a significantly lower number of term deliveries as the number of preterm deliveries was as expected (O/E = 1.01; 0.84 to 1.21). As shown in the table, this led to an overall 44% increased risk of a preterm compared to term delivery on Christmas Eve when comparing with other days of the year

The frequency of caesarean sections during the three days before Christmas Eve was as expected (OR = 0.99, 0.91 to 1.09), but it was significantly lower than expected on Christmas Eve (OR = 0.72, 0.60 to 0.87) and on the 3 following days (OR = 0.76, 0.68 to 0.84).

Women under 20 years of age had close to the expected proportion of births at Christmas (0.25%), but this proportion fell to 0.22% in those aged 20-24 and was between 0.18% and 0.19% in older age groups (P for trend <0.001). The number of liveborn children was inversely associated with risk of a Christmas birth; this was explained primarily by a drop in risk between women without a previous birth and women with a history of one or more previous births (table). This association remained significant after age was adjusted for (P for trend <0.001). Births at Christmas and at other times did not differ with respect to the sex of the child and the proportion of multiple births.

Discussion

The increase in the proportion of preterm births around Christmas was entirely explained by a lower rate of other births during this period. Therefore, women in late pregnancy can safely take part in the often stressful preparations for Christmas.

Compared with what was expected, older women were significantly less likely than younger women to give birth around Christmas. This resulted in a particularly high proportion of firstborn children around Christmas but, as we note, without any sex difference.

It is not obvious to us that changes in the medical procedures around this holiday should explain the peculiar age distribution among delivering women. Both caesarean sections and induction are more often used in young rather than older women, and if anything the rate of caesarean sections decreased during Christmas. We lacked information on induction of labour, but it seems reasonable to assume that the pattern is similar. Could it be that older women who are already mothers more often than very young women plan their births to take place at other times of the year? We are eager to hear from readers with personal or professional experience regarding this matter.

Other members of the CPS Group were A M Nybo Andersen, M Andersen, P K Andersen, K Begtrup, B Høgh, H Jensen, K Mølbak, N M Nielsen, L L Winther Nielsen, S Olsen, and J B Pedersen.

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1 Westergaard T, Wohlfahrt J, Aaby P, Melbye M. Population based study of rates of multiple pregnancies. *BMJ* 1997;314:775-9.

Do you know your chocolates? Recognition survey among medical staff of various grades

Fiona Cooke, Rhian Morse

Gifts of chocolates are common on hospital wards. Preregistration house officers have a massive exposure to a wide range and quantity of chocolates—one of the many early and challenging experiences for the new doctor. Chocolate contains caffeine, a methyl xanthine whose primary biological effect is antagonism of the adenosine receptor, producing a stimulant effect. It is not surprising that chocolates are keenly sought after, particularly by the tired and weary. We set out to test the ability of doctors and nurses to recognise popular chocolates and determine the association with years post qualification.

Do you know your chocolates? Answers are at the end of the article

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Methods, subjects, and results

A random selection of 76 doctors and nurses at the Royal United Hospital, Bath, and the University Hospital of Wales, Cardiff, took part. The volunteers consisted of 16 new (day 1) preregistration house officers, 11 post-registration house officers (just completed preregistration year), 5 senior house officers, 15 registrars (junior and senior), 12 consultants, and 17 qualified nurses. Each volunteer was shown a grid containing 12 popular chocolates and asked to identify both the flavour and the make of each chocolate (maximum score 24) (figure). Prodding, smelling, and tasting were not allowed. The table shows mean recognition scores for make and flavour for each grade of volunteer. All grades except for consultants were better at recognising the make of chocolates than the flavour. Consultants performed equally badly at both tasks. One way analysis of variance showed significant

Recognition of make and flavour of chocolates among 76 doctors and nurses at two hospitals. Values are mean recognition scores unless stated otherwise

Grade	Make	Flavour	Total score	Coffee creme recognition (%)
Preregistration house officer (n=16)	4.9	2	6.9	81
Post-registration house officer (n=11)	6.9	4.8	11.7	100
Senior house officer (n=5)	6.2	3.2	9.4	80
Registrar (n=15)	5.5	2.5	8	87
Consultant (n=12)	2	2.2	4.2	67
Nurse (n=17)	7.2	5.1	12.3	88

Maximum score of 12 each for make and flavour, 24 for total score.

between grade differences for total chocolate scores ($F=8.3$, $P<0.01$, $df=4$). Post hoc analyses (the Newman Keuls procedure) showed that scores for the post-registration house officers were significantly better than scores for the preregistration house officers, registrars, and consultants. In addition, a significant inverse correlation existed between years post registration and total scores for chocolate recognition (Pearson's $r=-0.47$, $P<0.01$). The nurses performed as well as the post-registration house officers. The "coffee creme" chocolate was recognised by most subjects at all grades.

