

# A review of *Orang Asli* newborns admitted to a neonatal unit in a Malaysian general hospital

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## ABSTRACT

**Introduction:** The *Orang Asli* are the indigenous population in peninsular Malaysia and are in fact a diverse sub-ethnic group with different languages. Our aim was to collect data on *Orang Asli* newborns, from western and central Pahang, that were admitted to a general hospital with paediatric specialist services.

**Methods:** This is a retrospective study of all *Orang Asli* neonates admitted to the Neonatal Unit in Temerloh Hospital over a one-year period (2003).

**Results:** There were 65 *Orang Asli* admissions out of a total of 1,543 admissions to our Neonatal Unit. The average birth weight was 2,569 g. The commonest indication for admission was neonatal jaundice secondary to glucose-6-phosphate dehydrogenase deficiency. Ten babies were ventilated, seven for prematurity and three for mild-moderate perinatal asphyxia. There were three deaths: a baby with a lethal congenital abnormality, one with congenital rubella syndrome with cardiac failure, and a preterm baby delivered at 28 weeks gestation, with late neonatal sepsis.

**Conclusion:** This is the first attempt to assess the health status of *Orang Asli* neonates in peninsular Malaysia. There are no published reports on the health status of this group of neonates. A larger multicentre study is needed to determine the exact health status of Malaysian *Orang Asli* newborns.

**Keywords:** aborigines, indigenous newborns, neonatal admissions, *Orang Asli*

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## INTRODUCTION

The indigenous population of peninsular Malaysia, commonly known as *Orang Asli* (OA), is mainly concentrated in the central Malaysian states of Pahang, Kelantan, Perak, Selangor and Negeri Sembilan. Data regarding neonatal problems in this population is rather limited. Although they make up less than 2% of the population, the morbidity and mortality among this group is well recognised. A study conducted in the state of Kelantan showed that 33.7%–65.3% of OA preschool children were found to be underweight compared to 7.3%–34.1% of Malay preschoolers.<sup>(1)</sup> A literature review shows that there has not been a study on OA neonates published previously. This study was carried out with the aim of getting information on the health status of this special group of neonates.

## METHODS

Temerloh (previously known as Mentakab) Hospital is located in the Malaysian state of Pahang. The state of Pahang has a population of 1.28 million people.<sup>(2)</sup> This hospital currently provides specialist care in most major specialties to the population in central to west Pahang. The Neonatal Unit consists of ten level three intensive care cots, ten level two cots and 16 level one cots. In this retrospective audit, all OA neonates admitted to the Neonatal Unit from January 1, 2003 to December 31, 2003 were identified from the admission records. The individual admission record was then traced from the Records Department. Infants who were more than 28 days old on admission were excluded from this study. The data from each patient was manually checked and then recorded using a computerised database. The data was analysed using Intercooled Stata Version 9.1 (StataCorp, College Station, TX 77845, USA).

## RESULTS

There were 1,543 admissions to the Neonatal Unit during the study period, out of which 148 babies were ventilated. A total of 65 OA neonates were admitted during this period, making up 4.2% of the total

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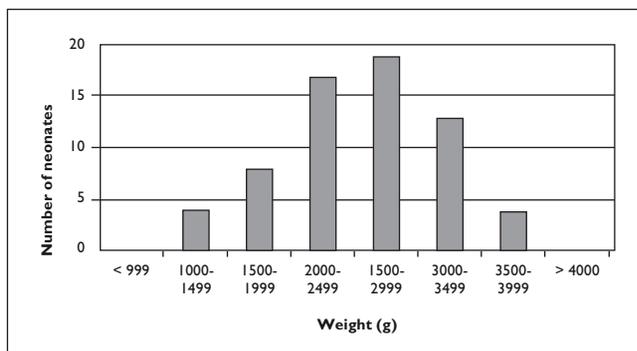
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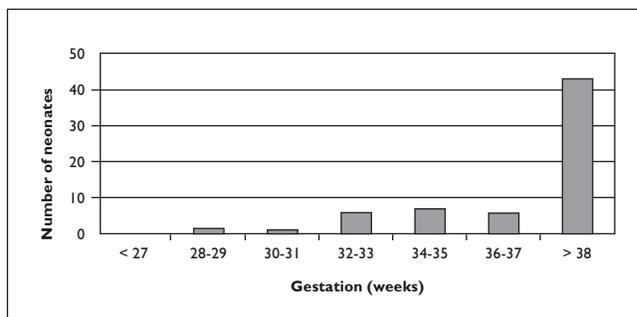
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admissions. The average weight of these babies was 2,569.4 g with a standard deviation (SD) of 712.0 g. The largest baby weighed 3,900 g and the smallest weighed 1,100 g. The weight distribution of OA newborns appeared to be normally distributed (Fig. 1). 43 (66.2%) of the newborns were born at term, 14 were born with borderline prematurity (between 35 and 37 weeks), and only eight were born at less than 34 weeks gestation. The distribution of OA newborns according to gestational age is shown in Fig.2. 39 (60%) were male, while 26 (40%) were female. 47 (72.3%) of the neonates were inborn, whereas the rest were referred from nearby health centres or district hospitals. Among the outborns, four of them were delivered at home and three while on the way to the hospital.



