THE EFFECT OF USING PILAMIL (PITA LILA PREGNANT WOMEN) ON THE INCIDENCE OF CHRONIC ENERGY DEFICIENCY IN PREGNANT WOMEN

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ABSTRAK : PENGARUH PENGGUNAAN PILAMIL (PITA LILA IBU HAMIL) TERHADAP KEJADIAN KEKURANGAN ENERGI KRONIS PADA IBU HAMIL

Latar Belakang : Jumlah kasus kekurangan energi kronik (KEK) yang terjadi pada ibu hamil di Indonesia masih tinggi (17,3%) sehubungan dengan tujuan Sustainable Development Goals (SDGs) yang mana harus 5% di tahun 2030. Tidak hanya itu penurunan hanya sebesar 6,9% dari Tahun 2013-2018. Berdasarkan Riskesdas 2018, kejadian KEK di Provinsi Lampung sebesar 13,6% mendekati rerata kejadian KEK di Indonesia. Ini menunjukkan perlunya upaya percepatan untuk menurunkan kejadian KEK yang terjadi pada ibu hamil di Provinsi lampung khususnya diseluruh Provinsi di Indonesia. Langkah screening KEK di Indonesia menggunakan pengukuran LILA, yang dilakukan oleh profesional kesehatan menggunakan pita LILA.

Tujuan : Penelitian ini adalah untuk mengetahui efektifitas penggunaan PILAMIL (Pita LILA Ibu Hamil) terhadap kenaikan lingkaran lila pada ibu hamil yang mengalami KEK di PMB Nini Suniarti, Panjang, Kota Bandar Lampung.

Metode Penelitian : Jenis penelitian yang digunakan adalah penelitian kuantitatif dengan pendekatan rancangan satu kelompok praperlakuan dan pascaperlakuan (*One-group pretest-posttest design*) pada distribusi frekuensi pemahaman, penggunaan dan kebermanfaatan terhadap seluruh ibu hamil. Alat ukur digunakan dalam penelitian ini adalah PILAMIL (Pita LILA Ibu Hamil), SOP/Daftar Tilik dan kusioner. Jenis pengambilan data adalah data primer dengan sampel 38 responden. Analisis data univariat dan bivariat dengan uji statistik Mann-Whitney dengan *Uji Normalitas Shapiro Wilk.*

Hasil : Penelitian menunjukkan sebagian besar responden mengalami peningkatan hasil pengukuran LILA saat setelah diberikan intervensi oleh peneliti. Hasil uji statistik menggunakan Mann-Whitney menunjukkan signifikansi p-*value* 0.046 < 0.05. artinya terdapat pengaruh yang signifikan terhadap penggunaan PILAMIL secara independent oleh ibu hamil.

Kesimpulan ; terdapat efektifitas penggunaan PILAMIL terhadap kejadian KEK pada ibu hamil secara independent.

Saran : PILAMIL dapat digunakan oleh ibu hamil KEK sebagai alat untuk memantau kenaikan lila secara independen

Katakunci : KEK, Ibu Hamil, PILAMIL (PITA LILA untuk Ibu Hamil)

ABSTRACT

Background: The number of cases of chronic energy deficiency (CED) that occur in pregnant women in Indonesia is still high (17.3%) in relation to the Sustainable Development Goals (SDGs) which must be 5% in 2030. Not only that, the decrease was only 6.9% from 2013-2018. Based on Riskesdas 2018, the incidence of CED in Lampung Province was 13.6% approaching the average incidence of CED in Indonesia. This shows the need for accelerated efforts to reduce the incidence of CED that occurs in pregnant women in Lampung Province, especially in all provinces in Indonesia. The CED screening steps in Indonesia use LILA measurements, which are carried out by health professionals using LILA bands.

Objective: This study was to determine the effectiveness of using PILAMIL (Pregnant Women's LILA Tape) on increasing the lila circle in pregnant women experiencing KEK at PMB Nini Suniarti, Panjang, Bandar Lampung City.

Research Methods: The type of research used is quantitative research with a one-group pre-treatment and post-treatment design approach (One-group pretest-posttest design) on the frequency distribution of understanding, use and benefits for all pregnant women. The measuring instruments used in this study were PILAMIL (Pregnant Women's LILA Tape), SOP/Checklist and questionnaire. The type of data collection is primary

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data with a sample of 38 respondents. Univariate and bivariate data analysis with the Mann-Whitney statistical test with the Shapiro Wilk Normality Test.

