

A study on effect of yoga on emotional regulation, self-esteem, and feelings of adolescents

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ABSTRACT

Background: The present study has investigated the effect of yoga on the emotional regulation, self-esteem, and feelings of the adolescents. **Methods:** The participants of the study are 110 students aged 13–18 years and studying in the senior secondary schools of Mandi district (Himachal Pradesh). The sample consisted of 52 adolescents practicing yoga and 58 adolescents who have never practiced yoga. The primary data has been collected through standardized instruments. **Results:** The adolescents practicing yoga were noted to significantly differ from the non-yoga group on emotional regulation, self-esteem, and feeling components. **Conclusions:** The significant effect of yoga on emotional regulation, self-esteem, and feelings of the adolescents calls for attention of the policy makers for initiating yoga at the school levels through standardized yoga curricula and training teachers to motivate and inspire the students to learn and practice yoga at an early age.

Keywords: Adolescent, anxiety, emotional regulation, feelings, self-esteem, stress

Introduction and Literature Review

Adolescence is a phase characterized by physical, psychological, social, and emotional changes. The good and bad experiences to which the individuals are exposed during this delicate stage of life and the influence of persons and various events have an everlasting impact on the individuals throughout the life. The vulnerability of adolescents to psychological disorders such as stress, anxiety, anger, depression, emotional breakdown, etc., is a matter of great concern and needs to be addressed. Research studies across regions in India have reported higher prevalence of depression, stress, and anxiety among adolescents.^[1-4] The effects of these psychological disorders are reflected in poor academic performance,^[5] lack of communication with friends and

family members,^[6-8] substance abuse, feeling of abandonment, homicidal ideation and suicidal tendency,^[7-11] sadness, feeling of socially inept,^[12] anticipated frustration, and feeling of failure.^[13]

There is growing evidence that adolescents, who are emotionally weak, are not able to regulate their emotions, have a feeling of lower self-esteem and mood disorders, and are the victims of various psychological disorders. Various research studies have pointed the importance of effective emotion regulation in improved psychological health, recovering from psychological disorders or emotional problems.^[14,15] The studies have reported that incidence of mood disorders increase sharply in adolescence and young adulthood,^[16] a negative association between emotional intelligence and internalizing problems, depression and anxiety, substance abuse, and better coping strategies was reported.^[17] The research work on association of self-esteem and psychological problems among adolescents have shown that low self-esteem is found to predict depression among preadolescents.^[18,19] On the contrary, high self-esteem is found to create high happiness and life satisfaction^[20] as well as low anxiety, depression, and

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Received: 24-01-2020

Revised: 13-03-2020

Accepted: 28-03-2020

Published: 30-07-2020

Access this article online

Quick Response Code:



Website:
www.jfmprc.com

DOI:
10.4103/jfmprc.jfmprc_153_20

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How to cite this article: Janjhua Y, Chaudhary R, Sharma N, Kumar K. A study on effect of yoga on emotional regulation, self-esteem, and feelings of adolescents. J Family Med Prim Care 2020;9:3381-6.

loneliness;^[21] high self-esteem also predicted fewer symptoms of both anxiety/depression and attention problems.^[22] More specifically, adolescents with low self-esteem are at higher risk for depression. The strongest predictor of adolescent depression was self-esteem (i.e. perception regarding interpersonal relationships, negative emotions management, and control over life events).^[23] Since the reasons for psychological disorders among adolescents are innumerable and the consequences are grave, there is a need of the hour to address these issues. Apart from a range of treatments such as biomedical interventions, electroconvulsive therapy, and pharmaceutical medications,^[24-27] yoga has gained popularity as an effective intervention to improve mental health and deal with depression and anxiety.^[28]

Yoga is widely being integrated into the curriculum of the schools to address an increasing need for self-regulatory skills such as emotion regulation, stress, anxiety, and other psychological disorders. A study has reported that yoga in schools helps students improve resilience, mood, and self-regulation skills pertaining to emotions and stress.^[29] Yoga-based intervention in schools can be effective in decreasing challenging psychological and cognitive patterns of responses to stress among students.^[30] Yoga enhances self-esteem and the attention abilities of high school children.^[31] By practicing yoga, the practitioners have found to have control over emotions, thus correcting their physical, mental, and emotional dimensions.^[32] Yoga is found to improve physical ability, reduce stress, strengthen cognitive abilities,^[33] increase the ability to concentrate and improve memory,^[34] increase self-awareness, and strengthen a person mentally and emotionally,^[35] the frequency of yoga practice was associated with lower mood disturbances.^[36] A review study^[37] indicated that yoga produces improvements in emotional functioning in healthy subjects and people who suffer from some physical illnesses, particularly in psychological self-reported variables. The researchers in a study observed that yoga has the potential to help adolescents in an acute care psychiatric hospital to soothe themselves, to regulate their emotions, and to find relief from emotional distress while hospitalized.^[38]

