The Central African
Journal of Medicine

Volume 2 SEPTEMBER, 1956 Number 9

A Comparative Study in Obstetrics in an Urban Area on 10,000 African and 2,000 European Deliveries

BY

G. P. NIXON, M.R.C.S., L.R.C.P.,
J. COLLINS, M.D., M.R.C.P. (Edin.)

AND

A. C. FISHER, O.B.E., M.D., F.R.C.S. (Eng.)
Luanshya, N. Rhodesia.

Introductory

It is only in the last decade or so that the African woman has been won over to western medicine and has consented to entrust the welfare of herself and her children to the doctor rather than the witchdoctor. This applies particularly to obstetrics. Thus it is that there exists very little information and statistics on Bantu midwifery.

The present study has been made in an endeavour to give the broad picture of Bantu midwifery, and a comparison has been made in a similar survey of European midwifery and with accepted western European figures. Both groups have been attended by the same team so that the comparison is free from some of the fallacies that would otherwise arise.

Apart from race and social environment, the two groups differ from each other in that the Africans have a younger average age (first pregnancies are often about 12-16) and multiparity is also more common.

As regards obstetrical interference, certain factors have determined the method of conducting the case in Africans which have not been relevant in Europeans.

African girls in this area marry at puberty, and pregnancies before the girl is fully grown are not uncommon. These comprise one of the commonest causes of obstructed labour. The mortality within the first year of the first babies of these child mothers is very high indeed. Added to this, risks to the mother from rupture of a caesarian section scar are great, for the woman can be expected to have many subsequent pregnancies. Therefore in these very young mothers it is our practice to do vaginal deliveries whenever there is a fixed head, even if this means craniotomy.

All but a very small proportion of our African deliveries were conducted in one of the four maternity aid posts attached to clinics in the African mine township.

Strict weekly antenatal care was the rule. Mothers come in for their delivery and go out when they want to, usually within 24 hours. Deliveries are conducted at present by barely literate African women who are trained and supervised by the European nursing sisters in charge of these centres, assisted by the hospital sister tutor. A nursing sister and a doctor are available at all times.

It will be seen from the figures given below that the incidence of complications in our African series is remarkably low. No doubt this is because generations of natural selection have ruthlessly killed off all strains prone to obstetrical risks. Further, the fact that the average weight of African infants was 6 lb. 8 oz., as against 7 lb. 7 oz. in our European series, must have helped to minimise the incidence of disproportion. There is no doubt, however, that under village conditions the percentage of obstructed labour is far higher than in our series. There, most unfortunately, the village midwife considers it good practice to goad and bully the mother into voluntary straining from the moment she admits to being in labour. Consequently, when the cervix is slow in dilating, the mother is exhausted long before she reaches the second stage.

The following table is compiled from a series of 9,998 consecutive African deliveries and 2,000 European deliveries. The former represent the cases handled between 1950 and 1954 inclusive and the latter from the smaller European community between 1936 and June, 1955. General figures quoted in the last column are taken from "British Obstetric and Gynaecological Practice" (1955), edited by Sir Eardley Holland and Aleck Bourne.

Table I.—Complications

Complications	No. of Cases		Incidence Percentage		Incidence Percentage
	European	African	European	African	General
Eclampsia	8	8	0.10	0.08	0.75
Forceps	87	33	4.30	0.33	—
Sections	44	33	2.20	0.33	4-6
Breech	35	91	1.70	0.90	2-3
Transverse	—	11	—	0.11	0.20
Face	—	21	—	0.21	0.20
Twins	—	162	—	1.62	1.25
A.P.H.	11	18	0.56	0.18	0.51

Table II.—Still Births, African

A.P.H.	9
Disproportion	23
Congenital deformity	4
Primary inertia and long labour	6
Prematurity	27
Twin pregnancy	20
Breech presentation	28
Transverse presentation	4
Precipitate delivery	1
Ante-partum death (? cause, but some syphilitic)	28
Prolapse of cord	10
B.B.A.	14
TOTAL	174

Incidence: 1.7 per cent. of confinements.

COMMENTS ON TABLE I

Eclampsia.—It is noteworthy that in this series the incidence of eclampsia in white and black was about the same. This is, however, only part of the picture. At our European antenatal clinic fluid retention was extremely common and was most rigidly dealt with; but for this, it is safe to say that the incidence of eclampsia would have been very much higher. In our African patients treatment of fluid retention has proved impossible except in rare cases where patients agree to come into hospital. We have gained the impression that fluid retention and eclampsia are becoming more common amongst our African patients.

