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The Differences Knowledge, Attitude and Behavior Prior and After Counseling of Anemia and Balance Menus

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ABSTRACT

According to World Health Organization (2011), anemia on pregnant women is one of the risk factors of pregnancy. Anemia cause problems in pregnancy and birth on the mother and baby. Less knowledge of pregnant women about the important of eating nutritious foods during pregnancy are underlying factors that cause pregnant women from anemia. This study aims to know the differences knowledge, attitudes and behavior prior and after counseling of anemia and balance menus among pregnant women in Akar Bagantung Village, East Martapura Sub-Districts, Banjar Districts South Borneo. This study is Pre Experimental design with one group pretest-posttest design. Samples were pregnant women in Akar Bagantung Village as many as 30 people. The research instrument was a questionnaire containing materials of anemia on pregnant women, the risk factors of pregnancy, high-risk pregnant women and a balanced diet. Questionnaires of knowledge, attitudes and behaviors will be given prior and after counseling. The average value of knowledge prior counseling was 50.00 while after counseling increased to 74.00, the average value of the attitude prior counseling was 45.00 while after counseling was 72.25 and the average value of the behavior prior counseling was 65.45 while after counseling increased to 86.75, and then data were analyzed using the Wilcoxon test. The results showed there are differences in knowledge, attitudes and behaviors on pregnant women (p value 0.014; 0.042; 0.011). Expected after counseling health workers and families of pregnant women can continue to support and supervise the conduct taking iron tablets during pregnancy. After counseling there are enhamcment of knowledge, attitudes and behaviors in pregnant women. Pregnant women to be more concerned about their health and eat nutritious food and iron tablet.

KEYWORDS: counseling, knowledge, attitude, behavior, anemia

INTRODUCTION

Iron deficiency anemia is a common nutrient problems in the world. The prevalence of anemia still relatively high at around 2 billion, or more than 30% of the human population in the world. Pregnant women are one of the populations at high risk of anemia [1]. Pregnant women at high risk for iron deficiency anemia due to iron requirements increase significantly during pregnancy.

Lack of iron will be at risk of poor fetal and maternal itself. The fetus will experience interference or developmental delay, both the cell body and brain cells [2]. Lack of iron will be at risk of poor fetal and maternal itself. The fetus will experience interference or developmental delay, both the cell body and brain cells [2]. Deficiencies of micronutrients such as folate and iron in pregnant women to be one of the causes of iron deficiency anemia [3].

According to the United Nations International Children's Fund (UNICEF), every 3 minutes there is one child under five died across Indonesia. In addition, every one hour, one woman died while giving birth or due to causes related to pregnancy [4]. The maternal mortality ratio by demographic health survey of Indonesia in 2012, showing an increase of 228 per 100 000 live births be 359 per 100,000 live births. The maternal mortality rate remains high, despite the efforts of health services to pregnant women [5].

Pregnant women is an important pillar in preventing maternal and infant mortality. It confirms that the knowledge of pregnant women about the high-risk pregnancy becomes very important to be known by pregnant women. Some risk factors for pregnant women are too young age <20 years too old or> 35 years, iron deficiency anemia, a history of cesarean section childbirth, children over 4, history of stillbirth, too closely spaced pregnancies are <2 years. This is a risk for the condition of the mother's womb has not been recovered, while the time of mothers to breastfeed and care for the baby to be less [6].

During pregnancy, women need more iron for red blood cells to support fetal growth and placental and support the development of brain cells in fetus. The third trimester of pregnancy, the fetus stores iron for supplies during the first six months of life. In the first trimester of pregnancy Hemoglobin formation still very little.

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Hemoglobin formation continued to increase during the second and third trimesters. This is due to the increased need for iron. Recommended Dietary Allowance (RDA) of iron during pregnancy is 27 mg per day [7].

Based on the preliminary study found health problems in pregnant women in the village of Akar Bagantung ie iron deficiency anemia, which after a blood test to pregnant women percentage obtained by 86.7% of pregnant women suffer from anemia. Based on an interview during a preliminary study with some of the pregnant woman, it is known that they usually just eat vegetables without fish or meat, they only eat occasionally eat with fish or meat.