Research studies on pre- and postyoga interventions on adolescents have reported significant increase in emotional self-regulation in the yoga practicing group than the physical education group.^[39-41] Improved anger management and impulse control, as well as a decrease in negative emotion among students,^[32] significant reduction in adolescents' beliefs supporting aggression and increase in their beliefs supporting alternatives to aggression,^[42] significant decrease in anxiety, depression, and significant improvement in self-esteem,^[43] significantly greater decrease in anger, depression, and fatigue are found in the yoga group as compared to physical education.^[44] A pilot randomized control study on tribal adolescents measuring the positive–negative affect and self-esteem after giving yoga practices showed significant improvement in the variables.^[45,46] A significant increase in mental well-being and decrease in state of anxiety was observed in the participants after 15 days of yoga as compared to their pre-yoga scores.^[47] In a social-emotional learning (SEL) program,

a significant increase in positive constructs (self-esteem, identity formation, anger coping ability, planning, and concentration) and decrease in negative constructs (impulsivity, distractibility, and endorsement of aggression) was noted in the students who had enrolled in Sudarshan Kriya Yoga.^[48]

Positive effect of yoga on psychological quality of life has been reported implying the feasibility of role of yoga in primary care.^[49] One of the research studies has necessitated initiating yoga as a health promotion measure at community level in India and in this context the role of local leaders, NGOs, and intersectoral coordination is important.^[50] The growing body of research has shown the positive effects of yoga on increasing emotional self-regulation, self-esteem, self-awareness, and the quality of well-being and decrease in anxiety, depression, stress, anger, etc., The positive effects of yoga on respiratory allergies, anxiety neurosis, diabetes, coronary heart diseases, and rehabilitation of disabled have also been reported. Keeping in view the healing benefits of yoga, the need of including yoga as an important component of primary healthcare is essentially required.

Materials and Methods

The present study is an effort to study the effect of yoga on emotional regulation, self-esteem, and feelings of the adolescents. The study hypothesized that adolescents who are practicing yoga would be regulating their emotions more effectively and there shall be significant differences between the yoga and non-yoga group on emotional regulation. The adolescents practicing yoga shall be higher on self-esteem than non-yoga practitioners and there shall be significant differences between the yoga and non-yoga group on self-esteem, likewise there shall be significant differences between the yoga and non-yoga group on feeling components.

Measures

Emotional regulation was measured through the *Emotion Regulation Scale*.^[51] Self-esteem is measured through the *Rosenberg Self Esteem Scale*,^[52] a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The feeling-states of stress, mood, motivation, and energy were derived from *Feeling State Assessment*.^[53-55] The responses were scored based on a five-point Likert scale where 1 = Strongly disagree, 2 = Disagree, 3 = Can't say, 4 = Agree, and 5 = Strongly agree.

Participants

The subjects of the present study are 110 students with age ranging from (13–18 years) studying in senior secondary schools of Sarkaghat Tehsil of Mandi district (Himachal Pradesh). The sample consisted of 52 adolescents practicing yoga and 58 adolescents who have never practiced yoga. The study investigated the differences between the yoga group and non-yoga group on emotional regulation, self-esteem, and feeling/mood

components. The gender difference pertaining to the emotional regulation, self-esteem, and feeling/mood for the yoga group has been studied. The sample consisted of 66.36% males and 33.64% females, 28.18% were between 13–15 years, and 71.82% between 15 and 18 years of age.

Results

It can be seen [Table 1] that the students practicing yoga have obtained a very high mean value on all statements of emotional regulations. However, lesser mean value for the statements, when I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about ($M = 2.21$), when I am feeling positive emotions, I am careful not to express them ($M = 2.36$) indicate lesser degree of agreement with the statements. For the non-yoga group, the mean values were below average for the majority of statements which shows lesser agreement with statements but higher mean for the statement, when I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about ($M = 3.50$), when I am feeling positive emotions, I am careful not to express them ($M = 3.66$). It was also noted that the effect of yoga on mean difference pertaining to all statements of emotional regulations has been found to be highly significant. It can be said that yoga attributes for the difference in regulating emotions among the adolescents.