Comment

There seems to be a steep learning curve for chocolate recognition during the preregistration house officer year. This is true for many other medical skills and is likely to be related to exposure time. It is difficult to deduce whether the learning process for chocolate recognition is an active or passive one, but it is obviously important to the house officer. It is unlikely to be acquired from, or taught by, more senior colleagues because our study suggests that this skill deteriorates with increasing seniority.

This apparent "fall out" of information regarding chocolates has been shown for other more orthodox aspects of medical knowledge—for example, management of hypertension.[1] Despite the poor performances of senior staff, however, this group certainly knew which chocolates they liked and which they did not, despite being unable to specifically recognise them. Terms such as "yucky one" or "yummy one" and "nice one" were commonly used by the senior registrars and consultants interviewed. Perhaps an analogy can be drawn with the acquisition of a more instinctive approach to medical problems as clinicians become more senior. Many consultants have been heard to say, "I don't know what's wrong with this patient, but he's definitely sick!" The other major finding was the almost universal recognition (and dislike) of the coffee creme. The reason for this is unclear, but in our experience this skill probably extends beyond the medical profession.

Finally, consultants beware, managers have already expressed an interest in the chocolate recognition score as a surrogate measure of time spent on the wards.

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Answers to chocolate quiz: A: brazilnut caramel (Roses); B: strawberry delight (Black Magic); C: coconut eclair (Quality Street); D: nougat (Milk Tray); E: wafer sandwich (Dairy Box); F: coffee creme (Roses); G: truffle shell (Milk Tray); H: toffee penny (Quality Street); I: truffle and nougat (Black Magic); J: caramel cup (Dairy Box); K: orange cream (Black Magic); L: fudge (Quality Street).

1 Sackett DL, Haynes RB, Guyatt GH, Tugwell P. *Clinical epidemiology: a basic science for clinical medicine.* 2nd ed. Little, Brown, 1991:305-7.

Increasing handicaps in hospital medicine: two point cross sectional study of golfing activity among doctors

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Hospital consultants are often characterised by the media, and sometimes even by apparently well informed government ministers, as neglecting patients for private practice or the golf course. We investigated playing golf as a source of patient neglect.

Subjects, methods, and results

The study comprised a postal questionnaire of male medical graduates of 1977 from Aberdeen and Glasgow Universities. Subjects were surveyed about their golfing histories, including their golfing profile as a final year student and their recent golfing behaviour and aptitudes. Using general practitioners as a comparison group whom we presumed would be too stressed and overworked since government reforms[1] to play much golf at all, we investigated the degree to which golf occupied the lives of hospital consultants.

The cohort comprised 134 subjects, the 52 male graduates of Aberdeen and the 82 male graduates of Glasgow whose addresses could be found in the medical directory of 1995. The overall response rate was 99/134 (74%). A significantly higher proportion of Aberdeen graduates responded (44/52 (85%) *v* 55/82 (67%); odds ratio 2.70 (95% confidence interval 1.04 to 7.21)), and more Aberdeen than Glasgow respondents had played golf as undergraduates (26/44 (59%) *v* 20/54 (37%); odds ratio 2.46 (1.01 to 6.05)).

Surprisingly, general practitioners were more likely to have played at university, to be current golfers, and to be members of golf clubs, and they currently played more often than consultants (table). When expected scores on a par 72 course as final year students and at the time of survey were compared, general practitioners' scores decreased by a mean of 3.9 (−1.0 to −6.8) while consultants' scores increased by a mean of 0.8 (−2.7 to 4.2).

Comment

Over recent years general practitioners have shouldered many of the tasks associated with government