



Overweight and Obesity and Associated Factors among School-Aged Adolescent in Ghana and Uganda

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Obesity in childhood

- Prevalence of overweight and obesity in children has increased worldwide
- **Obesity in childhood** and adolescence has adverse consequences on premature mortality and physical morbidity in adulthood and is associated with impaired health during childhood itself.
- Once obesity is established in children (as in adults) it is hard to reverse.

Prevalence of childhood obesity

- Monitoring the prevalence of obesity in order to plan services for the provision of care and to assess the impact of policy initiatives is essential
- The prevalence of overweight and obesity continues to remain low in many lower income countries, but it seems to be changing in some middle income countries. For example, the prevalence of obesity among South African 3 to 16 years old children was found to be 3.2% for boys and 4.9% for girls.

Risk factors: childhood obesity

- lower physical activity levels
- higher sedentary behaviour (such as television viewing times)
- dietary behaviour such as frequency of sweets intake
- psychosocial factors
- female gender
- victims and perpetrators of bullying behaviours
- inaccurate perceptions of the need to diet,
- poorer self-perceived health status and potential social isolation

Aim of study

Risk factors such as dietary behaviour, life style factors (smoking and alcohol use), physical activity and psychosocial factors for overweight in low-income countries are not well-known and might differ from those in other countries.

The aim of this study was to assess overweight and obesity and associated factors in school-going adolescents in African low income countries (Ghana, Uganda).

Methods-design

- Secondary analysis of existing data from the Global School-Based Health Survey (GSHS) from two African countries (Ghana 2007 and Uganda 2003).
- A two-stage cluster sample design was used to collect data to represent all students in grades 6, 7, 8, 9, and 10 in the country.

Methods-measures

- Height and body weight were based on self-reports. BMI was calculated as weight/height² (kg/m²).
- Fruits and Vegetables Consumption and Hunger
- Substance Use
- Physical Activity
- Psychosocial Distress

Descriptive data of school-going adolescents aged 13-15 years (N=5,613).

	Male (n=2738) % [95% CI]	Female (n=2875) % [95% CI]
<i>Weight</i>		
Overweight or Obese	3.2 [2.4-4.1]	10.4 [8.8-12.1]
Obese	0.5 [0.2-0.9]	0.9 [0.4-1.4]
<i>Dietary behaviour and substance use</i>		
Fruits less than once a day	28.9 [26.7-31.2]	73.4 [70.5-76.4]
Vegetables less than once a day	28.9 [25.5-32.2]	71.6 [68.4-74.9]
Most of the time or always hunger	18.4 [15.7-21.1]	16.4 [14.9-18.0]

Sample descriptives

<i>Physical activity</i>	Male	Female
Physical activity less than 60 min per day on at least five days per week	78.5 [73.7-83.0]	84.9 [82.8-87.1]
Not walk or bike to school at least once a week	49.1 [45.1-53.0]	43.3 [39.8-46.8]
Sedentary behavior (3 hours of more per day)	27.1 [23.6-30.5]	26.9 [24.3-29.6]
<i>Psychosocial factors</i>		
Loneliness	8.5 [6.3-10.7]	11.2 [9.3-13.0]
Anxiety or worried	6.5 [4.6-8.4]	11.0 [8.7-13.3]
Sadness	36.9 [33.1-40.6]	40.9 [36.9-44.9]
Suicide plan	14.7 [11.9-17.5]	24.3 [19.6-29.0]
No close friends	7.8 [5.7-9.8]	19.1 [15.5-22.6]
Being bullied	45.7 [41.8-49.6]	51.5 [47.9-55.1]

Overweight or obesity regression model

	Female		Male	
	OR ¹	AOR ²	OR	AOR
<i>Dietary behaviour and substance use</i>				
Fruits less than once a day	0.91 (0.66-1.26)	---	1.53 (1.02-2.28)*	1.34 (0.46-3.86)
Vegetables less than once a day	1.02 (0.78-1.35)	---	1.20 (0.86-1.67)	---
Most of the time or always hunger	0.91 (0.65-1.26)	---	0.84 (0.37-1.91)	---
Days of alcohol use in past month	0.92 (0.80-1.05)	---	0.98 (0.83-1.15)	---
Days of smoking in past month	1.68 (1.22-2.30)**	1.52 (1.17-1.98)**	1.76 (1.12-2.73)*	1.75 (1.11-2.76)*
<i>Physical activity</i>				
Physical activity less than 60 min per day on at least five days per week	0.80 (0.53-1.19)	---	0.59 (0.35-1.02)	---
Not walk or bike to school at least once a week	1.02 (0.76-1.25)	---	1.43 (0.84-2.45)	---
Sedentary behaviour (3 hours of more per day)	1.01 (0.67-1.51)	---	1.33 (0.75-2.35)	---
<i>Psychosocial factors</i>				
Loneliness	2.24 (1.23-4.07)**	2.26 (1.23-4.15)*	0.80 (0.10-6.55)	---
Anxiety or worried	1.15 (0.63-2.12)	---	1.96 (0.55-7.01)	---
Sadness	1.13 (0.78-1.64)	---	2.38 (0.89-6.39)	---
Suicide plan	1.41 (0.73-2.72)	---	3.56 (0.83-15.32)	---
No close friends	1.25 (0.74-2.12)	---	0.36 (0.04-3.46)	---
Being bullied	0.90 (0.65-1.24)	---	1.04 (0.66-1.64)	---

Discussion-prevalence

- The study found a prevalence of overweight or obesity of 10.4% among school-going girls and 3.2% among boys, and 0.9% and 0.5% obesity only among girls and boys, respectively, in Ghana and Uganda.
- These prevalence rates of overweight or obesity seem similar or lower than findings from middle income countries, and much lower than studies from high income countries (among 13-year-olds 10% in girls and 16% in boys and among 15-year-olds 10% in girls and 17% in boys)

Discussion-substance use

- We studied health-risk behaviours that could influence energy metabolism such as alcohol and tobacco use.
- Substance use (smoking but not alcohol use) was in this study significantly associated with overweight or obesity
- There may be a belief that adolescents, particularly girls, use smoking as a means to control body weight

Discussion-Psychosocial factors

- A psychosocial factor (loneliness) was significantly associated with overweight or obesity.
- In a longitudinal study depressed adolescents are at increased risk for the development and persistence of obesity during adolescence.
- Importance of linking psychosocial stressors and childhood obesity

Discussion-physical activity

- The effect of physical inactivity and sedentary behaviour was also explored in this study.
- Our study shows that the majority of adolescents were physical inactive. In this case the lack of variability in the level of physical activity might account for the fact that none of physical activity and sedentary behaviour variables predicted overweight or obesity, as found in a few other studies but which is contrary to most other studies

Conclusion

- Low prevalence rates of overweight or obesity were found among adolescents in Ghana and Uganda.
- Smoking cessation and social programmes could be integrated into strategies to prevent and treat overweight and obesity in youth

Thank you



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