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Effect of Education on the Fetus Growth in Content in Kendari Southeast Sulawesi Province

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Abstract

Growth of the fetus in the womb is one indicator that determines the well-being of the fetus. This study aims to determine the effect of education on the growth of the fetus in Kendari. This study uses a "quasi-experiment", ie pre-test and post-test with control group design. A sample of 78 women who were divided into four groups. Instrument of data collection in the form of questionnaires, measuring instrument weight and body length. Data were analyzed with the Wilcoxon test and Kruskal. The study concluded there is the influence of education on changes in knowledge ($p = 0.000$), nutrition ($p = 0.000$), frequency of ANC ($p = 0.000$) and fetal growth ($p = 0.000$). Modules modifications have higher effectiveness in changing the behavior of the mother. It is recommended that pregnant women receive education on a regular basis to improve the quality of pregnancy, pregnant women need the application class using a modification module, so that the mother diligent search for information on pregnancy and danger signs of pregnancy through books, leaflets, or electronic media mother.

Keywords: education; ANC; nutritional status; fetal growth.

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1. Introduction

Growth of the fetus in the womb is one indicator that determines the well-being of the fetus. Fetal growth according to gestational age marks optimal fetal wellbeing. Examination of fetal wellbeing during pregnancy is important for a healthy baby without complications until the first thousand days of life. This period is called golden period (the golden period) or also called as a critical time, which if not used properly there will be permanent damage (window of opportunity) [1]. Pregnancy with stunted fetal growth (intrauterine growth restriction/IUGR) can cause various negative impacts such as stillbirth (stillbirth) amounted to (9.7%), neonatal mortality, perinatal morbidity, disease [2,3]. Cerebral palsy and growth retardation (IUGR) is a leading cause of perinatal mortality by 50% in preterm fetuses and 20% fetal a term [4]. Often not detected in antenatal testing and in low-risk pregnancy, IUGR can be detected only by 15% [5]. However, other studies claim that fetal growth restriction (IUGR) can be detected by echocardiography when pregnancy six months [6].

Babies with low birth weight (LBW) is also a major problem in the fetus. LBW is one of the leading causes of death, morbidity and disability in neonates and infants as well as having long-term impact on health outcomes in adult life, so it is a multifaceted problem in public health. The prevalence of LBW in the world is estimated at 15% of which 38% occur mainly in developing countries. Riskesdas data in 2013 showed that the percentage of LBW 10.2% decrease from the year 2010 at 11.1%. LBW highest proportion occurred in Central Sulawesi (16.2%) and lowest in North Sumatra (8.2%), whereas in Southeast Sulawesi presentation LBW by 10% [7]. Babies born with low birth weight are at risk of malnutrition if not dealt with appropriately so that the risk of occurrence of stunting.

Some of the factors that influence growth are genetics, prenatal environment (maternal nutrition during pregnancy, mechanical, toxins, endocrine, radiation, infection, stress, anoxia embryo), postnatal environment (biological, physical, psychosocial, family and customs) [8]. Pregnant women with malnourished fetus at risk of intrauterine growth restriction (IUGR) and low birth weight babies (LBW) [9]. Another risk is the occurrence of metabolic disorders such as insulin resistance, diabetes, hypertension and dyslipidemia, as well as increase the risk of atherosclerosis and cardiovascular on the ancestor [10-13]. This is because the fetus does not get enough nutrients and oxygen to the development and growth of organs and tissues. Therefore, the need for early detection of pregnancy to reflect the fetus growth [14]. Pregnant women who lack of protein and micronutrients (vitamin A, thiamine, iron and zinc, and magnesium) [15-17]. At risk for the occurrence of IUGR and BBLR while mother pregnant excess nutrients the fetus at risk for the occurrence makrosomia [18,19].

One way to prevent stunted growth and death of the fetus during pregnancy care. Prenatal care is an effort that can be done to prevent complications in pregnancy and death so that the growth and well-being of the fetus to be optimal. Pregnant women are expected to take care of her pregnancy properly. There are several factors that influence the behavior of mothers in prenatal care, including internal and external factors. Internal factors are age and parity, while external factors are knowledge, attitudes, economic, social, cultural, geographic, support people closest, employment and education.

