

## Ratio of waist circumference to height may be better indicator of need for weight management

EDITOR.—The metabolic consequences of obesity relate to the accumulation of visceral fat, which is seemingly reflected by the waist circumference. We add our support to the proposal that sex specific action levels based on the waist circumference could be used as a measure for managing weight.<sup>1,2</sup> We also suggest that the ratio of waist circumference to height may be a superior measure for women as well as men.<sup>3</sup>

We took data from the 1992 health survey for England.<sup>4</sup> For each person (1411 men and 1481 women aged 30-74) anthropometric measurements and ratios were compared with the logarithm of his or her risk of coronary heart disease, calculated from his or her sex, age, blood pressure, cholesterol concentration, and smoking and diabetic status.<sup>5</sup>

The highest coefficient of correlation with risk of coronary heart disease was with the ratio of waist circumference to height for men ( $r=0.38$ ) and women ( $r=0.31$ ) (table 1). Stepwise regression

**Table 1—Correlation coefficients of anthropometric variables with calculated risk of coronary heart disease\* without and with standardisation for age**

	Without standardisation	With standardisation
<b>Men (n=1411):</b>		
Body mass index†	0.161	0.161
Waist circumference	0.302	0.170
Ratio of waist circumference to height	0.384	0.167
Ratio of waist circumference to hip	0.367	0.227
<b>Women (n=1481):</b>		
Body mass index†	0.167	0.171
Waist circumference	0.288	0.185
Ratio of waist circumference to height	0.310	0.167
Ratio of waist circumference to hip	0.308	0.122

All correlation coefficients significant at  $P<0.001$ .

\*Risk of coronary heart disease calculated as logarithm of probability of having a coronary heart disease event within six years.<sup>5</sup>

†Body mass index=weight/height<sup>2</sup>.

showed that the ratio of waist circumference to height was the two factor variable that accounted for the greatest variation in the risk of coronary heart disease for both sexes. Age standardisation reduced the correlations of all variables that included the waist circumference. This was probably because of the strong positive correlation of waist circumference with age ( $r=0.25$  for men,  $r=0.23$  for women;  $P<0.001$ ) and because age is used in the calculation of the risk of coronary heart disease. Both the ratio of waist circumference to height and the waist circumference, but not the ratio of waist circumference to hip circumference, can also be used for monitoring the reduction in risk.

One particular advantage of using the ratio of waist circumference to height might be that "unisex" action levels could be specified. The distribution of the ratio is broadly similar in both sexes, mean values being only slightly higher in men than women (0.54 (SD 0.06) v 0.51 (0.07)). Applying action levels based on sex specific waist circumferences<sup>1,2</sup> to our sample indicated that 22% of the men and 26% of the women would have to lose weight. Any unisex action levels based on the ratio of waist circumference to height should put more men than women in the higher risk groups.

We therefore suggest that the ratio of waist circumference to height should be used in a public health context so that relative emphasis can be put on weight management for men, who suffer greater

metabolic consequences of obesity than women. However, proof of the value of any proposed simple measure for indicating weight management and the scientific validation of proposed categories for action require data from a longitudinal follow up of morbidity and mortality.

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## Circumcision of children

EDITOR.—We are all adult men who believe that we have been harmed by circumcision carried out in childhood by doctors in Britain. We are concerned about the ethics of this surgery on children and that it is commonly carried out when it is not essential. We have read the BMA's ethical guidelines, which give no guidance to practitioners who are faced with a boy who has been referred for circumcision.<sup>1</sup> The possible future wishes of the patient should be considered.

Although it was shown 28 years ago that preputial development continues to the age of 17 and that only three of 1968 boys needed surgery,<sup>2</sup> many British doctors still seem to be ignorant of this research.<sup>3</sup> The European charter for children in hospital states that every child must be protected from unnecessary medical treatment. The United Nations Convention on the Rights of the Child states that children have rights to self determination, dignity, respect, integrity, and non-interference and the right to make informed personal decisions. Unnecessary circumcision of boys violates these rights.

A non-retractile foreskin in a boy can be managed conservatively.<sup>4,5</sup> Circumcision should therefore rarely be necessary. It would be helpful if paediatric urologists could produce guidelines to advise doctors how foreskin problems in boys can be managed. Preferably, circumcision should not be done until the patient is adult or at least old enough to understand what is intended; then he has a right to a full, illustrated explanation of the nature of the operation and the reasons for it in advance, with the opportunity to ask questions, and help in coming to terms with the alteration of his anatomy afterwards. If the patient is not satisfied with the explanations his views should be taken into consideration.

It cannot be ethical for a doctor to amputate normal tissue from a normal child. In the case of disease, circumcision should be used only when there is evidence that conservative treatment is unlikely to be effective or when it has failed. Avoiding surgery may even be cheaper for purchasers of health care. Doctors should approach the child's foreskin with a combination of good

ethics, a recognition of the rights of children, and advice based on evidence.

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## Female genital mutilation

EDITOR.—We wish to comment on some of the points raised in the letters responding to our article on female genital mutilation.<sup>1</sup>

Godwin I Meniru and colleagues play down the association between female genital mutilation and Islam.<sup>2</sup> We accept that the custom predated both Islam and Christianity, that Islam spread to many countries in which the custom was already established, and that many Christians and animists also practise female genital mutilation. Of the seven countries where between 70% and 98% (estimated) women have had the operation, four—Djibouti, Mali, Somalia, and the northern part of Sudan—are predominantly Muslim<sup>3</sup>; female genital mutilation is also practised by the Muslim populations of Indonesia and Malaysia. Dorkenoo has written, "While there is unanimous agreement among Muslim leaders and scholars that infibulation is forbidden in Islam, their interpretations and position regarding the excision of girls remain ambiguous."<sup>4</sup> In fact, "excision" is also known as the Sunna procedure: Sunna means "according to the acts and traditions of the Prophet."

Elsbeth Webb knows of only one instance in which an order made under child protection legislation has been successful in preventing female genital mutilation.<sup>2</sup> However, Dorkenoo, an acknowledged expert on and campaigner against female genital mutilation, has informed us that in 30 cases the operation has been prevented by use of the 1989 Children Act. We believe that the Prohibition of Female Circumcision Act of 1985 should be used against those who perform the operation and not against the parents, who have arranged the procedure in good faith. It has so far been impossible to bring a prosecution because witnesses have been unwilling to give evidence in court for fear of victimisation.

Janet Menage suggests that we may be in danger of condoning an abusive system.<sup>2</sup> We do not think that taking a sensitive approach to well meaning parents is condoning child abuse; it is essential not to alienate the families and the community, which would be counter productive. Though it is true that female genital mutilation is perpetuated and arranged by women, the custom would die out if men stopped demanding it. We did not dismiss the possible importance of psychological trauma after genital mutilation. We agree with Toubia that "in the context of studies and case reports on the physical complications of genital mutilations, little scientific evidence is available on the sexual and psychological effects of the practices."<sup>5</sup> We cannot accept Menage's view that because post-traumatic stress disorder may occur after obstetric or gynaecological procedures in adult British women these