EFFECT OF YOGA PERSONALITY DEVELOPMENT CAMP ON THE TRIGUNA IN CHILDREN

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Suchitra S. Patil
SVAYASA University
H. R. Nagendra
Chancellor, SVAYASA University

Abstract

The study comprised to comprehend the effect of Yoga Personality Development Camp on the trigunas in children. The study was pre-post design with control group . 200 children (100 children in each group), aged 8-12 yrs, selected from a residential camp at Prashanti kutiram Jigani (Yoga group) and Jayagopal Garodia Rasrtothana school. Experimental group children practiced Integral Yoga module including Asanas, pranayama, nadanusandhana, chanting, and games.Control group children were under daily rutine . Sushruta Child personality inventory was administered before and after 10 days. Mann-Whitney U test and Wilcoxon Signed Ranks Test were applied. Sattva increased significantly, while Rajas and Tamas decreased significantly as compared to the control group. Yoga Personality Development camp has the significant effect on Sattva, Rajas and Tamas in Children.

Key words : *Yoga, Sattva, Rajas and Tamas*

Indian philosophy conceptualizes Trigunas (Sattva. Rajas, Tamas-representing knowledge, activity, inertia) are the source of the personality. Âyurveda classics point up sixteen types of mental constitution (7 Sattva,6 Rajas, 3 Tamas) formed at the time of conception[1-3]. Accordingly, they assert Rajas and Tamas are responsible for psychological disorders. The association between Âyurveda concept and modern gestalt theory and the correspondence of 16 types of personalities with 16 types of psychological disorders has been discussed[4].

Stress has reduced through Mindfulness training in school age children[6]. Kripalu yoga training has shown preventive benefits in psychosocial well being when compared to physical excercises[7]. Studies regarding exercise effects on overweight, growth, chronic illness, depression and anxiety in children and adolescents are reviewed[8]. Slow and fast suryanamaskara are compared in children[9]. Efficacy of a movement based, modified RR program, involving yoga and dance in treating behavioral and some core features of autism has been examined[10]. An executive function in children has been improved by yoga[11]. Attention in children has been improved as an immediate effect of yoga relaxation techniques 12. Imitation skills in children with autism spectrum have been increased by integrated yoga therapy[13]. Randomized controlled studies which investigated the efficacy of mediation therapy in children and adults diagnosed with ADHD have been discussed[14]. Individualized yoga therapy has been proven as adjunctive therapy for eating disorders in children[15]. Effect of breathing exercises on respiratory parameters in children has been studied[16]. Six month yoga training has improved muscle power, dexterity and visual perception in girls[17]. Pranayama effects on grip strength and spatial memory have been reported[18]. Visual and spatial memory has been increases by GES educational program , based around integrated yoga modules [19]. Relaxation and yoga exercise have reduced anxiety of children and adolescent group[20]. The efficacy of integral yoga module as an effective therapeutic tool in the management of mentally retarded children has been proven[21]. Higher scores in life satisfaction and lower scores in excitability, aggressiveness, openness, emotionality and somatic complaints was followed by hatha-yoga practice[22] A study has reported significant changes in Sattva, Rajas, Tamas by integral yoga practice on subjects of age group -17-63[23]. A randomized controlled study has shown the influence of Yoga on Gunas and self esteem in comparison to physical exercise[24].Another study has reported changes in well being of children after yoga[25]

As there was no study available on the effect of Yoga Personality Development Camp on trigunas in children, requirement was felt for the present study to be carried out.

