

# Prevalence of overweight and obesity in association with diet and physical activity among national boarding high schools: a case comparison of Alliance high and Alliance girls high schools

Mberia, Rose Kinya

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## Abstract:

Unconfirmed reports suggest increasing levels of obesity and chronic diseases related to over-nutrition among High school students in Kenya. This poses the problem of the double burden of disease and malnutrition, which, if not addressed in time, will overwhelm the economy of the country such as Kenya. This study. design was crosssectional and comparative, designed to assess the prevalence of overweight and obesity in National High Schools, using a boys' and a girls' school as case study. The study assessed the prevalence of overweight and obesity in association with diet and physical activity. The study comprised 183 adolescent students aged 14-17 years: 90 girls from Alliance Girls High School (AGHS) and 93 boys Alliance High School (AHS) both located in Kiambu County. Overweight and obesity were determined using Body Mass Index (BMI for age) percentiles. Data was also collected on socio-demographics and the level of physical activity using a general questionnaire, and dietary practices using food frequency questionnaire. Data was analyzed using the Statistical Package for Social Sciences (SPSS). Categorical data was analyzed using chi square and Fishers Exact test while association between overweight and obesity and their predisposing factors were assessed using Pearson's correlation. Statistical significance was set at  $p < 0.05$ . Results showed that the prevalence of overweight and obesity was 13.7% and 4.4% in the study population respectively. The prevalence of both overweight and obesity was slightly higher in girls (20 % and 5.6%) than in boys at (7.5% and 3.2%) respectively but there was no significant difference between two sexes. The study also established that there was no significant differences between BMI category and sexes using Fishers Exact test ( $P=1,000$ ) ( $p > .05$ ) among those who were overweight and obese. The percent of boys who engaged in sports was significantly higher than that of the girls. There was no significant relationship between hours spent on physical activity and BMI status, whether overweight or non -overweight. A significantly higher number of girls used their free time to do revision work and to catch up on pending assignments'. Significantly more of the overweight and obese students used their free time sitting and talking to their friends and surfing in the internet compared to non -overweight ones. Television watching and lor playing computer and! or video games occupied most of the students free time during weekends. The study shows that there was no significant difference in TV watching between sexes. A high proportion of both girls and boys spent more than 5 hours in front of the television during weekends (58.9% and 60.9% respectively. This study showed no significant difference between BMI status and time spent watching television and playing video games. Frequency of consumption of high calorie

foods was positively correlated with the student's BMI. Overweight and obese adolescents consumed high calorie foods significantly more frequently than their non obese counterparts. The study concludes that the prevalence of overweight and obesity among adolescent High school students is high and factors contributing to this problem include frequent consumption of foods high in calorie, as well as low levels of physical activity. It is therefore recommended that students, teachers and diet planners in institutions be provided with information concerning health eating habits and physical activity.