Educational approach is the approach best suited to improve the knowledge of mothers about prenatal care

through behavioral factors than the current approach of pressure (coercion). Changes in behavior produced by the education that is based on knowledge and awareness through a learning process is expected to long lasting and permanently [20]. Class expectant mother is one way of giving education to pregnant women to enhance the knowledge of mothers about prenatal care and fetal growth in content. Knowledge of prenatal care is the basis for the formation of good grooming behavior. The results of the research that pregnant women who attend classes pregnant women, pregnancy care is better than the mother who did not attend pregnancy classes [21]. The study states that the class of pregnant women increase the knowledge of pregnant women about pregnancy and increase the traffic class Furthermore antenatal [22,23]. Mother pregnant are also useful for reducing pain during childbirth, anxiety, stress and depression, and can improve quality of life and self efficacy of postpartum maternal [24-26].

Learning class pregnant woman has an advantage because pregnant women can learn in groups to express opinions and give the opportunity to others put forward ideas to solve the problems faced and make wise decisions in the face of possible problems that appear [27], study states that a class of pregnant women should be followed by a pregnant woman and her partner because it is very helpful in maintaining and preserving the future baby [28] classes in Kendari pregnant women have been executed since 2011. Although it has been implemented but cases of maternal and infant mortality is still high. An increase in the maternal mortality rate (MMR) in Kendari, where in 2012 the maternal mortality rate by 53 per 100,000 live births increased to 104 per 100,000 live births by 2013. Similarly, rate of complications in pregnancy amounted to 47.67% and that got handling amounted to 77.81%. The incidence of LBW of 1.54% in 2013 increased to 2.1% in 2014. Figures stillbirth of 0.34% where 30% for BBLR [29]. Main causes of maternal death is poisoning pregnancy and infection. This condition is exacerbated by poor nutritional status, birth too young, high parity, anemia in pregnancy, less knowledge about the utilization of health facilities, the majority of pregnant women late to get deliveries in health facilities, deliveries by seaman [30]. Besides cultural factors take effect. Culture is one of the main causes of problems nutritional problems. Based on these descriptions, the writer is interested in studying the effect of maternal education in the classroom to the growth of the fetus.

2. Materials and Method

2.1 Materials and Method Design

The design of this study using inferential causal design. The first stage, using observational research with cross sectional design. The second stage uses the design of interventions with a quasi-experimental design, the pre and post tests in the intervention and control. The treatment group was divided into two groups, where the first group was given in the form of educational intervention using a modification module and the second group was given a modification module for 6 months (starting from the second trimester of pregnancy until the third trimester of pregnancy). The control group was divided into two, with the first group are educated with books KIA and the second group was given the book KIA. Before the given intervention, early screening maternal health and fetal growth (using ultrasound). Further assess the health of the mother and fetal growth after six months of intervention. This research has been conducted in four health centers in the city of Kendari consisting of PHC Eye, Puuwatu Puskesmas, Puskesmas Bloom, Housing Health Center. The study population was all

pregnant women with gestational age 4 months in Kendari. The samples are mostly pregnant women with gestational age 4 months in Kendari. The samples were divided into four groups with each group a sample of 20 pregnant women. According to Gray (1992), that the minimum requirement of the sample in a simple experimental study is 15-30 people pergrup. To study a simple experiment with tight control necessary samples with small size among 10 until 20 pergrup. The first group is the group that received education and modification module (PHC Puuwatu). The second group is the group that received education and KIA book (PHC bloom). Any modification module (PHC Mata). The third group is the group that received the modification module (PHC Mata). The fourth group is the group got a book MoH MCH (PHC Housing). Samples were obtained by purposive sampling method.

2.2 Statistic Analysis

The data obtained were processed using univariable, bivariable and multivariable. The results of the analysis will be narrated and tabulated. For statistical tests, the significance level used $p \leq 0.05$. Univariable illustrates descriptively for the calculation of the frequency distribution, the minimum value, the mean or median and standard deviation. Variables analyzed were age, education, occupation, income, family size, medical history, parity, bivariable analysis is used to test the significance differences in mean variables before and after the intervention. If the distribution of the normal distribution of data used parametric test independent t-test, but if the distribution of the data were not normally distributed then used the non-parametric Wilcoxon signed test and Kruskal Wallis test. The variables were analyzed to determine differences in antenatal visits, fetal growth before and after the intervention.

