J. biosoc. Sci. (2000) **32**, 279–281

Short Report

IS THE NATURAL TWINNING RATE NOW STABLE?

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As contribution to a recent debate (James, 1998; Murphy *et al.*, 1997, 1998) the proportion of twins following ovulation induction (OI) or assisted conception (AC) in 1994 in Oxfordshire and West Berkshire was estimated, and by extrapolation the natural twinning rate in England and Wales was judged to have maintained a plateau phase since the 1970s. Similar figures for 1995 and 1996 from the same study, and hence a more stable local estimate, are now provided. The proportions, as before, were estimated from women's responses to a questionnaire within a case-control study, with ascertainment from general practitioners' records or hospital case-notes for non-responders or for those excluded from the study originally. In 1994, 1995 and 1996 the proportion of twins following OI/AC was overall 27% (24%, 30% and 27% respectively). Restriction to the 87% locally resident made no difference. The national crude twinning rate for those years was overall 13·3 per 1000 maternities (12·8, 13·6 and 13·4 respectively).

Hence the crude national twinning rate for 1994–6 is estimated to be about 9·7 per 1000 maternities, similar to the 1970s value of about 9·6. The fundamental assumption required is that the proportion of twins following OI/AC in Oxfordshire and West Berkshire reflects the national pattern. This may not be true, although an Assisted Conception unit was not introduced locally until 1986 and twinning is importantly influenced by simple ovulation induction which was universally available. More data which are truly nationally representative are clearly needed to clarify this issue. For instance, a figure for this proportion has been estimated for Athens (18% in 1992), which suggests a considerable amount of regional as well as temporal variation (Kapidaki *et al.*, 1995).

A qualitative impression about the impact of OI/AC in Britain can be gained from examining multiple birth rates within and outside marriage (Murphy & Seagroatt, 1992; Murphy, 1995; Parazzini *et al.*, 1994). Figures 1 and 2 indicate the age-adjusted rates for triplets and above and twins in England and Wales from 1938 to 1997 using

https://doi.org/10.1017/S0021932000002790 Published online by Cambridge University Press

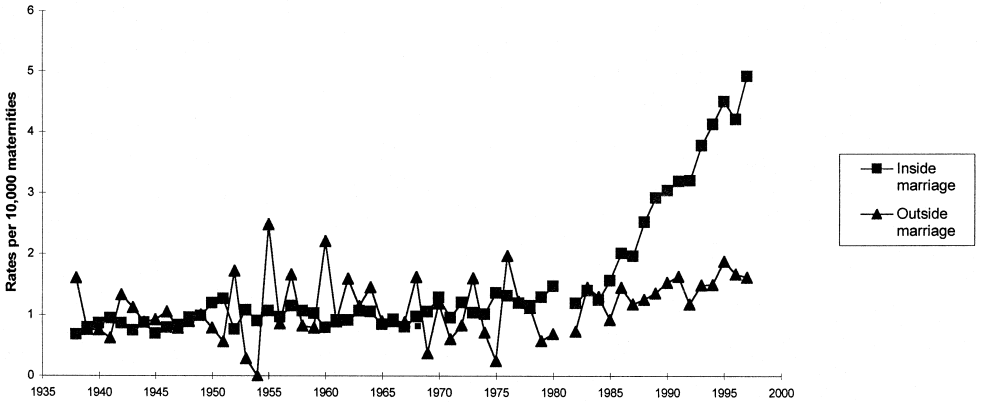

Fig. 1. Age-adjusted triplet and higher order birth rates per 10,000 maternities inside and outside marriage, 1938–1997 in England and Wales. Source: Office for National Statistics (published and unpublished data).

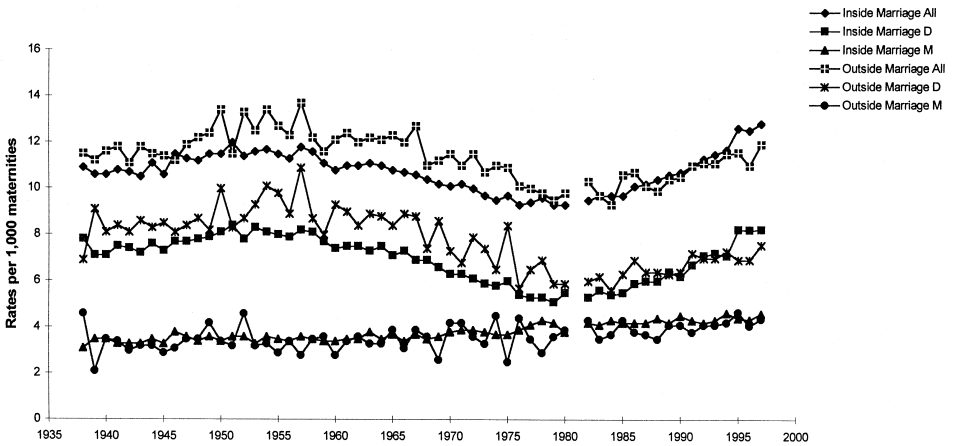

Fig. 2. Age-adjusted twin rates per 1000 maternities (total, dizygotic and monozygotic) inside and outside marriage, 1938–1997 in England and Wales. Source: Office for National Statistics (published and unpublished data).

1970 all-women rates for England and Wales as standard in each case, and applying Weinberg's rule. Scottish triplet and higher order birth rates and twinning rates are similar though less stable (and not shown). The overwhelming increase in higher multiple births is contributed by births within marriage, and it can be seen to be particularly evident from the mid-1980s. This is almost certainly due to the wider national use of AC techniques superimposed upon a slower increase which is probably due to the increasing use of simple OI since the mid-1960s. Similarly for total, dizygotic and monozygotic twinning, rates have shown an historic reversal so that age-adjusted rates of every type are now higher within marriage (James, 1981). In each case this seems likely to be attributable to the greater take-up of subfertility treatments by those who are married or intending to marry (Blickstein, Verhoeven & Keith, 1999). Not all

AC units have the same policy of restricting the availability of their services, but these results suggest that the majority do.

About 10 years ago national surveys were conducted to provide information about the impact of subfertility treatments on higher multiple births. It seems likely this impact has not lessened nor even stabilized. Because its definition is a manageable task, it would seem important again to chart nationally the picture with respect to triplets and above, and for good social and biological reasons extend our understanding to the impact subfertility treatment is having nationally on twinning (Botting *et al.*, 1990; Dunn & MacFarlane, 1996; Levene, Wild & Steer, 1992).

Acknowledgments

The data reported here were collected with the support of a research grant from Wellbeing M3/95. The authors thank W. H. James for his encouragement. The data presented in graphical form include unpublished data from the Office for National Statistics (ONS).

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