
ORIGINAL ARTICLE

Attitude and Knowledge of the Parents of Neonates admitted with Tetanus Neonatorum

by

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Abstract

Knowledge and attitude of 44 parents of neonates admitted with tetanus neonatorum to the Department of Child Health, Dr. Hasan Sadikin General Hospital, Bandung, from January 1975 through April 1976 were evaluated. Twenty-eight (63.7%) cases with tetanus neonatorum were from illiterate and elementary-school educated parents. Fourteen (31.8%) parents were aware of the mode of infection and 12 (27.3%) realized the importance of prevention of the disease; 10 (22.7%) mothers did not join prenatal care; 40 (90.9%) neonates were delivered by "peraji" (indigenous/traditional midwives) and 4 (9.1%) by midwives. The decisions which were made by the parents to choose "peraji" for the delivery and to admit their newborns with tetanus neonatorum to the hospital were found in 85% and 75% of the cases respectively.

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Introduction

The incidence and occurrence of tetanus neonatorum depend on several factors, such as regional differences in immunization policies and/or the umbilical cord care. Most frequently it occurs in unimmunized individuals such as newborn infants delivered in contaminated environments or among deprived populations (Fulginiti and Sieber, 1975). The incidence and mortality of tetanus neonatorum in Indonesia are still high (Julie Sulianti Saroso, 1975; Sunarto and Dradjat Budiman, 1972; Sjamsir Daili et al., 1972; Jo Kian Tjaij et al., 1969; Jo Kian Tjaij and Leman Sembiring, 1972). Sunarto and Dradjat Budiman (1972) of the Department of Child Health, Medical School, University of Gadjah Mada, Yogyakarta, found 35 cases with a mortality rate of 68.5% during the periods of July — March 1969. Jo Kian Tjaij et al., (1969) and Jo Kian Tjaij and Leman Sembiring (1972) of the Department of Child Health, Medical School, University of North Sumatera, Medan, found 201 cases with a mortality rate of 85% during the period of 1963 — 1968 and 126 cases with a mortality rate of 69.8% during 1968 — 1970.

Tetanus infection in neonates frequently occurs through the umbilical cord (Eller, 1972). In areas with good obstetric care, tetanus neonatorum caused by umbilical cord infection is rare (Hughes, 1971). The health of children is closely

related to that of their families, so that any measures aiming at protecting the health of the family as a unit and/or community at large will also benefit the children (Möller, 1964).

Health education can be very valuable if carried out in talks to groups in which the audience can be persuaded to ask questions and participate in the discussion. When dealing with low educated people (primitive people) the greatest emphasis must be in personal contact with families or small groups, though this will take time (Davey and Wilson, 1969). The purpose of this study is to evaluate the attitude and knowledge of the parents of neonates admitted with tetanus neonatorum to the Rooming-in Pediatric Ward, Department of Child Health, Dr. Hasan Sadikin General Hospital, Bandung, and further to find out a possible suggestion as a guidance for reducing the incidence of tetanus neonatorum.

Material and Methods

This study involves 44 out of 62 parents of neonates admitted with tetanus neonatorum to the Rooming-in Pediatric Ward, Department of Child Health, Dr. Hasan Sadikin General Hospital, Bandung, during the period of January 1975 to April 1976. The multiple choice questionnaire system was used, and distributed on the day of admission. The questionnaire was about:

1. Educational status and the choice of birth attendance.

2. Awareness of the name, etiology, and mode of infection of the disease.
3. Decision makers for the choice of birth attendance.
4. Reasons for choosing indigenous/traditional midwives.
5. Materials used for umbilical cord care.
6. Symptoms and signs as reasons for seeking medical help.
7. Type of medical personnel chosen for the treatment of their sick babies.
8. Decision makers for hospitalization.
9. Awareness of prevention and mode of prevention of the disease.
10. Prenatal care, incubation period of the disease, and about the indigenous midwives.

