

Exploring the Perceptions, Attitude and Experiences of Adolescents, their Parents and Teachers Towards Sugar Sweetened Beverages Consumption in the National Capital Region of Delhi

Abstract

Objective: To understand perceptions, attitudes and experiences of school-going adolescents, their parents, teachers and school management towards sugar-sweetened beverages (SSBs). **Design:** An exploratory qualitative study was undertaken. **Setting:** The study was conducted in selected, mixed, unaided schools in the state of Delhi. **Subjects:** Students of classes 8 to 12th, principals of schools, teachers, parents and school canteen owners. **Results:** SSBs formed an integral part of the diet of adolescents due to its taste and role as a thirst quencher. Respondents had a fair knowledge of health effects of SSBs. However, they were not aware of the range of drinks that constitute SSBs. Respondents associated SSBs with positivity and happiness. Promotion of SSBs by sports and film stars was cited as a major driver influencing consumption of SSBs by young people. **Conclusions:** SSBs were readily available even though schools had put in measures to restrict their availability in the premises. Peer pressure emerged as a key factor that drove the consumption of SSBs. Advertisements for SSBs involved individuals who were considered role models and these focused on themes that were important for young people such as belongingness, machismo and friendship among others. On the contrary, health promotion messages around obesity or the consumption of SSBs hardly had any brand ambassador or the visibility of campaigns that promoted SSBs.

Keywords: Adolescents, India, non-communicable diseases, obesity, sugar-sweetened beverages

Introduction

Excessive consumption of sugar is an important public health problem. Globally, sugar consumption has tripled in the last five decades.^[1] Sugar consumed by an individual is of two types: (a) Natural Sugars which are inherently present in food products like fruits, etc., and (b) Added Sugars, which are added to foods and beverages by the manufacturer, cook or consumers.^[2] One of the key routes of increased intake of added sugar in the last few years has been the consumption of Sugar-Sweetened Beverages (SSBs). World Health Organization describes sugary drinks as 'all types of beverages containing free sugars and these include carbonated or non-carbonated soft drinks, fruit/vegetable juices and drinks, liquid and powder concentrates, flavored water, energy and sports drinks, ready-to-drink tea, ready-to-drink coffee, and flavored milk drinks'.^[2]

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The acceleration of SSB consumption has been associated with increased obesity, overweight and type 2 diabetes prevalence rates, independent of concurrent changes in other caloric consumption, physical inactivity and age.^[3,4] In the past few decades, sources of energy intake among youth have shifted toward greater consumption of SSBs, such as fizzy drinks, sports drinks and high-calorie fruit drinks.^[5,6]

Consumption of SSBs has been associated with a host of health problems such as weight gain, obesity, type-2 diabetes, increased cardio metabolic risks and dental caries.^[7-9] Some studies have also determined an association between SSBs and gout^[10,11] and fatty liver disease.^[12] Diets high in SSBs contributed to 60,000 deaths in 1990 and 126,000 deaths in 2013^[13] globally. A study looking at global, regional and national disease burdens of SSBs found that of the total deaths due to diabetes, BMI-related CVD deaths and BMI-related

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cancer deaths, (5.3%, 0.4% and 0.3%, respectively) were due to consumption of SSBs.^[14]

In spite of the large number of health conditions associated with the consumption of SSBs, the current understanding on their impact in India is very limited. The sale of SSBs is increasing in India year on year.^[15] This is significant public health concern for young children and adolescents in India. Behaviours established during adolescence remain with an individual in adulthood and might manifest in disease outcomes. In spite of this, very little is available in peer-reviewed literature from India on the perceptions, attitudes and practices among school going adolescents, their parents and teachers on SSBs and what drives consumption of SSBs. This paper presents a qualitative study that was aimed to address this gap.

