

Dental erosion and soft drinks: a qualitative assessment of knowledge, attitude and behaviour using focus groups of schoolchildren. A preliminary study

J. MAY & P. J. WATERHOUSE

Department of Child Dental Health, The Dental School, University of Newcastle upon Tyne, Newcastle, UK

Summary. *Objectives.* This qualitative study was designed to record the perception by Newcastle children of the influences on their choice of drinks and their knowledge of the dental health problems caused by acidic drinks.

Methods. Four focus groups, each involving 8 Newcastle schoolchildren (4 boys and 4 girls) formed the basis of the study. Two age groups, 13–14-year-olds and 8–9-year-olds, and two socio-economic groups were investigated, using state schools in Newcastle upon Tyne. A moderator guided the children to discuss their choice of drink and its dental effects amongst themselves.

Results. In total, 32 children participated in the focus groups and the results suggested that 8–9-year-olds preferred still, fruit-flavoured drinks whilst 13–14-year-olds preferred carbonated drinks. Taste was the most important influence on drink choice in all age groups. Parents and friends were more influential in younger children, whilst cost, availability and thirst were more important to older children. Younger children did not believe advertisements whilst older children thought they might work if seen enough times. Dental knowledge was confused in all age groups and only the 13–14-year-old-high socio-economic groups knew that acidic drinks were bad for the teeth. Different methods for addressing the problem of erosion were suggested by different age groups. There was very little difference between the socio-economic groups in the areas discussed.

Conclusions. The children's knowledge of dental diseases and the effect of drinks on the teeth were confused. The factors that influence drink choice appear to change with age, rather than socio-economic status.

Introduction

Dental erosion is the physical result of a chronic, pathologic, localized loss of dental hard tissue that is chemically etched away from the tooth surface by acid and/or chelation without bacterial involvement [1–3].

Tooth wear is the surface loss of dental hard tissues from causes other than developmental causes,

dental caries and trauma [4]. Three categories of tooth wear have been defined: erosion, abrasion and attrition. Erosion is the chemical dissolution of teeth by acids, attrition is the wear of tooth against tooth, and abrasion is the wear of teeth by physical means other than opposing teeth [5]. Erosion appears to be the most common form of tooth wear in childhood. In 2000, the National Diet and Nutrition Survey of 4–18-year-olds found that over half of the young population in the UK showed some signs of erosion [6] and anecdotal evidence suggests that the prevalence is increasing. The high prevalence is worrying because dental erosion is difficult to treat. There is

Correspondence: P. J. Waterhouse, Department of Child Dental Health, The Dental School, Framlington Place, Newcastle upon Tyne NE2 4BW, UK. E-mail: p.j.waterhouse@ncl.ac.uk

often inadequate enamel and insufficient coronal tissue to provide successful adhesive restorations [7] and its effects are cumulative with age. Therefore with increasing life expectancy and more people keeping their natural dentition into old age, the problems associated with tooth wear are likely to place greater demands on dental professionals [4]. The prevention of erosion at an early age is therefore important to reduce the severity of all types of tooth wear in later life.

Erosion can be caused by intrinsic factors, such as gastric acid from frequent vomiting or gastro-oesophageal reflux. In young people frequent vomiting may be caused by eating disorders such as anorexia and bulimia nervosa. Erosion can also be caused by extrinsic factors, such as frequent consumption of acidic food and drink. At present, however, the major cause of erosion in children is believed to be the frequent consumption of acidic food and drinks. Although some studies [5] believe there is insufficient evidence to directly implicate soft drinks at present, there is an overwhelming body of evidence demonstrating a causal relationship between acidic drink consumption and dental erosion. This includes *in vivo* experiments [8], epidemiological studies [9–11], animal studies [12], *in vitro* studies [13–16] and case studies [17]. Soft drinks have been implicated in particular and evidence from the Sucralose Soft Drinks Report [18] published annually suggests that consumption of soft drinks has increased consistently over the past 15 years and will continue to do so for at least the next five years. Therefore the best method of prevention of erosion would seem to be to reduce children's consumption of soft drinks whilst increasing their consumption of healthier drinks, such as milk and water.

