

CORRELATION OF ACCOMPANIMENT OF PREGNANT WOMEN BY STUDENTS AND COMPLIANCE OF TAKING Fe TABLETS AND Hb EXAMINATION IN REDUCING ANEMIA INCIDENT IN THE CITY OF PALU

(KORELASI IRINGAN WANITA HAMIL OLEH PELAJAR DAN PEMATUHAN PENGAMBILAN PIL Fe DAN PEMERIKSAAN Hb DALAM PENGURANGAN INSIDEN ANEMIA DI BANDAR PALU)

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Abstract

In Central Sulawesi, the incidence rate of anemia is quite high at 37.1%. Anemia prevention programs in pregnant women conducted by the government is give 90 Fe tablets and Hb examination least two times during pregnancy and prevent the anemia incidences and reduce maternal mortality during childbirth. This study aimed to determine the effect of student assistance on pregnant women in taking Fe tablets and HB examination. This research used quasi experimental with one student of Public Health Study Program accompanied one pregnant mother. Pregnant women targeted with six months of pregnancy and willing to accompany. Criterion of the companion students were the fourth semester and programmed the Maternal and Child Health subjects. The sample size was 137 pregnant women. Sampling technique was simple random sampling. Accompaniment began in November 2017 to February 2018. Analysis of data used statistical T-Test. The results showed a relationship student accompaniment with pregnant women's compliance in consuming Fe tablets with p-value = 0.001 ($p < 0.05$). In addition, a relationship student accompaniment with completeness of HB examination in pregnant women. Of the 137 pregnant women who accompanied by students, no one of pregnant women got anemia. Both of mother and baby is safe. The conclusion is the student accompaniment pregnant women who take Fe Tablets and Hb examination, reduce the anemia incidence and contribute in reducing maternal and infant mortality in the City of Palu.

Keywords: accompaniment, compliance taking Fe tablet, Hb examination, pregnant women

Abstrak

Di Sulawesi Tengah, kadar kejadian anemia agak tinggi pada 37.1%. Program pencegahan anemia pada wanita hamil yang dilakukan oleh pemerintah memberikan 90 pil Fe dan pemeriksaan Hb paling sedikit dua kali selama kehamilan dan mencegah kejadian anemia dan mengurangi kematian ibu pada saat melahirkan anak. Kajian ini bertujuan untuk

menentukan kesan bantuan pelajar terhadap wanita hamil dalam mengambil pil Fe dan pemeriksaan Hb. Penyelidikan ini menggunakan kuasi eksperimen dengan seorang pelajar Program Pengajian Kesihatan Awam megiringi seorang ibu hamil. Wanita hamil disasarkan dengan enam bulan kehamilan dan sanggup ditemani. Kriteria pelajar pendamping adalah semester keempat dalam mengikuti program kursus Kesihatan Ibu dan Anak. Saiz sampel adalah 137 wanita hamil. Teknik persampelan adalah persampelan rawak mudah. Pengiring bermula pada bulan November 2017 hingga Februari 2018. Analisis data menggunakan T-Test statistik. Keputusan menunjukkan iringan pelajar hubungan dengan pematuhan wanita hamil dalam mengambil pil Fe dengan $p\text{-value} = 0.001$ ($p < 0.05$). Di samping itu, seorang pelajar perhubungan dengan kelengkapan pemeriksaan Hb pada wanita hamil. Daripada 137 wanita hamil yang diiringi pelajar, tiada seorang wanita hamil yang mendapat anemia. Kedua, ibu dan bayi selamat. Kesimpulannya adalah pengambilan pelajar wanita hamil yang mengambil Pil Fe dan pemeriksaan Hb, mampu mengurangkan kejadian anemia serta menyumbang kepada pengurangan kematian ibu dan bayi di Bandar Palu.

Kata kunci: *Iringan, pematuhan pengambilan pil Fe, pemeriksaan Hb, wanita hamil*

INTRODUCTION

Based the results of the Palu Health Office report of 2015, the maternal mortality rate reached 326 per 100,000 live births or increased three times from the previous year. In 2016 the maternal mortality rate drops to 228 per 100,000 live births. One of contributing factors the decline maternal mortality predicted by a three-year consecutive pregnancy assistance program that begins in 2015. Even though the maternal mortality rate is declining, it is still far from the target of achieving Sustainability Development Goals (SDGs)(Health Office of Palu 2014).

