

people than expected would need further investigation, dietary restriction would undoubtedly be beneficial when screening this particular population.

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Competing interests: NH is extremely fond of black pudding.

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Ice cream evoked headaches (ICE-H) study: randomised trial of accelerated versus cautious ice cream eating regimen

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Cold stimulus headache, also known as ice cream headache, is a common problem and is reported to occur in about a third of a randomly selected population.¹ It was further suggested that the ice cream headache could be induced only in hot weather.² A Medline search from 1966 to August 2002 with the MeSH terms and combination operators "ice cream," "headache," and "randomized controlled trial" to identify English language trials in this area produced no results.

In order to fill this important knowledge gap, we compared the effect of two ice cream eating regimens on the incidence of ice cream induced headaches in a prospective randomised manner. The study was carried out during the winter to test whether this phenomenon was restricted to hot weather only.

Participants, methods, and results

All 145 students at Dalewood Middle School in Hamilton (Canada) in classes 63, 81, 82, 83, 84, and 85 were eligible to participate and were approached by the principal author after permission was received from the school's teachers. They were told the purpose of the study and the potential risks and benefits and were asked to provide verbal consent.

The sample size calculation was performed assuming a 10% incidence of ice cream headache with cautious ice cream eating and that a 20% absolute increase in incidence between eating regimens would justify mum's nagging. To detect this level of difference with 80% power would require 71 participants in each arm of the trial.

Participants were randomised via a concealed (face down) distribution of scrambled, stapled baseline and exit questionnaires marked with a red or green dot in the upper left corner. All participants were instructed to complete a baseline questionnaire recording age, sex, headache history, and lifetime prevalence of ice cream headache. Participants who received green dot questionnaires were given 100 ml of ice cream and were told to eat it in >30 seconds. They were further instructed to have about half their ice cream left after 30 seconds and then to continue at their own pace.

Characteristics of the 145 participants at enrolment in the ICE-H trial. Values are numbers (percentages) of participants unless stated otherwise

Characteristic	Cautious eating group (n=72)	Accelerated eating group (n=73)
Female	42 (58)	27 (37)
Mean (SD) age (years)	12.7 (0.8)	12.7 (0.8)
Lifetime prevalence of ice cream headaches	58 (81)	57 (78)
Regular headaches (weekly)	18 (25)	19 (26)

Participants who received red dot questionnaires were given 100 ml of ice cream but were instructed to eat it in <5 seconds. The temperature of the ice cream was not formally regulated throughout the study. There were six eating sessions between December 2001 and January 2002 that included 21 to 28 participants, and each session compared both eating regimens.

The primary outcome measure was the incidence and duration of ice cream headache assessed via self reported questionnaires completed 5-10 minutes after eating the ice cream. All statistical tests were conducted on an intention to treat basis and were two tailed ($P < 0.05$).

All 145 students from six classes who were approached provided verbal consent. There were no refusals and no loss to follow up. The table shows the baseline characteristics of the two groups.

Twenty (27%) of 73 students in the accelerated eating group reported ice cream headache compared with 9 (13%) of 72 students in the cautious eating group (relative risk 2.2 (95% confidence interval 1.03 to 4.94), number needed to harm 6.71 (3.79 to 200.48)). Of the 29 headaches reported, 17 (59%) lasted for less than 10 seconds. The lifetime prevalence of ice cream headache among the participants was 115/145 (79% (73% to 86%)).

Comment

The main weaknesses of our study were lack of blinding and the use of self reporting to ascertain the main outcome measure. Nevertheless, these findings

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confirm that cold stimulation of the palate induced by gobbling up ice cream more than doubles the likelihood of developing ice cream headache among middle school students. In contrast to previous studies, our results suggest that ice cream headache can be induced in cold weather even in subjects who eat their ice cream at a slow pace. The lifetime prevalence of ice cream headache was also considerably higher than what was previously reported.

