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LOW BIRTHWEIGHT BABIES: SOCIO-DEMOGRAPHIC AND OBSTETRIC CHARACTERISTICS OF ADOLESCENT MOTHERS AT KENYATTA NATIONAL HOSPITAL, NAIROBI

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LOW BIRTHWEIGHT BABIES: SOCIO-DEMOGRAPHIC AND OBSTETRIC CHARACTERISTICS OF ADOLESCENT MOTHERS AT KENYATTA NATIONAL HOSPITAL, NAIROBI

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ABSTRACT

Objective: To compare some socio-demographic and obstetric factors between adolescent mothers (aged below 20 years) and older mothers of low birthweight (birthweight <2000gm) babies.

Design: Cross sectional descriptive study.

Setting: The Newborn Unit of the Kenyatta National Hospital.

Results: Sixty nine adolescent mothers and 73 older mothers were studied. Adolescent mothers were more likely to be unmarried ($p = 0.0001$) have less formal education ($p < 0.0001$) be unemployed and be primigravida (76.5% compared to 36% of older mothers). Although the obstetric factors of antenatal clinic attendance, premature rupture of the membranes, pre-eclamptic toxæmia, infections and intervventrional delivery tended to be more frequent among the adolescent mothers, non of these differences were significant probably due to the small numbers of patients studied.

Conclusion: This study does suggest mothers of very low birthweight babies tend to have unfavourable socio-demographic and obstetric factors like being single parents having less formal education, being unemployed and having obstetric risks for poor pregnancy outcome.

INTRODUCTION

The problem of adolescent pregnancy is on the increase the world over and Kenya is no exception. In the Kenya fertility survey of 1977, 28% of all girls between the ages of 15 to 19 years were married and nearly 10% of all these adolescents had experienced at least one pregnancy(1). Ngoka *et. al.* (2) found an incidence of low birthweight deliveries among the teenage mothers compared to the older mothers.

It has been suggested that the increase in adolescent pregnancy may be related to both the decrease in the mean age at menarche at every generation and a general breakdown in strong family ties and cultural norms(3). Sanghvi(4) found an incidence of low birthweight of 17.7% in a cross-sectional survey of deliveries in the city of Nairobi compared to an incidence of 10% among the rural population in Kenya, with teenage mothers contributing significantly to these numbers.

This study documents a comparison of some socio-demographic and obstetric factors between a cohort of teenagers (age less than 20 years) and others (age 20 to 30 years) mother's delivering very low birthweight

(less than 2000gm) infants at the Kenyatta National Hospital, Nairobi.

MATERIALS AND METHODS

All adolescent mothers (age less than 20 years) and mothers aged 20 to 30 years whose newborn babies weighed less than 2000gm at birth admitted into the Newborn Unit (NBU) of the Kenyatta National Hospital (KNH) Nairobi over a period of six months (July to December 1991) were included in the study after signing an informed consent.

Mothers who had twins, low birth weight babies or delivered before arriving into the Kenyatta National Hospital were excluded from the study.

A pretested data collection proforma was administered to all the mothers in the study. The results were analysed using the SPSS statistical package. The study was approved by the KNH Ethical and Research Committee.

RESULTS

One hundred and forty two mothers were recruited into the study. Of these 69 were adolescent mothers and 73 were within the age group 20 to 30 years.

There were significantly more single adolescent mothers (75.4%) compared to the older mothers (32.9%), $p < 0.0000$ (Table 1).

A higher percentage of older mothers (71.2%) had more than seven years of formal education compared to the adolescent mothers (36.6%). The difference was statistically significant, $p=0.0001$ (Table 2).

Table 1*Maternal age and marital status*

Marital status	Single(%)	Married(%)	Total
Adolescents	52(75.4)	17(24.6)	69
Non-adolescents	24(32.9)	49(67.1)	73
Total	76 (53.5)	66 (46.5)	142

$\chi^2=24.059$ DF = 1 p - value <0.0000

Table 2*Educational level in the two maternal age categories*

Level of schooling	None(%)	≤7 yrs(%)	>7 yrs(%)	Total
Adolescents	4(5.8)	40(58)	25(36.3)	69
Non-adolescents	1(1.4)	20(27.4)	52(71.2)	73
Total	5(3.5)	60(42.3)	77(54.2)	142

$\chi^2=17.835$ DF=2 p - value=0.0001

The unemployment rate was found to be higher (76.8%) among the adolescent mothers compared to the older mothers (56.2%). Interestingly only 9% of the adolescent and 2% of the older mothers said that they were still in school (Table 3).