**Fig. 1** Bar chart shows distribution of birth weight of Orang Asli neonates.



**Fig. 2** Bar chart shows the distribution of the period of gestation of Orang Asli newborns.

The two most common causes for admission were neonatal jaundice secondary to glucose-6-phosphate dehydrogenase (G6PD) deficiency (22 patients) and prematurity (16 patients). There were six admissions for sepsis and four neonates were admitted due to perinatal asphyxia. Other causes of admissions were physiological jaundice, meconium aspiration syndrome and small for gestational age (SGA). The infant who was admitted because of SGA was later diagnosed to have congenital rubella syndrome. The reasons for admission to the unit are summarised in Table I. The median length of stay was

**Table I. Reasons for admission to the neonatal unit**

Diagnosis	No. of patients
Physiological jaundice	11
Jaundice 2° to G6PD deficiency	22
Perinatal asphyxia	4
Meconium aspiration syndrome	1
Transient tachypnoea of newborn	1
Intrauterine growth retardation	2
Sepsis	6
Prematurity	16
Infant of diabetic mother	2

five days. The longest admission was for 158 days. This long-stay patient was born at 28 weeks of gestation and subsequently developed subglottic stenosis and needed prolonged respiratory support.

A total of ten OA neonates received conventional ventilation during this period. Seven babies were premature and developed hyaline membrane disease. The other three patients had perinatal asphyxia. The median length ventilation was five days. The longest duration of ventilation was for a 28-week gestation neonate who was ventilated for 90 days. This long-stay patient appeared to have skewed the distribution for duration of ventilation. On the other hand, 138 out of 1,478 newborns from the other ethnic groups needed respiratory support. However, the chi-square test showed that there is no statistically significant difference between the number of ventilated OA newborns compared to the other ethnic groups ( $\chi^2 = 2.06$ ;  $p = 0.1510$ ). The total number of deaths was three. One baby had a lethal congenital malformation, another had congenital rubella syndrome with cardiac failure, and one preterm neonate delivered at 28 weeks gestation succumbed to late neonatal sepsis. Looking at the mothers of these newborns, the average age of the mother was 26.5 years with a SD of 7.0 years. 12 mothers (18.5%) were less than 20 years of age and three (4.6%) were older than 40 years of age.

## DISCUSSION

In this study, the OA population was seen as one large homogeneous population. However, they actually consist of almost 18 different ethnic groups. It was rather difficult to determine which subgroup the patients came from. Although the OA population forms less than 2% of the Malaysian population, they made up 4.2% of the neonatal admissions to the unit. It is interesting to note that 22 of these newborns had G6PD deficiency resulting in neonatal jaundice. G6PD screening is routinely done on all newborns. Despite having 22 OA babies admitted with G6PD deficiency and jaundice, none of them needed exchange transfusion. Physiological jaundice is

the most common cause of admission to neonatal units across the country.

Among babies requiring level three care, prematurity was the main reason for ventilation (70%). There appears to be no statistically significant difference between the number of OA newborns ventilated, compared to the other ethnic groups. No neonate was ventilated for early neonatal sepsis. One baby had congenital rubella syndrome with cardiac complications. The actual coverage of rubella immunisation among OA women is not well-established. It is also possible that many neonates are born at home with problems that might have gone undetected or untreated.

This is a rather small study of a special group of people who share the same healthcare system as the rest of Malaysia. This might suggest that OA newborns in the hospital appear to have good birth weight with similar early neonatal problems to the average newborn. A geographically-based population study would be needed before any scientific conclusion can be made regarding the exact health status of all OA newborns.

On the other hand, the older OA children do not appear to be in very good health. Medical problems faced by children in this population are worm infestation and malaria.<sup>(3-5)</sup> It is well-recognised by paediatricians who treat OA children that they tend to present very ill to the hospital. There is also data to indicate that mortality

among OA children in the hospital might be higher compared to other ethnic groups in the country.<sup>(6)</sup> Infection complicated by malnutrition might contribute to higher mortality and morbidity in this group of children.<sup>(7)</sup>

## ACKNOWLEDGEMENTS

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