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SHORT NOTE

A Fall in the Rate of Multiple Births in Ibadan and Igbo Ora, Nigeria

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Abstract. The twinning, triplet and quadruplet rates were found to be 23.8, 0.3 and 0.04 per thousand maternities, respectively in a survey of 71,773 maternities carried out in Ibadan and Igbo Ora, Nigeria. This represents a dramatic fall from the rates found in previous studies. The findings are discussed in the light of changing dietary habits.

Key words: Twinning rates, Diet

INTRODUCTION

The twinning and higher multiple birth rates in the mainly Yoruba population of the old Western Region of Nigeria, particularly in Ibadan and Igbo Ora, have been shown to be the highest so far reported in the world [4,6]. Meanwhile, the twinning rate has been reported to have declined in most developed countries [2,3,11]. This study investigates the current incidence of multiple births in Ibadan and Igbo Ora where the previous studies were conducted in the late 1960s.

MATERIALS AND METHODS

The labour ward records for 1982 and 1983 in the five major hospitals in Ibadan were examined to determine the incidence of multiple births. The hospitals were: Adeoyo State Hospital, Jericho Maternity Hospital, Oke Ofa Catholic Hospital, St. Mary's Catholic

Hospital, and the University Teaching Hospital where the College of Medicine Annual Report of the Department of Obstetrics and Gynaecology for 1982 and 1983 [1] also provided necessary information. These five hospitals accounted for the vast majority of hospital deliveries in the city and its environs during the period.

Igbo Ora, a developing rural area in Oyo State with a population of about 50,000 and approximately 1,400 annual births, is the centre of the Ibarapa project of the University of Ibadan. Obstetric data is routinely collected by home visitors and cross-checked against maternity centre and hospital records for those that do not deliver at home.

During the period of study, all Igbo Ora maternities and all the hospitals, except University College Hospital, operated free unrestricted and unselected antenatal booking service.

RESULTS

The results are summarised in the Table. During the period there were 68,727 maternities delivered in the hospitals studied and 1,625 twin births, giving an overall hospital incidence for twin pregnancy of 23.6 per 1000 maternities. For the total population of Igbo Ora there were 83 twin births in 3,046 maternities, ie, 27.2 per 1000. The combined twinning rate was 23.8 per 1000 maternities. The twinning rates were highest in the University College Hospital, a tertiary referral centre, and in the Jericho Maternity Hospital, a specialist Maternity Hospital.

Table - Incidence of Multiple Births in Ibadan and Igbo Ora, January 1982 to December 1983

Data base	Total maternities (N)	Twin maternities		Triplet maternities		Quadruplet maternities	
		N	o/oo	N	o/oo	N	o/oo
Eleta Hospital	11,883	217	18.3	4	0.3		
University College Hospital ¹	5,331	166	31.1	2	0.4		
Jericho Maternity Hospital	12,359	373	30.2	4	0.3	1	
Adeoyo State Hospital	21,300	481	22.6	7	0.3	2	
Oke Ofa Catholic Hospital	17,854	388	21.7	5	0.3		
Subtotal	68,727	1,625	23.6	22	0.3	3	0.04
Igbo Ora Rural Survey	3,046	83	27.2	-	0.00		
Total	71,773	1,708	23.8	22	0.3	3	0.04

¹Partly from Annual Report, Dept. of Obstetrics and Gynaecology U.C.H., Ibadan.

The triplet rates were fairly uniform for all the hospitals giving an overall incidence of 0.3 per 1000 maternities. There were no triplets in Igbo Ora during the period. The quadruplet rate for the period was 0.04 per 1000 maternities.

DISCUSSION

The mean incidence of twinning of 23.8 per 1000 maternities found in this study is about half the 45-53 per 1000 maternities reported by Nylander in 1969 for the same areas. Similarly, the incidence of triplets found here is five times lower, and that of quadruplets seven times lower, those reported previously (1.6 per 1000 and 0.29 per thousand, respectively) [5]. These findings confirm a marked fall in the multiple pregnancy rate for the areas studied. While the findings are in broad agreement with the decline in multiple pregnancy rates reported elsewhere [2,3,12], the fall noted here is much more dramatic. The twinning rate now found in Nigeria is still more than twice the 9-10 per 1000 maternities found in Caucasian populations [3,10,11], but falls within the range of rates for other African populations [7]. It is not known, however, whether the incidence of multiple births in those populations is also falling.