3. Results

Below are the data presentation of the research result;

Table 1: Characteristics of Respondents

Characteristics	Group								P
	1		2		3		4		
	n(20)	%	n(20)	%	n(20)	%	n(18)	%	
Age group									
< 20	2	10,0					3	16,7	
20 - 35	18	90,0	20	100,0	20	100,0	15	83,3	0,097
Education									
Senior High School	19	95,0	17	85,0	19	95,0	17	94,4	
Diploma			1	5,0	1	5,0			0,675
S1	1	5,0	2	10,0			1	5,6	
Parity									
Primi/nullipara	14	70,0	14	70,0	11	55,0	14	77,8	0,492
Multipara	6	30,0	6	30,0	9	45,0	4	22,2	

Information :

Group I: a class of pregnant women using the modified module

Group II: a class of pregnant women using MCH Handbook

Group III: classless, using a modification module

Group IV: classless, using the MCH Handbook

Table 1 shows that the respondents in the group classes + more modifications modules aged 20-35 years (90%), with the level of high school education (95%), did not work (IRT) (95 %), and primiparous/nullipara (70.0%). Respondents of the classes + MCH handbook are all aged 20-35 years (100%), with the level of high school education (85%), and parity primiparas / nullipara (70%).

Respondents in all groups modification module 20-35 years old (100%), with the level of high school education (95%), and parity primiparas/nullipara (55%). Respondents in the MCH handbook more groups aged 20-35 years (83.3%), with the level of high school education (94.4%), and parity primiparas/nullipara (77.8%). Chi-square test results showed that maternal age, education and parity did not differ ($p > 0.05$) between the fourth the research group. This shows that the condition can be said homogeneous characteristics of respondents.

Table 2: Changes In The Level Of Respondents Prior Knowledge and After Intervention By Intra Group

Knowledge	Group								p
	1		2		3		4		
	n(20)	%	n(20)	%	n(20)	%	n(18)	%	
Pre test (T0)									
Good	7	35,0	6	30,0	14	70,0	6	33,3	0,036
Less	13	65,0	14	70,0	6	30,0	12	66,7	
Post test 1 (T1)									
Good	20	100,0	16	80,0	15	75,0	10	55,6	0,011
Less			4	20,0	5	25,0	8	44,4	
Post test 2 (T2)									
Good	20	100,0	17	85,0	15	75,0	12	66,7	0,045
Less			3	15,0	5	25,0	6	33,3	

Table 2 shows that the respondents' knowledge of unfavorable changes to be good. Group 1 has the highest increase is from 7 to 20 people on the measurement of T1 and T2, and the lowest increase in three groups,

namely from 14 to 15 on the measurement of T1 and T2. The statistical test result with chi square is known to have differences in knowledge between the four groups at the measurement T0, T1 and T2 measurements ($p < 0.05$). Changes in current knowledge score pre test, post test 1 and post test 2 can be calculated assuming knowledge score was isomor FHI, which would then be applied in Table 3 to Table 4.

Table 3: Respondents Prior Knowledge Score Changes and After Intervention By Intra Group

Knowledge	T0	T1(p)	T2
Group I (n=20)	7,15±2,44	11,40±1,35 (0,000)	13,75±,55 (0,000)
Group 2 (n=20)	7,05±2,56	9,05±1,96 (0,000)	10,20±1,99 (0,000)
Group 3 (n=20)	8,85±3,01	9,85±3,10 (0,019)	11,30±3,80 (0,002)
Group 4 (n=18)	6,28±2,27	7,06±2,21 (0,023)	8,06±2,58 (0,007)

p : uji wilcoxon

Table 3 indicated that all respondents have knowledge increased compared to baseline measurements. This shows that there are differences in knowledge at the beginning of the measurement with the second measurement and the third measurement. Wilcoxon statistical test result to show that the respondents' knowledge score significant start in post test 1 in all groups. Distribution of respondents' knowledge score changes before and after the intervention can also be seen in Figure 1.

