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Pregnancy performance of Nigerian women aged 16 years and below, as seen in Ibadan, Nigeria

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Summary

A review of eighty-four women aged 16 years and below who gave birth at the University College Hospital, Ibadan during the period 1978–1982 has shown the majority of the patients to be unemployed women from a low socio-economic class. There is a strong tendency to lack of antenatal care in this group of women. Pregnancy and delivery were complicated by a higher than usual incidence of pregnancy-induced hypertension (PIH) and foeto-pelvic disproportion. A high perinatal mortality rate is noted and this poor result is related to the deficit in perinatal care the women received. Maternal mortality showed no significant difference compared with that obtained for all other maternity patients but a high morbidity rate, related mainly to PIH and foeto-pelvic disproportion, was found. Despite the undesirable social effects of teenage pregnancies, apart from the immature pelvic size, no definite biological reason could be adduced for the noted differences in their performance when compared to the total hospital maternity patients. We believe that differences in reports on teenage pregnancies may be due to differences in socio-cultural and educational standards of the various groups studied.

Résumé

Une étude portant sur 84 femmes âgés de seize ans ou moins, et qui accouchèrent au centre hospitalier universitaire (UCH) à Ibadan entre 1978 et 1982 (donc une période de cinq ans) révéla que la plupart de ces patientes appartenaient à une couche sociale très basse et qu'elles étaient sans emploi. Il est rare que de telles femmes reçoivent des soins prénatals. Des complications en grossesse et à l'accouchement furent provoquées par des incidences d'hypertension provenant de la grossesse et par une disproportion foeto-pelvienne plus fréquentes que d'ordinaire. Le taux de mortalité périnatale dans ces cas est très élevé, et on ne peut qu'affirmer qu'il reflète le manque de soins prénatals chez les patientes. Aucune variation importante ne fut notée entre la mortalité maternelle parmi ces patientes et d'autres, mais le taux de morbidité parmi elles était remarquable, reflètant l'hypertension dûe à la grossesse ainsi qu'a la disproportion foeto-pelvienne. Malgré les effets néfastes (au niveau social) des grossesses parmi les mineures, il faut avouer que sauf pour la taille pelvienne insuffisante, il n'y a aucune explication biologique pour les différences de performance entre ces patientes et le reste des femmes accouchant à l'hôpital. Nous croyons donc que les différences généralement annoncées dans la grossesse chez les mineures peuvent être attribuées aux seules différences dans les niveaux socio-culturels ou d'éducation des différents groupes étudiés.

Introduction

Ever since Stine, Rider and Sweeney (1964) described the increased risk of prematurity and neonatal deaths in infants of adolescents there has been an increased appreciation of the 'high-risk' nature of adolescent pregnancies. Even then, there are still conflicts in the results of studies of teenage pregnancies. Wallace (1965) described nutritional deficiencies and venereal diseases as special medical risks for this group; and more recent studies emphasized the risk of excessive weight gain, pregnancy toxaemia, prolonged labour, increased incid-

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ence of Caesarean section and increased incidence of premature labour, also high foetal morbidity and mortality (Wallace, 1965; Beric, Bregun & Bujas, 1978). However, Everard and Gold (1977) have obtained good results in teenagers by meticulous medical care, intensive nutritional counselling and attention to social problems. Indeed, Israel and Woutersz (1963) concluded that teenage obstetrics presents no greater challenge than obstetrics in general. Furthermore, some studies have shown fewer complications in teenagers than in older women. In the developed countries, the high incidence of teenage pregnancy seems to be declining with the liberal use of contraception, legalization or liberalization of abortion and the introduction of sex education.

However, in Nigeria and other developing countries, teenage pregnancies still constitute a problem group. Medical facilities are either unavailable or meagre and inadequate. There are few facilities for contraceptive advice and administration. In addition, abortion as a means of contraception is illegal. To all these is added poor socio-economic and educational standards, cultural and social beliefs in early marriage and large family size.

There is, therefore, no doubt that teenage pregnancy should attract the desirable attention of medical practitioners, particularly obstetricians in these areas. Unfortunately, however, there has been very little information on the obstetric performance of our teenage mothers.

Patients and methods

This study assesses the obstetric performance of pregnant Nigerian women aged 16 years and below who delivered at the University College Hospital, Ibadan in a 5-year period 1978–1982, with a view to highlighting the important risk factors if any and discussing how to minimize, if not abolish, such problems. The maternity records of the patients were collected and analysed as to the age, parity, social class and antenatal behaviour of the patients. The antenatal complications, labour, delivery and postnatal behaviour of the patients were also analysed.

