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Short communication

Areca nut use amongst South Asian schoolchildren in Tower Hamlets, London: The extent to which the habit is engaged in within the family and used to suppress hunger

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Objectives To examine the extent to which an areca nut habit is engaged in within the family and degree to which the habit may be used to suppress hunger amongst South Asian schoolchildren with a view to informing health promotion campaigns. ***Research Design*** Self-administered questionnaire. ***Setting*** Two comprehensive schools (one mixed, one all girls) in the Tower Hamlets district of East London, UK. ***Participants*** 341 (285 girls; 56 boys) children of self-reported South Asian origin (Bangladeshi 286, Pakistani 4, Asian, 51) who reported currently engaging in an areca nut habit. ***Results*** Areca nut habits were mainly used in a family context. Smaller proportions of children reported predominant use alone or with peers. A substantial minority reported using their habit to suppress hunger. ***Conclusion*** The family plays a crucial role in maintaining areca nut use. This implies effective health promotion campaigns must operate at the family and even community levels rather than being targeted at the children directly.

Key words: Areca nut, health promotion, hunger suppression, paan, use within family

Introduction

Research carried out on schoolchildren aged between 11 and 15 in East London indicates that 77% had engaged in an areca nut habit (Farrand *et al*., 2001). Of further concern is that the highest period of risk for first use is between five and 12 for areca nut, betel-quid or mistee pan and after 10 for pan masala (Farrand *et al*., 2001). That children as young as five may be engaging in an areca nut habit poses a serious public health risk. Within an adult population areca nut habits have been associated with many serious risks to oral health, including oral cancer (see Trivedi *et al*., 2002 for a review of these risks). Additionally, such habits have been associated with a range of dental conditions, such as oral sub-mucous fibrosis and leukoplakia (Oral submucous fibrosis, 1997), in addition to several medical conditions (Mannan *et al.,* 2000; Kiyingi, 1992). Concerns about areca nut chewing amongst children have become particularly prominent following the case of oral submucous fibrosis in an 11-year-old Bangladeshi girl resident within the UK (Shah *et al.,* 2001).

One way to relieve these concerns is to develop health promotion strategies to reduce the incidence of areca nut use amongst South Asian children (Warnakulasuriya, 1996). Indeed the national symposium on areca-nut chewing within the Bangladeshi community identified the evaluation and implementation of school-based oral health programmes as an important public health objective (Speight and Bedi, 1995). Targeting children directly in this way however could prove of little benefit in the event that the risk behaviour is actively being promoted and maintained within the child's family.

Qualitative studies have highlighted the important role that the family has in promoting and maintaining the areca nut habit. For example, the family promotes areca nut use during events having a strong ceremonial or cultural component (Brownrigg, 1991; Strickland, 2002). Other studies have highlighted the health beliefs surrounding areca nut that are held within families that could also maintain its use (Bedi, 1996; Summers *et al*., 1994; Williams *et al.,* 2002). For example it is often reported that areca nut improves appetite and taste (Arjungi, 1976), aids food digestion (Summers *et al.,* 1994) and regulates appetite and suppresses hunger (Lee, 1973; Strickland *et al.,* 2003).

Due to the significant role areca nut therefore has within the family, it is easy to see how the habit can become established as a 'norm' amongst younger family members. Little remains known however about the extent to which the areca nut habits amongst children are engaged in within the family context. Furthermore the extent to which an areca nut habit may be used as a result of the perceived benefits to suppress hunger is unclear. Such information would prove invaluable in helping to inform future health promotion strategies aimed at reducing areca nut usage amongst South Asian children.

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Table 1. Number of users, percentage of users employing an areca nut habit for hunger suppression, and predominant social context in which each habit is used. Note: some users report more than one habit and therefore will contribute to data for more than one habit.