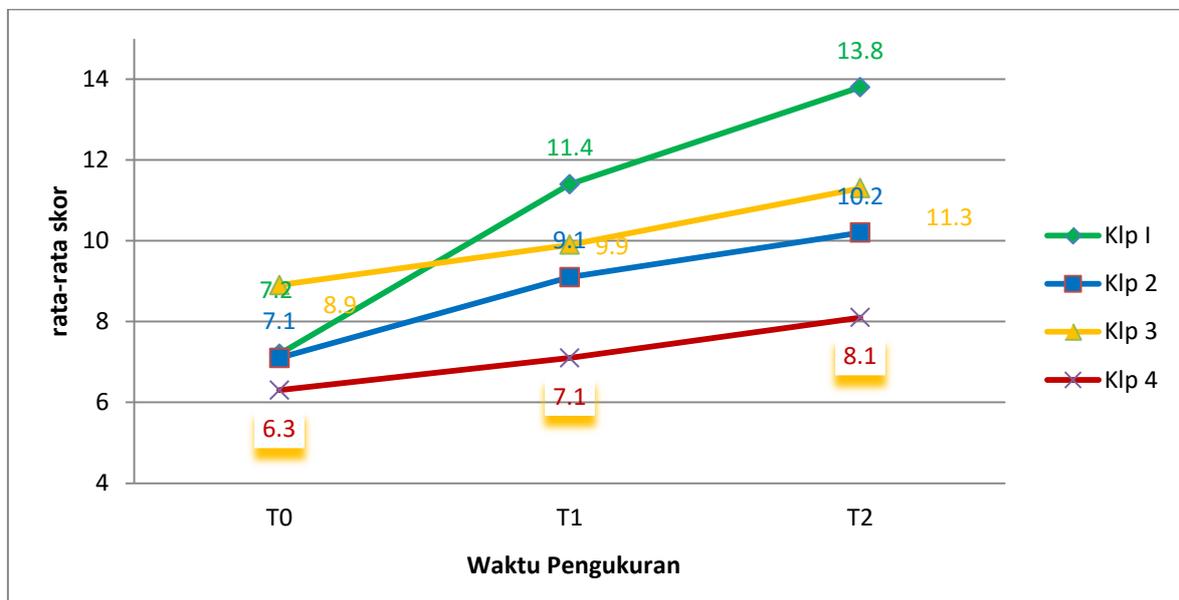


Figure 1: Changes in the mother's knowledge score

Figure 1 shows that at the beginning of the measurement, the average score of the highest knowledge of group 3 and the lowest in group 4. At the end of the measurement the highest knowledge score in group 1, then group 3. Score the lowest is 4. Comparison of different groups of knowledge can be seen in table 4.

Table 4: Difference Score Respondents Knowledge Before And After Intervention Based On Intra Group

Knowledge	Δ1	p	Δ2	p
Group I (n=20)	4,3 a	0,000	6,6 a	0,000
Group 2 (n=20)	2.0 b		3.2 b	
Group 3 (n=20)	1.0 c		2.5 b	
Group 4 (n=18)	0.8 c		1.8 b	

p : uji wilcoxon

Table 4 indicated that the test results Kruskal found no difference in knowledge between the four groups at the second measurement, and third. In terms of the increase in score, the highest increase was a group 1. On Δ1, different knowledge score group 1 and group 2 with all groups, while group 3 and group 4 the same elevation. In Δ2, different knowledge score group 1 with all groups, whereas group 2, 3 and 4 groups of equal elevation. This shows that there is a class effect of maternal education through the improvement of knowledge score responder.

Table 5: Comparison Of Capital Increase Weight Loss During Pregnancy

Weight gain	Group								Total		p
	1		2		3		4		n	%	
	n	%	n	%	n	%	n	%			
Less	0	0	3	15,0	3	15,0	9	50,0	15	19,2	
Normal	20	100,0	14	70,0	12	60,0	5	27,8	51	65,4	
More	0	,0	3	15,0	5	25,0	4	22,2	12	15,4	0,000
Total	20	100,0	20	100,0	20	100,0	18	100,0	78	100,0	

Table 5 shows the mother's weight gain during pregnancy are all normal in group 1. In group 2 and 3, respectively increase approximately 15% and group 4 as much as 50%. Results obtained chi square test p = 0.000 (p < 0.05). This means that there are differences in maternal weight gain in all four study groups. Provision of educational effect on weight gain of pregnant women become normal. Distribution of normal fetal growth changes before and after the intervention can be seen in Figure 3.

