

Knowledge, Attitudes, Behaviors and Nutrition Health Status of Adolescents

Adolescence is a period of rapid physical growth calling for adequate nutrition intake to meet growth requirements. It is also a period of emotional and psychological change, during which there is a tendency to reject conventional dietary habits. In addition, more meals are consumed outside the home.



Health Canada's [background paper](#) that focuses on children aged six to twelve is an excellent overview specifically designed for educators. The remainder of this summary describes some of the research that further explains the

The Canadian Pediatric Society has reviewed what was known about adolescent nutrition and eating habits and prepared a statement [132]. This statement describes the normal nutrition requirements for adolescence. It describes how environment and genetics both play a role in adolescent obesity, discusses nutrition and sports and examines the specific educational strategies for adolescents who are more vulnerable to peer pressure. The CPS report also states that the poor nutritional status of today's teenagers include excessive dependence on vending machines and fast food outlets, widespread use of fad diets and zealous adherence to an inadequately balanced vegetarian diet.

The American Heart Association [133] has also described the nutrition components of an integrated health promotion approach to cardiovascular health in childhood and adolescence. Physical activity, obesity, hypertension and levels of cholesterol are the subject of strategies for the physician to pursue in professional practice.

The McCreary Centre Society has reported on the prevalence of eating disorders among adolescents. The Centre estimates that one percent of school age females have anorexia nervosa, 10 percent have obesity and 10 percent are bulimic. The report also indicates that the prevalence of eating disorders is increasing.

The National Institute of Nutrition (NIN) [135] in its Fall, 1995 issue of its journal, Rapport, has listed several strategies for promoting healthy eating among teens:

- position healthy eating in the context of healthy living
- involve children and parents in identifying their needs
- capture children's interest and nurture self-esteem by using innovative methods
- address the needs of vulnerable children
- respect cultural diversity
- create supportive environments through school food policies
- capitalize on multi-sectorial collaboration

The NIN report also lists several health programs that can address the needs of adolescents.

Simons-Morton & Obarzanek [136] have reviewed 46 reports of studies that examine relationships between dietary nutrients and blood pressure in children and adolescents. Brook & Tepper [137] have investigated the nutritional habits, body image, knowledge about nutrition and teen attitudes regarding overweight obese people and dieting. They found that students knowledge of food, obesity and the danger of excessive diets was insufficient. The media was the principal source of information on all of these topics. Two authors, [138,139] describe some cautions about how to measure food intake and how to keep food records relating to young people. There is a considerable body of knowledge [140] about the relationship between nutrition and adolescence that there is no time to pursue within the context of this paper. A list of references has been provided as part of the report.

Nutrition & Diet-Related Risks for Adolescents

In addition to the overall risks that we all face, there are several specific nutrition and diet-related risks that are highly prevalent among adolescence. They include:

- snacking/consumption of fatty foods
- pressure for thinness/body image
- eating disorders

- obesity
- lack of physical activity
- economic status/poverty
- the transition into puberty/adolescent risk taking
- poor breakfast eating habits
- inappropriate vegetarianism
- iron deficiencies
- food allergies

The University of Guelph College of Family and Consumer Studies [141] reports on a study done on adolescent eating habits for Health Canada. The survey revealed that a number of problems existed in the diet of Canadian teens. These include an over reliance on snack foods, fad diets, the feeling of invincibility, and a number of dietary deficiencies including calcium, iron and certain vitamins. Stone et al [142] have examined the cardiovascular behavior of young people for the National Heart, Lung and Blood Institute. The studies address single or a multiple behaviors and different age groups, as well as, test various combinations of curriculum, parental involvement and environmental changes. Munoz et al [143] have compared the food intake of American children and adolescents compared with dietary recommendations. Their findings include diets that were too high in fat, low in some nutrients and high in sugar. Bull [144] shows that is difficult for teenagers to achieve the balanced diet when the most popular and widely available snack foods are high in sugar or fat. Fall [145] also emphasizes the long-term health consequences of poor diet during adolescence.

The Canadian Dietetic Association [146] has published a booklet, Nurturing Our Children's Future, that includes a look at the special concerns for teens. These include obesity, body image, vegetarianism, sugar, calcium and iron, and the value of a good breakfast.