The first stage in any programme to change behaviour is 'to assess and understand the internal and external conditions that affect the way an individual thinks or acts' [19]. There has been very little research on the influences over children's choice of drink, but some work has been carried out on children's food choices [19–20]. These studies suggest that a large number of complex interacting factors determine food choice, including innate taste preference, availability, affordability and convenience, advertising and sponsorship, peer group influences, family influences and health education. This study aimed to gain an initial insight into the attitudes of Newcastle children towards these factors and how

they influenced their behaviour in terms of choice of drink. It also investigated the children's knowledge about the potential dental health problems caused by their choice of drink. These data could then be used to aid the formulation of a questionnaire to investigate any areas of interest raised by the children's discussion. The questionnaire would sample a wider range of children and give results which could be applied to a larger population of children.

Method

Approval for the study was sought from the Local Research Ethics Committee and ethical approval was granted in January 2000. Criminal record checks were also performed on all those to be involved with the children. Townsend scores were used as a measure of deprivation, where a low score indicates a ward of high socio-economic status and a high score indicates a very deprived ward. In this study, Jesmond had a Townsend score of 0.96 and was used as an area of high socio-economic status whilst Walker was the low socio-economic area with a Townsend score of 11.18. The community dental service for these areas provided a list of state schools in these wards known to be co-operative with university research projects. The children who would volunteer for this study were to form a convenience sample. They recommended one secondary school in Jesmond and one in Walker. In addition, one primary school in Jesmond and two primary schools in Walker (West Walker and St Anthony's) were recommended. Of the two primary schools in Walker, West Walker Primary was chosen because of its more central location. However the head-teacher declined the request to take part in the study, so St Anthony's Primary was included.

A pilot test involving children of staff in the dental school was undertaken prior to the focus groups taking place. This pilot suggested the use of a display of drinks so that the children had some stimulation in the actual focus groups. It also allowed the moderator and note-taker to practise their roles and suggested additional areas of questioning such as where the children had obtained information about the effects of drinks on their dental health and which drinks they thought were good and bad for their teeth.

Consent forms offering a £5 gift voucher incentive were sent out to the parents of one class aged

Topic Guide

Introduction

Moderator ('JM') and note-taker ('M') introduce themselves to the group
Tape-recorder
Interested in everyone's views and experiences
Have fun

1) Favourite drinks & Why certain drinks are so popular

Imagine in a shop. ... write down what drink you would choose
Would you say that was your favourite drink?
How often do you drink it?
What about if you are at home, what do you drink then? Do you get to choose what drink you want?

2) What affects your choice of drink

Probe: family, friends, taste, appearance, convenience, cost, availability, health

3) Opinions on advertising generally and drinks specifically

Any particular adverts you like? Why?

4) What would make them change their choice of drink

Choose a different drink?
Stop drinking a particular drink?
Change brands?

5) What effects they think drinks have on their teeth

What is bad for teeth?
What is good for teeth?
Why?
Would that make you change?
Where did you get your information?
Dental erosion – do you know about it?
Ribena Toothkind

6) How they would solve this problem

Would that persuade you to change?

Fig. 1.

8–9 years, in Year 4, and one class aged 13–14 years, in Year 7. The head-teacher of each school then picked four boys and four girls from those who had returned the forms, to take part. This gave an ideal number of eight participants for each focus group. Fewer than six might lead to a dull discussion and may not provide enough diversity and more than 12 would be difficult for the moderator to manage and may not allow all participants to share their experiences and participate actively [21]. One focus group session, lasting approximately one hour, was then undertaken at each school and audio-taped. A moderator led the

participants through a topic guide (Fig. 1) whilst a note-taker recorded the children's nonverbal communication.

The groups' discussions were recorded, then transcribed and analysed using the 'framework approach'. This involved analysing the transcripts for recurrent themes between the groups. Quotes illustrating these themes were then cut and pasted in Microsoft Word to create tables for each theme. Some themes were then divided into smaller sub-groups for easier analysis [21–22]. Comparisons were made between the perceptions of different age and socio-economic groups about:

- their choice of drink,
- the effect of advertising,
- the effects of drinks on their teeth,
- suggestions raised to reduce the prevalence of dental health problems.

Results

Four focus groups, each lasting an hour and involving eight children were transcribed onto a PC using Microsoft Word and analysed using the framework approach. The major themes tended to concur with the six main areas of the topic guide (Fig. 1) so the results are presented as a discussion of each theme with illustrative quotes.

Favourite drinks and why certain drinks are so popular

This study showed that 8–9-year-old children preferred still, fruit flavoured drinks whilst 13–14-year-old children preferred carbonated drinks. The only differences between the socio-economic groups were that only the low socio-economic groups chose Sunny Delight and milkshake and the 13–14-year-old high socio-economic group did not mention cola as frequently as the low socio-economic group. However, looking at their notes, they had written cola as frequently as the other group. Taste appeared to be the most important influence on drink choice for children of all ages.