Results: The study showed that most respondents experienced an increase in LILA measurement results after being given intervention by the researcher. The results of the statistical test using Mann-Whitney showed a significance of p-value 0.046 < 0.05. This means that there is a significant influence on the use of PILAMIL independently by pregnant women..

Conclusion: There is effectiveness in using PILAMIL against the incidence of KEK in pregnant women independently.

Suggestion: PILAMIL can be used by pregnant women with KEK as a tool to monitor the increase in blood pressure independently.

Keywords: KEK, Pregnant Women, PILAMIL (PITA LILA for Pregnant Women)

INTRODUCTION

Undernutrition in pregnant women is still a concern in various low and middle income countries such as Indonesia and other countries such as India and Ethiopia. The low nutritional status of pregnant women in Indonesia is known as KEK (chronic energy deficiency), with the main sign being LILA <23.5 cm. The status of pregnant women with low nutrition in India is 22.9% (Mishra et al., 2020), di of Ethiopia 41% (Ghosh et al., 2019) and Indonesia 17.3% (Litbangkes, 2018b).

If we compare the condition of KEK with countries such as India and Ethiopia, it shows that Indonesia is slightly better, but if we refer to the Sustainable Development Goals (SDGs), the target for pregnant women in KEK is 5% in 2030 (Ministry of Health of the Republic of Indonesia, 2015), and the decrease is only 6.9% from 2013 to 2018 or 24.2% of KEK in 2013. (Balitbangkes RI, 2013). The highest incidence of KEK in pregnant women was in East Nusa Tenggara Province at 36.8%, the lowest in North Kalimantan Province at 1.7%, while Lampung Province was ranked 26th out of 34 provinces with an incidence of KEK of 13.6%. (Litbangkes, 2018b). This shows that accelerated efforts are needed to realize the target of reducing the number of pregnant women with special economic conditions.

In Lampung Province, KEK in pregnant women is 13.6%. (Litbangkes, 2018b), while the prevalence of KEK in pregnant women in Bandar Lampung City is 17.36% (Litbangkes, 2018a). In the 2022 Lampung Province Health Profile, there are 19,592 pregnant women, including an estimated 3,918 pregnant women with obstetric complications, and 1,004 pregnant women with Chronic Energy Deficiency (CED). Meanwhile, in the 2022 Bandar Lampung City Health Profile, there are 1,474 pregnant women in Panjang District, including an estimated 295 pregnant women with obstetric complications, and 119 pregnant women with Chronic Energy Deficiency (CED).

Currently, many pregnant women in Indonesia experience nutritional problems, especially malnutrition, such as KEK. (Ministry of Health, 2014). Pregnant women who experience KEK during pregnancy will be very dangerous during pregnancy and childbirth. Fetal growth and smooth delivery are influenced by good nutrition for pregnant women. If the mother's intake is not balanced with the nutritional needs of the fetus during pregnancy, the mother and fetus can experience various problems including: the fetus can experience disabilities, low birth weight (LBW), anemia during pregnancy, bleeding, and neonatal death.(Andriani, 2015).

In the Lampung Province Health Profile, the number of maternal deaths caused by bleeding was 24 cases, especially in Bandar Lampung City there were 3 cases. In the 2022 Lampung Provincial Health Service LKj, one of the causes of maternal death was bleeding at 26%. (Dinas Kesehatan Kota, 2022). Meanwhile, there are 1,975 mothers with anemia complications in Bandar Lampung City and there are 63 mothers with anemia complications in Panjang District, which indirectly these complications can cause maternal death in the future if not handled properly. Neonatal deaths in Lampung Province are 451 cases, while there are 56 cases of neonatal deaths in Bandar Lampung City. The estimated number of neonatal complications in Lampung Province is 21,201 cases, with the specification of 3,069 cases of LBW cases. Meanwhile, there are 2,901 estimated neonatal complications in Bandar Lampung City with the specification of 361 cases of LBW.

