



**Association Between the Antenatal Health Services and
the Nutrient Status of Pregnant Dayak Kenyah Women in
Tabang District, Kutai Kertanagara Regency, East Borneo
2014**

Aminah Toaha^{a*}, Suryani As'ad^b, Veny Hadju^c, Burhanudin Bahar^d

^a *Postgraduate Program, Medical Faculty, Public Health Study Program, Hasanuddin University, Indonesia.*

^b *Nutrition Department, Faculty of Medicine, Hasanuddin University, Indonesia.*

^c *Nutrition Department, Faculty of Public Health, Hasanuddin University, Indonesia.*

^d *Biostatistics and Demographic Department, Faculty of Public Health, Hasanuddin University, Indonesia*

Abstract

Antenatal care is recognized as a key maternal service in improving a wide range of health outcomes for women and children. Despite the wealth of studies examining the association between antenatal care intention and nutrient status, findings remain mixed and inconclusive. The objective of this study is to on the association between antenatal health service and the nutrient status of pregnant Dayak Kenyah women in Tabang. The method is using observational-analytic research. The population is all pregnant women in sub-district Tabang. The Samples are 72 pregnant women. Respondents included pregnant women, their relatives, biomedical and traditional health providers, opinion leaders and community members. Samples were taken based on the normal distribution or Gausse Distribution. The criteria of the sample were pregnant women who are willing to follow the research. The experiment was conducted during August 2013 to November 2013. Data were collected in-depth interviews, observation in health care facilities and case studies of pregnant women. Awareness Dayak Kenyah pregnant women in ANC is good enough (84,7%). However, mothers who do not checkups since late antenatal not experience anemia. ANC is not statistically significant influence on maternal anemia ($p=0,75$, CI; 95%).

* Corresponding author.

No such association was antenatal health service and maternal nutrient status. Local wisdom have play a role in preventing anemia pregnant women Dayak Kenyah tribe is the diet of pregnant women. The diet of pregnant women and families of Dayak Kenyah such as meat, fish, eggs, tempeh, cassava leaves, spinach and cabbage. As we know that the type of material it sources of high iron contains. In conclusions, the Dayak Kenyah pregnant women in antenatal care (ANC) are quite good (84.7%). ANC Services Dayak Kenyah pregnant women are not associated with anemia status and Chronic Energy Deficiency (CED). Conduct a diet containing a source of nutrients of local wisdom as suspected supporters, so that pregnant women are not anemic and CED.

Keywords: pregnant women; antenatal care; dayak kenyah tribe; nutrient status.

1. Introduction

Efforts to improve maternal and infant health and reduce the number of maternal deaths have been done with a variety of family health programs, especially maternal health, which is a national program of the Ministry of Health. The maternal health programs include Antenatal Care (ANC), deliveries, postpartum maternal health care, neonatal health care, until care for the baby and the contraception for the mother [1]. Antenatal Care is care given to pregnant women from conception until the onset of labor in accordance with the standards of antenatal care which is by building a trusting relationship with the mother, detecting the threatening complications, preparing for the birth, and providing education. It is important to ensure that the natural process is running normally during pregnancy [2].

Antenatal Care has been shown that women attending regular ANC exhibit better knowledge, attitudes and antenatal practices compared to those not availing in several developing countries [3-5]. Nutrition education and counseling is a widely used strategy to improve the nutritional status of women during pregnancy that significantly influences foetal, infant and maternal health outcomes. Systematic reviews on impact of antenatal dietary advice, nutrition education and counseling with or without nutrition supplementation report improved dietary intake and weight gain in mothers, reduced risk of anemia and preterm delivery, increased head circumference and birth weight [3,6,7]. In spite of its known merits, Information, Education and Communication (IEC) during ANC along with nutrition and diet education is reported to be poorly executed and ANC is considered as a missed opportunity for IEC [8].

Coverage of antenatal care services is used as an indicator to measure the success of a health program that has been running on maternal and child health services, especially the health of pregnant women. The success of this program as a whole will affect the health development programs in Indonesia through a reduction in mortality especially Maternal Mortality Rate (MMR).