‘It’s the taste and things I like, the taste, not the vitamins and stuff.’ (8–9-year-old, low SE).

What affects your choice of drink

Parents and friends were more influential for younger children.

‘I sometimes drink fizzy drinks to, like, be the same.’ (8–9-year-old, high SE).

‘When you’re that age you drink what everyone else drinks but now I just drink anything.’ (13–14-year-old, high SE).

The 13–14-year-olds were more likely to go against their parent’s advice especially the low socio-economic group, although the only drink their parent’s would not let them have was alcohol. The high socio-economic group were not allowed Sunny Delight.

‘I’m never in the house, I choose what I want’ (13–14-year-old, low SE).

Cost, availability and thirst were more important to the older children.

‘It depends how big it is as well, the cheapness and how big it is.’ (13–14-year-old, high SE).

‘If I thought about it I’d probably take water, but fizzy pop is just easier.’ (13–14-year-old, low SE).

When they were thirsty the higher socio-economic group chose healthier options, whilst the lower socio-economic group chose erosive drinks.

‘If I’m dead thirsty I’ll just get water.’ (13–14-year-old, high SE).

‘Just when I’m walking along, if I get thirsty I go and buy one (fizzy drink). I just don’t think of milk.’ (13–14-year-old, low SE).

The 13–14-year-old high socio-economic group also thought that the appearance of the drink was important. They mentioned ‘the looks and the packaging’ when asked about the most important influence on their choice of drink. They often equated the packaging with the quality of the drink and thought that those that ‘look more expensive would be a nicer taste’.

Opinions on advertising generally and drinks specifically

When asked about advertising, the 8–9-year-olds often did not believe advertisements and thought they should tell the truth more. However they thought they might work for younger children.

‘It does for little kids like, um, people in reception and younger but it doesn’t work for people our age “cause we know, we’ve all tasted them, we know what it’s like.”’ (8–9-year-old, high SE).

The older children appeared to understand the persuasive intent of advertising and thought if they saw an advertisement enough times they might try the drink.

‘They’ll make you think “Oh I’ll go and try that but then if, like, you don’t like it I won’t buy it again.”’ (13–14-year-old, high SE).

The 8–9-year-old low socio-economic group remembered the most advertisements, suggesting that they may be influenced the most by them. Some of the younger children did not watch the advertisements because their parents did not let them, whilst older children did not watch them because they found them boring.

‘I’ll just get told off, cause she’s told me not to take any notice of adverts so I just watch videos and I just put it on pause.’ (8–9-year-old, high SE).

'I don't like watching the adverts, they're too long.' (13–14-year-old, low SE).

What would make them change their choice of drink

Most of the children would stop drinking a particular drink if they discovered something bad was in it. The 8–9-year-old high socio-economic group were concerned about things that were bad for their health, whilst the low socio-economic groups were interested in the positive effects drinks had.

'Energy drink it makes you run faster. It's "cause it's got vitamins in and all that."' (13–14-year-old, low SE).

Appearance was the most important influence when trying a new drink, it had to catch the children's attention and have a good name. The 8–9-year-old low socio-economic group tried every new drink that came out.

'Cause it's like attracting, and it's red and the can's red and it just catches them.' (13–14-year-old, low SE).

'If I see something new coming out I just taste it. I do, I just give it a try. Until every drink is tasted and there's none left.' (8–9-year-old, low SE).

What effects they think drinks have on their teeth

Knowledge of the effects of drinks on their teeth was confused. The 13–14-year-old high socio-economic group knew that acid was bad for the teeth but thought that it rotted them, whilst the other groups thought that sugar eroded teeth.

'If sea water erodes rocks away, sugar can erode your teeth away.' (13–14-year-old, low SE).

All of the groups knew that fizzy drinks were bad and milk and water were good. The 8–9-year-old high socio-economic group seemed to know the most about the problems sugar caused.

'Rots them and makes you have plaque and decay.' (8–9-year-old, high SE).

The older groups received information on dental health from science lessons and the low socio-economic group had all undergone dental treatment and were given information by their dentist. The younger groups were informed by their parents and knew which ingredients were bad for their teeth and how to look for them in the nutrition information on packaging.

How would they solve this problem

The older children thought that a picture of rotten teeth placed somewhere they went frequently might reduce their consumption of erosive drinks.

