RESPONSE OF WOMEN IN HIGH-RISK PREGNANCIES IN HULU TERENGGANU

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SUMMARY

Eleven maternal deaths were recorded in Hulu Terengganu between 1981–1985. This represents a high average maternal mortality rate of 1.4 per thousand deliveries annually over the five years. Nine of the 11 women were high priority pregnancies, but only three had hospital deliveries. The most common cause of death was post-partum haemorrhage (PPH), and PPH with a retained placenta.

Hospital deliveries constitute only a low proportion of total deliveries in the district.

In a survey of women with high priority pregnancies attending antenatal clinics in Hulu Terengganu, it was found that 79 (69%) out of 115 respondents were resistant to advice for hospital delivery. Grandmultiparae were a significant proportion of this group.

INTRODUCTION

The Hulu Terengganu district has an area of 387,463 hectares (about 1,495 sq ml) and is situated in the interior of Terengganu, a state in Malaysia. It is bordered by Kelantan and Pahang to the west, the districts of Besut and Setiu to the north, Kuala Terengganu and Marang to the east and Dungun to the south.

The district consists of eight *mukims* (subdistricts), but one *mukim*, Kuala Telemong, has been under the health administration of the district of Kuala Terengganu from 1982–1985. The remaining seven *mukims* have a population of 46,630 (1984 census of the Ministry of Health, Vector-borne Disease Control Programme). The population is almost homogenously Malay (97%) with a sprinkling of Chinese (1.7%), Indians (0.1%) and other races (1.2%). 12,398 (27%) of the populace living in 40 of the 109 *kampongs* (villages) have only laterite road access.

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The health infrastructure of the district consists of one *hospital desa* (district hospital), two health centres, 17 midwife clinics and one mobile team. All of these facilities provide antenatal care. The routine antenatal care includes the identification of 'high priority' pregnancies in accordance with a standardised list of criteria (see Table I). Mothers with these conditions are urged to deliver in the hospital. They are also given priority for monitoring through a home visit if they default from antenatal attendance.

The *hospital desa* is not equipped with a labour room and all obstetric cases for admission are sent to the Kuala Terengganu General Hospital 40 km away. The average distance of a *kampong* to the nearest clinic is 7 km.

The average maternal mortality rate of the district was 1.4 per thousand deliveries a year over the five years from 1981–1985. In view of this high rate, a survey into the attitudes of women in high priority pregnancies towards hospital delivery was conducted between September and October 1985, which was followed up with special efforts at maternal health education throughout the district.

MATERIALS AND METHODS

In the first part of this study, the yearly returns of the Maternal and Child Health Centre of Hulu Terengganu were examined. Death reports of the 11 maternal deaths in the last five years were studied. For the year 1984, the number of women attending antenatal clinics in all the health facilities, including the number of high priority cases noted was obtained from the records of every facility.

In the second part of the study, women in high priority pregnancies (the criteria of the Ministry of Health, Malaysia: Table I) were surveyed at antenatal clinics in all the health facilities in the district. Trained midwives, staff nurses and doctors helped conduct the survey using a standard questionnaire. Women who were high priority for more than one reason were only included in the category that appears higher in that list of criteria.

Each clinic was given questionnaires to be used on antenatal mothers who attended clinic sessions. The staff were instructed to interview a predetermined quota from each clinic, selecting consecutively all those who attended until the quota was reached. However, returns from different clinics varied because some clinics did not achieve their quota. Using the number of government midwife home deliveries in each *mukim* for 1984 as the denominator, sampling rates per hundred deliveries varied from 14.5 in Jenagor, 11.3 in Tersat, 11.0 in Tanggol, 10.9 in Kuala Berang, 7.3 in Penghulu Diman, 5.3 in Hulu Telemong, to 1.1 in Hulu Berang.

TABLE I
CRITERIA OF THE MINISTRY OF HEALTH FOR A HIGH PRIORITY PREGNANCY

* Grandmultiparae (i.e. six and above)
* Primiparae
* Age above 40 for multiparae
* Height less than 148 cm
* A bad obstetric history; such as abortions, perinatal loss, antepartum haemorrhage, PPH, previous obstetric or gynaecologic surgery
* Haemoglobin value less than 9 g%
* Blood pressure above 130/90 associated with albumin in the urine, or oedema or a history of headache, giddiness or visual disturbance
* Glycosuria on two or more occasions
* Vaginal bleeding at any time
* Abnormal presentation beyond 30 weeks gestation
* Medical conditions
* Multiple pregnancies
* Cephalo-pelvic disproportion

In the interview, subjects were advised to deliver in hospital because of their high priority status. Those who had already decided on a hospital delivery and those who were receptive to advice were judged likely to deliver in hospital and termed positive respondents. Those who were persistently evasive or indecisive were grouped with those who refused advice for hospital delivery and termed negative respondents. Negative respondents were asked for reasons why they did not consent to deliver in hospital despite advice. Often more than one reason was given.

