

Original Research Article

EXPLORING THE THERAPEUTIC EFFECT OF YOGA TO ENHANCE PSYCHOLOGICAL WELL-BEING AMONG ADOLESCENT GIRL STUDENTS

ABSTRACT

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Background: Globally, Yoga is known as the wealth of India, the most oldest and powerful interventional method to develop healthy physical, mental/psychological, and spiritual upliftment.

Aim: The present study's aim is to see the role of yogic practices in enhancing psychological well-being among adolescent girl students.

Methodology: A total of 60 unmarried adolescent girls were selected according to inclusion and exclusion criteria, between the age group 13-15 years and randomly divided into 02 groups (30-30 in experimental and control group). A Checklist for Psychological well-being prepared by the researcher at RINPAS has been used to assess adolescents' psychological well-being. All participants were assessed at the beginning (pre) and after 03 months (post). The experimental group received a structured yogic intervention program (techniques included Surya-Namaskara, Pranayama, and Yoga-Nidra; 24 sessions).

Result: Result has found significant changes on experimental group participants on various domains of psychological well-being at 0.01 and 0.05 levels as compared to control group participants.

Conclusion: The result found that yogic practice is quite effective to enhance psychological well-being among adolescent girl students. As an intervention yoga and its techniques have the potential to develop positive healthy mental health, self-awareness as well as mental relaxation.

Keywords: - Adolescent, Girl students, Yogic practice, Yoga, Psychological Well-Being, Mental well-being.

1. INTRODUCTION

Human society has changed day by day much over the last centuries and this progress of modernization has profoundly affected everyone's lives in positive as well as negative ways, ~~no buddy nobody~~ can deny the effect of modernization on overall aspects of human life. Adolescents are crucial for humanity's future, and they are also involved and engaging in today's fast-paced environment. Adolescence's age is a stage of development, a blooming phase in human life that occurs between childhood and adulthood, having all attention of mental and physical health professionals and interesting subject matter for research. Meanwhile, adolescents are the most vulnerable group having challenges to adaptation, adjustment, and coping in interpersonal and social relationships are a great priority for adolescents in the present era which affected their life negatively with hard and fast movement.

Adolescence is defined by the World Health Organization (WHO) as the time period of life between the ages of 10 and 19 years. The adolescence period is marked through intensive changes, both gender boys/girls having so many changes physiologically, psychologically, intellectually, emotionally, and socially in all areas. In this phase, the age of attaining sexual maturity among girls, when they see changes physically, hormonally, and sexually has dipped into 10 years from 12-13 years earlier, not just in India but globally.^[1] The girls are having experiences of 'Menarche' the first menstrual period during this phase and had the experience of menstruation which is marked by feelings of stress and anxiety, and eagerness to know about this natural phenomenon. Furthermore, the Indian family pushes the girl child to perform in a certain way through a code of conduct, and especially for girls, most families set many limitations for the females and demonstrate different behaviours between boys and girls. This kind of supportive atmosphere has taken a cost on both physical as well as mental/psychological health, resulting in an imbalance in their homeostatic reactions, as well as serious psychological and pathological disorders in both mental and physical health.

'Yoga' the Indian traditional healing method or an indigenous technique which are the source of Indian Psychology (Atharv Vedas & Upnishad) **is more beneficial than westernized psychotherapy** not only for the Indian population but worldwide acceptable. It is advocating and uniting the individual's mind, body, and ~~sprites~~ **spirits** along with an ardent significance, through emanating powerful and everlasting outcomes for a healthy lifestyle. Our great Sage Patanjali stated about yoga as "CittaVrittiNirodah," which means it has a stabilizing effect on the mind. The Buddhist and Yoga psychologies of India include a plethora of material about

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psychological health, post-traditional transpersonal development, remarkable skills, and how to cultivate them.^[2] Meditation and yoga, according to a huge body of research, have impacts on psychology, physiology, and biochemistry, and can improve both psychological and physical health.^[3]

Comment [pmpm2]: If there is a huge body of research, this paper should cite more references, not only #3 !

