*Possible sources of bias in fatal cases*

Forty-seven patients were excluded from the study because efforts to secure an interview with the general practitioner failed for one reason or another. This number represents about 11% of the total number of deaths which would have been investigated had a complete follow-up been possible. We can, however, see no reason why this should have introduced any bias, since control patients were selected only from the practice lists of co-operating doctors.

Apart from these 47 patients there can be little doubt that as a result of incorrect or incomplete death certification an unknown additional number of deaths from thromboembolism were never considered at any stage. Omissions of this sort, however, would be most likely to involve deaths where predisposing conditions were present and the certifier would have a choice of items to enter on the death certificate.

Since 104 (83%) of the 125 women included in class A had had a post-mortem examination, positive diagnostic errors are unlikely to have had much influence in this study.

Incorrect allocation of deaths to classes A or B cannot be responsible for the strong association demonstrated between oral contraception and pulmonary embolism. It is present when all patients dying from that condition are considered as well as when class A patients are considered alone. The same does not apply to deaths from coronary or cerebral thrombosis, but the assessment of predisposing conditions was made without the disclosure of contraceptive practices, and the assessors had no difficulty in making the great majority of decisions.

*Possible sources of bias in control subjects*

A number of criticisms can be directed at the control series. Of these much the most important is that information concerning the contraceptive habits of the control women was sought *at the time of interview* with the general practitioner, and this was usually three to nine months after the corresponding patient with thromboembolism had died. As the use of oral contraceptives has been steadily increasing, this must have produced an overestimate of oral contraceptive use in the controls. Moreover, the fact that the number of controls chosen at each interview was increased in the latter half of the study will have accentuated this bias.

Another difficulty is that inquiries about the contraceptive practices of the women who died were sometimes made in hospitals and family planning clinics as well as from general practitioners, whereas the last-mentioned were the only source of information about the practices of the controls. This source of bias has, however, been of little consequence, since the general practitioner was unaware that a dead patient had been taking oral contraceptives on only two occasions. Both these patients died from pulmonary embolism (class A). If they are excluded from the study the results so far described are not materially affected.

Bias may also have been introduced because the proportion of women for whom it was not possible to obtain definite information about the use of oral contraceptives was larger among the controls (90 out of 1,133) than among those who died (11 out of 334). In the present analysis all these women have been omitted. It is improbable that many using oral contraceptives because the only important source of prescriptions other than the general practitioner himself is the Family Planning Association, and that organization customarily informs family doctors about any patients for whom oral contraceptives are prescribed. This factor will again have led to overestimation of oral contraceptive use among the controls.

The control group will also have included an unknown number of women for whom oral contraceptives had been prescribed but who abandoned their use without informing their doctor either because of side-effects or desire for a pregnancy. Since only 17 of nearly a thousand controls were stated by their doctor to be pregnant, it is likely that some others had either not reported this fact to their doctor or were unaware of it themselves.

A final difficulty arises from the fact that no information was obtained about the health of the control women. Comparisons between the previously healthy women who died and the controls are thus biased by the inclusion of