LETTERS TO THE EDITOR

- The British Heart Journal welcomes letters commenting on papers that it has published within the past six months.
- All letters must be typed with double spacing and signed by all authors.
- No letter should be more than 600 words.
- In general, no letter should contain more than six references (also typed with double spacing).

Prevalence of coronary heart disease

SIR,—In the November 1990 issue of the *British Heart Journal* you published our paper "Prevalence of coronary heart disease in Scotland: Scottish Heart Health Study" (1990;64:295-8) with an editorial "Getting a handle on the prevalence of coronary heart disease" (1990;64:291-2). While we were pleased to see the former in print, and the editorial draws attention to the paper and begins reasonably favourably, comments and statements appearing towards the end have given offence.

The editorial inaccurately states that in the published article we "go beyond . . . important observation to imply that these methods can be relied upon to support the view that coronary heart disease is more prevalent in women than in men". We do no such thing. We contrast the correlations between the different measures of prevalence and mortality within the two sexes, including the Rose angina questionnaire. The latter shows a higher prevalence of mild chest pain in women than in men, not an original observation. We point out that this measure correlates better with mortality from coronary heart disease than do the others, particularly in women, "despite the lower specificity of angina for coronary heart disease in women"—hardly a claim that "these methods can be relied upon". Both cardiologists and epidemiologists know that angina pectoris is not pathognomonic of coronary heart disease, even where coronary heart disease is common, and its specificity (and hence false positives) vary by age and sex.

The editorial questions whether the Rose questionnaire is too lacking in sensitivity and specificity to be applied to "smaller groups" such as "Scottish districts". The smallest district studied had a total population of 35 000 and the largest 435 000 while the mean and median were between 120 and 150 000. We rejected most small districts from the study because of the instability of their mortality rates, and not because of possible statistical problems with surveys. With the exception of the two MONICA districts the number of men and women surveyed was approximately the same in each district—450. The confidence intervals for estimates of frequencies are related to the size of the random sample taken, and are independent of the size of the population sampled. They are similar for Roxburgh, population 35 000 and for South Glasgow, population 325 000.

There are problems too with the disparaging contrast of measures of prevalence with "the 'hard' data for rates of hospital admission for infarction". Were routine statistics on hospital discharges as "hard" as all that, we in Dundee would not have had to commit as much time and effort as we have to their validation, with colleagues in Glasgow, in the Scottish and World Health Organisation MONICA studies, and we would not have been designated as a WHO Quality Control Centre and Collaborating Centre in cardiovascular epidemiology for training and methodology in this area. Equivalent validation work is also being done in the USA in the ARIC study.

The penultimate paragraph appears to be suggesting that we are accusing physicians of systematic misdiagnosis, and then goes on "It is irresponsible for epidemiologists to present incomplete and not fully developed observations and theories because publication of such ideas in a clinical journal implies that they should be incorporated into clinical practice." Even out of context the statement is extraordinary if you analyse it. What are referees and editors responsible for? Where is the epidemiologist, or the clinician, who thinks that epidemiological survey methods are both necessary and sufficient for clinical diagnosis of surgical disease?

There is nothing incomplete or undeveloped about either the theoretical basis of the paper or the observations. The findings were presented to the International Epidemiological Association in Helsinki in 1987 and to the European Congress of Cardiology in Vienna in 1988, to critical acclaim, before submission to the *British Heart Journal* in 1989. The question to which we addressed ourselves (like much of epidemiology) is relevant to clinicians. Variations in coronary heart disease mortality could correlate with morbidity (and therefore the need for clinical services) or with sudden cardiac death alone, largely inaccessible to clinicians. That mortality and morbidity do indeed correlate is of great importance to clinicians in areas of high coronary heart disease mortality whose resources are not commensurate. Clinicians frequently leap across from mortality rates to the need for clinical services. In this case an epidemiological study has provided essential stepping stones.

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We apologise for inadvertent offence caused to the authors by the editorial. If an implication could have been drawn that the authors were attempting to apply epidemiological methods to clinical practice, we know this not to be so.—Ed. British Heart Journal

Cardiac catheterisation with 5 French catheters

SIR,—I should like to comment on the article by O'Sullivan *et al* (*British Heart Journal* 1990;64:211-3). They cited a recent paper by Kohli *et al* in which the quality of coronary angiograms obtained with 5F and 7F catheters was compared in the same group of patients.¹ These workers concluded that "the conventional 7F coronary catheter appears to be superior to the 5F catheter in regard to diagnostic accuracy and image quality because of the higher flow rate possible with the former, allowing greater coronary filling.

Also, while high flow may be possible in 5F catheters, thinner outer walls may compromise torque . . . However, in view of the frequent incidence of non-diagnostic angiograms in patients using 5F catheters, angiographers must be aware that in some patients it may be necessary to up size to larger bore catheters to achieve adequate angiographic results . . ." Brown and MacDonald reviewed 100 cases in which 5F catheters were used and encountered such a major problem of engagement and stability in the right coronary artery with the Judkins curve that they abandoned it after their first six cases and used a modified right coronary Amplatz catheter.² These workers, however, thought the 5F catheters were as easy to manipulate as bigger catheters. They also had difficulty in entering the left ventricle with a pigtail catheter until they changed their technique. With these modifications they thought the 5F catheters were satisfactory and have continued to use them as standard for day case catheterisation.

Molajo *et al* conducted a formal prospective randomised comparison of 5F super-flow and conventional 8F catheters in 34 patients.³ They concluded "that the 8F catheter is more manoeuvrable and thus reduces x-ray dose received by both patient and investigator. Furthermore, the super-flow (5F) catheter neither reduced the time to achieve haemostasis after catheterisation, nor the incidence of bruising. It produced poor quality left ventriculograms".

As recently as June 1990, in a study of early ambulation after coronary arteriography, Kern *et al* used special large lumen 5F catheters to overcome these previously noted problems and obtained a 92% success rate for coronary opacification with a limited range of catheter shapes and seemingly without loss of angiographic quality.⁴ They did not experience diminished torque control with their catheters.

In view of the differences of opinion in published reports we need a proper randomised study to compare the latest 5F catheters with traditional 7F catheters.

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- 1 Kohli RS, Vetrovec GW, Lewis SA, Cole S. Study of the performance of 5F and 7F catheters in coronary angiography: a functional comparison. *Cathet Cardiovasc Diagn* 1989;18:131-5.
- 2 Brown RI, MacDonald AC. Use of 5F catheters for cardiac catheterisation and coronary angiography: a critical review. *Cathet Cardiovasc Diagn* 1987;13:214-7.
- 3 Molajo AO, Ward C, Bray CL, Dobson D. Comparison of the performance of super-flow (5F) and conventional 8F catheters for cardiac catheterisation by femoral route. *Cathet Cardiovasc Diagn* 1987;13:275-6.
- 4 Kern MJ, Cohen M, Talley JD, *et al*. Early ambulation after 5 French diagnostic cardiac catheterisation: results of a multicentre trial. *J Am Coll Cardiol* 1990;15:1475-83.

A controlled trial of community based coronary rehabilitation

SIR,—We read with interest the excellent study of Bethell and Mullee (1990;64:370-5). In a large randomised controlled trial they showed both the safety and the benefits of a coronary rehabilitation programme after infarction which included exercise training three times a week for three months.

As an index of physical fitness or of exercise capacity Bethell and Mullee estimated peak oxygen consumption ($\dot{V}O_{2max}$) using the Astrand-Ryhming nomogram. Though the