Indonesia has many cases of Chronic Energy Deficiency (CED), mainly caused by nutritional imbalances in the body, which causes imperfect body development both physically and mentally. (Azizah & Adriani, 2017). Direct and indirect factors affecting KEK in pregnant women. Factors that directly affect food intake, consumption patterns, and diseases (infectious diseases). Behavioral factors,

socioeconomic factors, and biological factors are indirect factors that affect KEK in pregnant women. Biological factors include maternal gestational age, pregnancy spacing, and parity, while socioeconomic factors include knowledge, education, family income, and employment. (Sediaoetama, A. D. (2014). These factors are influenced by a number of circumstances, including cultural perceptions. One of the problems related to cultural beliefs or perceptions is regarding the food consumption patterns of pregnant women, such as prohibitions on certain foods. (Alifka, 2020).

Efforts to accelerate the decline in the condition of pregnant women with KEK are efforts to prevent various complications that are closely related to KEK. To prevent pregnant women at risk of Chronic Energy Deficiency (KEK), the government and health workers increase nutritional education for pregnant women about KEK through nutrition education, nutrition services, and maternal and child health counseling, early screening of pregnant women and KIE on providing additional food supplements to pregnant women at risk of KEK through nutrition counseling and KIA. The anthropometric method is the most frequently used indicator in early screening of pregnant women which aims to evaluate the nutritional status of pregnant women with KEK. Some of the most frequently used indicators in this screening are weight for age (BW/U), height for age (TB/U), upper arm circumference (LILA), head circumference, body mass index for weight (BMI) and age (BMI/U). (Gibney, Margetts, et al., 2013). Measurement using LILA is also used by many countries in classifying nutritional status in their communities. The accuracy of LILA measurements compared to measurements using BMI and skin fat thickness, has the same level of accuracy (Mishra et al., 2020).

LILA measurement in pregnant women is one of the easy initial screening steps that can be implemented by the community. Using LILA measurement is more effective and efficient when compared to BMI measurement which requires scales, stadiometers, and formula calculations (weight/height) (Mishra et al., 2020). PILAMIL is a measuring tool used to check LILA (Upper Arm Circumference) by modifying the product in such a way that it provides the nutritional needs of the mother during pregnancy. In the PILAMIL product, there are 3 categories of mothers with various conditions, including: mothers with Chronic Energy Deficiency (CED), mothers in normal condition and mothers with obesity. Thus, LILA measurement with the PILAMIL measuring tool can be used to detect malnutrition status/CED because it is easy, convenient, cheaper and can be done independently by pregnant women.

In this PILAMIL Tools product, pregnant women can also use it anywhere, because its effectiveness is high and its use is easy. Behind the ribbon, there is a picture of a pregnant woman using PITA LILA on her arm, as well as a hole that is useful for inserting PITA LILA. This product uses delaminating sticker paper so that it is waterproof and not easily torn. PITA LILA can also be used in the long term because the material made has high effectiveness.

Based on the results of research conducted at PMB Nini Suniarti, A.Md.Keb on August 30, 2023, the incidence of pregnant women with Chronic Energy Deficiency (CED) was 50% of the total number of pregnant women who visited ANC every month. Based on the results of observations, there were 60 pregnant women with a classification of 30 pregnant women who were included in the Chronic Energy Deficiency (CED) category. Therefore, researchers are interested in examining whether LILA measurements by non-health workers/by the community independently or by pregnant women have the same level of accuracy as measurements by health workers. The purpose of this study was to prove that the PILAMIL product (Pregnant Women's LILA Tape I) is effective for use by mothers to detect early CED in pregnant women.

RESEARCH METHODS

This type of research is experimental on all pregnant women with a Quasi Experimental research design. This study uses the PILAMIL (Pregnant Women's LILA Tape) measuring instrument, SOP/Checklist and questionnaire. This research design does not have a comparison group (control). This study also uses a one-group pre-treatment and post-treatment design (One-group pretest-posttest design) on the frequency distribution of understanding, use and benefits. The population in this study was 60 pregnant women at PMB Nini Suniarti Panjang Bandar Lampung. Based on the sample size of the Slovin formula, a total of 37.5 was obtained and rounded up to 38 respondents. Therefore, the total sample of pregnant women was 38 mothers who would be given PILAMIL (Pregnant Women's LILA Tape). The inclusion criteria for the study were

1) All Pregnant Women with KEK classification and not KEK 2) Pregnant women in Trimester I, II and III. 3) Ensuring pregnant women whose gestational age is not approaching the estimated delivery. 4) Pregnant women with compos mentis

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or full awareness. .5) Mothers who are willing to be respondents.

