

Original

MATERNAL CHARACTERISTICS OF DELIVERIES BEFORE ARRIVAL TO HOSPITAL IN BISHA, SAUDI ARABIA

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This is a case control retrospective study (unpaired design) carried out at Prince Abdulla Hospital in Bisha, Saudi Arabia on all 1800 newborn deliveries between January to December 1992. During this period 43 (2.4%) babies were born before arrival to hospital. This is 5 times the figures quoted for some western countries. Most of the deliveries occurred at night. There was no age or parity difference between the women who delivered before arrival and the control group. The conditions associated with high mortality among these women include retained placenta, shock, postpartum haemorrhage and acute inversion of the uterus. In conclusion, birth before arrival at hospital remains a significant problems in Bisha region of Saudi Arabia.

Babies born before arrival (BBA) to hospital suffer high mortality and morbidity¹. Campbell, et al showed that the mortality rate of this group has reached 196.6/1000 births². In some areas like Horan and El-Efairria in Bisha region of Saudi Arabia, the incidence of home deliveries reaches 63.8%³. This indicates that delivery outside hospital is still a major problem in this area. We studied the maternal characteristics in order to: (1) establish the prevalence of birth before arrival to hospital in our local population, (2) identify women at risk of giving birth before arrival and (3) identify the maternal mortality and morbidity related to giving birth before arrival

METHODS

The records of all mothers who delivered before arrival to Prince Abdullah Hospital in Bisha, Saudi Arabia from January to December 1992 were reviewed. Cases were identified and controls were selected as those delivering immediately after the cases (unpaired design).

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For each mother the following was recorded: age, parity, booking status, gestational age at delivery, time of birth and the weight of the new born. Third stage labour data collection included: postpartum haemorrhage (defined as blood loss in excess of 500 ml or presence of symptoms and signs of shock), retained placenta, acute puerperal uterine inversion, ruptured uterus or maternal mortality. Neonatal outcome was difficult to estimate as these mothers tended to leave the newly born baby at home most of the time.

Data were analysed using SPSS statistical package. The student t-test (2-tail) and the chi-square test were used wherever appropriate. The 5% level of significance used throughout of the study.

RESULTS

Of the 1800 babies born to women admitted to Prince Abdullah Hospital in Bisha in the year 1992, 43 (2.4%) were born before arrival to hospital (BBA). With respect to time of delivery, 25 (58.1%) of these BBA delivered at night. There was no significant difference between the age of mothers having BBA and controls (Table 1).

Table 1: Comparison between cases and control for some quantitative variables

	Case		Control		P.Value
	Mean	SD	Mean	SD	
1. Mothers age (years)	27.7	7.1	28.1	6.9	NS
2. Parity	4.9	4.9	5.2	3.3	NS
3. Gestational age (week)	37.7	8.3	36.2	8.9	NS

NS = Not significant

The mean age of the mother in the BBA group was 27.7 years old (SD6.9 ') while that of the controls was 28.1 years old (SD7.1 '). More mothers having BBA were noticed in the age group of 21-25 and 31-35 years old than in the control groups.

Parity is also not significantly different between the studied group and the controls.

Mean gestational age for BBA was 37.7 week (SD8.3 ') while that of the controls was 36.2 weeks (SD8.9 ') week. This was also not significant.

The incidence of morbidity was more significant as all complications occurred among those mothers who delivered before arrival at hospital (Table 2). Eight patients (18.6%) had retained placenta, and five (11.6%) were in shock upon admission. One patient presented to the emergency room with a complete inverted uterus which was difficult to reduce because of a tight cervical ring. No maternal death or uterine rupture occurred among the two groups.

Table 2: Morbidity pattern in mothers who delivered before arrival (BBA) and control group

	BBA		Control		P.Value
	No.	%	No.	%	
Retained Placenta:					
Yes	8	18.6	--	--	0.009
No	35	81.4	43	100	
Shock:					
Yes	5	11.6	--	--	0.06
No	38	88.4	43	100	

Acute Inversion of the Uterus:

Yes	1	2.3	--		N.S
No	42	97.7	43	100	

DISCUSSION

The prevalence rate of babies born before arrival in the studied population was 2.4%. This is five times the rate quoted for some Western countries (0.44%)¹. This is not surprising since Prince Abdullah Hospital in Bisha provides services for areas like Horan and El-Efairria which are 98 and 132 km away respectively³. These areas have Public Health Care Centre which closes at night. Difficulty in transportation is the main problem, the level of education is another factor as the residents are usually farmers. They also have no records on antenatal care. Most deliveries before arrival occurred at night, probably adding to the difficulty of reaching to the hospital. It has been shown that women who delivered before arrival were more likely to be older and of high parity¹, but this was not obvious in our study group.

Analysis of the maternal complications revealed no mortality but the morbidity rate was quite alarming. This was not statistically obvious but clinically important since 8 patients had retained placentae and 5 were brought to the emergency room in shock. This, together with the fact that haemorrhage is the leading cause of maternal death (25%) in Saudi Arabia, indicate that delivery before arrival to hospital is a serious problem in the area⁴. In addition, one of the patients had a complete acute uterine inversion which added to mismanagement of the third stage of labour, not only in that delivery was unattended to by experienced personnel but women might conduct the whole delivery on their own. Maternal morbidity in the puerperal period was not assessed as these patients tend to leave the hospital within the first 24 hours after delivery.

CONCLUSION

Birth before arrival at hospital remains a significant problem, affecting 2.4% of deliveries in Bisha region of Saudi Arabia. Prenatal care, health education and increased utilisation of referral level care could have an enormous impact in reducing the excess morbidity associated with this event. A proper emergency transport system is also required to bring the patient to the nearest referral centre.

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