Figure 3 shows that at the beginning of the measurement, the number of fetuses who have normal growth in group 1 = 8 fetus, whereas in group 2, 3 and 4 respectively 11 fetuses. At the end of the study, in group 1 all fetuses already have normal growth, while the second group were 17 fetuses, fetal total of 18 groups of 3 and group 4 were 13 fetuses. Changes in fetal growth from pre test, post test 1, test 2 post and can be seen in Table 6.

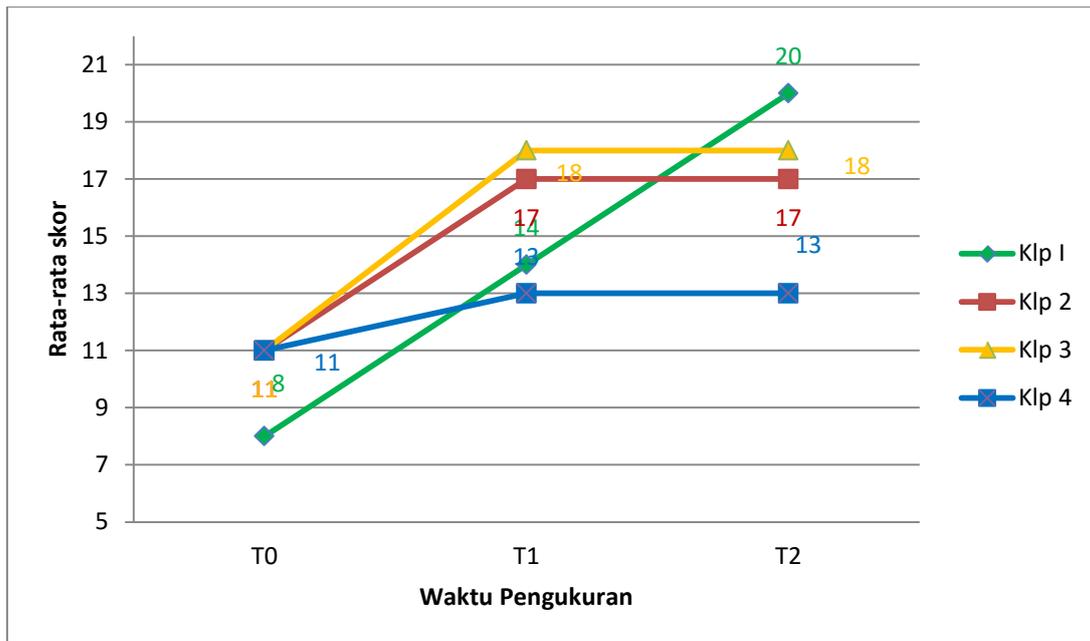


Figure 2: Changes in fetal growth during the study

Table 6: Normal Fetal Growth Changes Before and After Changes Intra Based Intervention Group

Fetal Growth	T0	$\Delta T1(p)$	$\Delta T2 (p)$
Group I (n=20)	8	6 (0,014)	12(0,001)
Group 2 (n=20)	11	6(0,014)	6(0,014)
Group 3 (n=20)	11	7(0,059)	7(0,018)
Group 4 (n=18)	11	2(1,000)	2(1,000)

p : (uji wilcoxon)

Table 6 indicated that the amount of fetal growth increased to normal in group 1 were 12 fetuses, as many as 6 fetuses group 2, group 3 of 7 fetuses and fetal group of 4 cm 2. Based on Wilcoxon test obtained no effect of education on fetal growth changes in group 1 and 2 when T1, T2 while currently only 4 groups were not significantly fetal growth. Fetal growth differences between the groups can be seen in Table 7.