Coverage of maternal health program implementation results in Kutai regency level is quite good, although still below the target of Minimum Service Standards (MSS), such as coverage of pregnant women visit (K4) based on the report of KIA Kutai Regency Health Office in 2011 amounted to 79.9% (target 95 %) and based on data Riskesdas 2007, antenatal care in Kutai regency of 96.6%. Although the scope of the district is quite high but the disparity between sub-districts vary widely (Kutai Regency Health Office, 2011) [9].

Data of Kutai in 2012 reported from the health office, K1 coverage (75.30%) for the regency, while for Ritan health centre (53.72%) and Tabang health centre (64.07%). For data K4, especially for the regency (64.06%), Ritan health centre (43.09%) and Tabang health centre (38.32%). Then the childbirth makes data to the regency (61.90%), Ritan health centre (31.11%) and Tabang health centre (39.38%), the data of visit postpartum to the regency (52.56%), Ritan health centre (15.20%) and Tabang health centre (30.96%). Data are exclusively breastfed for the regency (17.74%), Ritan health centre (28.65%) and 3.95% Tabang health centre. LBW for the regency (4.31%) [10].

2. Materials and Method

This study was a descriptive-observational. The study population was all pregnant women in Sub District Tabang, a farthest district (± 480 miles) from the capital of Kutai Kartanegara Regency with the majority being Dayak Kenyah. Samples were taken 11 of 19 the number of villages in the Tabang District with the sample was at least 72 pregnant women. Samples were taken based on the normal distribution or Gausse Distribution. The criteria for the sample were pregnant women who were willing to follow the research. The experiment was conducted during the month of July 2013 to May 2014. Data collection would be stopped if the required data had reached the saturation point (saturation) for qualitative data. Saturated meant that the data or information disclosed by the informant was no longer a new thing and tend to repeat information that had been put forward by the previous informant. Primary data were obtained from the survey questionnaire and in-depth interviews (in-depth interviews) on Dayak Kenyah pregnant women in the village of Ritan Baru and Tukung Ritan aimed to examine the behavior of pregnant women in health-seeking actualized by Dayak Kenyah. Secondary data were obtained from the relevant agencies of the Office as well as the district and village health centres and health authorities in the area of research. The data collected from the research were processed and analyzed using descriptive-analytic. Descriptive approach is to describe phenomena that occur in the field using existing theoretical basis for solving the problems occurred.

3. Results and Discussions

3.1 *Maternal Health Services and Anemia*

Pregnant women who did checkups reached 84.7% which meant that 8 (eight) of every 10 pregnant women did checkups, almost reaching the target of 95% of K1. It was quite good in improving maternal health (Amiruddin R and Hasmi in 2014). They generally did checkups to midwives at 79.2%, to doctor 5.6% and at health centres 56.9%, while to the other health services by 27.8%. They also generally had Card to Health (KMS) or KIA book pregnant women at 79.2%. Based on data from maternal health care (ANC), we could conclude that pregnant Dayak Kenyah women opened enough to receive maternal health services, which meant that their awareness of their own health during pregnancy was quite good.

Visit Antenatal Care (ANC) that they got varies with different gestational age factor, making the type of service that should they get too different. There was a new gain of 27.8% K1, K1 and K2 were getting 19.4%, K1, K2 and K3 K4 5.6% and 8.3%. However, there were still pregnant women were slow to get maternal health services

as there were K1 'of 23.3% and K1' and K2' by 8.3%. K1' meant pregnant women visiting antenatal care after the first trimester. This made the delay in compulsory service that should be available in early pregnancy.

Type of maternal health services or the ANC held in the District Tabang was 10 T and 10 kinds of these services, there were 4 (four) services that had not reached 50%, ie. TT injections, urine check, hemoglobin check and counseling to pregnant women . This was caused by not only facility and infrastructure factors but also the pregnant women themselves. Antenatal care facility did not necessarily mean effective service. Number of studies have assessed the relationship between antenatal care and pregnancy intention finding that women with unintended pregnancies initiate antenatal care late and make inadequate antenatal care visits [11-15]. But, inconsistent findings have been reported in other studies concerning the association between pregnancy intention and antenatal care utilization [16,17].

