

ABSTRACT

Background: Though adolescent age group is said to be the happiest and the healthiest in human life cycle, behavioural problems of adolescents is a major issue globally. The post conflict situation in Jaffna fueled the existing problems to be worsened by internet, smart phones etc. which are misused by adolescents who were not prepared to handle it. Parents and teachers alike did not know how to handle them properly or to guide them out of unhealthy behaviours for a better quality of life as adults.

Objective: To determine the prevalence, correlates of behaviour problems of Grade 8 (early adolescent) school children, and to evaluate the effectiveness of a yoga-based intervention package in the schools to address these behavioural problems.

Methods: Parents and teacher report of strength and difficulty questionnaire was validated for Jaffna students and cut off points determined to differentiate behaviourally normal and abnormal children using psychiatric clinic and community samples (abnormal children n=40, normal children n= 88). A cross sectional study was carried out to determine the prevalence of abnormal behaviour and its correlates using multi stage cluster sampling population proportionate to size in Jaffna district (n= 1328). A desk review conducted with relevant expertise to finalize the yoga based intervention package. A non-randomized control trial carried out in 4 educational zones of Jaffna district for 6 months using a yoga based intervention package with a pre and post quantitative assessment and a post qualitative assessment from the intervention group.

Results: Validation of the Strength and difficulty questionnaire (SDQ) revealed that the internal consistency for emotional problem in parent tool (SDQ-P/T) was good (Cronbach's alpha= 0.7) and for all subscales in teachers' tool (SDQ-P/T) were closer to 0.7. The agreement in test-retest reliability was highly significant ($p < 0.001$). Behaviourally abnormal students assessed by parents, teachers and students were 10.1% (C. I= 8.5- 11.8), 32.1% (C.I= 29.6- 43.6) and 26.5% (C.I= 24.2- 28.9) respectively by Jaffna cut off points. Female sex, age 14 years/ above, studying in type1C/ type11 schools, having an uneducated mother and unfavorable learning environment in schools were significantly associated with abnormal behaviour (female sex: adjusted OR=1.5, 95% C. I=1.1- 1.9; age>14 years: adjusted OR= 2.2, 95%, C. I=1.0- 5.0; type 11 school: adjusted OR=3.8, 95% C. I= 2.9- 4.9; uneducated mother: adjusted OR= 0.8,95% C. I= 0.6- 1.2;

unfavorable school environment: adjusted OR= 4.2, 95% C.I= 1.6- 10.8). Desk review with a panel of experts finalized Surya-namaskaram, breathing control techniques and mindfulness meditation as the intervention package for the school students. Total difficulty score and all the subscale scores between pre and post assessment, reduced significantly in intervention group and worsened in the control group ($p < 0.001$ for both groups). Focus group discussion indicated the benefits of this intervention in emotional wellbeing and educational achievements.

Conclusion and recommendation: This yoga based intervention package was simple and the effectiveness now proved scientifically therefore can be introduced in all the schools in Sri Lanka for the better quality of life (physical, mental and educational aspects) of the adolescents.

Keywords: Adolescent behavioural problems, Strength and difficulty questionnaire, Total difficulty scores, Factors influencing behaviour problems, yoga based intervention package.