

## ORIGINAL ARTICLE

# KNOWLEDGE, ATTITUDE AND PRACTICE ON ANTENATAL CARE AMONG ORANG ASLI WOMEN IN JEMPOL, NEGERI SEMBILAN

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## ABSTRACT

The maternal health status of Orang Asli women in Malaysia was noted to be lower as compared to other groups of population in the country. This study aimed to determine the level of knowledge, attitude and practice on antenatal care, which is a vital component of maternal health among the Orang Asli women in three Orang Asli villages in Jempol District, Negeri Sembilan. All women aged between 15 to 49 years old who had at least one antenatal experience were interviewed using a structured, pretested questionnaire. A total of 104 women were interviewed. Among them, 92.3% admitted attending antenatal clinic during their previous pregnancies while only 48.1% came early for their first check-up. About 70% of the women had history of home delivery and 44.2% had experienced at least one high risk pregnancy before. Study revealed that 44.2% (95% CI, 34.7 - 53.7%) of the women have good knowledge regarding antenatal care while 53.8% (95% CI, 44.3 - 63.1%) of them noted to have positive attitude regarding antenatal care. However, result showed that the level of knowledge regarding the importance of early antenatal care, screening test and complications of diabetes and hypertension in pregnancy were poor. In conclusion, the rate of home delivery and late antenatal booking was still high among the Orang Asli women and it is significantly associated with their attitude regarding antenatal care. These findings can be used to plan a customized health intervention program aiming to improve the maternal health practices and eventually improve the health status of the Orang Asli women.

**Key words:** Antenatal care, knowledge, Malaysia, Orang Asli, practice.

## INTRODUCTION

Appropriate antenatal care is one of the pillars of Safe Motherhood Initiatives, a worldwide effort launched by the World Health Organization (WHO) and other collaborating agencies in 1987 aimed to reduce the number of deaths associated with pregnancy and childbirth<sup>1</sup>. It highlights the care of antenatal mothers as an important element in maternal healthcare as appropriate care will lead to successful pregnancy outcome and healthy babies. All pregnant ladies are recommended to go for their first antenatal check-up in the first trimester to identify and manage any medical complication as well as to screen them for any risk factors that may affect the progress and outcome of their pregnancy. According to the Perinatal Care Manual recently edited by the Ministry of Health Malaysia, primigravida women are advised to go for a total of ten visits during their pregnancy and for multigravida women, the total recommended antenatal visit is seven sessions<sup>2</sup>.

The Maternal Mortality Ratio (MMR) in Malaysia has been maintained to be below 40 per 100,000 livebirths since the 1990s<sup>3</sup>. However, there are still

groups of marginalized women with poor maternal health status in Malaysia such as the Orang Asli women as demonstrated elsewhere in the world among other indigenous communities<sup>4,5</sup>. The Orang Asli, the indigenous minority community of Peninsular Malaysia, are considered one of the marginalized group due to their impoverished condition and lack of access to resources. There were 141,230 Orang Asli population in 2008 and 50% of them were categorized to be in hard-core poverty group. They are usually divided into three main groups: Senoi (54.1%), Proto-Malay (42.7%) and Negrito (3.2%)<sup>6</sup>. Midwives and traditional healers are important figures in the Orang Asli traditional health system.

It was reported that the MMR among Orang Asli women in 2002 was 480 per 100,000 livebirths, which was more than ten times higher as compared to the national data of 30 such deaths per 100,000 livebirths in the same year<sup>3,7</sup>. Although the health status of Orang Asli women has improved over the years, it is still not at par with the national benchmark. Among the Orang Asli women in Negeri Sembilan in 2009, the MMR was reported to be 35.7 per 100,000 livebirths which was about 30% higher than the national rate<sup>8</sup>. The antenatal care

coverage among Orang Asli was also reported to be lower as compared to the national level. According to a survey done by Lim & Chee in 1998 among Orang Asli women in the state of Pahang, only about 64% of them came for early antenatal check up<sup>9</sup>. Similar situation was reported in another rural area in Malaysia where only about 50% of pregnant Orang Asli women came for their first antenatal booking in the first trimester<sup>10</sup>.

Health knowledge is a vital element to enable women to be aware of their health status and the importance of appropriate antenatal care. At this moment, data on maternal health status of Orang Asli women is scarcely available. This study was conducted to determine the level of knowledge, attitude and practice related to antenatal care among these underprivileged women in selected Orang Asli communities in Jempol District, Negeri Sembilan which will be used as baseline data for further planning of health intervention programme.