Methods

We undertook a qualitative study in October and December 2015 across selected schools in the state of Delhi. The following inclusion criteria was used to identify the study schools: (a) Being an unaided public school recognized by Directorate of Education, (b) Being a school with elementary, intermediate and secondary sections in one premise (Grades I till XII), (c) Co-educational character (boys and girls both studying), (d) Located within a radius of 25 kilometres from research office, (e) Having a canteen selling SSBs, and finally having a similar school fee structure. These criteria were agreed upon in order to get a diverse representation of schools in the sampling frame. All schools in the state of Delhi that fulfilled the above criteria were shortlisted and approached by the research team to participate in the study. From those that agreed to participate, a final list of four schools was drawn up taking care to ensure that there was geographical representation of the four zones of the state of Delhi that is, north, south, east and west. Stratified purposive sampling was done to identify participants for the study in each school and they included (a) students of classes 8 to 12th, (b) principals of schools, (c) teachers, (d) parents and (e) canteen owners.

We conducted focus group discussions (FGDs) and In-depth Interviews (IDIs) amongst the adolescents and semi-structured among teachers, parents and canteen owners. The FGDs and IDIs explored the following three major themes, namely (a) beverages preferences of participants with a particular focus on levels of awareness of SSBs, (b) effects of SSBs as perceived by the participants and (c) possible interventions that can reduce SSB consumption amongst adolescents.

Data collection

Researchers with prior experience and training in conducting health-related data collection led the conduct of the focus groups and individual interviews. The focus groups with the students were conducted in separate rooms in their school away from other students and to minimise any interruptions, whereas interviews with other stakeholders were typically conducted in their offices (viz: staff room, canteen etc.). Most of the data collection was conducted in the local language (*Hindi*). A total

of 13 FGDs and 14 in-depth interviews were carried out with the different stakeholders in each of the study sites.

All interviews were audio-recorded. The moderator also took notes of the observations made during FGDs and IDIs. The interviews were transcribed, translated into English and crosschecked against the original recordings. The translated transcripts were coded using the software package Atlas ti 7.2®, utilising a reflexive and inductive approach^[16,17] to allow codes and categories to emerge from within the data. The initial list of codes that were generated as the data that became available was compared with newer codes that emerged enabling refinement of the coding framework utilised to guide the coding process. In addition to the interview recordings, each researcher maintained detailed field notes. This enabled capturing of details related to the key issues that emerged in each location, concerns regarding the fieldwork as well as any potential trends that were emerging in the responses of the participants. The field diary provided us with adequate details to review and plan for the rest of the data collection as well as help the team detect saturation of responses.

Ethical considerations

Signed consent was obtained from all participants prior to data collection and after explaining the nature of the study in detail as well as answering any questions that any of the participants had. For adolescents, an additional informed consent was also taken from their parents. The study received ethical approval from the ethics committee of the Public Health Foundation of India (PHFI TRC-IEC) vide their letter number TRC-IEC 265/15 and University College London Institutional Ethics Committee vide letter number 3213/002.

Results

Understanding about SSBs and their impact on health

The participant's knowledge about what constituted a sugar-sweetened beverage was limited to fizzy drinks. The participants, including teachers and parents identified commercially available fizzy drinks only as SSBs. None of them referred to any other category of SSBs such as high calorie fruit drinks or energy drinks as SSBs. Many of the participants felt that high calorie fruit drinks were healthy and advocated for their regular consumption in the place of fizzy drinks.

Many parents were of the opinion that SSBs were unavoidable as they are widely available and easily accessible. In their opinion children preferred to have fizzy drinks to milk or any other drink that was made at home and it was a chore for parents to get them to even have a glass of milk daily without adding some flavour to it.

"You cannot avoid it...because whatever is in the market today is junk. If you eat out it is junk."

Parent 1, School 2

"Children don't like to have even milk in the morning. Parents have to run behind them to give them milk and

they take it only when something has been added to it like for example a milk shake. But that is again increasing the level of sugar. This is the problem facing every family that they prefer cold drinks or soft drinks”

Teacher, School 1

While discussing the consumption of SSBs, students explained that there were both positive and negative effects due to the consumption of SSBs. Some of the negative effects that were mentioned included weakening of bones, decrease in stamina, obesity, as well as gastrointestinal problems. The positive effects as perceived by the respondents were the feeling of refreshment especially in summer or after sports, the appealing taste of SSBs and the feeling of being cool while consuming these beverages with friends.