2. METHODOLOGY

2.1 Aim: - The aim of the present study is to see the role of yogic practices in enhancing psychological well-being (PWB) among adolescent girl students.

2.2 Venue of the Study: - Ranchi Institute of Neuro-Psychiatry and Allied Science (RINPAS), Kanke, Ranchi, Jharkhand, India.

2.3 Research Design: The present study used the Pre and Post-test with exp. (experimental) and control group design, prepared checklist administered on both groups as an assessment tool at the beginning of the research program (Pre-assessment) and then post-assessment done after three months of intervention. The experimental group received structured yogic intervention program for three months.

2.4 Sample: A total number of 60 adolescent girl students were randomly selected from a local school, between the age group of 13-15 years according to inclusion and exclusion criteria.

2.4.1 Inclusion & Exclusion Criteria: The adolescent girls who comprehend Hindi and English language, continued in the same school for more than 02 years were included in the study. Adolescents having any major physical illness, psychiatric/chronic physical/medical illness, substance abuse, epilepsy, mental retardation, organicity/neurological disease, and/or recent traumatic life events were excluded. Among these 60 participants ~~has~~ were randomly divided into two groups- 'experimental (Exp.) and control group (30-30 participants)'.

Comment [pmpm3]: The paper does not detail how they were invited for the study.

2.5 Assessment Tools

2.5.1 Checklist for Psychological Well-Being

The "Checklist for Psychological Well-Being" ~~has been was~~ prepared by the researcher to measure the PWB of adolescents and young adult students in the Hindi language under the supervision of expert faculty members at RINPAS. In this checklist, total consisted of 24 items to measures six domains of psychological well-being in sense of 'General Health, Personal Growth, Vitality, Autonomy, Self-Acceptance, and Positive Relationship with Others'. The maximum score is 24 and the minimum is 0.

Comment [pmpm4]: There is no mention of how this random division was carried out.

2.6 Intervention Package

Comment [pmpm5]: The checklist should be attached to the paper, since it is not an officially known Psychological scale. There is no explanation on why it has 24 items and six domains, and where is was tested before.

The yogic intervention programme has been prepared approximately 45 minutes- 01 hours and twice a week over a period of three months (24 Sessions). In an intervention package the techniques are included: - Surya Namaskar, Pranayama (Nadi-shodhan, Bharstrika, Anulom-vilom and Bharamri, and Yoga Nidra.

2.7 Procedure of the Study

This study has been conducted to see the role of yogic practices as an intervention programme in enhancing the PWB among adolescent girls. After planning the present study, it was executed with a selection of a local girl's high school and took permission from the school authority for the research. Total 60 participants were selected according to inclusion and exclusion criteria, and all have been signed a written consent, filled in socio-demographical details taken by the researchers, and immediately after applied an assessment tool for collecting pre-assessment was applied. After the pre-assessment, all selected participants were divided randomly into two groups (Exp. and control groups). The Exp. group adolescent girls have been received intervention sessions of yogic practices over the period of 03 months (twice in a week for 01 hours). After 03 months of intervention, post-assessment has been was administered with the same assessment tool (*Checklist for PWB*) on respected groups (**Figure-1**).

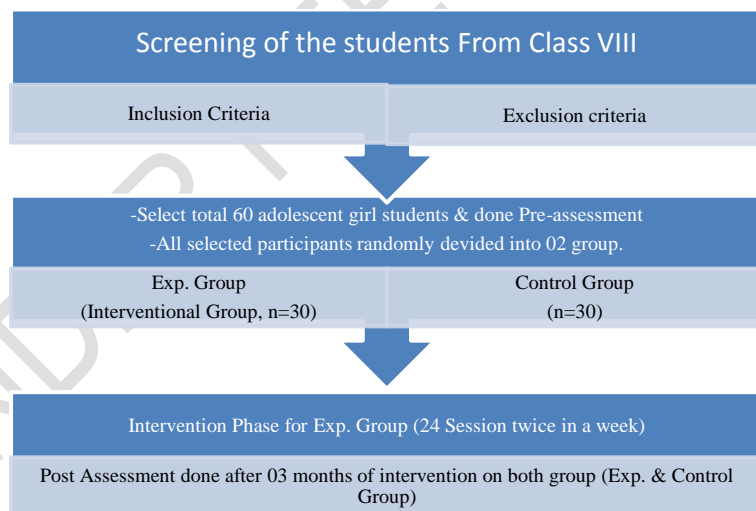


Figure-1 Consort figure of the entire study process.