It is evident from [Table 2] that the students practicing yoga has higher mean value on all the positive statements of self-esteem showing higher agreement with the same. However, lesser mean value for the negative statements, All in all, I am inclined to feel that I am a failure ($M = 1.85$), I certainly feel useless at times ($M = 2.02$) and for statement, At times I think I am no good at all ($M = 2.25$) shows higher degree of disagreement with the same. For the non-yoga group, the mean values were lesser for the majority of positive statements but higher for negative statements, I certainly feel useless as times ($M = 3.72$) followed

by the statement, At times I think I am no good at all ($M = 3.52$) which indicate higher agreement with the statement. The effect of yoga on mean difference pertaining to the statements of self-esteem have been found to be highly significant which shows that yoga has an impact on determining the self-esteem of students.

The findings [Table 3] reported that the yoga group have given very high mean values for the positive statements, I feel happy ($M = 4.25$), I feel energized ($M = 4.50$) and I feel focused ($M = 4.06$), thereby reflecting higher agreement with these statements; however lesser mean values by the yoga group have been noted for all the negative statements of feeling component. This shows that the students practicing yoga have shown higher degree of disagreement with negative statements. On the other hand, the non-yoga students have emerged to be lower on the positive statements and higher on all negative statements of feeling component. For the non-yoga group, the mean value was high for the majority of statements but lower on positive statements, I feel happy ($M = 1.90$), I feel energized ($M = 2.24$), and I feel focused ($M = 2.29$). It was also observed that the mean values between yoga and non-yoga group on all statements of feeling component differ significantly. Thus it can be said that yoga has a significant impact on the feeling dimensions.

Discussion

Yoga intervention has proven to be effective in enhancing self-esteem, emotional regulation, and positive feelings among the students practicing yoga. The findings reported that the adolescents who practice yoga have given very higher mean values to all the positive statements of emotional regulation indicating a higher degree of agreement with same. They have given lower mean values to the negative statements of emotional regulations showing a higher degree of disagreement with these statements. On the other hand, adolescents who are not practicing yoga have

Table 1: Mean and independent sample *t* test between yoga and non-yoga adolescents on emotional regulation components

| Emotional regulation components | Yoga group ($n=52$) | | Non Yoga group ($n=58$) | | <i>t</i> |
|---|-----------------------|------|---------------------------|------|----------|
| | Mean | S.D. | Mean | S.D. | |
| When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about. | 4.27 | 0.45 | 2.30 | 1.27 | 10.64*** |
| I keep my emotions to myself. | 4.27 | 0.66 | 2.33 | 1.26 | 9.94*** |
| When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about. | 2.21 | 0.94 | 3.50 | 1.19 | -6.27*** |
| When I am feeling positive emotions, I am careful not to express them. | 2.36 | 1.05 | 3.66 | 1.00 | -6.60*** |
| When I am faced with a stressful situation, I make myself about it in a way that helps me stay calm. | 4.25 | 0.81 | 2.83 | 1.34 | 6.64*** |
| I control my emotions by not expressing them. | 4.19 | 0.72 | 3.02 | 1.43 | 5.35*** |
| When I want to feel more positive emotion, I change the way I'm thinking about the situation. | 4.08 | 0.86 | 2.74 | 1.33 | 6.17*** |
| I control my emotions by changing the way I think about the situation I'm in. | 4.04 | 1.17 | 2.45 | 1.11 | 7.31*** |
| When I am feeling negative emotions, I make sure not to express them. | 3.83 | 1.15 | 2.45 | 1.17 | 6.21*** |
| When I want to feel less negative emotion, I change the way I'm thinking about the situation. | 4.04 | 0.74 | 2.36 | 1.15 | 8.98*** |

***The mean difference is significant at the 0.001 level

Table 2: Mean, independent sample t test between yoga and non-yoga practicing adolescents on self-esteem components

| Self esteem components | Yoga group (n=52) | | Non Yoga group (n=58) | | t |
|---|-------------------|------|-----------------------|------|----------|
| | Mean | S.D. | Mean | S.D. | |
| I feel that I am the person of worth, at least on an equal basis with others. | 4.12 | 0.68 | 2.62 | 1.37 | 7.11*** |
| I feel that I have a number of good qualities. | 4.10 | 0.80 | 2.60 | 1.27 | 7.28*** |
| All in all, I am inclined to feel that I am a failure. | 1.85 | 1.11 | 2.76 | 1.27 | -3.98*** |
| I am able to do things as well as most other people. | 3.92 | 0.99 | 2.76 | 1.14 | 5.68*** |
| I feel I do not have much to be proud of. | 3.33 | 1.43 | 3.26 | 1.34 | 0.09*** |
| I take a positive attitude toward myself. | 4.00 | 1.19 | 3.09 | 1.30 | 3.83*** |
| On the whole, I am satisfied with myself. | 4.04 | 0.93 | 2.83 | 1.23 | 5.78*** |
| I wish I could have more respect for myself. | 3.87 | 1.07 | 2.83 | 1.29 | 4.58*** |
| I certainly feel useless as times. | 2.02 | 1.24 | 3.72 | 0.97 | -8.06*** |
| At times I think I am no good at all. | 2.25 | 1.19 | 3.52 | 1.19 | -5.59*** |