Table 7: Normal Fetal Growth Changes Before and After Changes Intra Based Intervention Group

Fetal Growth	$\Delta T1$	p	$\Delta T2$	P
Group I (n=20)	6	0,100	12	0,005
Group 2 (n=20)	6		6	
Group 3 (n=20)	7		7	
Group 4 (n=18)	2		2	

p : uji kruskall Wallis

Table 7 indicated that the results of Kruskal Wallis test was found differences in nutrient intake changes in post 2 between the four groups, whereas no differences were found in T1 fetal growth in all four study groups.

Table 8: Effectiveness Of Education To Changes In Knowledge, Food Intake

Variabel	Selisih	Efektifitas
	$\Delta 3$	P
Pengetahuan		
Group 1	6,6	0.000
Group 2	3,2	
Group 3	2,5	
Group 4	1,8	

P : uji kruskall Wallis

Group 1 > Group 2 > Group 3 > Group 4

Table 8 indicated that the test results obtained Kruskal there are differences in knowledge, attitudes, behavior, nutrition among the four study groups. The highest change occurred in group 1 compared to the other groups.

4. Discussion

The gestation period is a period of physical and psychological changes. The changes that occur due to the influence of hormones and the growing fetus in the womb of pregnant women. Every pregnant woman should be able to understand the changes that occur during pregnancy, so it is able to take care of her pregnancy. Pregnant women who are not able to adapt to various changes during pregnancy would adversely affect the treatment during pregnancy. The ability to adapt to changes in pregnancy would be obtained when pregnant women get knowledge about pregnancy. Knowledge of pregnancy can be obtained from a variety of media, but knowledge about pregnancy gained from health care providers will be better and give a good impact on the behavior of the pregnancy mother [31].

Approach to education which is given by health workers is the approach best suited to improve the knowledge of mothers about prenatal care through behavioral factors than the current approach of pressure (coercion). Changes in behavior produced by the education that is based on knowledge and awareness through a learning process is expected to long lasting and existing [20]. Education is an attempt to affect the physiology of the target so that it behaves in accordance with the demands of health values. Education provides the skills and abilities to the public to be independent in the field of health, including maintaining and improving health education [20]. Education in pregnant women is a lesson to create a relationship between midwives and pregnant women so that pregnant women were able to keep pregnancy [32]. One way of giving education to pregnant women through the class of pregnant women.

The study states that there is the influence of education by using media modifications to increase knowledge

score responder. Class of pregnant women is effective to improve the knowledge of pregnant women. The results are consistent with research that states that class mothers can improve their knowledge and skills of mothers to maintain good health and fetuses [33,34]. Increased knowledge in this study is one of the benchmarks of success-class pregnant women, in which there is a learning activity (learning) in terms of cognitive, through successive transformations of information on respondents'. The learning process is a series of events/events that take place in a sequence that begins with the stimulus/stimulus in one self [35].

When someone get information, then the information will be processed further by thinking, process, questioning, classify and reflected [36]. For more interesting information provision and information can be received optimally, it is necessary the use of tools to facilitate the understanding of the respondent, such as AVA in the form of a projector LCD and microphone for the delivery of content. Tools used them in the form of video CDs, leaflets, flipchart, modification module, models of various contraceptives, baby dolls and dress model kangaroo.

The knowledge gained in the study of pregnant women starting from the response of visual and auditory stimuli. Touch response that happened to respondents who deliberately inflicted by researchers through a learning process before finally entering the later stage, which is considering the information, understand, interpret, apply, combining inter information, develop information in accordance with the selected information and the last one is making a decision will be to use the information obtained or is not appropriate internal and external considerations on self-respondents. This is similar to the theory that divides knowledge into six domains or domains, namely know, understanding, application, analysis, synthesis, and evaluation [35].

In this study the process of learning with a class of pregnant women rely on sources of learning from the experience of class participants pregnant women and the role of facilitator in revealing experience as a source of learning is an effective method. Learning by experience is a learning method in which participants from the outset faced with a problem, followed by the process of finding information that is student- centered learning. Learning module is based on the needs of participants using a modified module according to the needs of pregnant women in implementing pregnant nursing home. The influence class pregnant women to increase the value of knowledge of pregnant women due to the execution of pregnant women classes held every month 2x row.