2.8 Statistical Analysis

The data corresponding to the values of various assessments, before and after intervention among both groups were analysed through SPSS Ver.-25. The result of the therapeutic intervention was analysed through mean, SD, Mean Rank, Mann Whitney U, and Z values to see the changes and comparison between the groups on PWB.

3. RESULT

The Results ~~has showing~~ a comparison between the Experimental and Control group's pre-pre and post-post assessment levels, and within-group results of pre-post assessments (experimental pre-post and control group pre-post assessment) analysed according to Mean, SD, and χ^2 values.

The between groups (Exp. and Control group) ~~comparisons result~~ findings are shown in **Table-1** of pre and post-assessment of PWB. At the pre-assessment level, significant differences ~~werehave been~~ not found for both groups. However, when we see the post-assessment section the result found significant changes ~~ion~~ the experimental group Mean \pm SD, when compared with control group M \pm SD on various domains such as PWB total scores, GH, PG, Vit, Auto, and SA of PWB at .01 and .05 level. However, PosRel domain ~~did there has~~ not seen significant changes ~~ion~~ both group participants at post-assessment.

Table 1: Showing Between Group comparison of Experimental and Control Group Pre-Post Assessment (M \pm SD, Mean Rank, U and Z value)

| Var. | PRE-ASSESSMENT | | | | POST-ASSESSMENT | | | | |
|------|----------------|-------------------|-----------|--------|--------------------|-------------------|-----------|--------|---------|
| | Group | M \pm SD (N=60) | Mean Rank | U | Z | M \pm SD (N=60) | Mean Rank | U | Z |
| GH | Exp. G. | 1.70 \pm .88 | 30.00 | 435.00 | .24 ^{NS} | 2.40 \pm .86 | 35.20 | 31.00 | 2.17** |
| | Cont. G. | 1.80 \pm 1.13 | 31.00 | | | 1.73 \pm 1.23 | 25.80 | | |
| PG | Exp. G. | 2.96 \pm .67 | 30.48 | 449.50 | .01 ^{NS} | 3.73 \pm .45 | 38.43 | 21.00 | 3.89* |
| | Cont. G. | 2.97 \pm .61 | 30.52 | | | 3.00 \pm .79 | 22.57 | | |
| Vit | Exp. G. | 2.23 \pm .90 | 30.73 | 443.00 | .11 ^{NS} | 3.17 \pm .70 | 35.42 | 30.50 | 2.309** |
| | Cont. G. | 2.17 \pm .99 | 30.27 | | | 2.53 \pm 1.07 | 25.58 | | |
| Auto | Exp. G. | 2.03 \pm .64 | 30.55 | 448.50 | .025 ^{NS} | 2.63 \pm .61 | 36.25 | 27.500 | 2.76* |
| | Cont. G. | 2.03 \pm .76 | 30.45 | | | 2.10 \pm .88 | 24.75 | | |

| | | | | | | | | | |
|--------|-----------------|------------|-------|--------|--------------------|------------|-------|-------|-------------------|
| SA | Exp. G. | 2.13±1.01 | 27.97 | 374.00 | 1.19 ^{NS} | 3.03±.85 | 34.62 | 33.50 | 1.92* |
| | Cont. G. | 2.33±.92 | 33.03 | | | 2.53±.94 | 26.38 | | |
| PosRel | Exp. G. | 3.10±.96 | 31.92 | 407.50 | .67 ^{NS} | 3.27±.64 | 30.63 | 45.00 | .07 ^{NS} |
| | Cont. G. | 3.03±.72 | 29.08 | | | 3.27±.58 | 30.37 | | |
| PWB | Exp. G. | 14.23±1.92 | 29.73 | 427.00 | .34 ^{NS} | 18.10±1.92 | 40.13 | 16.00 | 4.305* |
| | Cont. G. | 14.33±1.98 | 31.27 | | | 15.23±2.57 | 20.87 | | |

Significant at * = .01; ** = .05; NS = Not Significant; M±SD = Mean±SD; PWB = Psychological Well-Being; GH = General Health; PG = Personal Growth; Vit = Vitality; Auto = Autonomy; SA = Self Acceptance; PosRel = Positive Relationship with Others.