## MATERIALS AND METHODS

This is a cross sectional survey conducted between February and April 2011 to assess the knowledge, attitude and practice on antenatal care among the residents in three Orang Asli settlements in Jempol District, Negeri Sembilan, namely Kampung Sungai Cherbang, Kampung Sungai Sot and Kampung Sungai Lui. Majority of the people were from the Semelai and Temuan tribe which were classified under the Proto-Malay subgroup of Orang Asli. There were a total of 578 residents and 150 households in the three villages. The nearest health facility is the Klinik Desa Sungai Lui which is about 7 km from Kampung Sungai Lui and 20 km from both Kampung Sungai Sot and Kampung Sungai Cherbang. There was no public transport service in the village and the residents were still practicing their culture which includes the traditional health practices.

The sample size was calculated using the formula by Snedecor and Cochran (1989) giving a minimum sample size of 94 at 5% level of significance and margin of error at 10%. All women aged between 15 to 49 years old who have had at least one pregnancy experience were invited to participate in the study. The women who consented were interviewed using a structured questionnaire by a group of trained interviewers. The questionnaire was developed in English and was translated to Bahasa Melayu for the purpose of the interview. Back translation of the questionnaire was

performed by independent researcher to improve the reliability and validity of the questionnaire. To ensure internal consistency, reliability test for the knowledge and attitude scale were performed giving the Cronbach's Alpha value of 0.806 and 0.812 respectively.

Pretesting of the questionnaire was conducted among another population of Orang Asli women in Kampung Sungai Sampo, Jempol prior to data collection to assess the face validity of the questionnaire.

Data on socio demography (age, education, marital status, income and transport), pregnancy history, knowledge, attitude and several antenatal practices were collected. The questions on knowledge and attitude were subdivided into several sections such as the knowledge and attitude on early booking, nutrition in pregnancy, follow up, screening test and preparation for delivery. The components of antenatal practice measured in this study were whether they went for antenatal check up, timing of their first antenatal check-up, the attendance of follow up and the consumption of iron supplement. For multiparous women, they were assessed based on their experience and antenatal practice of the latest pregnancy. Information gathered from the respondents was reconfirmed by checking their antenatal records in the health clinic.

Data analysis was performed by using SPSS version 19<sup>11</sup>. Descriptive analysis was performed by using frequencies, percentages, means and standard deviations. Ethical approval to conduct the study was obtained from the Medical Research Ethics Committee of the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia with the reference number of UPM/FPSK/PADS/T7-MJKEtikaPer/F01(Jkk(u)SPK3811\_Mac(11)08).

## RESULTS

### General characteristics of subjects

A total of 104 women agreed to participate in this study. The socio demographic characteristics are shown in Table 1. The largest number of the respondents (46.2%) was from the age group of 20 to 29 years. A total of 84.6% were from Semelai tribe. Quite a high proportion of the women (42.3%) did not receive any primary or secondary education. About 61.5% of them were housewives while 38 (36.6%) of them worked as rubber tapper.

**Table 1. General characteristics of the respondents (N=104)**

Characteristics	Frequency	Percentage (%)
<b>Age group</b>		
15 - 19	10	9.6
20 - 24	20	19.2
25 - 29	30	28.9
30 - 34	18	17.3
35 - 39	6	5.8
40 - 44	18	17.3
Above 45	2	1.9
<b>Tribe</b>		
Semelai	88	84.6
Temuan	12	3.9
Jahudi	4	11.5
<b>Occupation</b>		
Farmer	2	1.9
Housewife	64	61.5
Rubber tapper	38	36.6
<b>Education level</b>		
No formal education	44	42.3
Primary School	46	44.2
Lower secondary	8	7.7
Upper secondary	6	5.8
<b>Household income (RM)</b>		
0 - 249	26	25.0
250 - 499	70	67.3
500 - 749	4	3.85
750 - 1,000	4	3.85
Above 1,000	0	0
<b>Transportation to access health facility</b>		
Motorcycle	80	76.9
Healthcare van	10	9.6
Car	12	11.6
Walking	2	1.9

The household income of all the respondents ranged between RM50 to RM1,000 where 92.3% of them have to survive with less than RM500 for their household per month. The mean income was RM388 (standard deviation, SD = RM178). The main transportation used by the women to access health facilities during their pregnancy were motorcycles (76.9%). However, ten out of 104 women still rely on the vehicle provided by the health clinics to go for their antenatal check-up.