'It's not as drastic as that kind of thing, like people always say like "Oh well I like using something" and people say "Oh like it's bad for you" but then if you actually see something that's wrong, you take more notice of it; cos you think "Oh no, my teeth won't rot" but then if you saw someone's teeth rotting, you would go off it.' (13–14-year-old, high SE).

The younger children were more interested in promoting the positive aspects of healthier drinks, saying milk would make you 'the strongest person in the world'. The older children thought that milk and water were drinks you could get at home and were inconvenient to drink out of the house. They therefore suggested that increasing the availability and appearance of milk and water might make them more popular.

'I don't think kids would buy water or milk, cos, I do, but some might think, oh well I can get that at home and it's like I can't get these other ones.' (13–14-year-old, high SE).

'Cos that looks really plain and boring (pointing to milk) but that looks really like refreshing (pointing to Lucozade bottle).' (13–14-year-old, high SE).

Discussion

There is scant information concerning the factors influencing children's choice of drinks in the dental literature so focus groups were used to obtain qualitative data which reflected accurately a sample of schoolchildren's opinions. Qualitative work was the most appropriate method for this study because the aim was to investigate the reasons for the behaviour, attitudes or beliefs, whereas quantitative research provides estimates of a population's behaviour, opinions or state. It was also useful for exploring the opinions of the younger age groups who may not be able to express their opinions in as much depth if they had to write them down, as in a questionnaire. Moreover, this method of assessment did not impose the researcher's views upon the children included in the groups. The group work uncovered areas that the children thought were important and should be investigated further. The

findings of the focus group study aided the design of a subsequent questionnaire.

Focus groups allow the participants to openly discuss the areas of the topic they find important, with minimal involvement by a moderator who ensures that they continue to discuss the topic of interest. The group environment stimulates more ideas and thoughts from the children because the opinions of one participant in the room may evoke reactions from other group members. They are particularly useful for children who may not be able to fill in a questionnaire correctly without help from parents or teachers who could bias the results.

Usually focus groups are continued until the saturation point is reached, that is the point at which no new information would be obtained by holding more focus groups. A limitation of this study is the small number of groups involved, such that the saturation point was not reached. Several areas would have benefited from further investigation, with more children and perhaps focus groups involving parents and teachers. As only one group was used for each socio-economic group and each age group, the sample may have been atypical for those variables and this will affect the reliability of the study. Some bias will have been introduced in the headteacher's selection of children to participate. However, the selection of co-operative children was important for the discussion to be meaningful. At the outset, all potential participants were offered the same incentive (a £5 gift voucher) to take part in the study, which may have lessened the possibility of volunteer bias. However, the eight children finally chosen to take part in each focus group were not a random sample and were not chosen to be representative of the population but to stimulate ideas and discussion on the subject of their choice of drinks.

The finding that younger children prefer still, fruit flavoured drinks whilst older children prefer carbonated drinks, agrees with two previous studies [6,18], which found that children under 10 years old drink more fruit squashes whilst those over 10 years old drink more carbonated drinks. The importance of taste in children's choice of drink agrees with work by Shepherd [20], who suggested that an individual's liking for a sensory attribute in a particular food is often the determining factor in food choice. The strong influence of parents on young children agrees with work by Dibb [23] who found that prior to a child's entrance to school, their diet is very much influenced by their experiences within the

family. This study suggests that parents are still an important influence at 8–9 years old. DeBiase [19] found that eating habits and food preferences were firmly established by late childhood but this study suggests children are still willing to try new drinks at 8–9 years old, if not older. Some children even had the attitude that they had to try every new drink that came on the market.

Neither age group questioned in this study felt that their friends affected their choices, but interestingly, all groups suggested that younger children liked to be the same as their friends. This finding is contrary to existing beliefs that as children get older parents become a less important influence on choices and friends become more important. However, it must be remembered that the influence of peer groups is often subconscious and adolescents may not realize how much influence their friends have upon them. Certainly some of the 8–9-year-olds mentioned briefly that they did not like to be 'singled-out' by having something different to drink at friend's parties.

The study also disagrees with a previous study [23], which found that young children like best the foods to which they have been exposed to most frequently. The younger children in this study explained that if they had a drink too often they tired of it. It was, in fact, the older children who were influenced more by the availability of the drinks.

