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## Recommended Citation

Wasunna, A., Mohammed, K. (2002). Morbidity and outcome of low birthweight babies of adolescent mothers at Kenyatta National Hospital, Nairobi. *East African Medical Journal*, 79(10), 539-542.

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East African Medical Journal Vol. 79 No 10 October 2002

MORBIDITY AND OUTCOME OF LOW BIRTHWEIGHT BABIES OF ADOLESCENT MOTHERS AT KENTATTA NATIONAL HOSPITAL, NAIROBI.  
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## MORBIDITY AND OUTCOME OF LOW BIRTHWEIGHT BABIES OF ADOLESCENT MOTHERS AT KENYATTA NATIONAL HOSPITAL, NAIROBI

A. WASUNNA and K. MOHAMMED

### ABSTRACT

**Objective:** To compare the morbidity and outcome of low birthweight babies (birthweight < 2000gm) of adolescent (age < 20 years) and older mothers.

**Design:** Cross sectional descriptive study.

**Setting:** The newborn Unit of the Kenyatta National Hospital.

**Main outcome measures:** All babies weighing less than 2000gm at birth whose mothers consented to the study had their gestational age verified using the Dubowitz scoring system. They were then followed up by daily clinical assessment until discharge, death or up to one month in the ward. The babies were divided into two groups according to their mother's age and then compared with respect to episodes of illness, duration of hospital stay, and overall outcome.

**Results:** One hundred and forty two babies were studied. Of these, 64 were born to adolescent mothers. Babies of the adolescent mothers tended to be more premature ( $p=0.0174$ ), be lower in weight ( $p=0.0078$ ), had more occurrences of respiratory distress and anaemia (probably reflecting their increased prematurity) and had frequent multiple morbidity events. They also had longer hospital stay and they were more likely to die (57.7% compared to 42.3% of babies of older mothers).

**Conclusion:** Low birthweight babies of the adolescent mothers were found to be more likely to have increased morbidity and adverse outcome compared to similar babies of older mothers.

### INTRODUCTION

The young maternal age (less than 16 years) has been cited as a crucial variable in the determination of adverse perinatal outcome(1,2). An increased incidence of the complications of first and third trimester bleeding, severe anaemia, prolonged and difficult labour, cephalopelvic disproportion, pre-eclampsia and low birthweight have been reported among the adolescent mothers as compared to the older mothers(3,4). Inadequate perinatal care of babies leading to adverse outcome has been reported to be prevalent among the adolescent mothers(5-10).

This study compares the morbidity and outcome of the low birthweight (less than 2000gms) babies born to cohort of adolescent mothers (age less than 20 years) with similar babies of older mothers (20 to 30 years old) at the Kenyatta National Hospital, Nairobi.

### MATERIALS AND METHODS

All babies weighing less than 2000gms born to adolescent mothers (age less than 20 years) or mothers in the age group

20 to 30 years and admitted into the Newborn Unit (NBU) of the Kenyatta National Hospital, Nairobi (KNH) over a period of six months (July to December 1991) were included into the study after their mothers signed our informed consent. Babies born before arrival into the hospital were excluded from the study as were twin babies.

The babies were then followed up from the time of birth to the time of discharge, death or up to one month of age, if they stayed in NBU for a longer period. Each baby had a clinical gestational assessment performed using the Dubowitz score(11). The risk for the occurrence of low birthweight (LBW), episodes of illness (morbidity events) duration of hospital stay and overall outcome were documented and compared between (the babies of the two groups of mothers. The sociodemographic and obstetric comparison between the two groups of mothers has been reported elsewhere(12).

This study was approved by the KNH Ethics and Research Committee.