During the review period, there were 15,165 deliveries and 101 (0.66%) mothers were 16 years and below. Out of the 101 cases, adequate records for analysis were obtained from eighty-four and the results of analysis of these cases are presented below.

Results

No patient was younger than 13 years. Forty-nine patients (58.33%) were aged 16 years, eight patients (9.53%) were aged 13–14 years and the remaining twenty-seven (32.14%) were 15 years old. Social classification based on family background, nutritional status, educational level and husbands' or fathers' income (Ladipo & Adelusi, 1977) showed that only two patients were in the upper class, three in the middle class and fifty-five (65.48%) in the lower socio-economic class. Twenty-four of the patients were students and three of these were married: two in the upper class and one in the lower socio-economic class. Altogether fifty-nine subjects (70.24%) were married and the remaining twenty-five (29.76%) subjects were single (Table 1).

Antenatal characteristics

Sixty-eight of the patients (80.95%) were seen

Table 1. Selected socio-demographic characteristics of the patients aged 16 years and below

Characteristic/ factor	No. patients	%
Age		
12 years	0	0.0
13	3	3.6
14	5	6.0
15	27	32.1
16	49	58.3
Social class		
Upper	2	2.4
Middle	3	3.6
Lower	55	65.5
Students	24	28.5
Marital status		
Married	59	70.2
Single	25	29.8

in the third trimester of pregnancy of which forty-six (67.64%) were seen for the first time during labour; the remaining sixteen (19.05%) were referred from other maternity homes in the first and second trimester. Only four patients (4.76%) were booked primarily before 13 weeks of pregnancy for prenatal care at this hospital. The remaining twelve patients were also referred from outside maternity centres where they had, for the first time, presented with problems in the second trimester (Table 2).

The risk factors identified during the prenatal care are listed in Table 3. Some of the patients had more than one complication. Seventeen (20.34%) were uncertain of their dates. Pregnancy-induced hypertension occurred in eighteen (21.43%) patients with pre-eclampsia in five (5.95%) and eclampsia in thirteen (15.48%). Antepartum haemorrhage complicated eight (9.52%) pregnancies. Five patients (5.95%) had anaemia, which was severe enough to cause cardiac failure in two patients. There was no case of malpresentation.

Duration of labour

Labour lasted ≤ 18 h in forty-three patients. Prolongation of labour beyond 18 h occurred in twenty patients (24.70%). This undesirable prolongation of labour was due to cephalo-pelvic disproportion in five cases (who eventually were delivered by Caesarean section); obstructed labour in two cases and dysfunctional labour in thirteen cases. In the remaining eighteen patients the duration of labour was not considered because the length of labour could not be calculated (Table 4).

Method of delivery

Fifty-one of the patients (60.7%) had spontaneous vaginal deliveries, forty-two of them had episiotomies. Vaginal delivery was assisted with Wrigley's forceps in seven cases (8.83%) and in one case with Neville-Barnes's forceps (1.19%). There were a total of twenty-five Caesarean sections giving a Caesarean section rate of 29.7% (Table 5). In two patients it was an elective procedure necessitated by severe vaginal stenosis following the unsuccessful use of chemical vaginal pessaries to procure termination earlier in pregnancy. The remaining twenty-three Caesarean sections were performed in labour for reasons listed in Table 6. Out of these cases, nine (39.13%) were performed for eclamptic fits and seven (30.43%) for foeto-pelvic disproportion. Another two patients were actually seen with obstructed labour. Only three cases (13.04%) were performed for placenta praevia.

Foetal birth weights, foetal wastages and duration of antenatal care

Table 7 shows the birth weight of the babies irrespective of the gestational age. There were fifty-three babies (62%) that weighed ≥ 2500 g. The remaining thirty-two (38%) babies weighed less. Indeed only two (2.35%) babies weighed 1000–1500 g. All the babies born to the mothers who had antenatal care from the first trimester survived and weighed between 2500 g and 3000 g. From the twelve babies born to mothers seen in the second trimester there were two stillbirths (SB) and ten live infants. The two stillbirths were possibly

Table 2. Prenatal care of the patients

Booking habit	Trimester of pregnancy when first seen		
	First trimester (0–13 weeks)	Second trimester (14–26 weeks)	Third trimester (27–42 weeks)
Booked	4 (4.76)*	11 (13.10)	22 (26.19)
Unbooked	0	1 (1.19)	46 (54.76)
Total	4 (4.76)	12 (14.29)	68 (80.95)

*Percentages are shown in parentheses.

