Experimental

**Prevalence of Stress among Yoga Practitioners, Gymnastics Players and School Going Adolescent Girls**

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**A R T I C L E  I N F O**

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**A B S T R A C T**

**Introduction:** Stress is the response of the body or mind’s reaction to either internal or external stimuli. Stress causes modifications to almost every biological system, which affects how people conduct themselves and their emotions. Stress has drawn increasing attention from students in the modern day. Adolescent boys and girls experience stress on an on-going and natural basis. Youth suffer anxiety at some point in their lives, whether it is related to their daily lives, careers, education or different issues.

**Objective:** The purpose of the study to observe the stress level among yoga practitioners, gymnasts and sedentary adolescent girls.

**Method:** In the present survey study, total 150 female students were selected from Hooghly, Howrah, Nadia and Kolkata district. Selected students were from three different groups i.e - yoga group(n=50), gymnastics group(n=50) and sedentary group(n=50) and the age ranged between 14-17 years. Stress level of adolescent girls was measured by Stress Scale questionnaire which was developed by Dr. Vijaya Lakshmi and Dr. Shruti Narain. The questionnaire has four dimensions i.e- Pressure, Physical Stress, Anxiety and Frustration and each dimension categorized into low, moderate and high level of stress.

**Results and Conclusions:** Descriptive statistics were used for the result of the study. On the basis of result following conclusions are drawn –(i) Most yogic practitioners fall into the low level of stress than gymnastics and sedentary, (ii) Yogic practice and gymnastics both activities help to reduce stress among adolescent girls.

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Bos and American Psychological Association (2015) defines stress as the physiological or psychological response to internal or external stressors. Stress involves changes affecting nearly every system of the body, influencing how people feel and behave. For example, it may be manifested by palpitations, sweating, dry mouth, shortness of breath, fidgeting, accelerated speech, augmentation of negative emotions (if already being experienced), and longer duration of stress fatigue. Severe stress is manifested by the General Adaptation Syndrome. By causing these mind-body changes, stress contributes directly to psychological and physiological disorder and disease and affects mental and physical health, reducing quality of life. In the present era, stress has become more attention-catching for a student. Students undergo stress at assignments, mid-term exams, etc. which is driving many students to frustration. Academic stress has increased more with the increasing awareness of education (Puri and Dubey, 2011). Adolescents today are living in an increasingly stress-ridden atmosphere. Stress among adolescent boys and girls are very common and natural. Be it about self, career, academics or any other issue, the youth undergo feelings of anxiety at some phase of lives. They live in a world where nothing seems to be guaranteed with certainty and at the same time they are expected to perform at every front, the main being the academics. This is a generation where everybody lives, breathes and eats competition. The all-pervasive competitive atmosphere, be it social or academic, encourages adolescents to constantly compare themselves with their peers. Consequently, their self-image is in a continual state of redefinition. Stress is partly created by parental pressure too when they expect the adolescents to perform and stand out among their groups. When they can’t rise up to their expectations or are in a process of meeting it, adolescents suffer from frustration, physical stress, aggression, undesirable complexes, anxiety and depression (Alam, 2010). Stress is considered to be a key factor affecting mental health, and high level of stress is associated with depression and suicidal attempts (Nolen-Hoeksema, 2004). One recent study found that adolescents who engaged in suicide ideation were more likely to have experienced negative life events in the past years than adolescents who did not engage in suicide ideation (Liu and Tein, 2005).

Methodology

Subjects

For the purpose of the study, 150 girls students were selected from Hooghly, Howrah, Nadia and Kolkata district aged between 14 to 17 years were selected. They were equally divided into three groups: Group-I (yogic practitioners, n=50), Group II (Gymnasts, n=50) and Group-III (Sedentary, n=50).

Data collection

The equipment used to measure the level of stress through standard questionnaire Stress Scale designed by Dr. Vijaya Lakshmi and Dr. Shruti Narain. The questionnaire has four dimensions i.e.- i) Pressure, ii) Physical Stress, iii) Anxiety and iv) Frustration and each dimension is categorized into low, moderate and high level of stress. There was no fixed time limit as such for completing the questionnaire, however generally it took about 10-15 minutes in its completion.

