

Policy on Vending Machines in Schools

Review Council

Council on Clinical Affairs

Reaffirmed

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Purpose

The American Academy of Pediatric Dentistry (AAPD) recognizes that targeted marketing and easy access to sweetened foods and beverages (acidulated carbonated and noncarbonated) by children and adolescents may increase the amount and frequency of their consumption which, in turn, may contribute to an increase in caries risk and a negative influence on overall nutrition and health.

Methods

This document was originally developed by the Council on Clinical Affairs and adopted in 2002. This is an affirmation of the last revision in 2009. It is based upon a review of current dental and medical literature, including a systematic literature search of the PubMed® database using the terms: schools, vending machines, AND dental; fields: all; limits: within the last 10 years, humans, English, clinical trials, and ages birth through 18. The update also included a review of the American Academy of Pediatrics' policy on soft drinks in schools¹ and the U.S. Department of Agriculture's policy on school meals.² One hundred twenty eight articles matched these criteria. Papers for review were chosen from this list and from the references within selected articles. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background

There has been a reduction in untreated caries among certain demographic groups of children and adolescents in recent years.³ Frequent consumption of refined carbohydrates, however, can be a significant factor in the child and adolescent diet that contributes to the initiation and progression of caries.⁴ Vending machines provide ready access to highly-refined carbohydrates, especially soft drinks.* The acids present in carbonated beverages can have a greater deleterious effect (i.e., erosion) on enamel than the acids generated by oral flora from the sugars present in sweetened drinks.⁵ Analysis of the National Health and Nutrition Examination Survey (NHANES) III data indicated that 13 percent of children aged two through 10 had diets high in consumption of carbonated soft drinks, and these children had a significantly higher dental caries experi-

ence in the primary dentition than did children with other fluid consumption patterns.⁶ Many soft drinks also contain significant amounts of caffeine which, if consumed regularly, may lead to increased, even habitual, usage.⁷

There is growing concern that vending machine items with limited nutritional value are “competitive foods”, resulting in snack options that are considered to be of poor nutritional quality.⁸⁻¹⁰ A significant increase in caries scores has been reported for children who attended schools that had vending machines.¹¹ An effort is underway to increase the healthy choices available in vending machines by replacing sugar-sweetened drinks with bottled water, candy bars with nutrition bars, and potato chips with dried fruits and nuts.¹²

Increased consumption of refined carbohydrates by children and adolescents may have a negative impact on their overall nutrition by displacing foods with higher nutrient density.¹³ Nutrient density refers to the amount of nutrients in a food compared to the calories. Foods low in calories and high in nutrients are nutrient rich (dense). Foods high in calories and low in nutrients are of poor nutritional quality. As teenage girls have increased their consumption of soft drinks, their consumption of milk has decreased by 40 percent, which may contribute to a decrease in bone density, subsequent increase in fractures, and future risk of osteoporosis.^{14,15} Increased ingestion of sugar-sweetened drinks also has been linked to the increased incidence of childhood obesity.^{16,17}

Many beverage and snack food products are targeted specifically and aggressively at the child and adolescent market. Vending machines containing these products are readily accessible to children and adolescents in schools.^{18,19} In exchange for money to the individual school or districts, “pouring rights contracts” give beverage companies exclusive rights to sell their products at school events and place vending machines on school property, along with other measures that increase student exposure to the beverages.²⁰ Presently, several states have legislation and others are considering legislation to limit pouring rights contracts to healthier options.²¹⁻²⁴

Policy statement

The AAPD:

- Encourages collaboration with other dental and medical organizations, governmental agencies, education officials, parent and consumer groups, and corporations to increase public awareness of the negative effects of frequent and/or inappropriate intake of sweetened drinks

* For the purposes of this statement, the term soft drinks refers to such beverages as sodas, fruit juices, and sports drinks.

(carbonated and noncarbonated) and low nutrient dense snack foods on infant, child, and adolescent oral health, nutrition, and general health.

- Opposes any arrangements that may decrease access to healthy nutritional choices for children and adolescents.
- Encourages school officials and parent groups to consider the importance of maintaining healthy choices in vending machines in schools and encourages the promotion of food and beverages of high nutritional value; bottled water and other more healthy choices should be available instead of soft drinks.
- Promotes educating and informing the public about the importance of good oral hygiene and nutritional habits as they pertain to consumption of items available in vending machines.

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