PRACTICES ON SELECTED PHYSIOLOGICAL VARIABLES OF EDUCABLE DISABLED GIRLS

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ABSTRACT

Yoga has shown to have therapeutic benefits for individual is with a wide range of health conditions. The present study was conducted to assess the effect of yogic practices on selected physiological variables of educable disabled girls. Thirty (N=30) disabled girls (age range 10-16) were selected at randomly and divided into two groups (n=15) of yogic practice group and control group. Yogic practice group were subjected to regular yoga practice (Asanas, Suryanamaskar, Kriyas and Pranayama) for twelve weeks (3 session per week, 60 minutes per session), while the control group did not participated any regular activity. The dependent variables were vital capacity and body mass index and were examined before and after twelve weeks of yogic practice in both groups. In order to find out the effect of yoga on physiological variables of educable disabled girls, the descriptive statistics and paired sample‘t’ test was used to find out the significant differences. In all the cases 0.05 levels of significance were fixed. The results of the study showed that influence of yoga practice would bring significant changes of body mass index and vital capacity disabled girls.

Key Words: BMI and Vital capacity

1. INTRODUCTION

Yoga, a union of one's personal consciousness with the cosmic, is a spiritual way of life, practiced by many over millennia. Researchers and practitioners have observed other benefits of yoga on the physical and mental health (Gangadhar et al., 2015). Yoga is also beneficial for musculoskeletal functioning, cardiovascular health, diabetes, respiratory disorders, hypertension, hypotension, depression, and many other disorders. In essence, yoga is a process of creating a body and mind that are stepping stone not hurdles, to an exuberant and fulfilling life. A typical yoga program, usually consisting of Asana, Pranayama, Kriya, deep relaxation, and meditation, has a combined effect of relaxation of body, slowing of
breath, and calming of mind. After attention to posture, deep breathing, and chanting, yoga practice often begins with a slow movement sequence to increase blood flow and warm muscles. This is followed by poses that include flexion, extension, adduction, abduction, and rotation. (Garfinkel et al., 2000). Holding poses build strength by engaging muscles in isometric contraction. Madanmohan et al., (2005) stated, Moving joints through their full range of motion increases flexibility, Tekur et al., (2008), Oken el al., (2004) stated whereas standing poses promote balance by strengthening stabilizing muscles and improving proprioception to reduce falls. Thus, yoga incorporates several elements of exercise that is beneficial for human health. Yoga leads to reduce the oxygen consumption and metabolism, thereby balancing the homeostasis. Various other researches confirmed the role of yoga and meditation against diabetes, hyperthyroidism, obesity, respiratory problems, mental stress, and oxidative stress. (Semwal et al., 2016)

One of the markers of physical well-being in adults is body mass index (BMI). Overweight (BMI 25.0–29.9 kg/m²) and obesity (BMI ≥30.0 kg/m²) are associated with hypertension and increased mortality. Hypertension is one of the most common disorders, affecting ≈26.4% of the adult population worldwide. It ranks as the leading chronic risk factor for mortality, accounting for 13.5% of all deaths. Moreover, it is now projected to grow to affect >1.5 billion people by 2025. In the present scenario, the physical and clinical problem seems unchecked, and still, there is a possibility to prevent them through yoga practices.

1.1 PURPOSE OF THE STUDY
The present was created to find out the effect of Yogic Practices on selected physiological variables of disabled girls

1.2 OBJECTIVES OF THE STUDY
1. To assess the effect of yogic practices on selected physiological variables of educable disabled girls.
2. To find out the differences between pre and post test scores of experimental and control group on selected physiological variables of educable disabled girls.

2. METHODS
To future goal of the random group experimental study, 30 educable disables girls were selected at random at Ujjai city, Madhyapradesh. The age of the subjects ranged between 10 to 16 years. The subjects were assigned into two groups and one control group with 15
subjects each. First experimental group was involved in yogic practices for 12 weeks, and the control group kept in active rest.

Yogic practice group were subjected to regular yoga practice (Asanas, Suryanamaskar, Kriyas and Pranayama) for twelve weeks (3 session per week, 60 minutes per session), while the control group did not participated any regular activity. The selected variables, Body mass index and vital capacity were measured by Weight Machine, Measuring Tape and Spirometer.

2.1 DATA ANALYSIS

The data pertaining to the variables collected from two groups before and after the training period were statistically analysed by using dependent t-test to determine the significant difference and tested at 0.05 level of significance.