SSBs an integral part of the diet of adolescents

SSBs formed an integral part of the diet of adolescents. The frequency of consumption that was reported ranged from daily to once a week. Adolescents mentioned that they consumed SSBs regularly for various reasons. Some of the reasons that were put forth to explain such routine consumption of SSBs included their taste, as a thirst quencher after playing games and during the summer, to wash down other food items such as chips and other snacks, to feel one among their peers who consumed SSBs as well as to emulate the sense of ‘being cool’ like sportspersons and film stars which promoted the consumption of SSBs.

Some of the points highlighted included:

“Response 1: It is for the taste

Response 2: For fun

Response 3: To gain energy”

Student FGD, School 4

“Sometimes it is the taste of these drinks which is really good. May be it is bad for health but it tastes good and that’s why they like these products.”

Parent, School 4

School children felt that SSBs were a normal part of the diet and everyone was consuming them. Some of the students expressed surprise at the end of data collection that the team was even considering replacing them with alternatives. Teachers and parents felt that such routine consumption of SSBs was a recent and unhealthy phenomenon fuelled by newer consumption patterns, lifestyles and advertisements by popular stars.

“Madam in parties we drink soft drinks, so if you ban it then what will we drink...hot water?”

Student FGD, School 3

“Do you think it is ok to try and stop people from drinking these drinks by increasing the price?”

Response: No (collective answer by students)”

Student FGD, School 4

“I think that drinks should be completely banned and companies that manufacture them should look into other healthy options that are beneficial for health.”

Parent, School 3

Banning will have positive impact as it won’t be there in the market and they (children) won’t be consuming them. The urge to buy will be there for a while but if it is banned it is banned...period.”

Teacher, School 1

Association with positivity and happiness

While SSBs were routinely consumed, certain specific occasions were referred to when young people consumed far more SSBs. These occasions included parties, weekends, as a reward at home and during celebrations of any kind either at school or at home. SSBs were viewed as a reward that can be had when there were occasions of celebrations and associated with positivity and happiness. Even school that had banned fizzy drinks from their canteens made exceptions for celebrations at the school where SSBs were provided.

“Generally we don’t have these drinks but when we have celebrations in the school, then we serve them.”

Teacher, School 2

Availability of SSBs around schools

In general, the staff at the schools where we collected data mentioned that school canteens were not allowed to sell fizzy drinks as they were considered detrimental to the health of the children. However, given that high calorie fruit drinks were not considered as SSBs and considered to be healthy alternatives, these were available at the canteen. While the sales of SSBs in the school canteens were restricted, outside every school we found shops that sold all kinds of SSBs including fizzy drinks. These shops were frequented by the students for the purchase of snacks such as chips, namkeens (savouries) etc., as well as SSBs. In fact, one of the prime reasons that was given by students and other stakeholders for the consumption of SSBs was to ‘wash down’ dry snacks such as chips, burgers, etc.

‘We feel hungry when we leave and so we buy namkeens, chips and all and then we buy coke and pepsi to drink it after we have had our snacks.’

Student FGD, School 1

‘More than thirst student buy them to drink along with other snacks that they have.’

Teacher, School 4

Advertisements and their impact on the consumption of SSBs

Advertisements featuring popular stars that promote SSBs were pointed out as one of key driving factors in promoting their consumption. Students who took part point out

they felt emulating their favourite stars who featured in commercials promoting specific SSBs made them appear cool. Across the various schools and classes this was identified as one of the primary reasons in promoting the consumption of SSBs among young people. Speaking of the impact of advertisements, parents and teachers agreed that when popular actors and actresses promote SSBs on prime time television or are featured in hoardings across the city, children are influenced by it and want to drink the specific drink promoted by their favourite star. Interestingly, a few of the parents and teachers pointed out that if any intervention to reduce the consumption of SSBs had to succeed the support of popular stars and the use of advertisements to counter the promotion of SSBs would be indispensable.

'Unless you do something about all these film stars advertising for these drinks, nothing is going to make an impact. These children are seeing their role models and heroes promoting these drinks and they are going to have it. Maybe you should get someone who is the current star to promote healthy drinks. Then maybe things will change.'

Teacher, School 2

'Suppose we replace the soft drink at your school canteen or in the nearest store for example with buttermilk. What would you say to it?'

Response: No (collective answer)'

Student FGD, School 1

'The children will stop coming. If ten students come every day it will reduce to two. They will get things from their home or buy it from the market. Only those who like chaach will come to the canteen'

Canteen owner, School 3

Parents and teachers who participated acknowledged that it would not be easy to shift children from consuming SSBs to a healthier alternative like buttermilk; however, they still felt it was worth trying.