Based on the retention of knowledge that knowledge will decrease after one month so that the necessary emphasis on knowledge or repetition. In addition, the frequency or intensity of more intensive meetings to motivate more pregnant women to apply the knowledge acquired. Lack of information or knowledge that is frequently and repeatedly can increase one's knowledge retention. Class of pregnant women conducted using participatory approach means that pregnant women are not positioned only receive the information for a passive position tends to be ineffective to change behavior. Mother class is designed with a participatory learning methods where mothers are not seen as students, but as people learn. In practice, women are encouraged to learn from the experience of others, while the facilitator role as advisors on the correct knowledge.

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Increased knowledge of the mother occurs due to the intervention in the form of counseling and discussion of experiences among the participants in the activities of pregnant women class themselves. Knowledge arises when one uses his intellect to recognize certain objects or events that have never been seen or felt before [37]. These results correspond well with studies stating that pregnant women who have a good knowledge of the pregnancy, the quality of life is better in receiving pregnancy and Giving birth the baby [26,38]. Knowledge in a class of pregnant women will also improve self-efficacy of pregnant women so as to reduce pain, anxiety, stress, fear, depression during childbirth and postpartum.[24,25,39,40]. Provision of information about pregnancy small group (class of pregnant women) are more effective than in the big group [41]. The study states there is the effect of education by using a modification module with improved nutritional intake of pregnant women compared to the baseline measurements. Similarly, weight gain, that in the group given education by using modules modification, weight according to the recommended weight during pregnancy. Providing information about the nutritional status in this case nutrition education to pregnant women is considered as an important tool to promote a healthy lifestyle and prenatal care. Knowledge about nutrition is an important promotional tool in pregnancy. Knowledge about nutrition also affects the behavior of pregnant women to consume fruits, vegetables, folat sour [42].

Giving knowledge about diet and lifestyle interventions in pregnancy can control weight gain during pregnancy and improving maternal health and nutrition education and baby counseling [43] is a strategy commonly applied to improve maternal nutrition during pregnancy and will be more influential when given with nutritional support, for example, , food or micronutrient supplement [44]. The midwife's role is crucial in supporting the health of pregnant women and baby [45]. Knowledge about nutrition also provides positive effect on the awareness of nutrition in pregnancy. Knowledge about nutrition increased 31% after being given knowledge [46]. Providing nutrition information is an attempt to prevent and tackle the problem of malnutrition.

The ideal foods pregnant women should contain enough calories (energy) and all the essential nutrients (components of food that cannot be synthesized by the body itself, but is necessary for health and growth) and must be in the appropriate number of days grocery [47]. Malnutrition this is a major cause of mortality and morbidity in children and women, thus demanding health care costs. Malnutrition move from one generation to the next because malnourished mothers give birth to malnourished babies. If being born is a girl, these children then often become malnourished mothers, and this circle will continue [48].

The study states that education module with modifications affect the antenatal visits. In this study the practice of pregnant women in antenatal care, either not followed or who have attended class the majority of pregnant

women have prenatal care implement good practices. This can be caused by many factors, one of which is the amount of information obtained by pregnant women in education and counseling when antenatal care at health professionals. Other than that, current information about antenatal care is obtained from either the medial or printed electronics. Improvement aspects of knowledge, attitudes, and behavior of pregnant women pregnant women after the training class, which followed an increase in antenatal care visits after 2 months post-training, classroom training appears that pregnant women have achieved success in their entirety [49].

This is evident from the results of studies showing that the frequency of visits ANC pregnant women who attend classes quite all pregnant women is more than or equal to 4 times during pregnancy. The above is relevant to the research that the content of the training program (the training program content) is the expertise (skills), knowledge and attitudes that are learned from the experience of the training is expected to create change behavior [50]. Implementation of a training program is successful if the participants themselves training occurs a process of transformation of the learning experience, the transformation process is going well expressed in the event of at least two things, namely the improvement of skills and behavioral changes are reflected in the attitude, discipline and working ethos. Evaluation of changes in antenatal care visits in this study conducted after the respondent receives knowledge about the health of mothers and children in a class of pregnant women, and the expected changes will be retained until the end of pregnancy.