Anemia is the second most causes of maternal death in Asia [8]. Anemia has a major influence on human health. The low quality of human health will have an impact on social and economic development [9]. Iron deficiency in the body due to lack of consumption of iron from food, poor absorption of iron by the body, which increases the need for iron, blood deficiency, not a good diet, socioeconomic status, infectious diseases, as well as low knowledge [10].

This occurs at all stages of the life cycle, but pregnant women have a higher risk. During pregnancy the need for iron increases due, pregnant women should be sufficient for herself and the fetus. Supplementation with iron tablets to pregnant women is needed to prevent anemia and iron deficiency [11].

According to WHO criteria (2011), a pregnant woman is declared to have anemia if they have hemoglobin (Hb) <11 (g / L) and the volume of hematocrit (Ht) <0.33 (g / L) [12]. Anemia in pregnant women can lead to low maternal resistance to infection and less able to tolerate bleeding while giving birth. Iron deficiency anemia in pregnant women result in increased morbidity and maternal mortality, increase in morbidity and fetal mortality and an increased risk of babies with low birth weight, placenta previa, bleeding, eclampsia and prematurity [13]. Research by Banhidy et.al (2011) mentions that pregnant women have iron deficiency increases the risk of having a baby with low birth weight [14].

Based on the above background, it is necessary to investigate the differences in knowledge, attitudes and behaviors prior and after counseling of anemia and balance menus on pregnant women in Village of Akar Bagantung, Sub-District of East Martapura, District of Banjar District, Province of South Borneo.

METHODS

This study use descriptive analytic with one group pretest-posttest design. This design uses a single group, the main feature of this design is the group compared to itself with no comparison group to see the results of treatment.

The samples were all pregnant women in Village of Akar Bagantung, Sub-District of East Martapura, District of Banjar District, Province of South Borneo as many as 30 people. The research instrument was a questionnaire containing material about anemia in pregnant women, the risk factors of pregnancy, high-risk pregnant women and balance menus.

Questionnaires knowledge, attitudes and behaviors will be given prior and after counseling. Beside that pregnant women will also be given sheets of check list that will be filled during the pregnancy to determine the behavior taking iron tablets every day. The variable in this study are the knowledge, attitude and behavior of pregnant women prior and after counseling anemia and balance menus.

The following is the research phase:

1. Permit to the village official to carry out counseling
2. Make a permit from the academic to be given to district offices, community health centers, village heads.
3. Field observations
4. Giving pre test questionnaire to respondents.
5. Implementation of the counseling to provide materials on maternal health include the definition, symptoms, effects and characteristics of anemia in pregnant women, but it was delivered also on a balance menus for pregnant women and the characteristics of high risk pregnant women.
6. Giving the post-test questionnaire to respondents in the first month until the sixth month after counseling and see the spreadsheet table drinking behavior of iron tablet by pregnant women during pregnancy.

Data were collected immediately edited to examine the completeness of the data. Furthermore, data tabulated and analyzed using the Wilcoxon test with $\alpha = 5\%$ to see the differences in knowledge, attitude and behavior prior and after counseling of anemia and balance menus for pregnant women [15]. Research was conducted in June 2014 -June 2015. Data were analyzed using univariate results of the questionnaire to determine the frequency distribution of each variable. While the bivariate analysis were used to analyze the differences knowledge, attitude and behavior prior and after counseling of anemia and balance menus for pregnant women.

RESULTS AND DISCUSSION

Research variables in this study are knowledge, attitudes and behavior prior and after counseling. Overview of knowledge, attitudes and behaviors prior and after counseling as follows:

Pre test results of respondents knowledge
Pre test results of respondents knowledge prior the counseling can be seen in Table 1 below.

Table 1. Distribution of Respondents Knowledge Prior Counseling

Category	Frequency	Precentage (%)
Very good (81-100)	2	6,7
Good (61-80)	4	13,3
Enough (41-60)	1	3,3
Less (21-40)	19	63,3
Very less (10-20)	4	13,3
Total	**30**	**100**

Mean = 50,00

Table 1 shows the majority of respondents have less knowledge 63.3% prior the counseling. On average, the respondents' knowledge prior the counseling was 50 categorized enough.

Pos test results of respondents knowledge
Pos test results of respondents knowledge after the counseling can be seen in Table 2 below.