Table 3. Antenatal complications in patients aged 16 years or less

Complication	No. patients	%
Pre-eclampsia	5	5.95
Eclampsia	13	15.47
Antepartum haemorrhage	8	9.52
Anaemia	5	5.95
Persistent albuminuria (without hypertension)	1	1.19
Urinary tract infection	1	1.19
Bone pain crisis	1	1.19
Premature labour	2	2.38

Table 4. Duration of labour

Duration of labour (hours)	No. patients	%
0–6	9	11.11
7–12	22	27.16
13–18	12	14.82
≥19	20	24.69
Undeterminable	18	22.22
Total	81	100.00

Table 5. Mode of delivery in women aged 16 years and below

Method of delivery	No. patients	%
SVD with episiotomy	42	50.00
SVD without episiotomy	9	10.71
Forceps		
Low cavity	7	8.33
Mid cavity	1	1.19
Caesarean section	25	29.76

due to a combination of prematurity and, therefore, low birth weight (both weighed less than 1500 g) and abruptio in one case and eclampsia in the other. Most of the foetal deaths (10) were amongst the sixty-nine babies born to mothers who had no formal antenatal care and were referred mainly in labour or late in the third trimester. The ten perinatal deaths were four SBs and six neonatal deaths. It is pertinent to note that four of these ten babies weighed more than 2500 g and the remaining six weighed between 1500 g and 2500 g, whereas the two babies that weighed less than 1500 g, but whose mothers had antenatal care, survived. The neonatal morbidity was low and mild in nature. One child each had conjunctivitis, septic skin spots, neonatal sepsis and jaundice. The overall perinatal mortality rate was 146 per thousand (146/1000).

Maternal morbidity and mortality

There was no maternal death in this study. However, post partum maternal morbidity seems to be related to the length of prenatal care and, therefore, the patients' condition at the time of and mode of delivery.

There was only one case of broken down episiotomy. Ten (11.9%) patients had anaemia in the puerperium, five of these had anaemia in the antenatal period and others had Caesarean section. Vesico-vaginal fistula occurred in two patients out of the five who were seen in obstructed labour while twelve of the Caesarean section wounds were infected. There was, however, no case of wound dehiscence.

Discussion

There is world-wide evidence that the incidence of teenage pregnancy has increased over the years (Wallace, 1965; Omran & Omran, 1977; Ryan & Schneider, 1978; Harrison, 1983). This trend has been condemned because of its implications for community services especially that of providing social and prenatal services, and also because of its effect on the education and/or employment of the young mothers. Equally important is the effect of the outcome of such early pregnancies on subsequent

Table 6. Indications for Caesarean section in twenty-five patients

Indication	No. patients	%
Elective		
Acquired gynaetresia	2	8.00
Emergency		
Eclampsia	9	36.00
CPD/obstructed labour*	10	40.00
Antepartum haemorrhage	3	12.00
Prolonged labour	1	4.00

*One patient with CPD had pre-eclampsia as well.

Table 7. Birth weights and foetal outcome of babies born to women aged 16 and below

	Time of first attendance at UCH									
	First trimester			Second trimester			Third trimester			
Birth weights	L*	SB	NND	L	SB	NND	L	SB	NND	Total
3000	—	—	—	5	—	—	16	—	—	21
2500–3000	4	—	—	4	—	—	20	2	2	32
2000–2500	—	—	—	—	1	—	21	4	—	26
1500–2000	—	—	—	—	—	—	2	—	2	4
1000–1500	—	—	—	1	1	—	—	—	—	2
1000	—	—	—	—	—	—	—	—	—	—
Total	4	—	—	10	2	—	59	6	4	

*L = Live birth, SB = still birth, NND = neonatal death.

reproductive life of the patients (Osinusi, 1976).

The incidence of teenage pregnancy from this study is very low (7/1000) compared with that reported for some other parts of this country. Harrison (1983) reported a total of 2515 pregnant women of age 16 and below in a total delivery of 22,774 over 3.5 years — a rate of 109/1000 deliveries. This disparity is believed to be mainly due to differences in the socio-cultural and religious practices, such as early or child marriage, rather than the relatively lower number of cases analysed in this study. Possibly, the rampant recourse to 'illegal abortions' in Ibadan may also partly be responsible for this disparity.