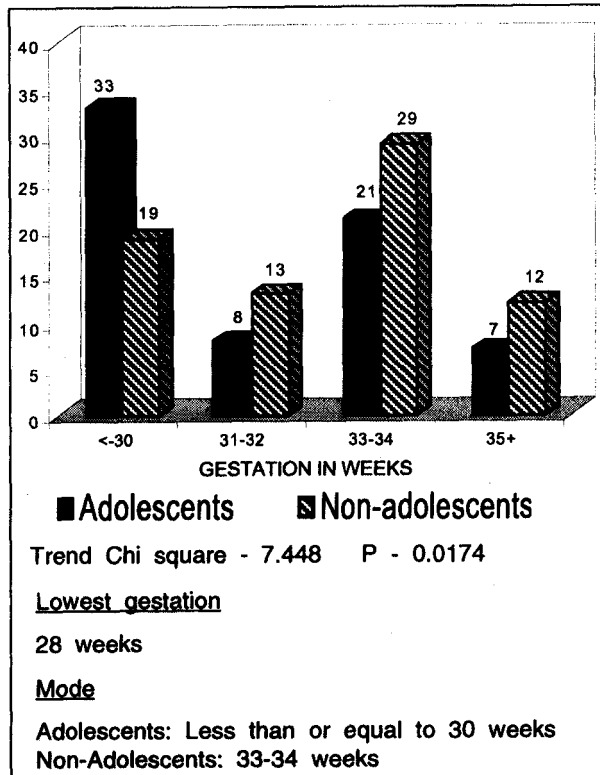
### RESULTS

One hundred and forty two LBW babies were recruited into the study. Of these, 69 were born to the adolescent mothers and the remaining 73 were born to

the older mothers. There was no difference in the sex distribution of the babies of the two groups of mothers. A significant tendency ( $p=0.0078$ ) was found when weight distribution was considered, with more of the babies weighing  $>1500\text{gm}$  being born to the older mothers (Figure 2).

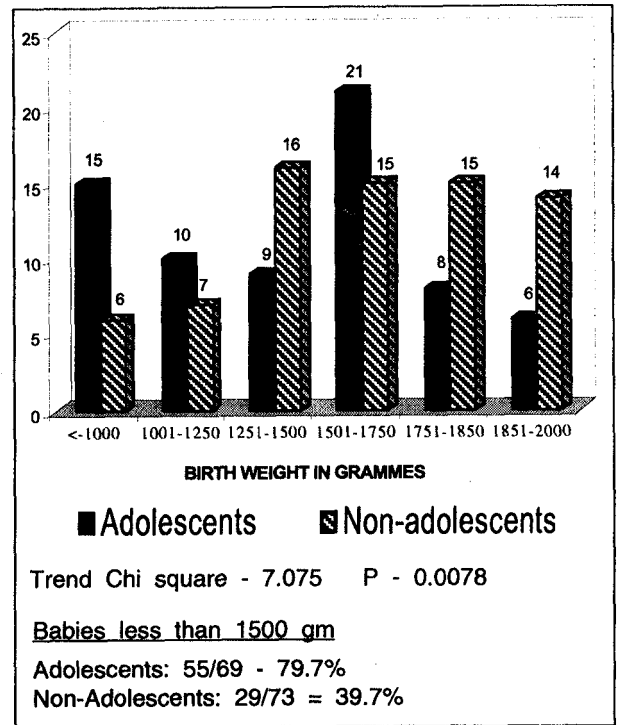
**Figure 1**

*Gestational age distribution in the maternal age categories*



**Figure 2**

*Birth weight distribution of neonates by maternal age*



Individual morbidity events occurred more frequently among the babies of adolescent mothers. Respiratory distress and anaemia were significantly more frequent in the babies of adolescent mothers (Table 1). Multiple morbidity events were significantly more common ( $p=0.04$ ) among the babies of adolescent mothers and all of these babies had no episode of morbidity during their hospital stay (Figure 3).