Results

Twenty-two (50%) out of 44 cases of tetanus neonatorum had an incubation period of less than 7 days and the other 50% had an incubation period of 7 days or more. Eight (18.1%) out of 44 neonates were the first child. In one mother (2.8%) out of 36 cases, the first born baby died of the same disease within a few days after birth. Ten (22.7%) out of 44 mothers did not join prenatal care. Twenty-three (57.5%) out of 40 indigenous midwives had been trained (they possess a Unicef kit), while 6 (15%) had never been trained and 11 (27.5%) were unknown.

TABLE 1: Educational status and the choice of birth attendance

Educational status of parents	Total (%)	C h o i c e	
		Indigenous/traditional	Midwives
Illiterate	1 (2.3%)	1 (100 %)	—
Elementary school	27 (61.4%)	26 (96.3%)	1 (3.7%)
Secondary school	9 (20.4%)	7 (77.8%)	2 (22.2%)
High school	7 (15.9%)	6 (85.7%)	1 (14.3%)
T o t a l	44 (100 %)	40 (90.9%)	4 (9.1%)

Twenty-eight (63.7%) out of 44 cases of tetanus neonatorum were from illiterate and elementary-school educated parents and 16 (36.3%) were from parents with secondary school and high school background (Table 1). Jo Kian

Tjaj and Leman Sembiring (1972) found in their study that parents of tetanus neonatorum were mostly from the low socio-economic group, and deliveries which were carried out by "dukun" (indigenous/traditional midwives) were found in 65.9% (1968) and in 66.7% of cases (1972). The lower the educational status, the more frequent the deliveries were carried out by indigenous midwives, as shown in Table 1. Twenty seven (96.4%) out of 28 cases of tetanus neonatorum from illiterate and ele-

mentary-school educated parents were born with the help of these indigenous midwives, compared to 13 (81.5%) out of 16 cases of tetanus neonatorum from parents with secondary and high school backgrounds, which were delivered by the indigenous midwives.

Out of 44 parents, only 12 (27.3%) were aware of the name, 6 (13.6%) were aware of the etiology and 14 (31.8%) who were aware of the umbilical cord involvement of the disease, (Table 2).

TABLE 2: Educational status and awareness of the name, etiology of the disease and umbilical cord involvement

Educational status of parents	Total	A w a r e n e s s		
		N a m e	Etiology	Umbilical cord involvements
Illiterate	1	—	—	
Elementary school	27	9 (33.3%)	2 (7.4%)	8 (29.6%)
Secondary school	9	3 (33.3%)	3 (33.3%)	5 (55.6%)
High school	7	—	1 (14.3%)	1 (14.3%)
T o t a l	44	12 (27.3%)	6 (13.6%)	14 (31.8%)

TABLE 3: Decision makers for the choice of birth attendance

Birth attendance	Decision makers		Total
	Parents	Grandparents	
Indigenous midwives	34 (85 %)	6 (15 %)	40
M i d w i v e s	4 (100 %)	—	4
T o t a l	38 (86.4%)	6 (13.6%)	44

TABLE 4: *Reasons for choosing indigenous midwives*

Materials used	N = 40	
	No. of cases	Percentage
Lack of time	21	52.5
Nearby	13	32.5
Traditional belief	9	22.5
Low cost	8	

As shown in Table 4, the reasons for choosing indigenous midwives were mostly due to lack of time (52.5%). Each subject had one or more reasons. It seemed that ignorance and traditional beliefs were the major cause why they had chosen indigenous midwives as birth attendants. This suggestion was supported by the fact that 77.3% of the mothers have joined the prenatal care, but most of the deliveries were carried out by indigenous midwives.

There were only 17.5% of indigenous midwives who used alcohol as material for umbilical care and mostly used materials such as dermatol, salicyl talc, materials of herbal origin, etc. (Table 5). The symptoms and signs of the disease as reasons for seeking medical help were mostly the inability to suck (63.6%). Each parent had one or more reasons (Table 6). Most of the parents (61.4%) chose physicians for the treatment of their sick babies (Table 7).