#### **Reproductive history**

Regarding history of previous pregnancies, 44.2% of the Orang Asli women have had at least one high risk pregnancy before. The number of the respondent's children ranged between one and fifteen per women with 28.8% of them having more than five children and categorized as grandmultipara. A total of 72 women (69.2%) had history of home delivery. Among the Orang Asli women interviewed, 16.4% of them had experienced at least one episode of miscarriage. Fourteen (13.5%) of them had history of one stillbirth before while four (3.8%) of the Orang Asli women had history of more than one stillbirth.

#### **Knowledge on antenatal care**

Table 2 shows the Orang Asli women's responses to the question on knowledge regarding antenatal care. There were 20 questions on knowledge, each correct answer was given one mark and no mark was given for wrong answer. In this survey, the knowledge score of the respondents ranged between 7 to 18 with the mean of 13.5 (SD=2.7) and median of 14.0 (Interquartile Range, IQR=3). The score was normally distributed. The knowledge score was further divided to two levels which are good knowledge and poor knowledge using the mean knowledge score as the cutoff point. The proportion of respondents with good knowledge was 44.2 percent with 95% confidence interval of 34.7 to 53.7 percent. Further analysis of the questions on knowledge revealed that majority (94.2%) of the Orang Asli women know that pregnant women need to go for antenatal check-up. However, only 73.1% know that the first antenatal check-up should be done in the first three months. About a quarter of the women didn't know the harmful effect of smoking and alcohol intake in pregnancy. About half of the women didn't know the complication which may arise with hypertension and diabetes in pregnancy. Only 80% of the Orang Asli women know that primigravida should deliver in hospital.

**Table 2. Knowledge on antenatal care among Orang Asli women in Jempol District (N=104)**

Code	Knowledge on antenatal care	No. of subjects with correct answer	Percentage (%)
K1	Do pregnant women need to go for antenatal check-up?	98	94.2
K2	Should first antenatal check-up be done in the first 3 months?	76	73.1
K3	Does pregnant woman need vitamin supplement?	96	92.3
K4	Does maternal smoking harmful to the fetus?	80	76.9
K5	Should you take alcohol to provide extra energy during pregnancy?	72	69.2
K6	Does pregnant woman need to come for at least five antenatal follow up throughout her pregnancy?	80	76.9
K7	Can a pregnant woman go to the Klinik Desa for antenatal follow-up?	100	96.2
K8	Should a pregnant woman see the doctor for antenatal care only if she has pregnancy complication?	42	40.4
Does pregnant woman need to undergo the following test during her antenatal check-up?			
K9	Blood screening for Hepatitis B infection	52	50.0
K10	Blood screening for HIV infection	34	32.7
K11	Blood screening for hemoglobin level	82	78.8
K12	Blood pressure examination	90	86.5
K13	Blood sugar level	72	69.2
K14	Urine test for bacterial infection	20	19.2
K15	Can high blood pressure affect the fetus growth?	58	55.8
K16	Do diabetic women have higher risk of having big babies?	44	42.3
K17	Is ultrasound scan safe for the fetus?	88	84.6
K18	Is antenatal class good to prepare expecting mothers mentally?	82	78.8
K19	Can emotional disturbance affect fetal growth?	54	51.9
K20	Should women deliver in the hospital for their first pregnancy?	84	80.0

**Attitude on antenatal care**

The initial statements in the questionnaire consisted of a mixture of positive and negative statement which has been recoded to positive statements and presented in Table 3. There were 14 statements with 5-point Likert Scale agreement options to measure the attitude level which were given 1 to 5 marks. For the purpose of this paper, the response to the option for strongly agree and agree were reported cumulatively so as the response to strongly disagree and disagree. The minimum possible score was 14 and the maximum possible score was 70. Result shows that the attitude level of the Orang Asli women ranged from

46 to 70 with the mean score of 66.2 (SD=2.3) and median of 64.0 (IQR=12). The score was normally distributed. The attitude score was further divided to two levels which are good attitude and poor attitude using the mean attitude score as the cut-off point. The proportion of respondents with good attitude was 53.8 percent with 95% confident interval of 44.3 to 63.1 percent. For the individual questions, it was noted that there was a good response to the statement on the importance of early antenatal booking where 88.5% of the respondents agreed to it. About 82.7% of the respondents strongly agreed and agreed to go for their first antenatal booking before the third month