In terms of advertising, the results agree with the MAFF review [24] which suggested that children do not understand the persuasive intent of advertisements until middle childhood. Although the 8–9-year-olds understood that advertisements were trying to make you buy the drink, they thought that they should give more information about the drink. The 13–14-year-old children understood the persuasive intent and agreed if they saw an advertisement enough times they might buy the drink. A previous study [23] found that advertising was a major influence on children's food choices and although the children in this study did not perceive advertising as important, most of them could remember a number of advertisements and the product they were advertising which suggests a subconscious effect.

For the children involved in the focus groups, this study found that their parents were an important influence on their choice of drink. The 8–9-year-old children often tried their parent's drinks so future health promotion strategies may benefit from involving parents in addition to children. However, the

study also found that often adolescents, and sometimes the younger children, disobeyed their parents. In view of this, it could be suggested that the most effective strategy would be to try to change both the parents' and the child's behaviour. The parents would then lead by example, consuming healthier drinks and therefore exposing their children to healthier alternatives.

Several children mentioned changing the appearance or packaging of healthier drinks in order to make them more popular, although paradoxically they suggested that packaging had little influence on their choice. Of the two age groups, it was mainly the 13–14-year-olds who were interested in the packaging, availability and convenience of the drink. This reflects the fact that they are more likely to buy their own drinks than the younger group. This demonstrates that the attitudes of the children may alter between age groups but that this may not necessarily affect their behaviour. It is known that the introduction of 'sports caps' on mineral water bottles has increased their popularity [18], perhaps if milk were packaged in a more convenient way, its popularity would also improve.

The study has highlighted that the children's knowledge of the dental health effects of soft drinks was confused and it appears that more education is needed in this area. The most knowledgeable children had been taught about erosion in science lessons at school which suggests that this may be the most effective way to teach children about their dental health. However, further research needs to be carried out, as there is no evidence from previous studies that increased knowledge results in a change of behaviour [19–20]. This study suggested that any health education programme should be specific to each age group in order to bring about behaviour change. The 13–14-year-olds thought dissuading children from drinking erosive drinks would be most effective whilst younger children thought it was more important to persuade them to drink healthier alternatives, such as milk and water. They felt that increasing their knowledge of either the harmful effects of erosive drinks or the beneficial effects of milk and water may change their attitudes towards these drinks and may therefore change their behaviour.

Care must be taken when taking forward these suggestions to a larger population as the children involved in the present study were from select areas of Newcastle and will not represent the views of all children in Newcastle upon Tyne, let alone the UK.

Before a nationwide health promotion strategy is planned, a larger study should be undertaken, involving a better representation of all regions of the country and a greater range of age and socio-economic groups. However, this study has demonstrated that useful information can be elicited from focus group work and has highlighted some important areas to study. It has shown that children's knowledge, attitudes and behaviour can vary between age and socio-economic groups and that this should be considered when designing preventative programmes.

Conclusion

It may be concluded from this study that in both age groups children's knowledge of dental diseases and the effect of fizzy drinks on the teeth was confused. Furthermore, the factors influencing drink choice and the children's attitudes towards them, as uncovered by the focus group work appeared to differ between the two age groups involved.

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Résumé. *Objectifs.* Cette étude qualitative a été mise au point afin d'enregistrer la perception des enfants de Newcastle sur leurs choix de boissons et leur connaissance des problèmes de santé dentaire liés aux boissons acides.

Méthodes. Quatre groupes comprenant chacun 8 enfants de Newcastle (4 garçons, 4 filles) ont formé la base de l'étude. Deux groupes d'âge, 13-14 ans et 8-9 ans, et deux groupes socio-économiques ont été étudiés dans les écoles d'état de Newcastle upon Tyne. Un modérateur a guidé les enfants pour discuter entre eux de leur choix de boisson et de ses effets dentaires.

Résultats. Au total, 32 enfants ont fait partie des groupes et les résultats ont suggéré que les 8-9 ans préféraient encore les boissons à goût fruité, tandis que les 13-14 ans préféraient les boissons sucrées. Le goût avait l'influence la plus importante sur le

choix de la boisson dans tous les groupe d'âge. Parents et amis avaient plus d'influence sur les plus jeunes, tandis que le coût, la disponibilité et la soif avaient plus d'importance aux yeux des plus âgés. Les enfants les plus jeunes ne croyaient pas les publicités tandis que les plus âgés pensaient qu'elles pouvaient être efficaces si vues un nombre suffisant de fois. Les connaissances dentaires étaient confuses dans tous les groupes et seuls les groupes de haut niveau socio-économique de 13-14 ans savaient que les boissons acides étaient mauvaises pour les dents. Différentes méthodes pour sensibiliser au problème de l'érosion ont été suggérés par différents groupes d'âge. Il y avait très peu de différence entre les groupes socio-économiques sur ce sujet.