Table 2. Distribution of Respondents Knowledge after Counseling

Category	Frequency	Precentage (%)
Very good (81-100)	15	50
Good (61-80)	5	16,7
Enough (41-60)	5	16,7
Less (21-40)	3	10
Very less (10-20)	2	6,6
Total	**30**	**100**

Mean = 74,00

Table 2 shows the majority of respondents have a very good knowledge of 50% after counseling. On average the respondents' knowledge after counseling is considered good 74.

Pre test results of respondents attitudes
Pre test results of respondents atttitudes prior the counseling can be seen in Table 3 below.

Table 3. Distribution of Respondents Attitudes Prior Counseling

Category	Frequency	Precentage (%)
Very good (81-100)	1	3,3
Good (61-80)	3	10
Enough (41-60)	2	6,7
Less (21-40)	20	66,7
Very less (10-20)	4	13,3
Total	**30**	**100**

Mean = 45,00

Table 3 shows the majority of respondents have enough attitude by 66.7% prior the counseling. On average the respondents' attitudes prior the counseling was considered sufficient 45.00.

Pos test results of respondents attitudes
Pos test results of respondents atttitudes after the counseling can be seen in Table 4 below.

Table 4. Distribution of Respondents Attitudes after Counseling

Category	Frequency	Precentage (%)
Very good (81-100)	5	16,7
Good (61-80)	17	56,7
Enough (41-60)	4	13,3
Less (21-40)	2	6,7
Very less (10-20)	2	6,7
Total	**30**	**100**

Mean = 72,25

Table 4 shows the majority of respondents have a good attitude 56.7% after counseling. On average the respondents' attitudes after the counseling is well categorized 72.25.

Pre test results of respondents behaviors
Pre test results of respondents behaviors prior the counseling can be seen in Table 5 below.

Table 5. Distribution of Respondents Behaviors Prior Counseling

Category	Frequency	Precentage (%)
Very good (81-100)	1	3,3
Good (61-80)	7	23,3
Enough (41-60)	2	6,7
Less (21-40)	16	53,3
Very less (10-20)	4	13,3
Total	**30**	**100**

Mean = 65,45

Table 5 shows the majority of respondents have less behavior amounted to 53.3% prior the counseling. The average respondent's behavior prior the counseling is well categorized 65.45.

Pos test results of respondents behaviors

Pos test results of respondents behaviors after the counseling can be seen in Table 6 below.

Table 6. Distribution of Respondents Behaviors after Counseling

Category	Frequency	Precentage (%)
Very good (81-100)	15	50
Good (61-80)	9	30
Enough (41-60)	4	13,3
Less (21-40)	2	6,7
Very less (10-20)	0	0
Total	**30**	**100**

Mean = 86,75

Table 6 shows the majority of respondents had a very good behavior by 50% after counseling. The average respondent's behavior after the extension is considered an excellent 86.75.

The Differences in knowledge prior and after counseling of anemia and balance menus

The bivariate analysis performed using the Wilcoxon test to determine differences in knowledge prior and after counseling.

Tabel 7. The Differences in knowledge prior and after counseling of anemia and balance menus

Test Statistics[b,c]			
			Knowledge – Knowledge
Z			-5.775[a]
Asymp. Sig. (2-tailed)			.014
Monte Carlo Sig. (2-tailed)	Sig.		.000
	95% Confidence Interval	Lower Bound	.000
		Upper Bound	.069
Monte Carlo Sig. (1-tailed)		Sig.	.000
	95% Confidence Interval	Lower Bound	.000
		Upper Bound	.069

The data is not distributed normally so used the Wilcoxon test. Wilcoxon test results with $\alpha = 5\%$ showed significant differences in knowledge prior and after socializing anemia and balance menus with p value = 0.000.

Based on the data obtained there are enhancement of knowledge after counseling. There are 63.3% of respondents less knowledgeable prior counseling with an average knowledge of the respondents prior the counseling was 50 that may constitute sufficient knowledge. Meanwhile, after the counseling of respondents have a very good knowledge of 50% after counseling with an average knowledge of respondents after the counseling was 74 that can be considered a good knowledge.

Most respondents are very concerned with the counseling. Almost all respondents actively contribute to the counseling. The average score of knowledge in pre-test and post-test showed that an increase in the average score of knowledge post-test than pretest.

Knowledge of pregnant women is a very important aspect, with a good knowledge of pregnant women iron tablets will know the benefits to health. Good knowledge will make pregnant women aware of factors inhibiting the absorption of iron [16]. Knowledge is one of the factors that stimulate or stimulate the formation of healthy behaviors, if pregnant women to know and understand the impact and how to prevent anemia, pregnant women will have a good health behavior, hoping to avoid the risks of anemia during pregnancy [17].