This review found several articles on the risk behavior of snack eating. Ezell et al [147] report on the snack patterns of teens in the northern United States showing that these snacks were high in salt high in sugar and low in vitamins. A similar report [148] reports a concern about high fat content of such snacks. Siega-Riz et al [149] examined the eating habits of young people. They report on whether young people ate better at full meals or in snacks. Lund et al [150] also report on the high fat intake and plasma lipid levels in adolescents. Kanarek [151] examines the psychological effects of snacks and altered meal frequency. Morgan et al [152] examines the particular problem of high salt levels in snack food.

Several references to the cultural pressure in our society to be thin were also found. Middleman et al [153] have examined eating patterns, physical activity and attempts to change weight among adolescents. Wertheim et al [154] report on why adolescent girls watch their weight. The National Institute of Nutrition has done a review [155] of the food practices and concerns of teenage girls. In a similar publication [156], the Institute reports that teenage girls eat what they are. As well, the Institute [157] examines weight cycling and its harmful effects. Collins [158] shows how education for healthy body weight can help adolescents balance the cultural pressure for thinness. Similarly, Collins [159] shows how a healthy body image can be promoted through a comprehensive school health program. Neumark-Sztainer & Story [160] suggest that nutrition counseling and careful assessment of dieting and binge eating behaviors in clinical settings needs to be done.

The National Institute on Nutrition has also reported on eating disorders [161]. The Institute suggests [162] that parents have a key role. Herbert [163] examines the psychosocial influences on eating disorders. Finally, we can also learn from the review [164] of the National Institute on Nutrition of anorexia nervosa and bulimia.

The American Heart Association [165] has prepared a statement on understanding obesity in youth. This statement is to provide guidance to health-care professionals. Popkin & Udrey [166] report that adolescent obesity increases significantly among second and third generation American immigrants. Summerfield [167] suggests that there are number of things that schools can do to prevent or reduce obesity. Muecke et al [168] examine the relationship between childhood obesity, high-fat foods and low physical activity.

Promoting physical activity is an important adjunct to promoting nutritional health. Summerfield [169] outlines a number of activities and programs that schools can undertake. Andersen et al [170] relate the level of physical activity and television watching to obesity. On a different aspect of physical activity, Parks & Read [171] and Miller & Maripois [172] have examined the specific nutritional risks among athletes who modify their diet excessively in order to compete.

The impact of poverty on healthy eating habits has also been examined by the National Institute of Nutrition [173]. An Australian study [174] has documented the impact of economic status, as well as, gender on the dietary patterns of 18 year old Australians. Johnson et al [175] have done a similar study on American teens.

Poor eating habits among adolescents can relate directly to other health risks, as well as, to the normal, healthy need for adolescents to take risks as they grow and develop. Milligan et al [176] have shown how cardiovascular risk factors in Australian teenagers are clustered with dietary excesses and deficiencies, as well as, a range of unhealthy lifestyle variables. Neumark-Sztainer et al [179] have also shown this connection for American youth. Irwin et al [177, 178] present a full description and explanation of risk-taking behavior in adolescence. Clavien et al [180] and Cowell et al [181] show the link between teen risk taking behavior and cardiovascular risk and stability.

A Canadian study [182] has documented the breakfast eating habits of school-age children in Ontario. About 15 percent of that population did not consume a healthy breakfast prior to school. These results are similar to those found in a Nova Scotia study conducted in 1992.

References to the social influences that have an impact on teen eating habits is presented here. Each of these topics or influences could be the subject of a study in themselves. This is well beyond the scope of this paper. It is sufficient to note that nutrition strategies should recognize these social influences. Su et al [183] report on the impact of parental mental health status on adolescent dietary behaviors. Battistich & Hom [184] examine the impact of the social climate in the school and student involvement in problem behaviors. Pittman & Hayman [185] examine the influence of the adolescent transition, a critical period for the formation of health promoting behaviors. Witte et al [186] examine how self concept can influence dating patterns of young women. A list of references is also provided that examines the issue of eating disorders. [187]

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