The comparisons of within-group results of the Experimental (Exp.) and Control group pre-assessment and post-assessment are shown in **Table-2**. The result revealed that there were significant changes seen on various domains of experimental group participants such as total scores, GH, PG, Vit, Auto, and SA. However, the domain of PosRel of Exp. group has not seen changes at a significant level. The pre-post assessment result of the within-group of control group has shown no significant changes were noticed at the post-assessment level.

Table 2: Showing Between Group comparison of Experimental and Control Group Post-Post Assessment (M±SD, Mean Rank, and Z value)

| Var. | Exp. Group (N=30) | | | | | Control Group (N=30) | | | | |
|----------------|----------------------|-----------------------|-----------|-------|-------------------|-------------------------|-----------------------|-----------|-------|--------------------|
| | Pre-Ass. (M ± SD) | Post Ass. (M ± SD) | Mean Rank | | Z | Pre-Ass. (M ± SD) | Post Ass. (M ± SD) | Mean Rank | | Z |
| | | | - | + | | | | - | + | |
| | | | Rank | Rank | | | | Rank | Rank | |
| GH | 1.70±.88 | 2.40±.86 | 8.50 | 11.42 | 3.31* | 1.80±1.13 | 1.73±1.23 | 7.75 | 9.75 | .52 ^{NS} |
| PG | 2.97±.67 | 3.73±.45 | 9.00 | 11.75 | 3.73* | 2.97±.61 | 3.00±.79 | 11.38 | 9.00 | .17 ^{NS} |
| Vit | 2.23±.90 | 3.17±.70 | 6.00 | 10.74 | 3.79* | 2.17±.99 | 2.53±1.07 | 10.33 | 10.57 | 1.67 ^{NS} |
| Auto | 2.07±.64 | 2.63±.61 | 6.00 | 8.86 | 3.02* | 2.03±.76 | 2.10±.88 | 8.00 | 11.38 | .26 ^{NS} |
| SA | 2.13±1.01 | 3.03±.85 | 10.50 | 13.89 | 3.87* | 2.33±.92 | 2.53±.94 | 7.50 | 7.50 | 1.60 ^{NS} |
| PosRel. | 3.10±.96 | 3.27±.64 | 5.50 | 7.21 | .97 ^{NS} | 3.03±.72 | 3.27±.58 | 5.00 | 5.00 | 2.33 ^{NS} |

| | | | | | | | | | | |
|--------------|------------|------------|-----|-------|--------|------------|------------|-------|-------|---------------------|
| PWB | 14.23±1.92 | 18.10±1.92 | .00 | 15.50 | 4.810* | 14.33±1.99 | 15.23±2.57 | 11.35 | 15.56 | 1.835 ^{NS} |
| Total | | | | | | | | | | |

Significant at *= .01; **= .05; NS= Not Significant; PWB-Psychological Well-Being; GH-General Health; PG-Personal Growth; Vit- Vitality; Auto- Autonomy; SA- Self Acceptance; PosRel- Positive Relationship with Others.

According to the results found, significant changes were have been found in various domains of PWB among Exp. group participants as compared to the control group in between-group comparison as well as within-group result. The result shows explored the Table-1 and for within-group on Table-2, thus suggesting that the hypothesis of the present study is rejected.