**Table 3. Attitude towards antenatal care among the Orang Asli women in Jempol District (N=104)**

Code	Statements	No. of subject with specific responses (%)		
		Strongly Disagree & Disagree	Unsure	Strongly Agree & Agree
A1	Early antenatal booking is good for my pregnancy	4 (3.8)	8 (7.7)	92 (88.5)
A2	I will go for antenatal booking before the third month of my pregnancy	10 (9.6)	8 (7.7)	86 (82.7)
A3	I believe that vitamin supplement is good for the fetus	0	2 (1.9)	102 (98.1)
A4	I feel that smoking is harmful to the fetus	24 (23.0)	2 (1.9)	78 (75.1)
A5	I believe alcohol drinking will affect fetal growth	18 (17.3)	12 (11.5)	74 (71.2)
A6	I will go for antenatal check up in the Klinik Desa if I am pregnant	4 (3.8)	0	100 (96.2)
A7	Antenatal follow up is good to monitor mother's and fetus' health	6 (5.8)	6 (5.8)	92(88.4)
A8	I will allow the doctor to take my blood for screening if I am pregnant	2 (1.9)	2 (1.9)	100 (96.2)
A9	I will allow the doctor to check my blood pressure if I am pregnant	0	2 (1.9)	102 (98.1)
A10	I will check my blood sugar level if I am pregnant	2 (1.9)	4 (3.8)	98 (94.3)
A11	I am willing to do ultrasound scan during my pregnancy	4(3.8)	10 (9.6)	90 (86.5)
A12	I plan to deliver in the hospital if I am pregnant	6 (5.8)	8(7.7)	90 (86.5)
A13	I will do early preparation for the delivery if I am pregnant	0	0	104 (100.0)
A14	I am ready to face any pregnancy and delivery complication if I am pregnant	4 (3.8)	10 (9.6)	90 (86.5)

of their pregnancy. Almost all of the respondents (102 out of 104) agreed that vitamin supplements are important for their pregnancy. In terms of their attitude regarding smoking and alcohol drinking during pregnancy, about three quarter of the women agreed that both practices might have harmful effect to the fetus. Majority of the women agreed to be screened if they need to go for antenatal check-up.

#### Selected antenatal practices

Several areas of antenatal practices were explored

in this survey. The women were asked on their antenatal follow up attendance and 92.3% of the women admitted that they did come for antenatal visit during all their previous pregnancies. This was confirmed by the presence of previous antenatal follow-up cards. However, only 48.1% admitted that they came for their antenatal checkup in the first 3 months of their pregnancy while 54 of them came at their fourth month or later. In general, the Orang Asli women attended their first antenatal check-up between their first month and seventh months of pregnancy with the mean of 3.7 (SD=1.3

months). About 60% of the Orang Asli women who came late for their first antenatal check-up were young mothers aged below than 30 years. All 104 respondents claimed that they took vitamin supplement which was provided by the health clinic during their last pregnancy. The average number of antenatal visit per women was only 4.3 (SD=1.6) visits per woman.

#### **Relationship between knowledge, attitude and practice**

Pearson correlation test was performed to look at the relationship between the mean knowledge score and the mean attitude score of the respondents. Results showed a significant positive and moderate relationship between the knowledge and attitude score ( $p=0.01$  with correlation coefficient,  $r=0.469$ ). Further analysis of the relationship between knowledge and attitude score and selected antenatal practice (early antenatal booking and home delivery) was performed by using independent sample t-test. It was noted that knowledge score was not significantly associated with both early antenatal booking ( $p=0.279$ ) and home delivery ( $p=0.264$ ). However, there were significant relationship between the attitude score and early antenatal booking ( $p=0.032$ ) as well as home delivery ( $p=0.047$ ).

## **DISCUSSION**

The respondents in this study has quite similar characteristic with other Orang Asli women in Malaysia in terms of education, occupation and household income where majority of them did not receive formal education, function as fulltime housewives and live in poor households<sup>7</sup>. These conditions pose a greater health risk to them as many other disadvantage indigenous women elsewhere<sup>4,12</sup>. Various studies among the Orang Asli communities in Malaysia have also demonstrated that poverty and household food insecurity had resulted in malnutrition and chronic energy deficiency among the population including women of reproductive age group which subsequently may lead to unfavourable pregnancy outcome<sup>13,14</sup>. In this instance, effective poverty eradication programme would be very important to act as the catalyst in breaking the cycle of poverty and poor health among the population of Orang Asli.