Exclusion Criteria 1) Pregnant women with serious complications. 2) Pregnant women with somnolence or decreased consciousness. 3) Pregnant women who are not willing to be respondents. Data analysis Data analysis used mean or average values, medians and standard deviations (Notoatmodjo, 2018). Bivariate Analysis In this study, the researcher used bivariate data analysis because there are 2 variables to be measured. The researcher will use Mann-Whitney as the statistical test.

RESEARCH RESULTS

Respondent Characteristics

Characteristics Based on Age, Gestational Age, and Education

The characteristics of the research subjects consist of the mother's age, the mother's gestational age, and the mother's education, which can be seen in the following table:

Table 1
Characteristics Based on Age, Gestational Age, and Education

Respondent Characteristics	Frekuensi (n=38)	Persentase %
Age		
Reproduktif	33	86.8 %
≠ Reproduktif	5	13.2 %
Gestational Age		
TM I	8	21.1 %
TM II	19	50.0 %
TM III	11	28.9 %
Education		
SD	2	5.3 %
SMP	12	31.6 %
SMA	24	63.2 %

Based on the table above, the number of respondents is 38 people with characteristics of age, gestational age and education. Characteristics of respondents based on reproductive age are 33 (86.8%) mothers and ≠ reproductive age are 5 (13.2%) mothers. Based on gestational age, respondents in TM I are 8 (21.1%) mothers, TM II are 19 (50.0%) mothers and TM III are 11 (28.9%) mothers. Based on education, respondents in SD are 2 (5.3%) mothers, SMP are 12 (31.6%) mothers and SMA are 24 (63.2%) mothers.

Analisis Univariat

Univariate analysis was conducted to determine the proportion of each research variable, namely the independent variable (free) of PILAMIL use and the dependent variable (bound) of KEK occurrence. Furthermore, it will be presented in the form of a frequency distribution table.

Respondents' Understanding of PILAMIL

The results of the frequency distribution based on the understanding of mothers at PMB Nini Suniarti, Panjang, Bandar Lampung City can be seen in the following table:

Table 2
Frequency Distribution of Respondents Based on Mother's Understanding

Pemahaman	*Pre test*		*Post test*	
	n	%	n	%
Paham	7	18.4	25	65.8
≠ Paham	31	81.6	13	32.4

Based on the table above, it is known that 7 (18.4%) respondents understood PILAMIL during the pre-test and 25 (65.8%) during the post-test, and 31 (81.6%) respondents understood PILAMIL during the pre-test and 13 (32.4%) mothers in the post-test.

Use of PILAMIL

The results of the frequency distribution of respondents based on the use of PILAMIL at PMB Nini Suniarti, Panjang, Bandar Lampung City can be seen in the following table:

Based on the table above, it is known that respondents mostly implemented the use of PILAMIL appropriately, as many as 25 (65.8%) mothers, and respondents who implemented PILAMIL ≠ appropriately were 13 (34.2%) mothers.

Table 3
Frequency Distribution of Respondents Based on PILAMIL Use

Penggunaan PILAMIL	Responden	
	n	%
Sesuai	25	65.8
Tidak Sesuai	13	34.2

Benefits of Using PILAMIL

The results of the frequency distribution of respondents based on the usefulness of using PILAMIL at PMB Nini Suniarti, Panjang, Bandar Lampung City can be seen in the following table:

Table 4
Frequency Distribution of Respondents Based on the Usefulness of PILAMIL Use

PILAMIL	*Pre test*		*Post test*	
	n	%	n	%
Bermanfaat	10	23.3	25	65.8
Tidak Bermanfaat	28	73.7	13	34.2

Based on the table above, it is known that respondents could feel the benefits of using PILAMIL during the pre-test as many as 10 (23.3%) and during the post-test as many as 25 (65.8%) and respondents who did not feel the benefits during the pre-test as many as 28 (73.7%) and post-test as many as 13 (34.2%) mothers.

Status of the KEK Incident

The results of the frequency distribution of respondents based on the incidence of KEK in pregnant women at PMB Nini Suniarti, Panjang, Bandar Lampung City can be seen in the following table:

Table 5
Frequency Distribution of Respondents Based on the Incidence of Chronic Energy Deficiency (CED)

Penggunaan PILAMIL	KEK		≠ KEK		Total	
	n	%	n	%	n	%
Sebelum	28	73.7	10	26.3	38	100 %
Sesudah	22	57.9	16	42.1	38	100 %

Bivariate Analysis

Bivariate analysis is used to determine whether or not there is an influence between the independent variable and the dependent variable. The independent variable in this study is the use of PILAMIL (Pregnant Women's LILA Tape) and the dependent variable is the incidence of Chronic Energy Deficiency (CED). Furthermore, it will be presented in the following table.