***The mean difference is significant at the 0.001 level

Table 3: Mean and independent sample t test between yoga and non-yoga practicing adolescents on feeling components

| Feeling components | Yoga group (n=52) | | Non Yoga group (n=58) | | t |
|--------------------|-------------------|------|-----------------------|------|-----------|
| | Mean | S.D. | Mean | S.D. | |
| I feel happy | 4.25 | 0.74 | 1.90 | 0.77 | 16.38*** |
| I feel sad | 1.94 | 0.75 | 3.97 | 0.95 | -12.25*** |
| I feel angry | 2.02 | 0.72 | 3.97 | 1.02 | -11.36*** |
| I am upset | 2.06 | 0.70 | 3.90 | 1.02 | -10.91*** |
| I am overwhelmed | 2.31 | 0.90 | 3.57 | 0.94 | -7.18*** |
| I feel anxious | 2.19 | 0.84 | 3.33 | 1.25 | -5.53*** |
| I feel tired | 1.17 | 0.87 | 3.98 | 1.05 | -12.26*** |
| I feel energized | 4.50 | 0.70 | 2.24 | 1.20 | 11.85*** |
| I feel lethargic | 1.81 | 1.01 | 3.57 | 1.09 | -8.74*** |
| I feel focused | 4.06 | 0.87 | 2.29 | 1.26 | 8.46*** |
| I feel distracted | 1.79 | 0.89 | 3.86 | 1.10 | -10.78*** |
| I feel healthy | 4.56 | 0.50 | 2.12 | 1.04 | 15.32*** |

***The mean difference is significant at the 0.001 level.

given higher mean values to the negative statements indicating agreement and lower mean values to the positive statements of the emotional regulations showing disagreement. The effect of yoga on the mean difference pertaining to emotional regulation has been found to be highly significant. Thus, it can be concluded that the adolescents who are practicing yoga are able to regulate their emotions more effectively. The results support the previous research studies where emotional regulation increased significantly in the yoga group as compared to the physical education.^[56,39] Significant difference was reported between the yoga and physical education for the social self-esteem.^[57] Yoga has been found to be a strong predictor of emotional regulation among students.^[58]

It was noted that the yoga practicing adolescents have given mean values above average to all the positive statements of self-esteem and very lower mean values to negative statements of self-esteem, indicating higher self esteem among adolescents practicing yoga. However on the other hand their counterparts have exhibited opposite responses by emerging higher on negative statements and lower on the positive statements of self-esteem. The effect of yoga on mean difference pertaining to all the statements

of self-esteem have been found to be highly significant which shows that yoga has a significant impact on predicting self-esteem among the adolescents. Thus it can be concluded that adolescents who are practicing yoga have a very high self-esteem, the results of study supports the findings^[59,43] where a significant increase was found in self-esteem of students after yoga.

The findings indicated that yoga practicing adolescents have emerged to be very high on the positive feeling statements and very low mean values to negative feeling attributes. On the other hand, the non-yoga adolescents have given higher mean values to the negative feeling statements such as, I feel sad, I feel angry, I am upset, I am tired, etc., and lower mean values to positive feeling statements. The mean differences between yoga and non-yoga adolescents on all feeling components have been found to be highly significant, similar to the results which reported significant improvement in feeling states.^[60] Thus it can be said that yoga has an important role in regulating the feelings of the adolescents and the students who practice yoga are more happy, energetic, focused, and healthy.

The significant impact of yoga on emotional regulation, self-esteem, and feelings of the adolescents is apparent from the findings in the present study and owing to the benefits of yoga on the physical and mental health as reported by the abundant research studies, yoga has to be integrated as a major component of primary healthcare. The schools and community centers should offer yoga programs for children and young people so that they learn and start practicing it from early age. It is essential to develop policy framework for initiating yoga in schools and training teachers to motivate the students for learning and practicing yoga.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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