

Gender differences in alcohol consumption and problems with alcohol

Introduction

When rates of problems with alcohol are compared in men and women who drink the same amount, the rate of reported problems is higher for women than for men. This has been interpreted as a result of psychological, social and physiological processes. The physiological factors include gender differences in the metabolism of alcohol, the interaction of alcohol with female sex hormones, more rapid metabolism of alcohol in the liver in women, and lower volume of body water in women, which gives them a smaller volume for distribution of alcohol. Of all the physiological measures body water is the most readily accessible, because it can be estimated from height and weight. Women have, on average, a lower volume of body water because of their lower weight, and because a lower proportion of their weight is lean.

This study used answers to the CAGE questionnaire about problems with alcohol, answers to questions about alcohol consumption in the 7 days before interview, and measured height and weight as the basis for estimating body water volume. That information was given by 43 year old men (n= 1597) and women (n= 1572) who comprise the population of a national longitudinal study of a birth cohort, which is the Medical Research Council National Survey of Health and Development. This population is in most respects representative of the national population of the same age. Interviews and measurements were carried out by research nurses, and the analysis reported here was undertaken by Margaret Ely, Rebecca Hardy, Nicholas Longford and Michael Wadsworth, University College London.

The aims of the analysis were to assess the gender differences in consumption of alcohol and in reports of problems with alcohol, and to explore whether any such gender difference might be explained by body water differences.

Findings

- Average weekly consumption was 13.9 units in men and 4.5 units in women.
- CAGE scores greater than 1 (the problem level) were found in 11% of men and 6% of women.
- At levels above light drinking, prevalence of drink problems for a given level of alcohol consumption was greater in women than in men.
- This difference was largely accounted for by the lower estimated volume of body water of women.

Implications

- Studies of alcohol problems should take account of gender differences in consumption and susceptibility to problems with alcohol.
- If drinking levels in women continue to approach those of men, drink problems in women are likely to become greater than in men, because of women's greater sensitivity to the effects of alcohol.

Further Information

These findings were published in *Alcohol and Alcoholism*, 1999, vol 34, No.6, pp 894-902.

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