Factors causing this high mortality rate can be directly or indirectly. The immediate cause is bleeding, eclampsia, infection, pregnancy complications(Maswime & Buchmann, 2016). Indirect causes of Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) include the completeness and accuracy in the implementation of antenatal care, low of Fe tablets taking and hemoglobin examination causes anemia in pregnant women can be directly or indirectly(Sulastrri, Maliya, & Zulaicha, 2014), low knowledge of the signs of high risk (khashab, El Beltagy, & Badie, 2018; Zeballos Sarrato, Villar Castro, Ramos Navarro, Zeballos Sarrato, & Sánchez Luna 2017), while these factors can done by pregnant women and husbands as a preventive effort in reducing factors associated with maternal and infant mortality (Rosmala Nur & Mallongi 2016).

The interesting thing in the case of maternal death was 77.27% occurred in the hospital, 13.63% at home and 9.09% occurred on the way to the hospital. Data of 2014 indicates the cause of maternal death is bleeding (36.36%), eclampsia (42.86%), and others (57.14%). Data on maternal deaths in 2015, from 22 deaths, the causes were bleeding (12.5%), eclampsia (12.5%), infection (6.25%), the rest were "and others" (68.75%)(Health Office of Palu, 2014; Health Research and Development 2010).

The issue of maternal mortality is multifactorial, cannot solve "only" by health people but requires cross-sectoral role. Many health experts argue that it would be impossible to achieve national and international goals in the health sector including reducing maternal mortality without greater and more effective investment in health systems and services, and efforts to find innovative ways to increase the involvement of various parties (communities, organizations social and other cross sectors) to reduce maternal mortality rate in Palu.

Through maternity and family assistance programs by students. Public Health Studies Program, Faculty of Public Health, Tadulako University showed that pregnant women have a positive response to the mentoring program. Similarly, village midwives, community health centers, and health office were very appreciative of the program. All parties who presented at the student

assistance evaluation workshop agreed to continue the mentoring program with different models. This study aimed to determine the relationship of student assistance in pregnant women with the incidence of anemia.

METHODS

Research design was quasi experiment with an accompaniment technique was one student of Public Health Study Program, Faculty of Public Health, University of Tadulako accompanied one pregnant women. Goals were pregnant women with gestational age six months and above and they were willing to accompanied. Criterion of student companion were the 4th semester students and they programmed the subject of Maternal and Child Health. Number of cases and controls samples were 40 pregnant women, respectively. The sampling technique was simple random sampling. Assistance began in November 2017 to February 2018. Data analysis used Chi-Square analysis.

RESULTS AND DISCUSSION

Assistance of pregnant women done at Sangurara Public Health Center, Palu with consideration it was highest MMR in Palu. With this assistance expected to contribute directly to the decline in maternal mortality.

Table 1. Characteristics of Pregnant Women

Characteristics	n	%
Ages (years)		
≤ 21	4	10.0
22-34	28	70.0
≥ 35	8	20.0
Total	40	100.0
Education Level		
No school	2	5.0
Elementary school	6	15.0
Junior High School	10	25.0
Senior High School	16	40.0
College	6	15.0
Total	40	100.0
Employment		
Housewife	31	77.5
Entrepreneur	9	22.5
Government Employees	0	0.0
Total	40	100.0

Based on the above table can see that high-risk pregnant women as many as 12 people, 4 pregnant women aged ≤ 21 years and 8 pregnant women aged ≥ 35 years. Pregnancy that occurred at age ≤ 21 years or over 35 years included in the high risk category in pregnancy and closely related to the various complications that occur during pregnancy, childbirth, childbed and also the health of the baby while still in the womb or after birth. Age ≤ 21 years referred to the group of too young pregnant women and the age of ≥ 35 years referred to pregnant women were too old, while the ideal age is 21-34 years. (Ministry of Health of the Republic of Indonesia, 2010) divides the three groups of mothers in reproductive life associated with pregnancy. First, age < 20 years, at this time the mother is still too young to get pregnant. Second, age 20-34 years, at this time the mother must regulate fertility. Third, age ≥ 35 years, at this time the mother had to end fertility because the mother is too old to get pregnant.

The safest mother age to get pregnant is 21-34 years because by the age of <21 years, the uterus and other body parts are ready for pregnancy completely. They also feel ready to be a mother. Maternal mortality at 21 years has a risk of 2-5 times higher than maternal mortality that

occurs at the age of 20-29 years and increases again at 30-35 years. The age of pregnant women should not be too young and not too old because they should be ready to conceive physically, emotionally, psychologically, socially and economically (R. Nur, Darwin, & Wattie 2017; Rosmala Nur & Mallongi 2016).

It appears in the table that the respondents who attended mentoring have varying levels of education, most were at high school level (16 respondents) and the lowest was no school (2 respondents). A person's level of education can support or influence knowledge. The higher the education, the higher the knowledge of a person. High education makes it easier for mothers to receive new information so that care about health information. Conversely, the lower the education, the knowledge becomes more limited so that it does not care about existing health programs. The indirect causes of maternal mortality are low levels of maternal education, low socioeconomic conditions, and socio-cultural disadvantages (R. Nur 2016).