Research results of Mizar Y, et al in Northern Gorontalo Regency explained that the birth mother who checked the ANC with a frequency <4 times, irregular schedule and not get care 1,1,2 5 T had 2,588 times greater risk for experiencing complications of childbirth compared antenatal mothers with frequency ≥ 4 times, 1,1,2 regular schedule and get 5T service standards. In addition, the low quality of health services had some risks for complications of childbirth 3,182 times greater than mothers who got good service quality [18].

This was in line with a study done by the [19], that a mother who did not visit antenatal care at least four times, 0.86 times the risk of experiencing complications of labor compared with women who do visit antenatal less than four times. The same study by [20] with the results: OR (95% CI) = 1.50 (0.83 to 2.71), said that pregnant women with ANC frequency less than or equal to three times the risk of pregnancy has 1, 50 times to occur pre-eclampsia compared with women who did not perform the ANC with a frequency of more than three times. Lack of antenatal care by pregnant women basically involved many factors. As the results [21] in Southeast Aceh showed that several factors that affected the utilization of antenatal care were affordability, availability, maternal employment status, knowledge about pregnancy health, education, attitude towards service, and maternal conditions include age and parity.

The relationship between health services and Anemia nutritional status of pregnant women was presented in Table 1.

Based on Table 1 was known that pregnant women with K1, did not have anemia by 20% and with anemia (80%), while the accent K1 (K1 '), there was a 9.1% non-anemic, while the anemic at 90.9 %. Pregnant women with K1 and K2, were not anemic (7.1%) and with anemia (92.9%), while pregnant women with K1 'and K2', not anemic 33.3% and 66.7% anemic. Furthermore, pregnant women with K1, K2 and K3 by 25% did not have anemia and 75% are anemic. Pregnant women with K4 or complete examination, 50% were anemic and 50% had anemia. While mothers which did not checkup or not get ANC, 54.5% were not anemic and 45.5% were anemic.

Based on the results of statistical tests the relationship between nutritional status and anemia with maternal health services showed a non-significant relationship with $P = 0.75$ in this study. This meant that ANC was not

statistically influence of anemia in pregnant women, but when viewed data from the crosstab it was explained that the ANC was obtained, pregnant women when just getting K1 to K2 and K3, showed that a higher percentage of anemia but in pregnant women which had been getting K4 or complete, and the percentage of anemic was same as not anemic women , respectively 50%. However, when considered in the data of pregnant women who did not checkup during pregnancy, even the percentage of pregnant women who were not anemic higher at 54.5% compared with anemic (45.5%). This suggested that mothers got more complete maternal health services so that the higher of the health status and increasing the percentage of non-anemic. However, in women who did not get the ANC even higher percentage of non-anemic than the anemic. So chances, there were other strong enough factors that affected the survival rate of pregnant Dayak Kenyah women.

Table 1: The relationship between the ANC and the Anemia Nutritional Status of Pregnant Dayak Kenyah Women in Tabang District Kutai Regency in 2014

Ante Natal Care	Nutritional Status of Pregnant Women				Total		Value of p
	No Anemia		Anemia				
	n	%	n	%	n	%	
K1	4	20,0	16	80,0	20	100	0,75
K1'	1	9,1	10	90,9	11	100	
K1 & K2	1	7,1	13	92,9	14	100	
K1' & K2'	2	33,3	4	66,7	6	100	
K1,K2 &K3	1	25,0	3	75,0	4	100	
K4	3	50,0	3	50,0	6	100	
No Check	6	54,5	5	45,5	11	100	

The provision of iron tablets was one of the activities of 10 T ANC held at the centre. Based on the provision of iron and multivitamin tablets, then 68.1% of pregnant women who had received iron and multivitamin tablets and 31.9% did not get it. Furthermore, the relationship between the anemia nutritional status of pregnant women with the pregnant women who received iron were presented in Table 2.

According to the table 2 was known that 1-2 out of every 10 pregnant women who received iron, not anemic and 8 (eight) of every 10 pregnant women who received iron, anemic. While pregnant women who did not receive

iron, there are 5-6 out of every 10 pregnant women were anemic and non-anemic were 4 (four) out of every 10 pregnant women. Based on the results of statistical tests obtained $p = 0.013$, meant that statistically significant relationship.