RESULTS

Maternal deaths in Hulu Terengganu

An increase in the acceptance of modern medical and health services can be seen in Fig. 1. Over the past 12 years, there has been a steady increase in the number of government midwife home deliveries and a corresponding decline in the number of *bidan kampong* (traditional birth attendants) deliveries. Unfortunately, the proportion of hospital deliveries remains low at

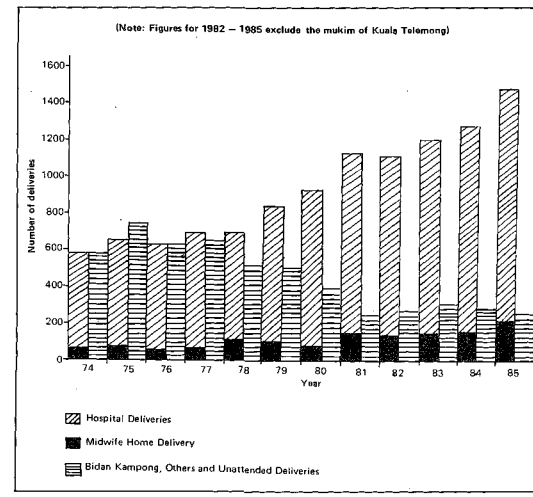


Fig. 1 Total number of deliveries in Hulu Terengganu (1974–1985) by personnel attending delivery.
Source Extracted from yearly returns of the Maternal and Child Health Centre Hulu Terengganu

about 10%, which compares poorly with that reported by Yadav in Kerian (27.5% – 33.4%) over the same period.[1] Fig. 2 shows the number of maternal deaths over the same period.

Table II summarises the maternal death reports of Hulu Terengganu from 1981 to 1985. Although nine of the 11 women had high priority pregnancies, only three were delivered in hospital. Similar to previous studies,[1,2] the most common cause of death was PPH, and PPH with a retained placenta which accounted for six of the deaths.

The survey samples

Government midwives recorded a total of 625 high priority pregnancies from antenatal clinics in their registers for 1984. This was 33% of the total number of new antenatal clinic visits for the year. In the survey conducted over two months, 115 (18% the annual total of 1984) women with a high priority pregnancy were interviewed.

Fig. 3 shows the geographical distribution of the respondents. There was no significant difference ($p > 10$) in the proportion of positive respondents between the better developed and less developed *mukims* (Table III), although there was a slightly higher number of respondents in the better developed *mukims* of Kuala Berang and Tanggol.

Of the 115 women identified, 64 were grandmultiparae, 44 were primiparae, seven were included because of a bad obstetric history and none for any other criteria (Table IV). There was a 1.8 times better chance of a non-grandmultipara being receptive to hospital delivery than a grandmultipara. Grandmultiparae were significantly less receptive ($p < 0.05$).

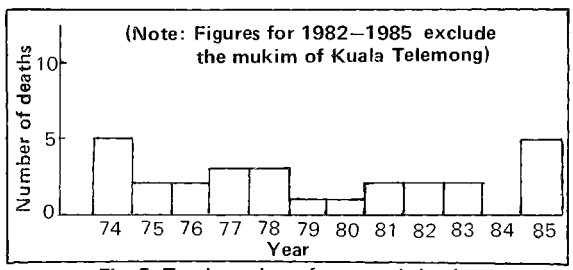
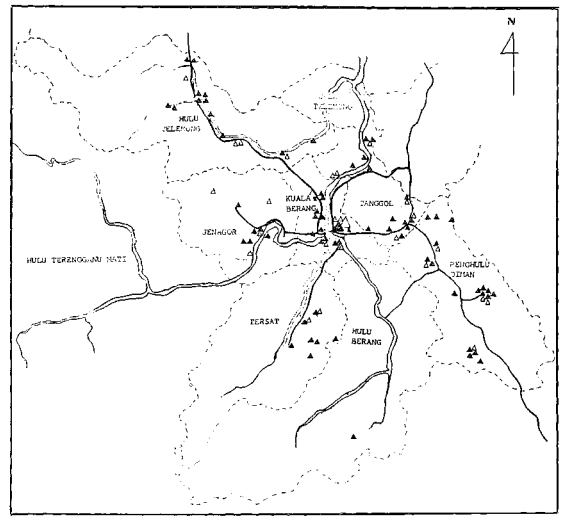


Fig. 2 Total number of maternal deaths in Hulu Terengganu (1974–1985)

The age group mode of positive respondents was younger than that of negative respondents (Fig. 4) because of a higher percentage of grandmultiparae among the latter. However, among those 20 years and under, the proportion of positive respondents is lower than women in their twenties.