Yadav research results, et.al (2014) shows that knowledge about anemia, signs and symptoms of anemia, proper diet to prevent anemia, the results clearly show that there is significant difference women' knowledge of the causes of anemia, signs and symptoms of anemia, proper diet to prevent anemia, prevention and treatment of anemia [18].

Less knowledge about anemia have an influence on health behaviors, especially when a woman experiences pregnancy. This will result in less than optimal health behavior of pregnant women to prevent anemia. Pregnant women who have less knowledge about anemia can result in a lack of consumption of foods containing iron during pregnancy due to lack of knowledge [19].

One attempt to improve knowledge are attending a seminar or counseling. According to research Salmiah, et.al (2013), there was an increase in knowledge after the counseling of anemia in pregnant women in Puskesmas Mattombing Pinrang District South Sulawesi [20].

According to the research, health education can also increase knowledge on female students at the University of Nigeria in Enugu Southeast Nigeria on contraception [21]. In addition this study are consistent with research Widyawati, (2010) in which the results showed an increase of knowledge of elementary school students about dengue fever after counseling [22].

Research Akhmad, et.al (2013) also support this research, where the results showed that there was an increase elementary knowledge about personal hygiene after being given the counseling [23]. Counseling is an effective method for spreading the knowledge or information to the public, including pregnant women. Counseling is an easy way to give a message to many people [24].

Ratna research (2011) mention that the optimal attention is very important in order to absorb the information properly. With optimal attention will increase one's knowledge [25]. The results of this study are supported by the results of Cicilia et.al (2012), statistical test results showed there are increase in knowledge on elementary students after given counseling [26].

The Differences in attitudes prior and after counseling of anemia and balance menus

The bivariate analysis performed using the Wilcoxon test to determine differences in attitudes prior and after counseling.

Tabel 8. The Differences in attitudes prior and after counseling of anemia and balance menus

Test Statistics[b,c]			
			Attitudes – Attitudes
Z			-4.815[a]
Asymp. Sig. (2-tailed)			**.042**
Monte Carlo Sig. (2-tailed)	Sig.		.000
	95% Confidence Interval	Lower Bound	.000
		Upper Bound	.075
Monte Carlo Sig. (1-tailed)		Sig.	.000
	95% Confidence Interval	Lower Bound	.000
		Upper Bound	.075

The data is not distributed normally so used the Wilcoxon test. Wilcoxon test results with α = 5% showed significant differences in knowledge prior and after socializing anemia and balance menus with p value = 0.000.

Based on the data obtained there are enhancement of attitudes after counseling. There are 66.7% respondents have enough attitudes prior counseling with an average of respondents' attitudes prior the counseling was 45.00 that can be considered quite an attitude. While the counseling after the respondent has a good attitude 56.7% with an average of respondents' attitudes after the counseling is the 72.25 that can be considered a good attitude.

The average score pretest and posttest attitude shows an increase in the average score of the attitude of post-test than pretest. Attitude is the response to the stimulus or someone covered a specific object, which already involves factors pertinent opinions and emotions. Attitude is a form of psychological state are not just formed. Attitudes changed according to the surrounding circumstances. Steps in changing attitudes, awareness and understanding of the subject to the stimulus that can be either communications or messages being delivered. In this case, the counselors provide stimulus in the form of health information so that participants have a good understanding that could serve as the basis for a change in attitude [27].

Research into the attitudes considered attractive because they can predict human behavior in the future. Traditional theories assume that the attitudes are formed first and the basis of human behavior. The relationship between attitudes and behavior is indirect but rather leads to a relationship of mutual influence on each other [28].

Through counseling knowledge can be delivered to the target. In counseling formed direct contact so that the delivery of the message to be more effective. Conveyed a message through counseling will increase the knowledge of the respondent. It is said also, that the children generally have a great desire to want to know learn more about something [29].

The results are consistent with Mariam research (2010) who concluded that the counseling had a significant influence on the change of attitude of the respondent. This shows that in addition to an increase of knowledge is also an increase attitudes scores through counseling. Someone will tend to experience a change of attitude if affected by an interest in something that was considered important by itself and be able to influence the mindset and viewpoints on these things [30].

