Correspondence

Journal of Medical Genetics, 1984, **21**, 72-77

The incidence of Down's syndrome over a 19-year period

SIR,

Owens *et al*¹ recently reported on the incidence of Down's syndrome in the Liverpool and Bootle areas for the years 1961 to 1979 inclusive. Cases were primarily identified from the Liverpool Congenital Malformations Registry. The overall incidence of Down's syndrome declined from 1.69/1000 livebirths for the years 1961 to 1964 to 1.07/1000 livebirths for 1975 to 1979.

Owens *et al*¹ attributed part, if not all, of the observed decrease in the incidence of Down's syndrome to a decline in the mean age of women having babies. While it is well recognised that women of 35 and over have an increased risk for delivering a child with Down's syndrome,² the fertility rate for this group is low. In British Columbia (BC), only 4% of livebirths are to women of 35 and over.³ Therefore, the overall contribution by these mothers to the total population of Down's syndrome livebirths is relatively low despite the increased risk for these women on an individual basis. In BC, only 20% of Down's syndrome livebirths are to women aged 35 and over.³ Therefore, a decrease in the mean maternal age of women having children would not necessarily dramatically decrease the incidence of Down's syndrome.

Another factor which may be responsible for the apparent decline is that less time for ascertainment has elapsed for the more recently born part of the cohort. The time before a person with a mental or physical handicap or both comes to attention is often appreciable and this 'lagtime' must be taken into account. It has been observed in BC that, even for a condition as well recognised as Down's syndrome, case identification increases for a given birth cohort with time.⁴ Data from the population based BC Health Surveillance Registry⁵ on the same birth cohort, analysed in 1963, 1967, and 1975, showed incidence rates per 1000 livebirths for Down's syndrome to be 0.83,⁶ 1.25,⁷ and 1.32,⁴ respectively. Increased case identification can therefore be expected for children born in 1961 to 1964 compared with those born in 1975 to 1979 as a result of the longer 'lagtime'.

In conclusion, we question whether the overall decline in the incidence of Down's syndrome observed for the Liverpool and Bootle areas can

entirely be attributed to a decrease in the mean maternal age of mothers. Other factors, such as less complete ascertainment for the more recently born part of the cohort, must also be considered.

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References

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- ⁴ Lowry RB, Jones DC, Renwick DHG, Trimble BK. Down syndrome in British Columbia, 1952-1973: incidence and mean maternal age. *Teratology* 1976;**14**:29-34.
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This letter was shown to Dr Owens *et al*, who reply as follows.

Professor Baird and Dr Sadovnick make three main comments in their letter:

- (1) *The fertility rate of women aged 35 years and over is low and only accounts for 4% of livebirths in British Columbia.* By reference to fig 3 of our paper it can be seen that fertility for this group in the late 1970s was very similar in Liverpool and Bootle, being 5.6% of total (livebirths + stillbirths) births for Liverpool AHA in 1978. However, this has not always been the case, the figure for 1961 being