Nylander [9] speculated that the high twinning rate among the study population might be related to a legume yam and other indigenously consumed foods shown to contain steroids related to fertility control. He found that Yoruba women had higher gonadotrophin levels than Caucasian women and that these levels were higher in twin-prone nonpregnant women than in non-twin-prone nonpregnant women [8].

If dietary factors played a role 15 years ago, then subsequent major changes in the diet may be responsible for the dramatic fall in twinning rates. There has been a change in the staple food where increasingly rice, milk, sugar and bread are used as substitutes for scarce local staples. This change is noticed even in rural areas like Igbo Ora. It has been shown that Yorubas eating European diets have a twinning rate approaching Caucasian rates [8].

Although dilution with other ethnic groups could reduce the overall multiple pregnancy, this is not believed to be a significant factor as over 90% of the population was Yoruba.

Low socioeconomic status, high parity and increasing maternal age are known to be associated with a high incidence of multiple pregnancy [7] and changes in these factors are believed to be partly responsible for the slowly lowering rates in Caucasian populations. In the Nigerian areas studied there has been some improvement in socioeconomic status and efforts are being made in the direction of family planning. However, the fall in multiple pregnancy rates cannot be explained on this basis alone as the effects of these factors are not marked.

James [2] has shown that there is a general fall in multiple pregnancies independent of age and parity in Caucasians. Perhaps this trend is also taking place in the study population – thus adding to the effect of dietary factors.

Hospital data in the study population, that may take alternative avenues for solving health problems, is not as reliable as in developed countries. The years 1982 and 1983 were chosen to partly overcome this problems as the economic factor – one of the chief obstacles to hospital delivery – had been removed by the free health scheme. It was felt

that this would make many women, who would normally have delivered at home, available for statistical analysis. Indeed, the delivery rate doubled in most of the hospitals, except the University College Hospital which charged fees during the period. The effect of this free health policy was probably to dilute the number of cases of multiple pregnancy, who were more likely to present because of obstetric problems, with cases who may otherwise have delivered at home and been lost as a data base. Hospital data also has the drawback of bias depending on patient willingness to attend. In addition, there are now many private orthodox and unorthodox maternity centres. This fact should reduce the number of pregnancies presenting in the big hospitals. However, the data on the total population survey of Igbo Ora confirms that the downward trend in the hospital twinning rate is real and not due to biased data.

REFERENCES

1. College of Medicine, Department of Obstetrics and Gynaecology, University College Hospital, Ibadan, Nigeria (1983): Annual Report for 1982, 1983.
2. James WH (1977): Secular changes in dizygotic twinning rates. *J Biosoc Sci* 4:427-434.
3. Katsouyiannopoulos V (1981): The falling twin rate in Greece. *J Epidemiol Comm Health* 35: 218-219.
4. Nylander PPS (1969): The frequency of twinning in a rural community in Western Nigeria. *Ann. Hum Genet* 33:41-44.
5. Nylander PPS (1970): Twinning in Nigeria. *Acta Genet Med Gemellol* 19:457-464.
6. Nylander PPS (1971): The incidence of triplets and higher multiple births in some rural and urban populations in Western Nigeria. *Ann Hum Gen* 34:409-415.
7. Nylander PPS (1975): *Frequency of multiple births*. In MacGillivray I, Nylander PPS, Corney G (eds): *Human Multiple Reproduction*. London: GB Saunders.
8. Nylander PPS (1976): *Biosocial and clinical studies in twinning in an African and Caucasian population*. MD Thesis, University of Aberdeen.
9. Nylander PPS (1979): The twinning incidence in Nigeria. *Acta Genet Med Gemellol* 28:261-267.
10. Office of Population Censuses & Surveys (1981): *Births Statistics 1979 (Series FM 1)*. London: HMSO.
11. Registrar General, Scotland (1980): *Annual Report, Part 2*. Edinburgh: HMSO.
12. Wyshak G (1975): Some observations on the decline in the United States dizygotic twinning rate. *Soc Biol* 22:167-172.

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