

ABSTRACT

Introduction Epidemiological studies conducted in both developed and developing countries have shown consistent results on health benefits of physical activity and health risk of inactivity leading to non communicable diseases. Very little research has been done on physical activity among children and adolescents and there is a paucity of information on physical activity level of Sri Lankan adolescents. Physical activity assessment questionnaires have been validated for adults. However, validated physical activity assessment instruments are not available in Sri Lanka to assess physical activity in adolescents.

Objective The present study was carried out with the objective of assessing the physical activity and sedentary behaviour pattern among adolescent school children aged 13-14 years in the Rathnapura district and identifying selected correlates of physical activity.

Method. The study included two phases. During Phase 1 of the study two study instruments were selected, modified and translated to assess the physical activity pattern, sedentary behaviour and physical activity correlates of adolescent school children aged 13-14 years in the Rathnapura district (PAQ-S and PACE+PSM-S). A questionnaire to collect socio demographic data of adolescents (PQPA-S) was also developed during phase 1. The PAQ-S was validated to assess the prevalence of physical activity among adolescent school children during Phase 1 of the study. Yamex Digi-Walker CW 701 pedometer was used as the objective measure in validating the PAQ-S. Reliability of PAQ-S and PACE+PSM-S were also assessed. The outcome measure of physical activity assessment questions was participation in moderate to vigorous physical activity for at least 60 minutes per day for 5 days or more per week. Based on this cut off value adolescents were categorized as sufficiently active or insufficiently active.

A cross sectional study was carried out during Phase 2 of the study to assess the physical activity pattern, sedentary activities and to identify selected environmental, socio-demographic and psychosocial correlates of physical activity pattern of adolescent school aged 13-14 years children in the Rathnapura district. The students were selected for the study using two stage cluster sampling technique. Socio demographic factors such as age, sex, sector, BMI, income level of family, social status of family, parental education level and parents physical activity level, functional classification of schools

and adolescents participation in school sport teams were studied as possible correlates of adolescents. Perceived correlates based on research findings were assessed using the PACE+PSM-S.

Results

Physical activity assessment questions of the PAQ-S was found to have a moderate correlation ($r=0.41$) with pedometer average step counts. The physical activity assessment questions of the PAQ-S showed a moderate agreement (kappa 0.55) in test retest reliability assessment. PACE+PSM-S that was used to assess the environmental, and psychosocial correlates of physical activity pattern was found to have a good reliability (ICC-0.66-0.82).

A total of 1041 grade 9 students of Sinhala medium schools in the Rathnapura district participated for the cross sectional study and mean age of the sample was 13.8 ± 0.39 years. Forty nine percent of the sample were boys. Approximately 38% of adolescent school children were sufficiently active where 40% of boys and 36.4% of girls were sufficiently physically active. A significant difference in the level of physical activity was not observed between boys and girls ($p>0.05$).

In the bivariate analysis, physical activity level showed significant associations with functional classification of schools ($\chi^2=15.45$, $p<0.001$), income of the family ($\chi^2= 5.08$, $p<0.05$), sector by place of residence ($\chi^2= 15.45$, $p<0.05$), location of school ($\chi^2= 5.15$), physical activity level of parents ($\chi^2= 7.59$, $p<0.05$), participation in sport teams (χ^2 for trend=14.55, $p<0.0001$). Physical activity change strategy ($r=0.19$, $p<0.01$), physical activity pros ($r=0.08$, $p<0.01$), self efficacy ($r=0.13$, $p <0.01$), friend support ($r=0.16$, $p<0.01$), family support ($r=0.08$, $p<0.01$), environmental factors ($r=0.12$, $p<0.01$), physical activity recreational choices ($\chi^2= 16.21$, $p<0.01$) were also significantly associated with physical activity. Multivariate regression model controlling for confounders showed statistically significant associations of sufficient physical activity with type 1 AB schools (OR 1.73, 95% CI-1.20-2.49); parents being physically active for 6-7 days per week (OR 1.59, 95% CI-1.15-2.22); thoughts, activities and feelings of adolescents to make a positive behavioural change (physical activity change strategy) (OR 1.38, 95% CI, 1.07-1.78) and availability of active physical activity choices to make when a recreational choices had to be made (OR 1.56, 95% CI- 1.05-2.33).

Recommendations The study findings suggest that physical activity level of adolescent school children of Rathnapura district need to be promoted. Therefore, physical activity intervention studies should be conducted to address this problem. The intervention studies should consider the possible factors that can affect the participation of physical activity of adolescents such as physical activity level of parents, thoughts, activities and feelings of adolescents that they may use when making a positive behaviour change (change strategy) and availability of active physical activity choices to make during recreation.