Statistical analysis:

Descriptive statistics was used to find out the significant differences among the groups. The level of significance was fixed at 0.05%

Results

The descriptive statistics (Mean and SD) presented in Table 1. The mean and SD of the age of Yoga, Gymnastics and Sedentary were 15.24 ±1.19, 15.7 ±1.36 and 15.38 ±1.06 respectively. The mean and SD of the height of Yoga, Gymnastics and Sedentary were 149.2 ±7.2, 150.06 ±7.4 and 154.16 ±6.86 respectively. The mean and SD of the weight of Yoga, Gymnastics and Sedentary were 41.99 ±10.03, 40.22 ±9.04 and 50.23 ±10.27 respectively.
Table-1
Personal Data (Mean ±SD) of subjects

<table>
<thead>
<tr>
<th>Variables</th>
<th>YOGA</th>
<th>GYMNASTICS</th>
<th>SEDENTARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Age (Years)</td>
<td>15.24 ± 1.19</td>
<td>15.7 ± 1.36</td>
<td>15.38 ± 1.06</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>149.2 ± 7.2</td>
<td>150.06 ± 7.4</td>
<td>154.16 ± 6.86</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>41.99 ± 10.03</td>
<td>40.22 ± 9.04</td>
<td>50.23 ± 10.27</td>
</tr>
</tbody>
</table>

Figure 1
Graphical representation of personal data

Note: The figure is based on Mean and SD of age, height and weight of yoga and gymnastics and sedentary adolescent girls

Table-2
Descriptive statistics (Percentage) of Pressure of yoga and gymnastics and sedentary adolescent girls

<table>
<thead>
<tr>
<th>PRESSURE</th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YOGA</td>
<td>48%</td>
<td>52%</td>
<td>0%</td>
<td>50</td>
</tr>
<tr>
<td>GYMNASTICS</td>
<td>42%</td>
<td>54%</td>
<td>2%</td>
<td>50</td>
</tr>
<tr>
<td>SEDENTARY</td>
<td>10%</td>
<td>72%</td>
<td>8%</td>
<td>50</td>
</tr>
</tbody>
</table>

In pressure sub-domain, among 50 yogic practitioners, 48% low, 52% moderate and 0% high and 50 gymnasts 42% low, 54% moderate, 2% high and 50 sedentary students 10% low, 72% moderate and 8% high.
Figure 2
Graphical representation of pressure of yoga and gymnastics and sedentary adolescent girls

![Pressure Graph](image)

Note: Figure is based on percentage of pressure of yoga and gymnastics and sedentary adolescent girls.

Table 3
Descriptive statistics (Percentage) of Physical Stress of yoga and gymnastics and sedentary adolescent girls

<table>
<thead>
<tr>
<th>PHYSICAL STRESS</th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YOGA</td>
<td>82%</td>
<td>52%</td>
<td>8%</td>
<td>50</td>
</tr>
<tr>
<td>GYMNASTICS</td>
<td>74%</td>
<td>54%</td>
<td>6%</td>
<td>50</td>
</tr>
<tr>
<td>SEDENTARY</td>
<td>10%</td>
<td>72%</td>
<td>4%</td>
<td>50</td>
</tr>
</tbody>
</table>

In Physical Stress sub-domain, among 50 yogic practitioners 82% low, 52% moderate and 8% high and 50 gymnasts 74% low, 54% moderate, 6% high and 50 sedentary students 10% low, 72% moderate and 4% high.

Figure 3
Graphical representation of physical stress of yoga and gymnastics and sedentary adolescent girls

![Physical Stress Graph](image)

Note: Figure is based on percentage of physical stress of yoga and gymnastics and sedentary adolescent girls.
Table 4
Descriptive statistics (Percentage) of Anxiety of yoga and gymnastics and sedentary adolescent girls.