In addition, Table 1 also shows that respondents were mostly housewives (31 respondents) and self-employed (9 respondents). Respondents spend more time at home and did not do much activity that endangers their pregnancy compared with the respondents who work. The motivation of working mothers is to supplement family income, avoid boredom, free time, and want to develop themselves (Rosmala Nur & Mallongi 2016).

Table 2. Correlation between Student Assistance and Anemia Occurrence

Groups	Anemia Status				Total		p-value
	Anemia		Not Anemia		n	%	
	N	%	n	%			
Control	17	42.5	23	57.5	40	100.0	0.000
Cases	3	7.5	37	92.5	40	100.0	
Total	20	25	60	75	80	100.0	

Based on the Table 2 shows the incidence of anemia in the case group only by 7.5% and in the control group as many as 42.5% who have anemia. The result of statistical analysis shows the value of p 0.0 and the value of $OR = 9.111$. This means that there was a significant relationship between student assistance on the respondent with the incidence of anemia. This is possible because the accompaniment of the respondents conducted by the students to monitor the compliance of taking Fe tablets daily for 90 days (a tablet/day). In addition, assistance also controlled the examination of Hb at least twice during pregnancy.

The results above are in line with the research undertaken by (Wuwuh, Rahayu, & Wijayanti, 2016) who found that pregnant women who accompanied in taking Fe tablets had a more compliant tendency to take Fe tablets. Monitor of Fe Tablet compliance done by check-list (attached), after the students gave counseling/education to the respondent about Fe Tablet benefits, the impact of anemia, and complications that can arise. Counseling also given to close husbands/families for additional support (Vieth & Lane 2017).

Pregnant women with anemia increase the frequency of complications in pregnancy and childbirth. The effects of anemia on pregnancy vary from mild complaints to pregnancy disorders (abortion, immature/premature partus), labor process disorders (uterine inertia, uterine atony, old partus), puerperal disorders (uterine sub-involution, resistance to infection and low milk production), and impairment of the fetus (abortion, dysmaturity, microsomy, low birth weight, perinatal death, etc.) (Ahankari, Myles, Dixit, Tata, & Fogarty 2017).

According to WHO, 40% of maternal deaths in developing countries associated with anemia in pregnancy and mostly caused by iron deficiency and acute hemorrhage. In fact, not infrequently both interact with each other. In pregnant women is very susceptible to iron deficiency anemia (Amawati & Mursiyam 2008).

Iron deficiency anemia during pregnancy is a hemodilution that causes blood dilution, blood gain is not proportional to plasma growth, lack of iron in the diet and increased iron demand as well as indigestion and absorption. Overcome the problem of anemia in Indonesia, the government has launched the distribution of Fe Tablet to health services to distribute all pregnant women free of charge (Ahmed, Faruk. Khan, Rahman Moududur. Shaheen, Najma. Ahmed, Uddin. Hasan, Aziz. Chowdhury Ahtar Ireen. Chowdhury 2018).

Distribution is one of the achievement targets in the Antenatal Care (ANC). As many as four times the ANC visit considered sufficient with details once every trimester and twice in the last trimester. One of the frequencies of visits in the ANC is for Fe1 and Fe3 coverage, which Fe tablets in pregnant women can divided into Fe1, which gets 30 tablets and Fe3, which gets 90 tablets during pregnancy. Provision of Fe tablets of at least 90 tablets during pregnancy is also an operational application of a minimum standard of “10 ANC”(Manuaba 2007).

Some causes of iron deficiency anemia in pregnant women are hypervolemia that causes blood dilution, the increment of blood is not proportional to the plasma increase, lack of iron in food, increased iron requirement; as well as indigestion and absorption(Ahmed, Faruk. Khan, Rahman Moududur. Shaheen, Najma. Ahmed, Uddin. Hasan, Aziz. Chowdhury Ahtar Ireen. Chowdhury 2018)

Another finding of (Ahmed, Faruk. Khan, Rahman Moududur. Shaheen, Najma. Ahmed, Uddin. Hasan, Aziz. Chowdhury Ahtar Ireen. Chowdhury 2018) found that high levels of hemoglobin can found in people living in upland areas and smokers. Some diseases such as pneumonia, tumors and bone marrow disorders can also increase hemoglobin levels. The location of this study included one of the highlands, so that if it does not have enough information it can be at high risk of anemia.

CONCLUSIONS AND SUGGESTIONS

There is a significant relationship between student assistance in pregnant women with the incidence of anemia. Reducing maternal mortality due to anemia, maternity counseling program should carried out continuously because it strongly contribute to the decrease of anemia incidence that affects maternal mortality rate in Central Sulawesi, especially in City of Palu.

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