HOW ACCURATE ARE AUSTRALIAN MEN IN ESTIMATING WEIGHT AND DEGREE OF ADIPOSITY ?

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Obesity remains a major public health problem in Australia. Little is known about how Australian men view their size and the consequences of these perceptions on the likelihood of undertaking health care practices. Therefore this study is aimed to determine among certain populations of Australian males the accuracy of estimation of body weight and height, self-perception of degree of adiposity and the relationship between measured and percieved adiposity.

Two populations were studied; male patients presenting to the RPAH Weight Control Programme (WCP) and male members of a community service club (CSM) selected at random from the Southern Metropolitan area. Height and weight were taken for each subject prior to completion of a questionnaire covering demographic delails, estimated weight and height and perceived weight status. For the WCP (n = 17) weight 124.8 ± 8.2kg, height 175.0 ± 1.6 cm, BMI 40.6 ± 2.3, estimated weight 118.3 ± 5.5kg and estimated height 173.7 ± 1.4 cm. For the CSM (n=84) weight 84.5 ± 1.5 kg, height 175.3 ± 0.8 cm, BMI 27.5 ± 0.4, estimated weight 82.5 ± 1.5 kg and estimated height 171.4 ± 2.0 cm (all results given as mean ± SEM). In both populations there was a highly significant positive correlation between estimated and measured weight; for WCP (r = 0.97, P=0.00), CSM (r = 0.96, P=0.00). For height again a strong positive correlation between self report and measured height for WCP (r = 0.92, P=0.00) for CSM (r = 0.95, P=0.00). It is also possible to determine the relationship using the limits of agreement (Bland and Altman 1986). The limits of agreement for weight for WCP were -32.9 to 23.0kg such that weight could be underestimated by as much as 32.9 kg overestimated by as much as 23.0 kg. These were significantly wider (P=0.05) than for CSM (-8.4 to 4.2 kg). There was a significant difference (P=0.00) for limits of agreement for height betweem WCP (-5.3 to 2.7 cm) and CSM (-7.9 to 0.1 cm). Comparison between weight status defined by measured BMI and self description of weight status indicated that 100% WCP accurately described themselves as either very or extremely overweight. For 48% CSM self-described adiposity was consistent with measured. However 26% CSM described themselves as of a good weight or overweight but nothing to worry about though in fact they were very or extremely overweight. None of the 21% CSM falling within the healthy weight range (HWR=BMI 20 to 25) described themselves as overweight to the point of concern.

Therefore while an association exists between estimated and measured weight and height in both patient and non-patient populations this cannot be assumed to be agreement. Furthermore there is a significant difference between these two populations in terms of the degree of agreement. However patients were more accurate in describing their overall adiposity. These findings have consequences in public health approaches to obesity.

BLAND J.M. and ALTMAN D. G. (1986). Lancet 1: 307.

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