



Review Article

Dietary Habits and Effect of Snacking of Adolescents and Early Adults - A Review

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Abstract	Keywords
<p>There is an alarming rise in the prevalence of obesity in Saudi Arabia in recent times. This is due to the increase in purchasing power of the adolescents and early adults and their newly found freedom. Both adolescents and early adults spend a lot of their free time in the canteens of schools and colleges eating cream biscuits, chips, ice creams, pizzas, burgers, etc. They dwell on these foods for long periods of time before lunch. They go without breakfast and sometimes even without lunch due to their study schedules. This addicts them to snacking and eating unhealthy foods during the day. In the long run, these dietary habits make them overweight and obese and prone to cardiovascular diseases in their old age.</p>	<p>Cardiovascular diseases Dietary habits Obesity Snacks</p>

Introduction

Youth are consuming increased intake of energy from snacks and this leads to increased risk of overweight and obesity (Binns et al., 2003). Limiting snacks could be an excellent way to change the behavior of adolescents. Consumption of nutritious snacks is the need of the hour. However promotion of nutritious snacks to adolescents skipping breakfast is crucial, than forcing them to take breakfast at home or from school (Gayle Savige et al., 2007). Snacking, defined as the consumption of foods and drinks between meals including milk drinks, regular soft drinks, sports drinks and energy drinks differs worldwide. For example, the intake of

snacks among 87-88% of American adolescents 12 to 18 years of age, is at least one snack per day which provides approximately 25% of the energy intake per day (Cross et al., 1994; Jahns et al., 2001; Dwyer et al., 2001). Among European countries, Scottish adolescents aged 15 years consume an average 2.8 snacks per day (Anderson et al., 1993) and Portuguese youth (aged 5–15 years) consume 1.5 snacks per day (Marques-Vidal et al., 2006). In Asian countries, snacking rates among youth (aged 2–19 years) are more different. For example, among Asian countries, the Philippines, Russia and China, in 86%, 71% and 10% of youth, the intake of snacks

is at least one per day providing 18%, 16% and 1% of their total daily energy, respectively (Adair et al., 2005).

Dietary habits and obesity

World Health Organization reported that more than 200 million men and close to 300 million women were obese in 2008. In the U.S. the Centers for Disease Control and Prevention (CDC) report that 36% of adult Americans and 17% of children in the country are obese. Researchers from The Netherlands found that snacking on high-fat and high-sugar foods was independently associated with abdominal fat and fatty liver (hepatic steatosis). Dr. Serlie concludes, "Our study provides the evidence that eating more often, contributes to fatty liver independent of body weight gain, rather than consuming large meals. It may be noted here that eating frequently and in large amounts leads to fatty liver rather than eating large meals alone. Not only the quantity of the meal is important here but the quality also counts. These findings suggest that by decreasing snacks and encouraging three balanced meals each day over the long term may reduce the prevalence of fatty liver" (Karin et al., 2014). The result of a study suggests that adolescents snack frequently, especially in their leisure time. In addition, adolescents who snack on the way to or from school, all day long or in the middle of the night are more likely to skip meals than are adolescents who don't snack all day long (Savige et al., 2007).

Several dietary habits have been linked with adult and childhood obesity. For example, increased number of outside home meals (Nielsen et al., 2002), larger portion sizes of meals at restaurants (Harnack et al., 1999), and increased intake of soft drinks (Ludwig et al., 2001; Kubik et al., 2005). Rapid changes in physical growth and psychosocial development have placed these young adults as nutritionally vulnerable groups with poor eating habits that fail to meet dietary requirements (Chin and Mohd, 2009). Some common unhealthy eating patterns among young adults included meal skipping, eating away from home, snacking and fast food consumption (Savige et al., 2007).

It is reported that watching television during family meals is associated with poorer dietary quality among adolescents and increased television viewing is associated with increased caloric intake, consumption of higher-fat food and lower intake of fruits and

vegetables (Feldman et al., 2007; Crespo et al., 2001; Lowry et al., 2002).

A study in Riyadh, Saudi Arabia observed that the proportion of obese students inversely increased by age and schooling grade ($p < 0.001$). Ninety-five percent of the students living in villas or big houses were obese, clearly showing the existence of factors which promote obesity. Both affluence and physical inactivity played a role in the occurrence of obesity (Alam, 2008).

Improper eating habits is a major public health concern among young adults who experienced transition into university life (Nelson et al., 2008), during which, they are exposed to stress and lack of time (Rubina et al., 2009; Webb et al., 1998). These factors pose a barrier against adoption of healthy behaviors, such as poor eating habits and substance abuse (Ganasegeran et al., 2012). Although these behaviors of students are considered temporary, as part of university life; unhealthy habits picked up at this age generally continue into older adult life.

More than half took meals and breakfast regularly (57.6%, 56.1% respectively). About 57.6% had snacks less than three times per week and 42.4% took snacks three or more times per week. The majority consumed vegetables and legumes three or more times per week (81.8%). Almost half of them (51.5%) consumed fruits less than three times per week; the rest (48.5%) took it three times or more. Many had fried food twice a week or more (73.5%), while 26.2% took it less than two times. The majority (78.8%) had fast food rarely and took meals with family or friends daily (81.1%). Most of them had a balanced variety of foods (60.6%) while 18.9% preferred meat and 5.3% preferred vegetables. The majority had less than two liters water intake daily (59.8) (Ganasegeran et al., 2012).

During adolescence hormonal changes accelerate growth in height. Growth is faster than at any other time in the individual's postnatal life except the first year so this may negatively or positively affect the consumption of food and dietary habits which may be related to the community (Ge et al., 2001). During this time, changes in adolescents' lifestyle may also affect eating habits and food choices. It has been shown that dietary quality decreases throughout childhood and adolescents have a poorer quality diet compared to younger children (Lytle et al., 2000).

Conclusion

Thus obesity and physical inactivity among Saudi children and youth represent a growing public health challenge (Hazzaa, 2009) combined with poor dietary and snacking habits. This will lead to long term chronic diseases and health consequences.

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