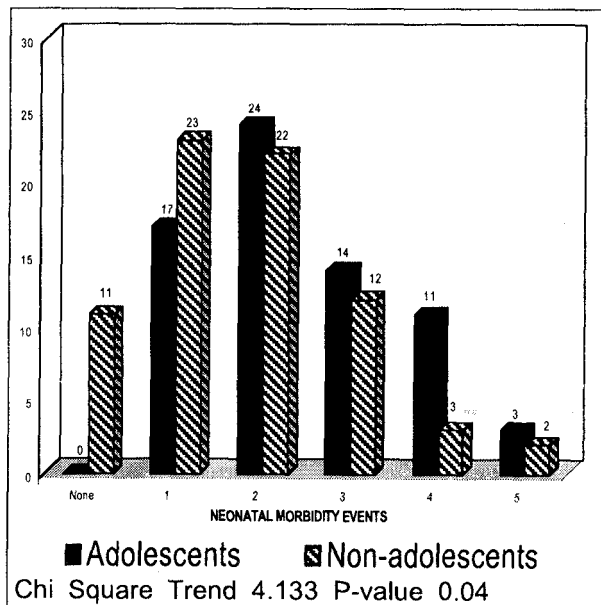
**Table 1**

*Neonatal morbidity in the two maternal age groups*

Morbidity	Adolescents (%)	Non-adolescents (%)	p-value	R.R	95% C.I
Asphyxia	28(40.6)	25(34.2)	0.43	1.18	0.77<RR<1.82
Respiratory distress	59(85.5)	50(68.5)	0.016	1.25	1.04>RR<1.50
Jaundice	31(44.9)	22(30.1)	0.06	1.49	0.96<RR<2.31
Suspected sepsis	24(34.8)	18(24.7)	0.18	1.41	0.84<RR<2.36
Diarrhoea	11(15.9)	6(8.2)	0.16	1.94	0.76<RR<4.96
Anaemia	8(11.4)	2(1.4)	0.03	4.23	0.93<RR<19.24
Convulsions	1(4.3)	1(1.4)	0.73	1.06	0.07<<RR<16.59
Congenital anomaly	3(4.3)	2(2.7)	0.47	1.59	0.27<RR>9.21
None	0	11(15.1)	--	--	--

**Figure 3**

Number of neonatal morbidity events by maternal age



Although the overall duration of hospital stay was not statistically significant between the surviving babies of the two groups of mothers, 33.3% of the babies of adolescent mothers stayed in hospital for over one month as compared to 21.6% of the babies of the older mothers (Table 2).

**Table 2**

Duration of hospital stay of the neonates by maternal age

Duration of Hospital stay	<1 week	>1-2 weeks	2 weeks to 1 month	>1 month	Total
Adolescents	0	6 (15.4%)	20 (51.3%)	13 (33.3%)	39
Non-adolescents	6	11 (21.6%)	23 (45.1%)	11 (21.6%)	51
Total	6	17 (18.9%)	43 (41.8%)	25 (26.7%)	90

$X^2 = 6.782$  p-value = 0.0792

**Table 3**

Neonatal outcome by maternal age

Outcome	Discharged(%)	Died(%)	S.I.N.U*(%)	Total
Adolescents	26 (37.7)	30 (57.7)	13 (18.8)	69
Non-adolescents	39 (53.4)	22 (42.4)	11 (15.1)	73
Total	65 (45.8)	52 (36.6)	24 (16.9)	142

$X^2=3.62371$  P-value=0.570

\*SINU - Still In Newborn Unit

More babies of the older mothers (53.4%) against (37.7%) were discharged while 57.7% of the babies of the adolescent mothers died as compared to 42.3% of the babies of the older mothers. These differences, however, were not statistically significant (Table 3). Further analysis of the two groups of babies dividing them by weight into those below 1500 gm yielded similar results.

**DISCUSSION**

The adolescent mothers in this study tended to have significantly more premature and lower birth weight babies compared to the older mothers. Similar observations were made by Hulka and Schaff(2) Scholl *et. al.*(3) and Horon *et. al.*(7) and may be related to the poor obstetric performance reported among the adolescent mothers(3,4,6).

Respiratory distress and anaemia were more common among the babies of the adolescent mothers (Table 1). This could have been as a result of the higher number of babies who weighed less than 1500gm and were more premature among the infants of the adolescent mothers. The same factors of lower birthweight and increased prematurity may have contributed to the more episodes of morbidity events, longer duration of hospital stay and higher mortality found among the babies of the adolescent mothers.

In conclusion, adolescent mothers in this study tended to give birth to more premature babies who developed more morbidity events, stayed longer in hospital and were more likely to die.

**ACKNOWLEDGEMENTS**

To the Director, Kenyatta National Hospital and the Ethics and Research Committee for allowing the study and its publication. To Mr. E.K. Njeru for assistance with statistical analysis and to the staff of the Newborn Unit KNH for their cooperation during the study and to Mrs Jane Thairu for secretarial services.

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**ABSTRACTS:** To be submitted by 31st January 2003

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