'I think there will be reluctance initially but if other things are not available eventually they will buy it'

Teacher, School 3

Discussion

Across the world, globalisation and rising incomes have resulted in major shifts in the dietary patterns of communities. Concerns have been raised about the public health consequences of these dietary changes especially in developing countries and their impact on the chronic disease burden.^[18,19] One of the key changes that have occurred is the increase in consumption of SSBs in the emerging economies of the world like India. Our study has shown that SSBs are both readily available and regularly consumed by adolescents and that they have become an established part of the diet of youngsters.

The need to feel 'cool' and do what their peers did was a key factor that emerged in our discussions that drove consumption of SSBs among the adolescents in this study. Typically, advertisements for SSBs also involved individuals who were considered role models among youngsters such as popular movie stars or sports heroes. Such advertisements focused on themes that were important for young people such as belongingness, machismo and friendship among others. Moreover, companies that manufactured SSBs sponsored key sporting events and got a huge publicity in return. On the contrary health promotion messages around obesity or the consumption of SSBs hardly had any brand ambassador who could be considered a role model for youngsters. Studies in the past have also shown that advertisements have an impact on consumption patterns among children.^[20]

While the term SSB has been defined to constitute everything that has added sugar including health drinks and fruit juices, none of the participants associated the term SSB with any drink other than soda and fizzy drinks. On the contrary, fruit-based drinks and sports drinks that had added sugar were considered to be healthy alternatives to fizzy drinks. Second, while most of the participants who took part agreed that consumption of SSBs would be detrimental to their health, many of them rationalized it saying they could not possibly always eat healthy and that in spite of consuming SSBs they didn't feel weak or ill.

The growing awareness of the harmful effects of SSBs made most school managements to ban such drinks from their canteens. However, we observed that shops in the vicinity of schools were selling all forms of junk foods including SSBs. Students typically tended to go to these shops at the end of their classes and buy both junk food and SSBs, thereby negating any potential benefits of not having these in the school canteen. Studies in other contexts in the past have also shown that merely banning SSBs in schools doesn't necessarily produce positive results always.^[21,22]

A key issue that emerged in our study was the lack of viable and attractive alternatives to SSBs. Many of the parents pointed out that SSBs were a handy option for them to purchase and stock at home. This was especially the case with nuclear families where both parents worked for a living and children returned home after school and there was a need to provide snacks that they could consume. The key issue that was mentioned was that healthy alternatives took time to prepare, had less shelf life and were not considered tasty. Any alternative they felt would succeed only if it met the above considerations. Unless healthy alternatives also appeal to youngsters, the consumption of SSBs will continue.

Our study has some limitations. Our sample was limited to a few schools in the urban region of Delhi. Hence, our results would have to be interpreted keeping this in mind. A larger sample with more diverse characteristics such as the inclusion of rural schools would have captured far more realities with regard to SSBs and what drove their

consumption among school going adolescents. Second, most of our data collection happened in school premises and while students spoke to us without the presence of any of their teachers, the tendency of teachers to coach their students could have probably affected some of the participants.

Conclusions

India with its young demographic and large population is an attractive target for manufacturers of SSBs to market their products. However, given the serious health consequences of consumption of SSBs, it is important that a multi-pronged strategy that addresses the production, marketing and sale of SSBs is necessary in order to ensure that its young population do not suffer from a range of chronic conditions with whom the consumptions of SSBs has been associated. It would be important to consider other measures in addition to restricting sale of SSBs within schools such as restricting their availability around school's zones or ensuring that a certain area surrounding a school is prohibited for the sale of junk foods including SSBs. Further, development of healthy alternatives to counter SSBs needs to take into account the fact that in addition to nutrition, the taste, shelf life and easy availability of such alternatives are extremely important variable. It would be important to ensure that necessary steps are taken both at the policy and programme levels to control the advertising, promotion and sponsorship of sugar-sweetened beverages. It might be also worth considering if it would be feasible to ensure that such advertisements could carry disclaimers about the harmful effects of consumption of SSBs.

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Conflicts of interest

There are no conflicts of interest.

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