<table>
<thead>
<tr>
<th></th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YOGA</td>
<td>68%</td>
<td>28%</td>
<td>4%</td>
<td>50</td>
</tr>
<tr>
<td>GYMNASTICS</td>
<td>60%</td>
<td>36%</td>
<td>4%</td>
<td>50</td>
</tr>
<tr>
<td>SEDENTARY</td>
<td>56%</td>
<td>36%</td>
<td>8%</td>
<td>50</td>
</tr>
</tbody>
</table>

In Anxiety sub-domain, among 50 yogic practitioners 68% low, 28% moderate and 4% high, 50 gymnasts 60% low, 36% moderate, 4% high and 50 sedentary students 56% low, 36% moderate and 8% high.

Figure 4
Graphical representation of anxiety of yoga and gymnastics and sedentary adolescent girls

Table 5
Descriptive statistics (Percentage) of Frustration of yoga and gymnastics and sedentary adolescent girls.

<table>
<thead>
<tr>
<th></th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YOGA</td>
<td>72%</td>
<td>28%</td>
<td>0%</td>
<td>50</td>
</tr>
<tr>
<td>GYMNASTICS</td>
<td>76%</td>
<td>24%</td>
<td>0%</td>
<td>50</td>
</tr>
<tr>
<td>SEDENTARY</td>
<td>72%</td>
<td>24%</td>
<td>4%</td>
<td>50</td>
</tr>
</tbody>
</table>

In Frustration sub-domain, among 50 yogic practitioners 72% low, 28% moderate and 0% high, 50 gymnasts 76% low, 24% moderate, 0% high and 50 sedentary students 72% low, 24% moderate and 4% high.
Table 6.
Descriptive statistics (Percentage) of Overall Stress of yoga and gymnastics and sedentary adolescent girls.

<table>
<thead>
<tr>
<th>OVERALL STRESS</th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YOGA</td>
<td>92%</td>
<td>12%</td>
<td>0%</td>
<td>50</td>
</tr>
<tr>
<td>GYMNASTICS</td>
<td>80%</td>
<td>20%</td>
<td>0%</td>
<td>50</td>
</tr>
<tr>
<td>SEDENTARY</td>
<td>66%</td>
<td>28%</td>
<td>6%</td>
<td>50</td>
</tr>
</tbody>
</table>

In overall stress, among 50 yogic practitioner 72% low, 28% moderate and 0% and 50 gymnasts 76% low, 24% moderate, 0% high and 50 sedentary students 72% low, 24% moderate and 4% high.
Discussion

In the present study, an attempt has been made in a survey manner to identify stress among yoga practitioners, gymnasts, and sedentary school students. After examining four subdomains (Pressure, Physical Stress, Anxiety and Frustration), it was shown that adolescent sedentary girls exhibited higher stress than the yoga practitioners and the Gymnasts. Regarding overall stress, among 50 sedentary students the stress level was found- low stress = 72%, moderate stress = 24%, and high stress = 4%. Among the 50 yogic practitioners, low stress = 72%, moderate stress = 28%, and high stress = 0% and among 50 gymnasts, low stress = 76%, moderate stress = 24%, high stress = 0%. This study shows that most yoga and gymnastics practitioners were found in the low stress category, and there were no subjects in the high stress category. However, 4% of sedentary school students were found in high stress category. This result is similar to the result stated by Rentala et al. (2019), who explored most undergraduate and graduate adolescent girls included in this study were found to be experiencing educational stress. According to Wang and Szabo (2020), evidence of the positive effect of yoga on stress management has become clear. All types of yoga and yoga-based interventions (e.g., mindfulness-based yoga, meditation-based yoga) demonstrated significant benefits for stress release. According to Filaire et al., gymnastic training sessions showed significant decreases in this ratio were found after each exercise session, related to the physiological and psychological stress induced by exercise.

Conclusion

So, on the basis of the result found from the above study, it can be concluded that regular practice of yoga helps in reducing stress of yoga practitioners and Gymnast than the sedentary adolescent girls. It also full fills the objectives of the study to measure the stress level among the three groups (Yoga group, Gymnastics group and Sedentary group), which evidence of reducing stress level in adolescent girls by practicing Yoga and Gymnastics activities.

References