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Sex—can you get it right?

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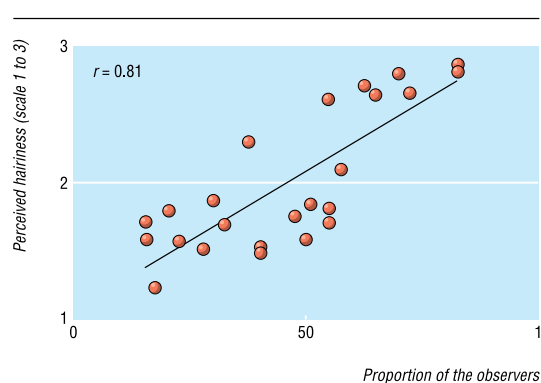
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Neonatologists often get the sex of their patients wrong. A review of the literature on identifying sex from facial appearances yielded one small study from Nashville, Tennessee.¹ The low level of success (60%) found by the study suggests either that sex specific characteristics are inconsistent or that adults do not notice them. We wondered whether newborn babies' sex could be determined from their facial characteristics; whether particular facial characteristics, such as delicacy, were associated with the attribution of sex; and whether adults' degree of contact with neonates increased accuracy. The study was approved by the research and ethics committee at Guy's Hospital.

Participants, methods, and results

Thirty babies born at term were enrolled consecutively on the postnatal ward at Guy's Hospital. Unwell babies and babies who were not fully Afro-Caribbean or white were excluded. The babies were wrapped, with the face left exposed, and photographed. Eight photographs of Afro-Caribbean babies and 16 of white babies were randomly selected from the 30, with equal numbers of boys and girls in each sample. The photographs were shown to 53 adults, who were also asked to complete a questionnaire on the babies' characteristics. Of these observers, 21 were men. Twelve were paediatricians, 14 were paediatric or neonatal nurses, and 27 were not health workers. Forty were parents. The observers guessed the sex of each baby from the photographs and then rated, on scales from 1 to 3, the babies' hairiness, delicateness of features, coarseness of features, and chubbiness.

We used Student's *t* test to compare the results for each observer and baby. This showed that the observations were independent. Among all the adults, the mean number of babies whose sex was correctly identified was 13.3 (95% confidence interval 12.7 to 13.9), or 55% of babies, a significantly better proportion than expected by chance ($P < 0.001$). The nurses correctly identified 14.3 (13.3 to 15.3) babies, or 59%, and thus were more successful than the paediatricians (12.1 (10.9 to 13.3); $P < 0.02$). Non-health workers identified 13.3 babies correctly (12.6 to 14.0; not significant). There was no significant difference between the scores



Relation between proportion of 53 observers who identified baby in photo (n=24) as female, and hairiness rating of baby

of women (13.6 (12.9 to 14.3)) and men (12.8 (11.9 to 13.7)) or between those of parents (13.4 (12.8 to 14.0)) and non-parents (12.9 (11.6 to 14.2)).

Overall, observers thought that 58% of the babies were boys. Babies thought to be girls were rated hairier (figure). Observers' identification of sex did not correlate with their ratings of chubbiness or coarseness or delicateness of features or with the babies' gestation or birth weight. There was no relation between the babies' actual sex and any of the variables, though the results do suggest a trend towards girls being hairier than boys (hairiness rating 2.1 (1.8 to 2.4) v 1.9 (1.6 to 2.2)).

Afro-Caribbean babies were more often identified by the observers as girls and were rated as hairier than white babies, but differences were not significant. Only 15% of observers correctly guessed the sex of one white girl—this baby had the sixth lowest hairiness rating but was similar in all other characteristics to the other babies. More than four fifths of observers (83%) correctly guessed the sex of one white boy, the least hairy baby. He weighed much less than the mean and had a higher than average delicateness rating.

Comment

The proportion of babies whose sex was correctly identified by the observers, on the basis of facial char-