As previously reported by other workers (Aznar & Bennett, 1961; Omran & Omran, 1977; Osborne, 1981; Harrison, 1983), there was poor, or no, antenatal care in most (81%) of the patients. Indeed, only four patients (4.76%) received antenatal care from the first trimester at this hospital, most (33%) of the others were referred for antenatal care towards the end of the last trimester of pregnancy. This is in contrast to the results of Ojo, Ladipo and

Adelowo (1981) who found that 75.9% of women who delivered in the hospital were booked for delivery by their own choice. Many reasons have been advanced for the lack of antenatal supervision. These include non-availability of services, ignorance as to the need of care or casual attitude towards the antenatal care, denial of pregnancy and inappropriate methods of services provided. Amongst the risk factors that complicated the pregnancies pregnancy-induced hypertension (PIH) and foeto-pelvic disproportion seem to have a high frequency in the teenage group. In this study PIH complicated eighteen pregnancies with a rate of 21.43%, which is much higher than a rate of 6.65% in the total hospital delivery. However, a rate of 11.9% for foeto-pelvic disproportion compares favourably with a rate of 11.6% for all first births in the same hospital (Ojo *et al.*, 1981), but contrasts with the results of Harrison (1983), who obtained a rate of 23%. It is now generally accepted that PIH complicated more pregnancies in teenage mothers than older ones although no definite biological reason has been found for this. The incidence of 5.95% and 9.52% for anaemia and antepartum haemorrhage compares unfavourably with the respective rates in the patients delivering in the hospital.

Labour may be expected to progress satisfactorily in the majority of adolescents. Indeed, fifty-three patients (i.e. 65%) delivered within 24 h of labour. This is in agreement with the findings of other workers (Utian, 1976; Omran & Omran, 1977). This is, however, a little lower than 77.8% obtained for all hospital deliveries (Ojo *et al.*, 1981). Although labour could be said to be prolonged in another ten patients (i.e. 11.9%) the problem is multifactorial.

Most infants (60.69%) were delivered spontaneously and 9.52% of deliveries were managed with forceps. The respective rates for the total hospital deliveries are 78.2% and 3.2% (Ojo *et al.*, 1981). A low spontaneous delivery rate has also been noted by Wallace (1965), Beric *et al.* (1978) and Harrison (1983). On the contrary, Dodge (1964) and Everard and Gold (1977) had all obtained high rates comparable to the rates for the total hospital deliveries in their respective hospitals.

The different results may be due to differences in the race or tribe and also to the differential distribution of the patients in the different age groups. Indeed, Harrison (1983) had emphasized the small stature of his patients and, therefore, a very high incidence of foeto-pelvic disproportion. Nevertheless, similar to the results of other workers (Omran & Omran, 1977), forty-two patients (82%) who delivered vaginally had episiotomies in this review. A high Caesarean section rate of 31% in this study can be attributed mainly to cases complicated by toxaemia of pregnancy in nine cases (i.e. 39% of total Caesarean section) and foeto-pelvic disproportion in nine cases or 39%. These two indications for Caesarean section have been highlighted as risk factors in teenage pregnancies from several other studies (Wallace, 1965; Beric *et al.*, 1978; Duenhoeter, Jimenez & Baumann, 1975; Harrison, 1983). Caesarean section was performed in only three cases for placenta praevia. The overall section rate for the hospital is 14% (Ojo *et al.*, 1981).

In agreement with earlier studies (Dott & Fort, 1976; Ryan and Schneider, 1978; Osborne, 1981: Harrison, 1983) the data from this review show a high prematurity rate of 38% and an overall perinatal mortality rate of 146/1000. These unacceptably high rates are much higher than a perinatal mortality rate of 56.9/1000 for the hospital patients (Ojo *et al.*, 1981). Also in support of findings of other studies, this study has shown that the survival of the offspring bears a positive relationship to the prenatal care that the mothers have had. This study has shown that if the mothers were booked for antenatal care in pregnancy the offspring stand a better chance of survival, complications that may arise in pregnancy notwithstanding. Indeed, the babies of the four patients who had antenatal care from the first trimester survived and all weighed more than 2500 g. Moreover, all the six babies weighing between 1500 g and 2500 g, and whose mothers had no antenatal care, did not survive, whereas the two babies that weighed less than 1500 g, and whose mother had antenatal care, survived. The high foetal wastage can be attributed to the combination of pregnancy complications such as pre-eclampsia and eclampsia, prematurity and intrapartum asphyxia, resulting from poor or inadequate supervision of pregnancy and labour.

There was no maternal death in this study. This similarly agrees with the results of other reviews (Beric *et al.*, 1978; Ryan & Schneider,

1978). However, the postpartum maternal morbidity can be distressing. There is a high episiotomy rate (82%) amongst those who delivered spontaneously. Moreover, the finding of this review has revealed a higher chance of developing postpartum anaemia and a 2.4% chance of developing vesico-vaginal fistula from prolonged obstructed labour. Again this relates to the degree of prenatal care received by patients and the care and supervision in labour. The two patients who developed vesico-vaginal fistula from this study were seen when they had obstructed labour.

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