3. RESULT AND DISCUSSIONS

Table 1: Descriptive statistics on body composition and vital capacity of Educable Disabled Girls

<table>
<thead>
<tr>
<th>Variables</th>
<th>BMI</th>
<th>Vital Capacity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental pre</td>
<td>15</td>
<td>30.12</td>
<td>1.04</td>
</tr>
<tr>
<td>Experimental post</td>
<td>15</td>
<td>29.11</td>
<td>1.01</td>
</tr>
<tr>
<td>Control Pre</td>
<td>15</td>
<td>31.12</td>
<td>1.24</td>
</tr>
<tr>
<td>Control Post</td>
<td>15</td>
<td>31.16</td>
<td>1.22</td>
</tr>
</tbody>
</table>

The data from the pre test and post test on body mass index and vital capacity of the experimental and control group are presented in above table.

The physiological variables namely body mass index, pre test and post mean values of experimental group were 30.12 and 29.11 respectively. The pre test standard deviation of experimental group was 1.04 and post test standard deviation of experimental group was 1.01. The physiological variables namely body mass index, pre test and post mean values of control group were 31.12 and 31.16 respectively. The pre test standard deviation of control group was 1.024 and post test standard deviation of experimental group was 1.22.

The experimental group pre test mean and standard deviation scores of vital capacity was 2.12 and 0.08 respectively. And post test mean and standard deviation scores was 2.54 and 0.22 respectively. The control group pre test mean and standard deviation scores of vital
capacity was 2.32 and 0.22 respectively. And post test mean and standard deviation scores was 2.34 and 0.21 respectively.

Table 2: Paired sample t test on body composition and vital capacity of Educable Disabled Girls

<table>
<thead>
<tr>
<th>Variables</th>
<th>Body Mass Index</th>
<th>Vital capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T value</td>
<td>P value</td>
</tr>
<tr>
<td>Experimental pre test</td>
<td>2.32</td>
<td>0.03</td>
</tr>
<tr>
<td>Experimental post</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Pre Test</td>
<td>1.04</td>
<td>.232</td>
</tr>
<tr>
<td>Control Post</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig at 0.05 level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table shows that, t values of 2.32 and 1.04 on body mass index of experimental and control group respectively. The t value of 2.32 in case of experimental group was (p<0.05) indicating significant decrease on body mass index after twelve weeks of yogic practices. However, the t value (1.04) in case of control group was not significant (p>.232).

The result of vital capacity shows that, the t value of experimental group was (2.44) indicating significant improvement (p<0.05) after twelve weeks of yogic practices. However, the t value (1.00) in case of control group was not significant (p>.200).

3.1 Discussion on findings

Yoga practice is comprised of various asana (posture) and meditation, such as prayer, Surya namaskara, Bhujangasana, Dhanurasana, utkatasana, Dandasana, Parivartha Trikosana, Padahasthasana, Bujangasana, Salabasana, Pachimottanasana, Padhakonasana, Halasana, Ushtarasa, Titiliasana, Shavdana, Tadasana, Ujjai Pranayamam, Kapalapathi, Bhastrika, Nadi Shuddhi, Abdominal breathing, yoga nidra. In our subset of participants, we had10–16 years of age educable disabled girls that performed yoga practice.

In this study, we found that BMI of experimental group was significantly decreased within 12 month, that is, mainly because of yogic practices which might be reduced the deposited fat on adipose tissue. We found better results in reducing BMI as compared to that of the previous study by Telles et al., Our findings clearly suggested that the complications of obesity can be reduced by yoga therapy (Ashutosh et al., 2017)

Due to yogic practices vital capacity improved educable disabled children significantly. The physiological changes refers for the vital capacity are improved the
stability of the body’s internal milieu during the standard period of submaximal exercises consequently there is less disruption in whole body normal and acid base balance, which might negatively impact the functions of the inspiratory musculature. Also the ventilatory muscles benefit directly from exercises training. This enhanced function and may be due to the documented increase in aerobic enzyme levels and oxidative capacity of the ventilatory muscles with training. (William et al, 1996).

4. CONCLUSIONS

1. It may be concluded that, influences of yogic practices would bring proper control of body mass index of educable disabled girls.
2. It may be concluded that, influences of yogic practices would help to improve the vital capacity of educable disabled girls.
3. The control group did not show any significant changes on vital capacity and boys mass index of educable disabled girls.

REFERENCES