10 1
△ ▲ POSTIVE RESPONDENTS
▲ ▲ NEGATIVE RESPONDNETS

MAP OF HULU TERENGGANU

FIGURE 3

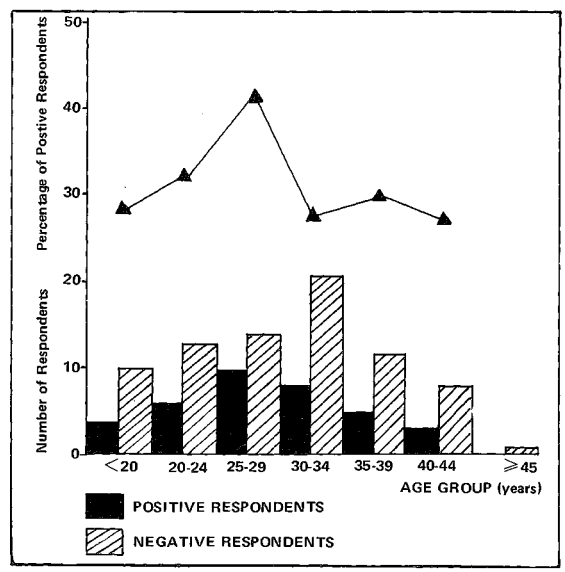


FIGURE 4
AGE DISTRIBUTION OF RESPONDENTS

TABLE II

MATERNAL DEATH REPORTS OF HULU TERENGGANU.1980 – 1985 : A SUMMARY

Date of death	Age (yrs)	Parity	Place of delivery	Birth attendant	Place of death	Cause of death	Condition of child	Notes
19. 1.81	20	G1P0	Home	Midwife	Ambulance	PPH and RP	Birth asphyxia	Midwife was only called when labour was advanced. Patient initially reluctant to go to hospital. Poor roads caused further delay.
16.10.81	26	G2P1	Home	—	Home	Eclampsia	Stillborn	Only 1 ANC visit at 28 weeks where BP was normal. Felt ill one morning at 32 weeks; had seizures; delivered precipitately and died the same day. Consulted only the *bomoh* and *bidan kampung*.
27. 5.82	14	G1P0	Hospital	Medical officer	Home	Septicemia	Stillborn	Suffered a 28 day prepartum febrile episode. Took irregular discharge 2 days before death.
28. 8.82	35	$G8P6^{+1}$	Home	Midwife	Home	PPH	Well	Adamantly refused referral to hospital.
29.10.83	27	$G4P4^{+1}$	Home	*Bidan kampung*	Home	PPH	Well	Family purposely did not call for medical aid.
15.12.83	39	$G11P9^{+1}$	Home	*Bidan kampung*	Home	PPH and RP	Well	Adamantly refused referral to hospital despite authorities offering aid in prevailing floods.
14. 5.85	27	G5P4	Home	*Bidan kampung*	Hospital	PPH and inversion of uterus	Well	Refused advice of even the *bidan kampung* for hospital delivery in view of very bad obstetric history.
21. 5.85	27	$G2P0^{+1}$	Hospital	Medical officer	Hospital	Aspiration pneumonitis	Well	Referred to hospital because of PIH, obesity and a breech presentation. Anaesthetic complications occured at LSCS.
7. 6.85	40	G9P8	Home	*Bidan kampung*	Home	PPH and RP	Well	*Bidan kampung* and family delayed calling medical aid. Midwife at local clinic was not available.
26. 8.85	38	$G11P6^{+4}$	Hospital	Medical officer	Home	Dehydration	Well	Developed puerperal psychosis at home after LSCS delivery. Poor oral intake caused dehydration. Died 2 days after irregular discharge of readmission.
3.12.85	36	$G12P10^{+1}$	Home	n.a.	Hospital	APH	Undelivered	Death occurred 3½ hrs after onset of bleeding. Ambulance journey (1½ hrs) was delayed by road conditions.

The reasons and excuses for refusing advice negative respondents gave are listed in Tables V and VI. The commonest reason given by grandmultiparae was the problem of caring for other young children. Fear and complaints about the hospital environment was the commonest reason cited by primiparae and the second commonest of grandmultiparae. These reasons are subdivided in Table VI. Financial costs, transport problems and the distance of approximately 40 km to the hospital form another group of problems. Miscellaneous cultural and social matters are among other reasons given.

DISCUSSION

The criteria mentioned for high priority pregnancies successfully identified all but two of the 11 maternal deaths in Hulu Terengganu in the last five years. Of the two, one women had rapidly progressive eclampsia which might have been detected early had she attended antenatal clinics more frequently. The other woman died of a PPH having had no special features besides a previous twin pregnancy. In her case and in a few others, the outcome might have been different if they had not refused hospital treatment in their final crises.