In this survey, it was noted that high risk pregnancy was common among the Orang Asli women. The proportion of grandmultipara was also high which

act as additional risk if they ever want to conceive again. About half of the women did not know the complications that might arise among hypertensive and diabetic mothers. These high risk women need specific antenatal care and recommended for hospital delivery. However, home delivery is still a preferred practice among the Orang Asli community where about two third of the women reported having experience of home delivery in their previous pregnancies contradicting to the good attitude demonstrated regarding hospital delivery. Similar preference of home delivery has been reported involving Orang Asli women which may be due to familiarity and strong influence of traditional health practices<sup>15</sup>. The practice of home delivery certainly is an important aspect to improve in maternal care as it was demonstrated by the CEMD report that 30.5% of maternal death involved women who delivered at home<sup>16</sup>. The rate of safe, hospital delivery can be increased among the Orang Asli women if proper health intervention which are sensitive to the cultural practices and specific needs of the women is introduced. A report by Gabrysch et al. (2009) has proven that cultural adaptation of birthing services has successfully increased the number of deliveries in health facilities by the indigenous women in rural Peru<sup>17</sup>.

The importance of knowledge and awareness among different groups of women as factors affecting the acceptance and utilization of health services has been shown in other studies<sup>18,19</sup>. Similarly, appropriate knowledge and attitude is vital in ensuring sustainable acceptance of antenatal services among the Orang Asli women. This study revealed that the respondents have inadequate knowledge regarding the importance of coming early for their first antenatal check-up. Their ignorance resulted in late antenatal booking where only 48.1% of the women came for their antenatal booking in the first trimester. This is lower as compared to findings in another rural settlement in Pahang state, where 63.6% of the Orang Asli women interviewed admitted going for their first antenatal check up in the first trimester<sup>9</sup>. However, the result is comparable to a review on antenatal care among indigenous group in Australia where the proportion of women in Australia's Aboriginal population who went for their first antenatal check up in the first trimester ranged between 34% to 49%<sup>12</sup>.

Result showed quite a high proportion of women who came late for their antenatal booking were young mothers aged less than 30 years. This is an important point to be considered in any

intervention program planned for these women since they will be in reproductive period for the next 20 years or more. These vulnerable women can easily end up with high risk pregnancy resulting in poor maternal and fetal outcome if no proper antenatal care is offered to them early. Therefore, it is imperative to educate these women and her family on appropriate maternal health practices.

In terms of access to healthcare services, the findings of this study revealed that majority of the women used their own transport to go for antenatal check-up resulting in good coverage of antenatal follow up among the women. This is probably due to availability of proper road connecting the village to the nearest clinic. Different findings might be shown if the study is conducted in other remote Orang Asli villages as about 40% of Orang Asli villages in Peninsular Malaysia were not accessible by land transportation<sup>7</sup>.

As an effort to reduce the high incidence of iron deficiency anaemia among the Orang Asli women<sup>9,13</sup>, vitamin supplements were given to them antenatally. This study revealed that majority of the Orang Asli women has good knowledge and attitude regarding nutritional supplement during pregnancy. This fact is strengthened by the high proportion of women who took vitamin supplements from the clinic during their antenatal follow-up. However, the outcome of vitamin supplementation in terms of hemoglobin level was not captured by this study. Future research in this area will be beneficial in looking at the acceptance, tolerance and impact of vitamin supplementation among the Orang Asli women.

The findings of this study, however has its own limitations. The Semelai, Temuan and Jahudi subtribe of the respondents which is classified under the Proto-malay tribe only represent 42.7% of the Orang Asli population in Malaysia. Different findings might be seen if the study is conducted among the Senoi or Negrito tribe due to different cultural practices, norms and belief. The location of the study which is accessible by road also affect the accessibility to healthcare hence affecting the health practices of the respondents. However, this study may act as a preliminary survey due to the scarcity of published data regarding the reproductive health of Orang Asli women.

## CONCLUSION

The practice of home delivery is still common

among the respondents and a high proportion of them came late for their antenatal booking. These two practices were significantly associated with poor attitude regarding antenatal care. Their knowledge on certain aspects of antenatal care were still poor especially regarding the importance of early antenatal check-up, health screening and complications related to diabetes and hypertension in pregnancy. Specific intervention programme customized to the Orang Asli community need to be planned and conducted in order to improve their maternal health practices and eventually improve the health status of the Orang Asli women.

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