Mothers pregnant women class participants is currently a class participants Pregnant expressly states the correct antenatal care is at least four times, regularly to a midwife or health clinic. Nice pregnancy check it at least 4 times. In the investigation, the informant said he would always want and actively know that her condition and her child in the womb a healthy condition. Regularly check the content was meant to be keeping the contents stay healthy, to know the state of health of mothers and infants, check lest there is an abnormality, and when sick in order to get drugs. Explanation of executing against this condition occurs because the informant who is currently also a class participants Pregnant women have interacted with the officers every week during pregnancy trimester three until the baby has entered the age of three months. The conditions shown in the classroom Maternity leave the impression that sufficient improvement knowledge, interacting with the officer in a continuous frequency raises no awareness of mothers to care for him and his son to stay healthy.

Behavior based on knowledge will be more lasting than the behavior that is not based on knowledge. Antenatal care visits is one form of overt behavior (overt behavior), which is an advanced manifestation of the attitude or behavior of a closed (covert behavior). Class pregnant women have a positive impact on antenatal visits. The results are consistent with studies suggest pregnant women who have a good knowledge of when to follow the course, about 80% will be having next antenatal visit to check the pregnancy [23]. class mothers pregnant women also helps parents to accept Baby birth [28]. The study states that there is the influence of education with modification module with fetal growth. Provision of education during pregnancy, helps pregnant women to understand the content of the types of food that can select and process food in accordance with the appropriate level of the nutritional needs of pregnancy. This is because the fetus does not get enough nutrients and oxygen to the development and growth of organs and tissues. Therefore, the need for early detection of pregnancy to reflect the growth of the fetus.

Fetal growth according to gestational age marks optimal fetal wellbeing. Examination of fetal wellbeing during pregnancy is important for a healthy baby without complications until the first thousand days of life. To monitor the health of the fetus, so pregnant women should be diligent antenatal health facilities. The frequency of antenatal care (ANC) is recommended at least four times during pregnancy and if you want to know the condition of the fetus in detail it is necessary to ultrasound. Growth of the fetus in the womb is the result of an interaction between genetic and environmental potential intrauterine and is one indicator that determines the well-being of the fetus. Fetal growth and development is getting faster in the third trimester of pregnancy so that the required intake of energy and protein. For growth and development, a fetus requires a source of energy, minerals and so on foods or nutrients derived from the mother. Nutrients in the form of the blood is channeled indirectly to the fetus, but through the placenta. Thus, the circulation of the capital component associated with the component circulation of the fetus through the placenta. In the placenta, gather all the nutrients, oxygen and others, there is also a tuft-tuft or roots or in medical terms is called hemokorialis which empties into the fetal umbilical cord. From the umbilical cord is then nutrients into the fetal circulation.

Roots / flakes or hemokorialis as "intermediaries". Current or not, nutrients or oxygen to the fetus, depending on how the condition hemokorialis tuft. If it is not good because there is a problem or a particular disease, causing nutrients will not penetrate to the fetus. Absorption that occurs only slightly. Finally the fetus does not get enough nutrients and oxygen. In medical terms this is called Uteroplacental ie between the uterus and placenta interference from maternal circulation so that the food does not make or not to the fetus. When they appear circulatory disorders of food to the fetus will cause fetal growth retardation state where the fetus is too small for gestation. These events can cause premature birth, or a fixed term but suffered LBW or low birth weight infants. Different ways to prevent stunted growth and death of the fetus one of which is the treatment of pregnant women. Prenatal care is an effort that can be done to prevent complications in pregnancy and death so that the growth and well-being of the fetus to be optimal. Pregnant women are expected to take care of her pregnancy properly.

5. Conclusion

In conclusion, this study has shown an effect education for fetus growth. Education increases knowledge, attitudes and behavior of pregnant women in meeting the nutrition and antenatal visits. Education helps mothers antenatal monitoring changes in fetal growth. Education helps mothers to maintain their nutritional status so that the weight gain during pregnancy is normal. Education using a modified module has a higher effectiveness in changing the behavior of the mother.

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