TABLE 5: *Materials used for the umbilical care*

Materials used	N = 40	
	No. of cases	Percentage
Dermatol	14	35.0
Alcohol	7	17.5
Herbal origin	5	12.5
Alcohol + aseptic materials	2	5
Salicyl talc	1	2.5
Unknown	11	27.5

TABLE 6: *Symptoms and signs as reasons for seeking medical help.*

Symptoms and signs	N = 44	
	No. of cases	Percentage
Inability to suck	28	63.6
Convulsions	19	43.2
Excessive crying	15	34.1
T r i s m u s	14	31.8
F e v e r	1	2.3
V o m i t i n g	1	2.3

Table 3 and 8 show that the choice of indigenous midwives as birth attendants and the decisions to hospitalize their sick babies were mostly made by the parents themselves, i.e. 34 (85%) and 33 (75%) out of 40 and 44 cases respectively. Meanwhile, the decisions made by the grandparents were found only in 6 (15%) and 9 (30.5%) out of 40 and 44 cases respectively.

TABLE 7: *Educational status and type of medical personnel chosen*

Educational status of parents	Total	Physicians	Midwives	Paramedical personnel (nurse)
Illiterate	1	1 (100 %)	—	—
Elementary school	27	16 (59.3%)	9 (33.3%)	2 (7.4%)
Secondary school	9	5 (55.6%)	3 (33.3%)	1 (11.1%)
High school	7	5 (71.4%)	2 (28.6%)	—
T o t a l	44	27 (61.4%)	14 (31.8%)	3 (6.8%)

TABLE 8: *Decision makers for hospitalization*

Decision makers	N = 44	
	No. of cases	Percentage
Parents	33	75
Grandparents	9	20.5
Other members of the family	2	4.5

TABLE 9: *Educational status and awareness of prevention*

Educational status of parents	Total	Awareness of prevention			Total
		Hygiene	Vaccination	Did not know mode of prevention	
Illiterate	1	—	—	—	—
Elementary school	27	3 (11.1%)	—	3 (11.1%)	6 (22.2%)
Secondary school	9	2 (22.2%)	—	2 (22.2%)	4 (44.4%)
High school	7	1 (14.3%)	1 (14.3%)	—	2 (28.6%)
T o t a l	44	6 (13.6%)	1 (2.3%)	5 (11.4%)	12 (27.3%)

Discussion

Only 27.3% of the parents were aware that the disease can be prevented (Table 9). There was a lack of knowledge about the disease and its prevention as revealed in Table 2 and 9. Ignorance still forms a major part of health problems in developing countries, besides poverty and disease, as stated by Davey and Wilson (1969). Indigenous/traditional midwives can play a role in reducing or lowering the incidence of

tetanus neonatorum, because there is still a shortage of medical/paramedical personnel to perform all the deliveries. More indigenous midwives should be trained through a special course conducted by medical centers. Refresher courses should also be maintained periodically and continuously for trained indigenous midwives, because tetanus neonatorum can still be found among neonates who are delivered by supposedly trained indigenous midwives.

According to Simonyan (1964) until 1963 there were 30,000 "dukun" (indigenous/traditional midwives) who had been trained in Indonesia through a special course on hygiene, nutrition, child delivery, and child care; they were supplied with a Unicef kit. De Haas (1964) and Davey and Wilson (1969) also stated that according to experiences in industrialized and developing countries, simple prenatal care and home deliveries by assistant midwives can drastically reduce maternal and perinatal mortality. In reality, most of the deliveries took place outside the hospital

or without the attendance of midwives, carried out by those indigenous midwives.

To reduce the incidence of tetanus neonatorum, the use of tetanus toxoid (immunization) in pregnant mothers is recommended. Fulginiti and Sieber (1975) stated that prevention of tetanus neonatorum can be best accomplished by aseptic deliveries of infants, and in areas where the incidence of tetanus neonatorum is high, immunization of non-immune pregnant mothers will provide the newborns with adequate protection after birth.

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