Prevalence of Smoking and Exposure to Secondhand Smoke among Qatari School Children: Results from the Pilot Phase of the National Epidemiological Study of Lung Health among Qatari National School Children

Authors
Amy Leona Sandridge, Hana Said, Amjad Tuffaha, William Greer

Institutions
Aspetar, Qatar Orthopaedic and Sports Medicine Hospital, Doha, Qatar
Primary Health Care, Doha, Qatar
Hamad Medical Corporation, Doha, Qatar
Sidra Medical and Research Center, Doha, Qatar

E-mail sandamy27@yahoo.com

Secondhand exposure to tobacco smoke (SHS) has been proposed to potentially increase risk of acute respiratory infections, middle ear disease, exacerbated asthma and decreased lung function in children. The objectives of this study of Qatari schoolchildren were six-fold: to assess feasibility of a national study on athletic participation, healthy living and lung function; to provide estimates of height and weight; to estimate the prevalence of exposure to SHS; to assess potential bias of informant; to estimate prevalence of smoking; to compare results of reported exposure to SHS and reported smoking using levels of saliva cotinine (SC).

This pilot phase of the National Epidemiological Study of Lung Health among Qatari Schoolchildren collected data from 321 boys and 413 girls enrolled in government schools in grades 7 to 12 using questionnaires administered by trained native Arabic research staff from October 2008 to April 2009. SC samples, height, weight and spirometry data were collected.

Mean Body Mass Index percentile ranged from 42nd percentile among 19 year old boys to 76th among 17 year olds. Among girls the range was narrower: from 61st percentile in 17 years to 86th in 11 year olds. For male schoolchildren, mothers answered 38% of the questionnaires while fathers answered 62%. For daughters, mothers responded for 58% and fathers for 42%. We found that mothers were more likely to report higher amounts of exposure to SHS than fathers especially for daughters. Fathers reported little exposure to SHS. There were 106 children who showed exposure to nicotine by SC level. Of these, 14 (13%) reported that they were smokers.

Seventy-two percent of children were reported to have been exposed to SHS. This varied by sex of child and reporting parent. The finding on potential reporting bias between mothers and fathers has implications for the future national study. The reported prevalence of smoking among this population was 3%.

Conclusions: (1) Qatari schoolchildren are exposed to SHS; (2) The national study must be designed to control for respondent bias; (3) The national study is feasible.

Negative Influence of Intermittent Ramadan Fasting and Unhealthy Lifestyle on Body Composition, Sleep, Physical Fitness and Iron Indices in School Boys

Authors
Abdulaziz Farooq, Rita Mansour, Christopher Paul Herrera, Sebastien Racinais, Fuad Almudehkii, Olivier Girard, Ivana Matic, Wade Knez, Justin Grantham

Institution
Aspetar, Qatar Orthopaedic and Sports Medicine Hospital, Doha, Qatar

E-mail mohammed.farooq@aspetar.com

Background: Schoolchildren must practice healthy diet as well as active lifestyle to support their physical growth and development. Previous studies have shown that intermittent fasting can affect dietary intake, sleep duration and circadian patterns among adults, but there is a lack of related literature in schoolchildren.

Purpose: The aim of this study was to objectively assess the effect of Ramadan fasting on physiological parameters in young children.

Methods: Eighteen boys aged 12.6±1.5 years were assessed at baseline (BR) and followed up twice during Ramadan (1st week [R1], 4th week [R4] and once two weeks after the end of Ramadan (AR). Body composition was assessed using anthropometry and DXA scan. Blood investigations included complete blood count, lipid profile analysis and iron indices. Pattern of daily activity and core body temperature were recorded using a triaxial accelerometer and ingestible thermistor pill, respectively. Dietary intake was assessed by experienced nutritionist based on digital images of food and drinks consumed by each participant during a 24-hour period. Repeated sprints tests (RSA) of 6 x 15 m sprints interspaced by 15 s rest were performed to evaluate fatigue resistance.

Results: There was a shift in daily peak activity from daytime (5:30 PM) to late night (12:00 AM) that resulted in 1.8±0.6 hours of loss in total sleep time during R4 (P<0.01). After 30 days of fasting there were no important change in lipids, but a significant drop in serum iron from 17.7±1.6 μmol/L at BR to 13.1±1.4 μmol/L (P=0.01), suggesting a potential nutritional deficiency. Moreover, reduction in serum iron was associated with younger age (r=0.47, P=0.05) and lighter body weight (r=0.37, P=0.13). Dietary analysis showed that subjects consumed a high calorific diet deficient in fruits and vegetables during Ramadan that explains weight gain (+1.0±0.2 kg, P=0.001) and consequently longer sprint times on RSA test (+0.4±0.1 s, P=0.04) at R4 compared to baseline.

Conclusion: This study concludes that intermittent Ramadan fasting may have an undesirable impact on body composition, sleep patterns and nutritional habits in young schoolchildren. These results could be used to develop educational strategies to promote a healthy lifestyle in schoolchildren during Ramadan.