Table 2: Relationship between the anemia nutritional status of pregnant women and the pregnant women who received iron (or Multivitamin Tablets) in Tabang District Kutai regency in 2014

Geting Iron	Nutritional Status of Pregnant women						Value
	women				Total		
	No Anemia		Anemia		n	%	
	n	%	n	%	n	%	
Yes	8	16,3	41	83,7	49	100	$p = 0,013$
No	10	43,5	13	56,5	23	100	
Total	18	25,0	54	75,0	72	100	

Souces : Primary Data 2014

Furthermore, the relationship between the iron in the form of a tablet or a multivitamin or a combination of both that was obtained by pregnant women during ANC, based on the statistical test known that there was a significant relationship between iron was obtained by pregnant women and anemia with $p = 0.013$. Although the relationship was inverse with the theory and hope or a negative relationship because in fact the pregnant women got iron just 83.7% were anemic and only 16.3% were not anemic, while not getting enough iron in fact 43, 5% who were not anemic and 56.5% were anemic. This allowed for local knowledge of factors that played a strong role here.

Local wisdom have play a role in preventing anemia pregnant women Danyak Kenyah tribe is the diet of pregnant women. The diet of pregnant women and families of Dayak Kenyah such as meat, fish, eggs, tempeh, cassava leaves, spinach and cabbage. As we know that the type of material it sources of high iron contains.

3.2 Maternal Health Services and CED

The relationship between Mid-Upper Arm Circumference (MUAC) nutritional status of pregnant women and health care (ANC) were presented in Table 3.

Based on Table 3 was known that pregnant women with K1, did not suffer from CED (normal) by 95% and the CED (5%), while the accent K1 (K1 '), there was a 100% did not suffer CED. Pregnant women with K1 and K2, did not suffer CED (92.7%) and the CED (7.3%), while pregnant women with K1 'and K2', not suffering CED 83.3% and 16.7% suffered CED. Furthermore, pregnant women with K1, K2 and K3 of 100% did not suffered the SEZ. Pregnant women with K4 or complete examination, 83.3% had no CED and 16.7% had CED. While mothers were not checkups or not getting ANC, 81.8% had no CED and 18.2% were anemic. Based on the results obtained statistical test $p = 0.65$, meaning that the relationship was not significant.

Table 3: Relationship between Maternal Health Care And Nutritional Status (UAC) of Pregnant Dayak Kenyah Women in District Tabang Kutai regency in 2014

Ante Natal Care	Nutritional status of Pregnant					
	Women (MUAC)				Total	
	Normal		CED		n	%
	n	%	n	%		
K1	19	95,0	1	5,0	20	100
K1'	11	100	0	0	11	100
K1 and K2	13	92,7	1	7,3	14	100
K1' and K2'	5	83,3	1	16,7	6	100
K1, K2 and K3	4	100	0	0	4	100
K4	5	83,3	1	16,7	6	100
No check	9	81,8	2	18,2	11	100
Total	66	91,7	6	8,3	72	100

P = 0,65

Source : Primary Data 2014

Maternal nutritional status as measured by Lila reflected a reserve of nutrients and nutritional status of the mother's condition in the pre pregnant. Mothers who had an abnormal Mid-Upper Arm Circumference (MUAC) or Chronic Energy Deficiency (CED) before pregnancy was high risk groups during the pregnancy later because of the malnutrition before pregnancy would affect the nutritional status of the mother during pregnancy, which made higher nutritional needs than mothers who were not malnourished, to meet the needs of the mother and fetus.

4. Conclusion

Based on the results of research and discussion, it can be concluded that:

- 4.1 Awareness of the Dayak Kenyah pregnant women in antenatal care (ANC) is quite good (84.7%).
- 4.2 ANC Services Dayak Kenyah pregnant women are not associated with anemia status and Chronic Energy Deficiency (CED).
- 4.3 Conduct a diet containing a source of nutrients diet of local wisdom as suspected supporters, so that pregnant women are not anemic and CED.

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