Table 6
Effect of PILAMIL Use on the Incidence of Chronic Energy Deficiency

Penggunaan PILAMIL	Mean Rank	Sum of Ranks	p-*value*
Sebelum	33.51	1273.50	0.046
Sesudah	43.49	1652.50	

Based on the table above, the results of the Mann-Whitney test show a p-value of 0.046, which means that the p-value <0.05. Therefore, it can be concluded that there is an effect of PILAMIL use on the incidence of chronic energy deficiency in PMB Nini Suniarti, Panjang, Bandar Lampung City.

Tabel 7
Uji Normalitas Data Shapiro-Wilk (n=38)

	Statistik	*sig.*
Sebelum	0.930	0.020
Sesudah	0.773	0.000

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The results of the data normality test (Shapiro Wilk) show that the data has a significance value before 0.020 and after 0.000, which means $p < 0.05$, which can be interpreted that the data in the study is not normally distributed.

DISCUSSION

Respondent Characteristics

Characteristics based on age

This study shows that most respondents were pregnant at reproductive age compared to non-reproductive, namely 33 (86.8%) mothers. This shows that more than half of the total respondents were pregnant at reproductive age. Age is the length of time an individual experiences life from birth to the present. Age is one of the variables of the demographic model used as an absolute measurement result or different psychological indicators (Notoatmodjo, 2014). Age is the time the mother has lived since birth until the research was carried out, expressed in years (Murphy, 2016). According to Riskesdas 2018, there was a decrease in the prevalence of KEK risk in pregnant women aged 15-49 years by 8.3%. In 2013 it was 24.2% to 15.9% in 2018. One of the driving factors for pregnant women at a young age is because the mother is married at too young an age, so that when the mother enters pregnancy, the condition of her reproductive organs is not biologically ready and psychologically immature (Mahirawati Vita Kartika, 2014).

In the study (Fitri et al., 2022) it was stated that one of the factors causing pregnant women to experience KEK is the age of the mother. This study is in line with (Ernawati, 2018) where it is proven that there is a relationship between maternal age and the occurrence of KEK in pregnant women. This study shows that more than 50% of pregnant women of reproductive age experience KEK. This result is in line with research (Fitri et al., 2022) that there is a relationship between maternal age and the incidence of KEK, which is documented with pregnant women with low risk ages (20-35) being found to be more than mothers with high risk (<20 and >35 years).

So that reproductive and non-reproductive age in pregnant women has a close relationship with the incidence of KEK. Therefore, it is important for health workers to conduct health promotion about the importance of pregnancy in reproductive age and the importance of knowledge about factors related to the incidence of KEK.

Characteristics based on gestational age

This study shows that most respondents with pregnancy in the second trimester of pregnancy, namely 19 (50.0%) mothers. The pregnancy period starts from conception to the birth of the fetus, the normal duration of pregnancy is 280 days (4 weeks or 9 months 7 days) which is calculated from the first day of the last menstruation (Fatimah & Fatmasanti, 2019).

Based on the data obtained, most respondents were pregnant in the second trimester. These results indicate that pregnant women who are in the second trimester of pregnancy do not necessarily experience CED. These results are in line with the research of Krise Yusiana (2021) which states that there is no relationship between gestational age and the incidence of Chronic Energy Deficiency (CED) in Pregnant Women. This is because there are still other factors such as maternal factors, the presence of pregnancy anemia, emesis gravidarum and the age of the mother at risk. In line with this study, it shows that gestational age in the first, second and third trimesters cannot be a reference for the occurrence of CED in pregnant women.

Until the 1st-3rd trimester of pregnancy, the mother's age has no influence on the incidence of KEK in pregnant women. However, it is still recommended for mothers to monitor LILA during the first, second, and third trimesters to ensure that the mother falls into the normal category and does not fall into the KEK category.

Characteristics Based on Education

This study shows that most pregnant respondents with the characteristics of their last education is high school, amounting to 24 (63.2%) mothers. Mother's education often has a positive view of the development of food consumption patterns in the family. The higher a person's education, the easier it is to receive information so that the more knowledge they have. Conversely, if a person's level of education is low, it will hinder the development of a person's attitude towards receiving information and new values that are introduced. These results are in line with research conducted by Priska Muliyani (2019) which states that the relationship between knowledge and the incidence of KEK in pregnant women.

