Prevalence of coronary heart disease

Str,—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, it remains our contention 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 angina 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 anginapectoris 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 whereas 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 impossible statistical problems with surveys. Within the exception of the two MONICA districts the number of men and women surveyed were 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.

HUGH TUNSTALL-PEDOE
Cardiovascular Epidemiology Unit, Ninewells Hospital and Medical School, Dundee DD1 9SY

We apologise for inadvertent offence caused to the authors by the editorial. If an editorial could have been drawn to the observation that 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.

The latter 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 (i.e. to the extent of mortality and morbidity, the latter being far more important) 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. False negative test results are not commensurate. Clinicians frequently leap from mortality rates to the need for clinical services. In this case an epidemiological study has provided essential stepping stones.

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Coronary catheterisation with 5 French catheters

Str,—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. They correctly 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.

There are problems too with the disparaging contrast of measures of prevalence with "the "hard" data from 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 two other groups of health workers in Scottish and World Health Organisation MONICA studies, and we would not have been designated as a WHO Quality Control Centre and Coordinator for Centre for 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 (i.e. to the extent of mortality and morbidity, the latter being far more important) 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. False negative test results are not commensurate. Clinicians frequently leap from mortality rates to the need for clinical services. In this case an epidemiological study has provided essential stepping stones.

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Also, while high flow may be possible in 5F catheters, thinner outer walls may compromise torque and an issue of greater importance is 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 catheters to achieve adequate angiographic results . . ." Brown and Mac Donald reviewed 100 cases in which 5F catheters were used and encountered such a major problem of engagement and stability that 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. 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 controlled arteriographic study of 5F and conventional 8F catheters in 34 patients. They concluded "that the 8F catheter is more manoeuvrable and thus reduces x-ray dose received by both patient and investigator. Furthermore, the 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% diagnostic result for coronary arteriography with a limited range of catheter shapes and seemingly without loss of angiographic quality. 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.

A controlled trial of community based coronary rehabilitation

Str,—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 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 used the peak oxygen consumption (Vo2max) using the Astrand-Ryhming nomogram. Though the
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Hugh Tunstall-Pedoe

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