NEONATAL MORTALITY IN NEPAL

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Information concerning the incidence and causes of neonatal deaths in Nepal is difficult to obtain except for that information available from hospital data; however, hospital deliveries make up only a small number of the total births in Nepal. Most deliveries are conducted in homes attended by local birth attendants.

In April 1973 the first year nursing students of Shanta Bhawan Hospital were given their annual vacation break. These fourteen student nurses returned to their homes throughout the kingdom and conducted 109 women interviews. They were requested to interview women in their villages whose newborn infant had died during the period the student nurse was at home, a 4-6 week period.

In the urban areas and in some of the remote areas the students found this assignment difficult to perform; therefore, some of the students modified their interviews to include any birth during this period. However, six of the students were able to carry out the assignment fully. (See map.) Those, who were unable to fulfill the requirements, lived in remote areas or in urban areas where their neighbours were not well-known to them, did not return to their homes for their vacation, or had not fully understood the assignment. The information collected by the students has been recorded in two sections, one based on the total 109 interviews and the other based on the results of the 54 interviews done by the six students able to interview mothers of neonates who died during this period.

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TOTAL INTERVIEWS (109)

The 109 women interviewed had an mean age of 29 years and mean average number of 3.8 children. On the 418 pregnancies reported, 252 were living at the time of the interview and 166 (39.7%) were dead at the time of the interview.

The pregnancies per woman increased with age as expected - see Table I

Number of women	Age	Average pregnancies
7	15 - 19 years	1
55	20 - 29 years	2.45
36	30 - 39 years	6.1
6	40 - 50 years	7.8

Table I: Average pregnancies per woman according to age groups.

INTERVIEWS OF WOMEN WITH NEONATAL DEATHS (54)

The 54 women interviewed had a mean age of 27 years and mean average number of 4.0 children. Of the 216 pregnancies reported, 109 were living, and 107 (49.5%) children were dead at the time of the interview.

Their husbands' occupations are tabulated in Table 2.

Table 2

Farmers	25
Service	9
Students	6
Business	5
Teachers	4
Others (1 each)	5

Occupations of Fathers of the Neonatal Deaths.

Of the neonates who died during this period, 21 were female and 33 male; 47 were born at home, 5 in a hospital, 1 in a clinic and 1 on the path. During the delivery period 14 had the cord cut immediately, 17 after 1-2 days, and 7 after 3-4 days. The instruments used were 21 scissors, 12 khukari, 7 sickle, 7 not cut. The student nurses inquired concerning the time interval between birth and death and concerning any usual symptoms prior to death.

DEATH WITHIN 24 HOURS AFTER BIRTH

17 died within 24 hrs. 5 of these were reported as being premature. Most of the mothers in this group reported that the child didn't cry or suck, and was white or blue in color.

DEATH FROM 1-10 DAYS AFTER BIRTH

25 died within one to 10 days after delivery. Of these 3 were reported as being premature. 11 were reported as having vomiting, diarrhoea, and fever before death and 6 as having fever and convulsions.

DEATH FROM 11-20 DAYS AFTER BIRTH

8 died within the period of 11-20 days after delivery. 5 had respiratory symptoms before death and one with convulsions. 2 were reported as having vomiting and diarrhoea before death.

DEATH FROM 21-28 DAYS AFTER BIRTH

Four died within this period; 2 with fever, one with vomiting and diarrhoea and one with respiratory symptoms.

The mothers were asked to express themselves on what they believed to be the cause of death. Most answers reflected superstitious concepts such as bad luck, revengeful deity, and witch's spell. Thirteen were unable to give any answer to the question. Others gave specific activity related answers such as "child was too small", "illness in pregnancy", "poverty", "slept on him", "long labor", or "hard work during pregnancy".

DISCUSSION AND IMPLICATIONS FOR HEALTH SERVICES

The classifications of the interviews do not allow for division into early neonatal and postnatal groupings. However, this mini survey of neonatal deaths from several areas in Nepal can give some support to suspected causes of neonatal mortality in Nepal.

One of the major causes of death must be true prematurity as well as "low weight for dates". In this survey prematurity was recorded when the mother specified a 8 months or less gestation period. (10 months is reported as normal in the villages). High incidence of neonatal deaths due to prematurity and low weight for dates is a problem common to many developing countries and it is proposed that increasing the nutritional adequacy of the pregnant women's diet and the addition of supplementary folic acid will decrease these causes

of neonatal deaths. Those early deaths due to asphyxia may be prevented by more active stimulation of the infant at birth – cleaning the air way, active stimulation of the newborn by slapping the feet and protecting the child from exposure. This component can be added to the traditional techniques used by the local birth attendants.

Of those 6 who died in the 1-10 day period with convulsions, 5 had their umbilical cords cut early with either a sickle or a khukari. Thus it is probable that neonatal tetanus is the cause of death in this group. This gives support to the recommendation of the addition of antenatal tetanus toxoid immunizations to antenatal services in some areas of the country. In areas where the local birth attendant traditionally cuts the cord early, proper hygienic techniques should be introduced. However, in areas where the traditional custom of late cutting of the cord (6-8 days) prevails, this should be supported. It is possible that as local birth attendants become acquainted with hospital styles of deliveries that the custom of late cutting of the cord will be replaced with early cutting of the cord. This may increase the incidence of neonatal tetanus with its resulting tragic results.

Vomiting and diarrhoea, as predictable, were symptoms prior to death for 14 of the neonates and respiratory problems for six. Active promotion of breast feeding and discouragement of other feedings must be emphasised during this neonatal period. Clinical services in health posts and hospitals should be prepared for meeting these diarrhoea, vomiting, and respiratory problems in neonates efficiently and effectively when families begin seeking their help.

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