The level of education will affect a person's knowledge. Knowledge is a very important domain for the formation of a person's actions, behavior based on knowledge will be more lasting than behavior that is not based on knowledge (Purwati et al., 2014). Based on the results of the study, it is known that the majority of respondents' last education was high school. It is known that mothers who have a high level of education can experience KEK. Therefore, education and knowledge are

closely related which can affect the incidence of KEK in pregnant women. Therefore, health education needs to be carried out to support knowledge and informal education, such as health counseling on how to use PILAMIL independently and properly. Providing health education aims to provide early information about KEK and its prevention efforts (Amalia, Nugraheni, Kartini, 2018).

Univariate Analysis

Respondent's understanding

Based on table 2, it can be seen that the frequency distribution with characteristics based on mothers' understanding is 38. The frequency of mothers who are included in the understanding category during the pre-test is 7 (18.4%) and during the post-test is 25 (65.8%), and mothers who are included in the ≠ understanding category during the pre-test are 31 (81.6%) and post-test are 13 (32.4%) mothers. There was an increase of 47.4% in mothers' understanding during the pre-test and post-test who had been given intervention in the form of counseling about PILAMIL.

The knowledge possessed by a mother will influence decision making and will also influence her behavior. If a mother has good knowledge, then the mother will try to meet her nutritional needs and also her baby's (Proverawati, 2016). The level of mother's knowledge is an important factor, because it affects the mother's ability (Masdiah et al., 2021).

The opinion of Andri Setiya Wahyudi, Ira Suarilah, Elyk Dwi Mumpuningtias and Mery Fuji Astutik (2017) concluded that someone who is not based on knowledge will find it difficult to act and implement a healthy lifestyle. According to (Nurzia, 2016) explains that a person's low level of education will affect their level of knowledge and level of experience in everyday life, such as those with low levels of education will of course be slower to plan or achieve long-term desires.

Respondents' understanding is very influential in determining whether or not respondents can answer the statements on the questionnaire sheet according to the desired criteria. Knowledge or understanding plays an important role in a person's life, especially in daily life behavior, in this case health behavior. Knowledge is the result of "knowing" and this occurs after people sense a certain object (Palimbo et al., 2014).

A person's understanding can be obtained from formal and non-formal education. Formal education is education that is carried out through educational channels in schools. While non-formal education is an educational path that is carried out outside of formal education. This education can be carried out in a structured and tiered manner (Syaadah et al., 2023). The results of this study are in line with research (Masdiah et al., 2021) that there is an influence of the level of knowledge on Chronic Energy Deficiency (CED) in pregnant women. To increase the understanding of mothers in this study using understanding with non-formal education, namely by holding counseling activities as an intervention so that mothers understand information related to PILAMIL to prevent CED in pregnant women.

According to Mubarak's theory (2011), it is proven that the theory and the facts in the field are in accordance, namely that the higher a person's education, the better their knowledge will be and the easier it will be for them to receive information, and finally the knowledge they have will increase more and more. And the way of thinking of someone with a higher education will be broader than those with low education.

So that a person's understanding has a big influence on the occurrence of KEK in pregnant women. Therefore, the importance of understanding provided through non-formal education can help provide understanding related to health information.

Use of PILAMIL

Based on table 2 above, the frequency of mothers who fall into the category according to SOP is 25 (65.8%), and mothers who fall into the category ≠ according to 13 (34.2%). This study shows that there are more than 50% of mothers who use PILAMIL in accordance with SOP guidelines.

In the Big Indonesian Dictionary, usage is defined as a process, a way of using something, usage. While the results of a usage can be in the form of quantity and quality. The results of a usage are also marked by the achievement of a goal at a certain point. Where when an effort or process has reached that point, a feeling of satisfaction will arise for the achievement that has been expected (KBBI, 2002).

SOP (Standard Operating Procedure) is basically a guideline containing standard operational procedures in an organization that is used to ensure that all decisions and actions, as well as the use of process facilities carried out by people in the organization who are members of the organization to run effectively and efficiently, consistently, standard and systematically (Tambunan, 2013: 86). SOP is also a way to achieve goals. SOP is a road or bridge that connects one point to another. Therefore, SOP will determine whether goals can be achieved effectively, efficiently and economically (Tambunan, 2011: 5).