Forceps Deliveries.—The incidence amongst Europeans is low and has become lower since the unit instituted prenatal tuition and relaxation exercises under the direction of a physiotherapist.

Forceps deliveries in Africans were only one-tenth as common as in Europeans and were almost all required because of some degree of disproportion.

Sections.—Our European section rate is on the conservative side for a civilised community, but it is nevertheless nearly ten times as high as that amongst the Africans. This is influenced by our policy of avoiding, where possible, sections on very young primipara. Even so, the total forceps and section rate together are only about one-tenth of the section rate in a European community.

Breech Deliveries.—The unit practices early external version usually without an anaesthetic. Even assuming that as many versions are done on blacks as whites, the incidence of breech presentations is significantly higher in Europeans.

Transverse.—Half as common as in Europeans, as in the case of breech presentations.

Face.—Incidence roughly the same.

Twins.—There appears to be no significant difference in the incidence amongst Africans.

Ante-Partum Haemorrhage.—This heading has been chosen owing to the difficulty of distinguishing in every case between placenta praevia and accidental haemorrhage.

It will be seen that the incidence is extremely low in Africans, and this probably accounts for the relatively low figure for breech and transverse presentations.

It may well be that proneness to placenta praevia is a genetic characteristic which has been reduced by natural selection.

Severe Concealed Accidental Haemorrhage.—This has proved a rare complication in our series. Only one African woman suffered and she was under treatment for profound anaemia. There were two European cases.

MEDICAL CONDITIONS

Anaemia.—During the period under review four cases of severe anaemia complicating

pregnancy were encountered, of which two were of the nutritional microcytic hypochromic type and two were megaloblastic anaemias.

Relatively minor degrees of nutritional anaemia were of course frequently encountered during routine antenatal examination, and they responded well to the administration of iron orally or intravenously with, where indicated, treatment for hookworm, bilharzia or amoebiasis. The same treatment proved equally effective in the severe anaemias, in spite of a haemoglobin level of less than 20 per cent., after an initial transfusion with packed red cells.

One of the two patients found to have a megaloblastic anaemia responded well to intravenous iron and oral folic acid. The other, however, with a haemoglobin level of 16 per cent., died of purpura and liver failure within 48 hours of being first seen, probably because insufficient blood was available for transfusion.

Cardiac Complications.—Apart from myocardial failure associated with severe anaemia, only two patients were encountered with signs of heart disease. (It is remarkable that no case of mitral stenosis appears in this series.) Details are given below:

In one, rapid myocardial failure leading to acute pulmonary oedema and death occurred within a few hours of the delivery of a stillborn infant. *Post mortem* examination confirmed the acute myocardial failure, but failed to reveal its cause.

The other patient developed a pleurisy and pericardial effusion when 26 weeks pregnant. In seventeen days it was necessary to aspirate the effusion six times and remove a total of 1,200 c.c. of clear straw-coloured fluid which contained numerous lymphocytes and proved sterile on culture. The urine contained no abnormality and X-ray of the chest showed no obvious tuberculous focus. Further treatment was refused as soon as improvement was manifest and the woman subsequently delivered herself of a normal infant and has not been seen by us since.

Other Complications

Post-Partum Paralysis.—Five examples of this condition were met with, and all were associated with some abnormality of labour resulting in a protracted second stage. These were:—

(a) Face presentation, failed forceps caesarian section	1 case
(b) Disproportion and forceps delivery	2 cases
(c) Large children and long stage 2	2 cases

In three instances partial paralysis of both lower limbs was found during the next 48 hours, and in the remainder only one limb was affected. In all, the paralysis was preceded by pain in the limb along the course of the sciatic nerve, and lumbar puncture in two gave a normal cerebrospinal fluid.

Recovery was invariably complete following physiotherapy after intervals ranging from three weeks to three months.

Vesico-Vaginal Fistula.—No case of vesico-vaginal fistula occurred in this series, although during the same period a large number were admitted from outside the area.

Maternal Mortality

Gross maternal mortality figures were as follows:—

Deaths: European	4	2 per 1,000
Deaths: African	15	1.5 per 1,000

Discussion

A study of 9,998 African obstetric cases over five years reveals certain points of interest.

With proper supervision the rate of complication is low. This applies particularly to disproportion and placenta praevia. Although this is attributed to the unimpeded action of natural selection eliminating types prone to major complications, the smaller size of the African infant has probably contributed to the low incidence of disproportion. It will be interesting to see whether prolonged urbanisation changes this.

Summary

A review is presented of 9,998 African and 2,000 European deliveries.

Attention is called to the low incidence of complication in the African series, notably antepartum haemorrhage.