4. DISCUSSION

Findings of the present study suggest that all participants of the experimental group improved their PWB after intervention as compared with the control group participants. Firstly, at pre-assessment, we found no significant differences between the experimental and control group's mean and SD scores. They were similar at pre-assessment in the first round. In the second step, the result found a significant improvement shows on various domains such as PWB total scores, GH, PG, Vit, Auto, and PG among experimental group participants as compared to the control group of adolescent girls who didn't receive intervention sessions at post-assessment. As well as a within-group result also found significant changes when compared within-group pre-post Mean and SD scores of experimental group results. However, within the group, pre-post Mean & SD scores were not significantly found for control group participants. The Experimental group girls also reported that they are more aware and started to feel the changes in themselves, had a peaceful mind, were more comfortable, increased their confidence, and were able to reduce their mental stress who bothered them, and positively tackle all situations. PWB is conceptualized as lives going well, a combination of feeling good and functioning effectively in daily life.^[4] A previous study's result is supported the present finding and stated that yogic intervention significantly works on academic stress and psychological well-being for school-going female students.^[5]

Yoga is quite effective as an intervention to improve emotional intelligence (EI), emotional regulation, and anger management and significantly confirms the positive effect on psychological fitness for adolescents. The short-term courses are effective and induce positive behavioural signatures.^[6] It is influencing healthy mental health and psychological well-being with respect to boys or girls, and establishing the connectivity between healthy mental health and psychological well-being.^[7] The yoga, breathing exercises, and mindfulness-based training for

Comment [pmpm6]: Nowhere before in the paper was the hypothesis mentioned. So, the author cannot say here that it was rejected if it was not previously mentioned!

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inculcating deep-rooted impact on physical, mental well-being, and as the spiritual practice advocating the union of mind, body, and soul with an ardent significance, thereby emanating powerful and everlasting effects.^[8]

A structured yogic technique Yoga-nidra and Vedic mantras have significantly effective on psychological well-being, school performance, and reduced stress and anxiety among students, and also effective in developing

self-awareness.^[9] Yoga is more powerful and better than any other another exercise to improve a variety of

health-related outcomes for healthy as well as on diseased populations for better efficacy.^[10] Yoga, meditation,

mindfulness, and these kinds of psychotherapies are very useful as an alternative option for children/adolescents with a way to combat stress and to reduce the pressure of living style which is highly charged in the present

world.^[11] Yoga and its techniques with treatment, as usual, emerged as an effective intervention strategy in

enhancing PSW. Yogic techniques contribute to reducing stress, anxiety, depression mental health-related issues, significantly improving muscular stress, and relaxing the mind and body.^[12] Yoga has been shown to

have a significant impact on academic stress and psychological well-being in young adult females. Yogic

techniques are also useful in raising self-esteem, improving mental health, and increasing self-awareness in

people of all ages.^[13] Research over these years has highlighted the positive effects of Yoga. Yoga is leading

holistic development among individuals in all age groups people; however, younger age people are being quicker in contrast to the older ones.

5. CONCLUSION

Yogic intervention as a combination of mind-body exercises helps the adolescent girls to consolidate their body, mind, and spirit, and make them stronger as compared before the intervention they had themselves.

Adolescents are easily influenced by society, peer group pressure, and role model. While this study has focused on school girl students, who faced lots of issues during this period as a girl child and due to the

transitory phase of life. The finding of the present study may indeed provide evidence to change the current

hassle-based lifestyle and make our mind and body fit and healthy. It has the potential to make a unique

contribution in enhancing the psychological well-being reported by adolescents. This has been inculcated a

strong, healthy, and positive image of themselves in individual mind if anyone including it in daily life activity as a yogic lifestyle.

Comment [pmpm7]: According to just this one study?

Comment [pmpm8]: The conclusion is only partly correct. Why? Because the results of studies with small samples, which are not randomized controlled trials, cannot be generalized to the wide public. Therefore the conclusion should state that the results are positive for the members of that specific community, for the participants of the study.

CONSENT

"All authors declare that 'written informed consent was obtained from the participants and school authority for publication of this research-based study and accompanying some images of intervention. If editorial members want to verify the written consent, a copy will be provided by the corresponding author for review by the Editorial office/Chief Editor/Editorial Board members of this journal.' Because it's a part of Ph.D. Research it has not to share in the page."

ETHICAL APPROVAL

"All authors hereby declare that all experiments have been examined and approved by the appropriate ethics committee DRC Committee of RINPAS, Kanke, Ranchi and Ranchi University, Ranchi"

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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