Methods : Study was approved by ethical committee of SVYASA. This study has pre –post design with control group. Yoga group children attended ten days Yoga Personality Development Camp. Sushruta child personality inventory (In peer reiveiw) was administered at the beginning, and at the end of ten days. Sattva,Rajas, Tamas mean scores were analyzed. SPSS (16.0) was used for the statistical analysis. Kolomogorov-Smirnov test was applied to check normal distribution of the data. Within group significance was analyzed by using Wilcoxon Signed Ranks Test and between group significance was analyzed by Mann-Whitney U test. Sushruta child personality inventory which was based on Sanskrit verses quoted in nine texts and content validity by Ayurveda experts and psychologist. It had three subscales- Sattva (A), Rajas (B), Tamas (C) with 20,18 and 16 items respectively. It was associated with good reliability (Cronbach's alpha for A, B and C scales were 0.60, 0.64 and 0.61 respectively and spilt half scores were 0.62, 0.68 and 0.54 respectively. Factor validity coefficient Scores on each items was above 0.3. 100 children (for each group) of the age group 8-12 years from Yoga Personality Development Camp in Prashanti kutiram and Jayagopal Garodia Rastrotthana School Bangalore were included in the study. Children with Attention Deficit Hyperactive Disorder, Autism, Psychosis, who are mentally challenged were excluded from the study. In Yoga group 46 boys and 54 girls were there. Similarly in control group 52 boys and 48 girls were there.(Table-1) Yoga practices included Breathing exercises like ankle stretch breathing, hand-stretch breathing, Dog breathing, Rabbit breathing, Dynamic exercises like jogging, forward-backward bending, Surya-namaskara. Asanas like vrkshasana, veerabhadrasana, ustrasana, padahastasana, ostrich pose, blossom .Pavanamuktasana kriya, Pranayama like- nadishuddhi, bhramari, Yogic breathing. Nadanusandhana.Yogic games like search engine,find the leader. Along with ,that stories. Vedic chanting, Bhagavad-Gita chanting.

Table-1 : Demographic data

Sample	Yoga	Control
Gender	46 boys/N-160	52 boys/N-160
Age	8-12 years	8-12 years
Mean± SD	10.91±1.07	10.01± 1.24

Table 1 gives demographics of both groups. In Yoga group 46 boys and 54 girls were there. Similarly in control group 52 boys and 48 girls were there.

Results : Yoga group showed significant changes in Sattva, Rajas and Tamas after intervention. Although in control group there was no significant changes. (Table-2)

Table-2 : Mean scores of both group and significance

Guna	Y(pre)	Y(post)	significance	C (pre)	C(post)	Significance
Sattva	9.40±2.80	10.81±2.77	.001*	10.26±2.77	10.08±2.90	.003*
Rajas	8.16±2.49	7.54±2.46†	.001*	7.52±2.36	7.62±2.32	.086
Tamas	9.95±2.06	8.84±1.92†	.001*	9.65±2.39	9.72±2.42	.144

Table 2 gives mean scores and standard deviation of yoga (Y) and control (C) group before and after ten days of intervention. Sattva has increased and Rajas and Tamas have decreased significantly in Yoga group compared to control group. (*Wilcoxon Signed Ranks Test). Post intervention changes in Rajas and Tamas was significant ,showing both groups are different.

Table-3 : Mean scores of Boys and Girls (Yoga group)

Guna	B(pre)	B(post)	significance	G (pre)	G(post)	Significance
Sattva	9.56±2.79	10.80±2.95	.001*	9.25±2.82	10.57±2.62	.001*
Rajas	7.95± 2.47	7.35±2.55†	.001*	8.33±2.52	7.68±2.33	.001*
Tamas	9.86±2.10	9.08±1.84†	.001*	10.01±2.10	8.90±1.99	.001*

Table 3 gives mean scores and standard deviation of Boys and Girls in Yoga group before and after ten days of intervention. Sattva has increased and have increased. Rajas and Tamas decreased have significantly in both Boys and Girls. *Wilcoxon Signed Ranks Test). But changes in Girls in all gunas are more compared to the Boys.

Post intervention changes in was not significant between groups, showing both groups are not different for the effect of Yoga.

Table-4 : Mean scores of Boys and Girls (Control group)

Guna	B(pre)	B(post)	significance	G (pre)	G(post)	Significance
Sattva	10.55± 2.65	10.32±2.77	.005	9.93±2.89	9.81±3.04	.157
Rajas	7.26± 2.18	7.40±2.11	.108	7.79±2.54	7.85±2.52	.439
Tamas	9.59±2.43	9.65±2.49	.366	9.70±2.36	9.79±2.36	.248

Table 4 gives mean scores and standard deviation of Boys and Girls in control group before and after ten days of intervention. Rajas and Tamas have increased. Sattva has decreased in both Boys and Girls, but changes were not significant.. *Wilcoxon Signed Ranks Test). Post intervention changes in Sattva,Rajas and Tamas was not significant between groups, showing both groups are not different after intervention.

