

Sugar-Sweetened Beverages: Children's Perceptions, Factors of Influence, and Suggestions for Reducing Intake

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ABSTRACT

Objectives: This study aimed to gain an in-depth understanding of children's perceptions of sugar-sweetened beverages (SSBs).

Design: Nine focus groups were conducted in grade 5 and 6 elementary schoolchildren.

Setting: Nine urban and rural elementary schools in London, Ontario, Canada.

Participants: Fifty-one children, 58% of which were male, 52% of whom were in grade 5, and 84% of whom were Caucasian.

Phenomenon of Interest: Children's views on sugar-sweetened beverages.

Analysis: Three researchers conducted inductive content analysis on the data independently using the principles of the immersion-crystallization method.

Results: Participants had a high level of awareness of beverages and their health effects, which was primarily targeted at the sugar content. Dominant factors that influenced children's beverage choices and consumption patterns included taste, parental control practices, accessibility, and advertising. Participants identified a wide array of strategies to reduce SSB consumption in children, including educational strategies for both children and parents and policy-level changes at both the government and school levels.

Conclusions and Implications: Despite a high level of awareness of SSBs, children believed that further education and policies regarding SSBs were warranted. These data may prove helpful in designing effective interventions targeted at children and parents to reduce SSB consumption by children.

Key Words: focus groups, children, sugar-sweetened beverages, overweight (*J Nutr Educ Behav.* 2015; ■:1-8.)

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INTRODUCTION

Childhood overweight and obesity continues to be a major public health concern affecting approximately one third of Canadian children.¹ Many factors have been identified as contributing to this epidemic, including the excessive consumption of sugar-

sweetened beverages (SSBs).²⁻⁵ According to the Canadian Community Health Survey, version 2.2, children and youth aged 9–13 years consume on average 130 and 201 g (approximately 130–200 mL) of regular soft drinks and fruits drinks, respectively, each day.⁶ Although this contributes to only about 6% of daily caloric

intake, research suggests that beverage consumption may not promote satiety as effectively as solid food and may not alter energy intake at subsequent meals.^{2,7} Furthermore, estimates on Canadians' sugar consumption suggest that approximately 5% of energy is attributed to SSB consumption.⁸ If accurate, it would appear that SSB consumption alone is already meeting the new World Health Organization's guidelines for maximum free-sugar intake⁹ and therefore should be a prime target for reducing sugar intake in children.

The link between excessive SSB consumption and childhood obesity has been repeatedly reported in the literature,²⁻⁴ although the results have been conflicting. Regardless, most studies suggest an overall increased risk of obesity with SSB consumption. This has led to a recent review by Hu, who suggested that there is sufficient evidence to include the reduction of SSB consumption in obesity prevention strategies despite these

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discrepancies.¹⁰ Clearly, this association is still of great interest, with a new systematic review under way.¹¹

To provide effective educational strategies to reduce SSB consumption in children, an in-depth understanding of their opinions and attitudes toward these beverages is needed. Whereas qualitative studies have been conducted with parents and teachers of preschoolers, adolescents, and young adults to elucidate attitudes toward and factors influencing SSB consumption,¹²⁻¹⁵ to the authors' knowledge, to date, no study has assessed this qualitatively in children. Therefore, the aims of this study were to investigate (1) children's perceptions of SSBs, (2) factors influencing their SSB choice and consumption patterns, and (3) children's suggestions for reducing SSB consumption within their peer group.

METHODS

Research Design

Guided by the PRECEDE-PROCEED model for Health Promotion Planning and Evaluation,¹⁶ this study employed focus groups to investigate an in-depth understanding of children's perspectives on SSBs. The researchers chose the PRECEDE-PROCEED model to guide the study because it includes a comprehensive diagnosis of the problem (PRECEDE; eg, social and environmental factors) while being mindful of collecting information for the future implementation and evaluation of programming (PROCEED). The authors obtained ethics approval from the Brescia University College and Western University Research Ethics Boards.

Sampling Methods and Recruitment

Upon receiving consent from the local school boards, 30 schools were randomly selected and invited to participate in the study. Of these, 14 schools agreed to participate (47%). Recruitment packages were then sent home with all eligible students in grades 5 and 6 (n = 848) to obtain informed, written parental consent. In total, 385 students agreed to participate in the study, which included a survey (not presented here) and the

potential to be included in the qualitative component of the study (focus groups presented here). For the qualitative study, the aim was to conduct 1 focus group per school with no more than 12 participants per focus group. Children were invited to participate in the session at a predetermined date and time. Only children who were available for that time participated in this portion of the study. When > 12 children/school agreed to participate (n = 2 schools), 12 participants were randomly selected to partake in the focus group session. Focus group sessions continued until moderators thought that response saturation was achieved (n = 9).

Focus Group Protocol and Data Collection

Focus group discussions took place during late afternoons or evenings at participating elementary schools. Participants were provided with a light dinner and were asked to complete a brief demographic questionnaire immediately before the sessions commenced to obtain basic information about age, sex, and grade level. Two experienced external moderators conducted focus groups using a semistructured interview guide. The guide was developed by the researchers and aimed to investigate (1) children's perceptions of SSBs, (2) the factors that influence their beverage choices and consumption patterns, and (3) their opinions about how to reduce SSB consumption within their peers. The guide was also piloted with a group of children within the targeted age range. Subsequently, modifications were incorporated to improve clarity. All focus groups lasted approximately 30–60 min and participants received a \$20 grocery store gift card for participation at the end of the session. All transcripts were audio recorded and transcribed verbatim by professional transcribers to ensure that all data were captured. Member checking was also conducted throughout the focus group discussions to ensure that participant responses were understood correctly and clarified as needed. At the end of each focus group session, the 2 moderators held a debriefing session, which was subsequently referred to by the researchers

during data analysis to guide and provide context for each focus group as needed.

Data Analysis

All transcripts were independently reviewed by 3 of the researchers, who met repeatedly to conduct inductive content analysis on the data using the principles of the immersion-crystallization method.^{17,18} This analytic approach involves each researcher reviewing the focus group transcripts individually and then meeting as a group to discuss findings. Dominant and recurring primary, secondary, and tertiary themes were then identified and a common coding template was developed. Where coding discrepancies occurred, the group discussed and resolved these discrepancies by consensus. Data were then coded and managed according to this final template using NVivo software (version 7.0.281.0 SP4, QSR NVivo, QST International Pty Ltd, Victoria, Australia, 2006).

RESULTS

A total of 9 focus groups were conducted; there was a mean of 6.3 participants/focus group (range, 3–12 participants). Of the 51 children who participated, 58% were male, 52% were in grade 5, and 84% were Caucasian. As highlighted in Tables 1–3, 3 important primary themes emerged during data analysis: a generally good level of awareness regarding beverages and their health effects; key factors influencing SSB choice and consumption; and a wide array of strategies to reduce SSB consumption by children. Tables 1–3 respectively provide participant quotations supporting each of the 3 primary themes and subsequent secondary and tertiary themes.

Awareness Level

Beverages. In general, participants' awareness level regarding the classification of beverages as unhealthy (SSBs) or healthy was high (Table 1). Soft drinks were the most popular response when children were asked which beverages were considered SSBs, followed by fruit and energy drinks, respectively. Milk, water, and

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