TABLE III

NUMBER OF POSITIVE AND NEGATIVE RESPONDENTS IN BETTER DEVELOPED AND LESS DEVELOPED *MUKIMS* IN HULU TERENGGANU

	Positive respondents	Negative respondents
Better developed *mukims*	11	36
Less developed *mukim* **	15	43
Total	36	79

* Kuala Berang and Tanggol: where less than 20% of kampongs or 15% of the population are not served by metalled roads.

** Penghulu Diman, Hulu Telemong, Jenagor, Tersat and Hulu Berang; where more than 20% of kampongs or 15% of the population are not served by metalled roads.

TABLE IV

NUMBER OF POSITIVE AND NEGATIVE RESPONDENTS BY TYPE OF PRIORITY PREGNANCY

Type of priority pregnancy	Positive respondents	Positive respondents
Grandmultiparae	15	49
Primiparae	18	26
Bad Obstetric History	3	4
Total	36	79

($p > 0.05$; $X^2 = 3.72$)

TABLE V

REASONS GIVEN BY GRANDMULTIPARAE, PRIMIPARAE AND WOMEN WITH BAD OBSTETRIC HISTORIES FOR REFUSING HOSPITAL DELIVERY

Reasons given	Grandmulti-parae	Primiparae	Women with bad obstetric histories
Problems of leaving other young children	40	–	2
Fear of the hospital (see Table VI)	23	16	–
Financial cost	7	4	2
Distance to hospital	5	5	–
Specifically wants home delivery	3	4	–
Transport problems	3	1	–
Family objections	1	2	–
Not sure of dates	2	1	–
Too busy	–	1	–
Previous deliveries were simple	1	–	–

TABLE VI

REASONS FOR THE FEAR OF HOSPITALS AND OTHER COMPLAINTS

Reason given	Grandmultiparae	Primiparae
Fear of surgery, other procedures and blood	3	4
Fear of being left alone without relatives	2	3
Fear/Disapprove of male doctors	2	1
Heard rumours that one must lie completely naked	2	–
Not satisfied with service of nursing staff	2	–
Mother not able to be with her in labour	–	2
Faer not specified	12	6

Grandmultiparity was a feature in five of the maternal deaths, primiparae a feature in two. These easily identified criteria account for a majority of the maternal deaths. In the survey conducted, although a long list of criteria was used, the respondents identified fell into only three categories; grandmultiparity, primiparity and a bad obstetric history. Perhaps it is because these are easily identified and the other criteria more easily missed. In some instances, women who fulfilled other criteria, for example anaemia, were already included for grandmultiparity. A simplified list of criteria, therefore, should it be necessary will retain much of its effectiveness.

Identifying the size and the characteristics of the population of high priority pregnancies who are not likely to deliver in hospital is a premium in strategies to reduce maternal as well as perinatal mortality. Only three of the 11 women who had deaths related to their pregnancy delivered in hospital. Had more of them delivered in hospital fewer might had died. In 1984, although 625 high priority pregnancies were identified in the district, only 177 hospital deliveries were recorded. In this survey 69% of such women indicated that they were unlikely to deliver in hospital.

Grandmultiparae, women 20 years and below in age and predictably women in more remote areas are more poorly disposed to advice for hospital deliveries.

In view of the current size of the problem, a campaign was conducted in the last quarter of 1985. Programmes included a slide presentation on the causes of maternal deaths, targetted at

20 *kampongs*, lectures consisting of case examples of avoidable maternal deaths, and dialogue session in 56 kampongs. Gatherings were held for key groups of influence, such as the ***bidan kampong***, the ***ketua kampong*** (village chief) and KEMAS (a government agency for community development) personnel. It is hoped that these efforts will bear fruit by way of a sustained increase in the number of safe deliveries of high priority pregnancies.

The reasons for refusing hospital delivery that need to be addressed often requires attention at the individual level with a keen awareness of prevailing social circumstances. Some need reassurance for their fears together with helpful advice. Some are ignorant or misinformed about the true cost of a hospital delivery and the sources of aid available. Some may need social intervention from relatives or an agency, for example, for the care of children. However, some have fixed intentions and merely give excuses.

In addition, there are factors that affect the whole community. The distance to hospital may not deter some if there was a facility for hospital delivery within the district. Poor road conditions besides causing reluctance may cause crucial delays in emergencies. Some of the reasons given for refusing hospital deliveries point to the quality of current medical services and call for thought on how they may be improved. Another factor based on a personal clinical impression is the common practice of calling the midwife only when labour is well established and often advanced in which case there is no opportunity for the patient to be transferred safely to hospital even if she is willing.

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REFERENCES

1 Yadav H. Study of maternal deaths in Kerian (1976 – 1980). *Med J Malaysia* 1982; 37 : 165–169.

2 Ariffin M, Thambu J A. Maternal mortality in the government hospitals, West Malaysia 1967–1968. *Med J Malaysia* 1983; 27 : 203–206.