Conclusions. Les connaissances des enfants sur les maladies dentaires et les effets des boissons sur les dents étaient confuses. Les facteurs qui influencent le choix d'une boisson semblent changer avec l'âge plus qu'avec le statut socio-économique.

Zusammenfassung. Ziele. In dieser Studie wurde die Wahrnehmung von Kindern in Newcastle bezüglich der Einflussfaktoren der Getränkewahl sowie Kenntnisse bezüglich Zusammenhänge zwischen Zahngesundheit und säurehaltige Getränke untersucht.

Methode Viel Fokusgruppen, jede bestehend aus 8 Schulkindern aus Newcastle (4 Jungen und 4 Mädchen) bildeten die Basis der Untersuchung. Es wurden zwei Altersgruppen (13-14 Jahre sowie 8-9 Jahre) und zwei sozioökonomisch distikte Gruppe untersucht. Ein Moderator lenkte die Kinder, ihre Getränkewahl und diesbezügliche Effekte auf die Zähne zu diskutieren.

Ergebnisse. Insgesamt 32 Kinder nahmen in den Fokusgruppengesprächen teil, die Ergebnisse zeigen, dass 8-9 Jährige stille Getränke mit Fruchtroma bevorzugten, während 13-14 Jährige kohlenwasserstoffhaltige Getränke bevorzugten. Geschmack wurde in allen Gruppen als wichtigster Einflussfaktor der Getränkewahl genannt. Eltern und Freunde waren wichtiger für jüngere Kinder, Kosten, Verfügbarkeit und Durst eher für ältere Kinder. Jüngere Kinder glaubten nicht an Werbung, ältere nahmen eine Wirkung von Werbung für den Fall an, dass diese häufig gesehen werde. Die Kenntnisse zur Zahngesundheit waren gering in allen Gruppen, nur die 13-14 Jährigen der höheren sozioökonomischen hatten Kenntnisse zu schädlicher Wirkung säurehaltiger Getränke auf die Zähne. Zum Problem der Erosion wurden in den verschiedenen Altersgruppen unter-

schiedliche Herangehensweisen vorgeschlagen. Wenig Einfluss darauf hatte die sozioökonomische Gruppe. **Schlussfolgerungen.** Kenntnisse von Kindern zu Zahnschäden und Zusammenhänge zu Getränken waren gering. Faktoren der Getränkepräferenz sind eher mit dem Alter als mit sozioökonomischen Faktoren assoziiert.

Resumen. Objetivos. Este estudio cualitativo se diseñó para registrar la percepción de los niños de Newcastle de las influencias en la elección de bebidas y el conocimiento de los problemas de salud dental causados por las bebidas acídicas.

Métodos. Formaron la base del estudio, cuatro grupos de debate, cada uno integrado por 8 escolares de Newcastle (4 niños y 4 niñas). Se investigaron dos grupos de edad, 13-14 años y 8-9 años y dos grupos socio-económicos, de las escuelas estatales de Newcastle upon Tyne. Un moderador guió a los niños para comentar entre ellos su elección de bebidas y sus efectos dentales.

Resultados. Participaron en los grupos un total de 32 niños y los resultados sugirieron que los de 8-9 años todavía preferían bebidas con sabor a fruta mientras que los de 13-14 años preferían bebidas carbonatadas. El sabor fue la influencia más importante en la elección de bebida en todos los grupos de edad. Padres y amigos eran más influyentes sobre los niños más pequeños, mientras que el coste, disponibilidad y la sed eran más importantes en los niños mayores. Los niños más pequeños no creían en consejos mientras que los niños mayores pensaban que estos podrían funcionar si los viesen bastantes veces. Los conocimientos odontológicos eran confusos en todos los grupos de edad y sólo los grupos socio-económicos de nivel alto, de 13-14 años de edad sabían que las bebidas acídicas eran malas para los dientes. Se sugirieron por los diferentes grupos de edad, varios métodos para aplicarse al problema de la erosión. En los temas discutidos, hubo muy poca diferencia entre los grupos socio-económicos. **Conclusiones.** El conocimiento de los niños sobre enfermedades dentales y el efecto de las bebidas sobre los dientes era confuso. Los factores que influyen en la elección de la bebida parecen cambiar con la edad, más que con el estado socio-económico.

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