Areca nut habit	Number of users	Hunger suppression (%)	Most common context (%)		
			Alone	Family	Friends
Areca nut	250	33.7	21.1	68.8	10.1
Mistee pan	183	41.0	12.0	78.9	9.2
Pan masala	92	27.2	20.3	70.3	9.5
Betel-quid	157	27.0	22.0	68.3	9.8

Method

Subjects

Full details of the sampling are reported in Farrand *et al.* (2001). Briefly, the study included all children aged 11–15 who attended two comprehensive schools (one mixed gender, one all-girls) in the Tower Hamlets district of East London. The full sample included 143 boys and 561 girls. In this paper we focussed on the 341 children (285 girls, 56 boys) who reported currently engaging in an areca nut habit. The numbers and percentages of the sample engaging in each habit are shown in Table 1. The self-reported ethnic background of these children were largely 'Bangladeshi' (286, 84%), along with some who reported an 'Asian' (51, 15%) and 'Pakistani' (4, 1%) origin.

Research Instrument

An easy to complete single sided self-administered questionnaire taking less than 10 minutes to complete was constructed using simple terminology. The questionnaire elicited general demographic details (age, gender, self-reported ethnic origin), and questions concerning areca nut use (ever use, age of first use, current use, frequency of use). Various terms for each of the forms of areca nut habit (areca nut alone, betel-quid, pan masala, mistee) were used to allow for regional differences in terminology and to include major brand names. In the following analyses we focussed on questions addressing the context in which the areca nut habit was most commonly used (alone, with family, or with friends) and whether the habit was used to suppress hunger. Participants were given instructions including information on their ethical rights concerning participation before completing the questionnaire.

Approximately 20% of the responses to the context question were improperly completed in that two contexts were endorsed as most common instead of one (range 19.6% to 22.4% across the four areca nut habits). These responses were treated as missing. Incorrectly completing the questions in this way was not related to age or gender.

Results

Context of use

As shown in Table 1, areca nut habits were most commonly engaged in within a family context. Approximately 80% of mistee pan users, and 70% of betel-quid, pan masala, and areca nut alone users reported that they most commonly did so with other members of their family. Engaging in the habits alone was reported by approximately 20% of the users of each habit, except mistee pan where the rate was approximately 10%. Approximately 10% most commonly engaged in their habits with peers. There was no evidence that age or gender predicted the most common context for engagement with any of the areca nut habits.

Hunger suppression

Table 1 also shows that approximately 30% of areca nut alone, pan masala, and betel-quid users reported engaging in an areca nut habit to suppress hunger. At approximately 40%, there was a tendency for mistee pan to be employed more in this way than the other habits. In total, 42.1% of the sample reported engaging in a habit to reduce hunger. Using areca nut habit to suppress hunger was not significantly predicted by age or gender.

Discussion

Results from this study indicate that engagement of an areca nut habit is most prevalent within the family context amongst the sample of South Asian schoolchildren examined. Mistee pan was the habit most commonly engaged in within the family, other forms of the habit within the family were also very common however. The use of the habits outside of the family unit, either with peers or for individual use was much less common. Additionally there was no evidence that engagement with any of the habits transferred from the family to peer or individual use with increasing age of the sample. There was some evidence to suggest that an areca nut habit was used to suppress hunger, such use was only reported by a minority of the respondents however.

There are several implications to arise from these findings with regards to the implementation of health promotion strategies to reduce the use of areca nut amongst South Asian schoolchildren. The high incidence of engaging with an areca nut habit within the family suggests that school based health promotion strategies may largely be ineffective. It is highly likely that the family is exerting influence over the child and as such any attempt to reduce areca nut usage amongst children at the exclusion of the family may be strongly resisted. The results of this study therefore suggest that public health approaches are likely to be more effective if they target the whole community rather than just children.

The effectiveness of such a community approach is likely to be increased if the motivations for areca nut use within the family are also considered (Williams *et al*., 2002). Of interest to this study was the extent to which areca nut was being used to suppress hunger. Results indicated that only a minority of children were

engaging in an areca nut habit for the perceived benefits related to hunger suppression. Potentially therefore it is possible that the widely reported ceremonial roles that areca nut has within the family and wider community (Brownrigg, 1991; Strickland, 2002) are the most likely factors maintaining the use of areca nut.

The results from this study highlight the pervasive role that the family has in initiating and maintaining an areca nut habit amongst South Asian children. On the basis of the results reported in this study it is recommended that attempts to reduce the frequency of use of areca nut amongst children are directed at the entire community rather than the children themselves. Before such recommendations are adopted however, a qualitative study might be worthwhile to improve the validity of the results reported here.

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