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By using PILAMIL as one of the early screening tools to detect KEK according to SOP procedures, it can provide positive benefits for mothers. The standard of use greatly determines the validity of the LILA measurement results obtained. LILA measurement is a way to determine the risk of KEK in women of childbearing age, pregnant women and adolescents which can be used as an easy early detection and can be implemented by the general public, health workers. In this study, intervention by providing a counseling method on how to use PILAMIL is an option to provide accurate information. Counseling is a method in various types of learning that can improve the knowledge and attitudes of a person, individuals, groups or communities are expected to be more independent in carrying out and achieving healthy living goals (Septiani et al., 2021).

So that there is a need for counseling that can be used as an intervention before taking measurements using PILAMIL media to obtain valid and accurate results. Therefore, there needs to be cooperation between respondents and researchers so that the information provided and obtained is appropriate.

Benefits of using PILAMIL

Based on table 4, above, it can be seen that the frequency distribution with characteristics based on the usefulness of PILAMIL use is 38. The frequency of the usefulness of PILAMIL use is divided into 2 categories, namely useful and ≠ useful. The frequency of mothers who fall into the useful category during the pre-test was 10 (23.3%) and during the post-test was 25 (65.8%), and mothers who fall into the ≠ useful category during the pre-test were 28 (73.7%) and post-test were 13 (34.2%) mothers. In this study, there was an increase in usefulness of 42.5%. This means that the application of PILAMIL was carried out correctly by the respondents and the final results obtained were also beneficial.

Utilization is a derivative of the word "benefit", which gets the prefix pe-dan-an which means the process, method, act of utilizing. Utilization is the activity of using learning processes and resources. According to Davis, usefulness is the extent to which someone believes that using technology will improve their performance. Perceived usefulness is a strong determinant of user acceptance of an information system, adoption, and user behavior. Therefore, PILAMIL can be beneficial for KEK sufferers or not, because PILAMIL is an early screening tool to detect KEK.

LILA is a way to determine the risk of Chronic Energy Deficiency (CED) in women of childbearing age (WUS). LILA measurements cannot be used to monitor changes in nutritional status in the short term. LILA is one of the options for determining the nutritional status of pregnant women. LILA measurements in groups of women of childbearing age (WUS) including pregnant women are one of the easy early detection methods that can be carried out by the general public, to determine groups at risk of CED. LILA is a measurement of nutritional status that is easier and more practical because it only uses one measuring tool, namely the LiLA measuring tape. However, LILA can only be used for screening purposes, not for monitoring (Wahyuni & Huda, 2019).

The LILA Pregnant Women's Ribbon (PILAMIL) is one of the innovative products designed to continue the existing products. By adding a brief explanation regarding the normal measurement range of the Upper Arm Circumference (LILA) in pregnant women, as well as displaying a picture of a pregnant woman using the LILA Ribbon correctly. On the back of the LILA Ribbon, there is also a way to increase nutrition in pregnant women, according to the color and condition obtained. The 3 color elements displayed in the LILA Ribbon consist of purple, white and yellow which each have their own meaning. The purple color illustrates that the mother is in the Chronic Energy Deficiency (CED) category with a measurement range of 6-23.5 cm. The white color itself illustrates that the mother is in the normal category with a measurement range of 23.6-27 cm. While the yellow color illustrates that the mother is in the obesity category, namely 27.1-40 cm.

Therefore, the benefits that are produced if mothers can carry out measurements with valid results can benefit mothers who use them, because with the mother's understanding and the results provided, it becomes knowledge for mothers so that they can prevent the occurrence of KEK from an early age.

The occurrence of KEK

Based on table 5, it shows that the frequency of mothers who entered the KEK category during the pre-test was 28 (73.7%) and during the post-test was 22 (57.9%), and mothers who entered the ≠ KEK category during the pre-test were 10 (26.3%) and post-test were 16 (42.1%) mothers.

There are more than 50% of respondents who have low nutritional status with LILA measurement results below normal. The highest KEK classification in mothers at PMB Nini Suniarti, Panjang, Bandar Lampung City is 57.9% of mothers. Mothers who get measurement results <23.5 cm are included in the KEK category, therefore mothers are advised to eat

enough with general guidelines for balanced nutrition, live healthily, check their pregnancy with health workers, and can independently measure LILA with the PILAMIL measuring tool regularly. Meanwhile, mothers who get measurement results of 23.5-27 cm are included in the normal category, but are still given recommendations such as maintaining health conditions, living healthily and checking their pregnancy with health workers, and mothers whose LILA measurement results are >27 cm are included in the obesity category, therefore mothers are advised to reduce the amount of food each day with balanced nutrition guidelines.