Table-5 : Significance values between Yoga and Control Boys and girls

Guna	boys(pre)	boys(post)	girls(pre)	girls(post)
Sattva	0.060	0.266	0.231	0.273
Rajas	0.186	0.054	0.207	0.254
Tamas	0.477	0.001	0.593	0.001

Table 5 gives significance values of both Boys and Girls between group analysis of Yoga group with control group . Post intervention changes in Tamas ,after Yoga in was significant in both boys and girls showing both (Yoga and Control) group are different.

Discussion : Present study has described the effect of ten days, Yoga personality Development Camp on trigunas in children. Scores on three subscales before and after were not distributed normally .(Kolomogorov-Smirnov Test). Baseline data in two groups were not significant .Scores on Sattva scale were increased significantly after yoga practice. Similarly scores on Rajas and Tama scale were decreased significantly.While in control group Rajas and Tamas has increased (table-2) though not significant. Changes after yoga in yoga group were significant (Wilcoxon Signed Ranks Test). In Yoga group, percentage of change in Sattva was 12%, Rajas was 7% and in Tamas was 11%. However, in control group it was 0.2%, 0. 1% and 0.07% respectively .Earlier studies have revealed Sattva score changes (increased) were [23] and changes in Rajas scores (decreased) were not significant.[24] Percentage changes in earlier study were 6% (Sattva) , 9% (Rajas), and 6% (Tamas)[24] and it was 5%, 2.5% and 3.3% respectively in the other study done on adults[25]. While the present study has exhibited significant changes in all Sattva, Rajas and Tamas. (Table-6)

Table -6
Comparison of results with other studies

Studies	Age range	Sattva change	Rajas change	Tamas change
Present Study	8-12 years	12%	7%	11%
Khemkha et al study[23]	17-63 years	6%	9%	6%
Sudheer Deshpande et al study[24]	18-71 years	5%	2.5%	3.3%

Results of comparing scores on Rajas and Tamas after experiment showed two groups are significantly different in changes occurred.(Mann-Whiteny U-test), though Sattva change was not significant. Sattva, Rajas and Tamas scores were analyzed for Boys and Girls in both groups. This showed Yoga has significant (Wilcoxon Signed Ranks Test) effect on Rajas and Tamas in both Boys and Girls compared to control group while girls showed more change compared to boys. (Table 3 and 4). Between group analysis of boys in both groups and girls in both groups revealed changes in Tamas was significant (Mann-Whiteny U-test) in both boys and girls. (Table-5) Meditation practiced by children in this study helped to increase Sattva guna. Ayurveda describes Self-knowledge (Âtmajnâna) enhances Sattvaguna. Earlier research work[30] has discussed Kapha correlates with Sattvaguna. Earlier studies have shown Sattva guna increases after yoga[26,27]. Energy consumption results by Yoga and that results in increase in Kapha. This investigation has proved the increase in Sattva by Yoga. Dynamic exercises and Âsanas practiced by the children helped in reducing Rajas and Tamas . As energy stored in the mind in the form of thoughts is expended through the physique. Pranayama also helped as it reduces the speed of the mind.

The strength of this study it is the first attempt to explore the effect of Yoga Persoanlity Development Camp on trigunas in children. It has compared yoga group with control group. Researcher was blinded for yoga practice. While, Ayurveda quotes, persons with predominance of Rajas and Tamas are prone to psychosis and neurosis . The present result may point, that yoga helps to move towards positive health by increasing Sattva guna. The study has discarded null hypothesis that yoga cannot reduce Rajas and Tamas and increase Sattvaguna.

Limtations of the study is though yoga personality camp has resulted in significant changes in trigunas, samples were not randomized . Assessor was not blinded. Future studies are required on randomly assigned sample with blinded assessor. Effect of different types of yoga module, eg. Asanas, Pranayama, Meditation can be studied independently.

Conclusions : The present study has showed that a ten days practice of integral Yoga has a significant effect on Sattva,Rajas and Tamas in children as compared to control group ,of the age group 8-12 years. This may point out towards prevention of psychological disorders.

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