The results are consistent with research Sharifirad et.al (2011) with the title Precede educational models for controlling iron deficiency anemia in Talesh, Iran that shows there is influence on the attitudes of adolescent health education in preventing anemia [31]. This is consistent with the theory that health counseling is a process of dynamic change in behavior with the aim of changing or influencing human behavior, which includes knowledge, attitudes or practices associated with healthy living destination [32].

Based on the result of the recognition of pregnant women, those taking iron tablets because in order by health workers. Improved information about the respondents' iron tablets, impact on increasing knowledge about iron tablets. Once they understand about iron tablets, then the respondent will do an evaluation of their behavior in consuming iron tablets. When they feel that their behavior is not quite right, then they will choose a better attitude, thus improving their attitudes towards the consumption of iron table [33].

The Differences in behaviors prior and after counseling of anemia and balance menus

The bivariate analysis performed using the Wilcoxon test to determine differences in behaviors prior and after counseling.

Tabel 9. The Differences in behaviors prior and after counseling of anemia and balance menus

Test Statistics[b,c]			
			Behaviors – Behaviors
Z			-5.465[a]
Asymp. Sig. (2-tailed)			**.**011
Monte Carlo Sig. (2-tailed)	Sig.		.000
	95% Confidence Interval	Lower Bound	.000
		Upper Bound	.057
Monte Carlo Sig. (1-tailed)		Sig.	.000
	95% Confidence Interval	Lower Bound	.000
		Upper Bound	.057

The data is not distributed normally so used the Wilcoxon test. Wilcoxon test results with $\alpha = 5\%$ showed significant differences in knowledge prior and after socializing anemia and balance menus with p value = 0.000.

Based on the data obtained there are differences in behavior prior and after counseling. There are 53.3% of respondents have less behaviors prior the counseling with the average behavior of the respondent prior the counseling is 65.45 which can be categorized as good behavior. While the counseling after the respondent has a very good behavior by 50% after counseling with the average respondent's behavior after the counseling is the 86.75 that can be considered very good behavior.

The compliance to consume iron tablets are behaviors, which supports pregnant women iron supplementation programs conducted by the government to prevent anemia in pregnant women. The average score of the behavior of pre-test and post-test shows that an increase in the average score of the behavior of post-test than pretest. Most compliance consumption of iron tablets already excellent means pregnant women who present to health facilities acquire and consume iron tablets regularly, ie 1 day 1 tablet up to a minimum of 90 tablets during pregnancy. Compliance pregnant women taking iron tablets can reduce the prevalence of anemia among pregnant women [34].

In addition to taking iron tablets, pregnant women also used to consume foods that contain iron such as fish, fruit and green vegetables. The reason all pregnant women want to eat fruits, vegetables and other foods that contain iron is because it used to prior know that these vegetables contain iron and good for pregnant women, but it also whenever antenatal care, health care workers are always advised to consume vegetables and fruit for the health of mother and fetus. Good knowledge also affect the behavior of consuming nutrients in pregnant women [35].

In addressing the problem of anemia in pregnant women iron tablet supplementation program. In pregnant women are advised to consume iron tablets at least 90 tablets for pregnant and consumed every day. To improve mother compliance in taking iron tablets. Health workers should include the family in taking medication supervision, supervision taking medicine is an activity undertaken to ensure kepatuhaan minun drug according to the dose and schedule as specified [36].

The role of the family is very important to keep an eye on the behavior of taking iron tablets to pregnant women. This is because most pregnant women who did not take iron tablets because it bad tastes and make nausea and vomiting, so they do not want to eat.

In addition, some pregnant women also claimed to have forgotten to take tablets regularly. According to Bilimale et.al research (2010) the cause pregnant women not to consume iron tablets are forgotten, poor taste, causing nausea and vomiting [37]. In addition, according to Esraa et.al (2015) factors that cause pregnant women do not want to consume iron tablets is because it causes constipation, diarrhea, abdominal pain, headache [16]. This can be prevented by maximizing the role of the family to increase pregnant women [38].

CONCLUSIONS

Based on the results of research there are differences in knowledge, attitudes and behaviors in pregnant women prior and after counseling of anemia and balance menus with p value 0.014; 0,042; 0.011. After counseling there are enhamcment of knowledge, attitudes and behaviors in pregnant women.

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