According to the theory of Chronic Energy Deficiency (CED), it is a condition in which a pregnant woman suffers from a lack of food intake that lasts for a long period of time (years or chronic) which results in health problems, so that the increase in nutritional needs during pregnancy cannot be met (Ministry of Health, 2015, in Diza, F, 2016). For this reason, the Indonesian Ministry of Health (2014) determines the nutritional status of pregnant women and 6 months after giving birth using the LILA parameter.

Based on the results of the study, knowledge is closely related to the incidence of KEK in Indonesia, because the PILAMIL product is used as one of the initial screening tools to determine whether the mother is in the KEK category or not from the product. With the knowledge and understanding that the mother has, the mother can clearly know what information can be obtained from this PILAMIL product. The nutritional intake provided behind PILAMIL has been categorized according to their respective classifications.

Therefore, checking LILA early to detect KEK is very important, to ensure whether the mother is in the KEK category or not. The importance of health workers as the initial movers in inviting mothers to check LILA in detecting KEK early.

Bivariate Analysis

The Effect of Using PILAMIL (PITA LILA for Pregnant Women) on the Occurrence of Chronic Energy Deficiency

The results of this study indicate that there is an effect of PILAMIL use on the incidence of Chronic Energy Deficiency in pregnant women. In this study, the Mann-Whitney statistical test was used to find differences in the incidence of KEK before and after the use of PILAMIL. The results before the use of PILAMIL with a mean rank of 33.51 and after the use of PILAMIL of 43.49 with a p-value of 0.046 <0.05, therefore it was found that there was an effect of PILAMIL use on the incidence of KEK in pregnant women at PMB Nini Suniarti, Panjang, Bandar Lampung City.

The standard LILA is a measurement of nutritional status that is easier and more practical because it only uses one measuring tool, namely the LILA measuring tape. However, LILA can only be used for screening purposes, not for monitoring (Wahyuni & Huda, 2019). PILAMIL is a product innovation by modifying the previous LILA tape. This innovative product has many positive qualities that are produced. Starting from the way of making it that does not cost much and has high utility and effectiveness. By adding a brief explanation regarding the normal measurement range of LILA in pregnant women, and displaying images of pregnant women using measuring tapes correctly. PILAMIL can be used as an information media to fulfill the nutritional status of mothers.

In Aaliyah Asti Putri's research (2021), it was shown that 77% of pregnant women understood the information displayed on PILAMIL (Pregnant Women's LILA Tape). This proves that the PILAMIL product provides a fairly high value of usefulness in providing knowledge to pregnant women. Her research mentions the results of testing the community's ability to apply LILA (Upper Arm Circumference) measurements to themselves, which is proven by comparing the measurement results with the measurements carried out by midwives and the results obtained are not significantly different. This means that the community has the ability to measure their own nutritional status using this PILAMIL product. Based on the testing and analysis carried out, the level of accuracy obtained is also the same as the standard LILA tape, and provides benefits in disseminating information related to the classification of nutritional status and nutrition to the community.

The higher the mother's education, the more knowledge she will gain. Therefore, if the mother can utilize this innovative PILAMIL product correctly and in accordance with the SOP that has been provided, the mother will get benefits and information that can improve the nutritional status of pregnant women.

CONCLUSION

Based on the results of research and analysis as well as testing the effect of PILAMIL use on the incidence of KEK in pregnant women at PMB Nini Suniarti, Panjang, Bandar Lampung City, the following conclusions were obtained:

1. Of the 38 respondents with understanding about PILAMIL, there were 31 (81.6%) who did not understand and 7 (18.4%) who understood. And

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more than 50% of mothers were able to use PILAMIL appropriately.
2. There is an influence between PILAMIL and the occurrence of KEK in pregnant women, as proven by the results of the Mann-Whitney statistical test analysis, namely a p-value of 0.046 (<0.05).

SUGGESTIONS

The creation of this innovative product can be used for detection activities not only in pregnant women such as KEK detection in adolescent girls, measurements in infants, toddlers and preschool children. In addition, this tool can be used for similar research and practical learning, especially midwifery student learning.

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