A total of 76.8% of the adolescent mothers were primigravidae compared to 37% of the older mothers. Approximately 3% of the adolescent mothers had had more than two pregnancies (Table 4).

Table 3*Maternal age and employment*

Occupation	Un-employed %	Student %	Self-employed %
Adolescents	62(76.8)	9(13.0)	7(10.1)
Non Adolescents	43(56.2)	2(2.7)	30(41.1)
Total	105(73.9)	11(7.7)	37(26.1)

$\chi^2=16.066$ DF=1 p - value<0.000

Table 4*Maternal age and parity*

Parity	0+0 (%)	≤2 Pregnancies (%)	>2 Pregnancies (%)	Total
Adolescents	53(76.8)	14(20.3)	2(2.9)	69
Non-Adolescents	27(37)	32(43.8)	14(19.2)	73
Total	80(56.3)	46(32.4)	16(11.3)	142(100)

$\chi^2=24.400$ DF=2 p - value<0.0000

Although adequate antenatal attendance was low in the two groups (14% among the adolescent; 8.2% among the older mothers ($p=0.004$)) more adolescent mothers (about 98.6%) compared to the older mothers (91.9%) had inadequate or intermediate antenatal clinic attendance (Table 5).

Table 5*ANC attendance by the mothers*

ANC	Inadequate (%)	Intermediate (%)	Adequate (%)
Adolescents	51(73.9)	17(24.6)	1(1.4)
Non Adolescents	35(47.9)	32(43.8)	6(8.2)
Total	86(60.5)	49(34.5)	7(4.9)

$\chi^2=11.04$ DF=2 p - value=0.04

Definitions

Inadequate: Less than 50% of the expected attendance for gestation at birth

Intermediate: 50% - 75% of the expected attendance for gestation at birth

Adequate: More than 75% of the expected attendance at birth

Table 6

Obstetric disease in the mothers

Maternal disease	None(%)	PROM(%)	APH(%)	PET(%)	Infections & others(%)	Total
Adolescents	45(65.2)	5(7.2)	5(7.2)	4(5.5)	9(13.0)	69
Non-Adolescents	56(76.7)	3(4.1)	4(5.5)	5(8.9)	5(6.0)	73
Total	101(71.1)	8(5.6)	8(5.6)	9(6.3)	14(9.9)	142

$\chi^2 = 1.756$ DF=1 p - value=0.185

The obstetric conditions of premature rupture of the membranes (PROM) antepartum haemorrhage (APH) and infections were found more often among the adolescent mothers. The incidence of pre-eclamptic toxemia (PET) was lower among adolescent mothers (5.5%) compared to the older mothers (Table 6).

None of these figures, however, reached statistical significance. This could be because of the small numbers involved. There was no difference ($p=0.159$) between the two groups with regard to normal delivery, which was the commonest. There was only one vacuum delivery in each group. Caesarean section however, was performed on six of the 73 (8.2%) older mothers and none among the adolescent mothers.

DISCUSSION

The significantly poor performance of the adolescent mothers in as far as marital status, education and employment was also reported by Ngoka *et al*(2) and Sanghvi(4) in Nairobi studies in which 76% of the adolescent mothers and 66% had less than eight years of formal education. These findings are contributed to by the characteristically poor social background of the adolescent mothers that has been reported in many studies(5-7).

Some experience of previous pregnancy in adolescent mothers has been associated with increased occurrence of both low birthweight deliveries and perinatal mortality(8,9). Previous pregnancy occurred in 23.2% of the adolescent mothers, in this study, which compares well with 26% in the Nairobi study by Sanghvi(4) and 20.7% reported from Europe by Omran(10).

Lekha(11) reported that 40% of the mothers who gave birth to babies with birthweight less than 2000gm in Nairobi did not attend antenatal clinic at all. This is essentially similar to the findings in this study since the mean percentage for the two groups having inadequate (which includes some attendance) is 61%. Although more obstetric complications would have been expected among the adolescent mothers who had

inadequate antenatal clinic attendance (73.9%) this was not the case in their study probably due to the small number involved (Table 6).

The mode of delivery in the groups in this study were comparable, although it would have been expected that the adolescent mothers may have been more surgical and instrumental deliveries(12). The reason for this finding is unclear.

In conclusion, the adolescent mothers in this study were found to have significant unfavourable socio-demographic factors compared to the older mothers, making them more at risk of giving birth to the very low birthweight babies which in the context of a developing country would contribute to increased perinatal morbidity and mortality. The lack of significant differences in the obstetric factors could be as a result of the small numbers involved as some tendency towards adolescent mothers having unfavourable obstetric factors was noted.

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