THE EFFECT OF HONEY CONSUMPTION TO INCREASE WEIGHT IN PREGNANT WOMEN WITH CHRONIC ENERGY DEFICIT (CED) IN THE WORKING AREA OF RAJABASA LAMA PUBLIC HEALTH CENTER, LAMPUNG EAST

Herawati[1], Astriana[2], Nurliyani[3], Ike Ate Yusvika[4]

Program Studi D-IV Kebidanan Fakultas Ilmu Kesehatan
Email: pasyavivo42@gmail.com, astriana@malahayati.ac.id, nurliani@malahayati.ac.id, ikeyuviska12345@gmail.com,

ABSTRAK : PENGARUH KONSUMSI MADU UNTUK MENINGKATKAN BERAT BADAN PADA WANITA HAMIL DENGAN DEFISIT ENERGI KRONIS (CED) DI WILAYAH KERJA PUSAT KESEHATAN MASYARAKAT RAJABASA LAMA, LAMPUNG TIMUR

Malnutrisi pada ibu dan bayi berkontribusi terhadap setidaknya 3,5 juta kematian setiap tahun dan menyumbang 11% dari penyakit global di dunia. Berdasarkan sumber data dari laporan rutin Kabupaten Lampung Timur tahun 2021, menunjukkan bahwa jumlah kehamilan adalah 587.230 ibu dan dari keseluruhan angka kehamilan, terdapat sekitar 45% ibu hamil yang mengalami SEZ (Selective Emotional Deficiency/Gangguan Energi Kronis) pada ibu hamil yang diukur dengan lingkar lengan atas (LILA), diketahui bahwa sekitar 5647 ibu hamil memiliki LILA < 23,5 cm (mengalami risiko SEZ) pada tahun 2022. Tujuan penelitian ini adalah untuk mengetahui pengaruh konsumsi madu terhadap peningkatan berat badan pada ibu hamil dengan gangguan energi kronis (SEZ) di Wilayah Kerja Puskesmas Rajabasa Lama, Lampung Timur pada tahun 2023.

Metode penelitian kuantitatif. Penelitian ini dilakukan di Wilayah Kerja Puskesmas Rajabasa Lama, Lampung Timur. Penelitian ini dilakukan selama 1 bulan, dari tanggal 5 Juni hingga 5 Juli 2023. Desain eksperimen yang digunakan adalah Kuasi-Kuasi dengan pendekatan desain pretes-postes satu kelompok. Sampel penelitian ini adalah ibu hamil di SEZ sebanyak 16 responden. Analisis data menggunakan analisis univariat dan bivariat dengan teknik uji statistik, uji t, dan uji dependen.

Nilai rata-rata kenaikan berat badan sebelum pemberian madu kepada ibu hamil adalah 43,969 SD 6,1494. Nilai rata-rata kenaikan berat badan setelah pemberian madu kepada ibu hamil adalah 45,719 SD 5,8878. Hasil perbedaan rata-rata menunjukkan peningkatan rata-rata berat badan pada ibu hamil sebelum dan sesudah pemberian madu sebesar 1,75 dari seluruh responden, yaitu 16 responden. Hasil nilai P sebesar 0,000 yang berarti Ha diterima dan Ho diterima, yang berarti terdapat pengaruh konsumsi madu terhadap peningkatan berat badan pada ibu hamil dengan defisiensi energi kronis (SEZ) di Wilayah Kerja Puskesmas Rajabasa Lama, Lampung Timur tahun 2023. Dengan penelitian ini, diharapkan responden dapat menerapkan terapi berupa konsumsi madu untuk meningkatkan berat badan pada ibu hamil jika kelak mengalami SEZ.

Kata kunci: Defisiensi Energi Kronis, berat badan, kehamilan

ABSTRACT

Malnutrition in mothers and infants contributes to at least 3.5 million deaths annually and accounts for 11% of the world's global diseases. Based on data sources from the routine report of East Lampung Regency in 2021, it shows that the number of pregnancies is 587,230 mothers and of the overall pregnancy rate, there are around 45% of pregnant women experiencing SEZ in pregnant women's pregnancies measured by their upper arm circumference (LILA), it is known that around 5647 pregnant women have Lila < 23.5 cm (experiencing SEZ risk) in 2022The purpose of this study is the effect of honey consumption to increase weight in pregnant women with chronic energy deficiency (SEZ) in Working Area of Rajabasa Lama Health Center, East Lampung in 2023.

Quantitative research methods. This research was conducted in the Working Area of the Rajabasa Lama Health Center, East Lampung. The time is carried out for 1 month from June 5 to July 5, 2023. Experimental Quasy Design with one group pretes-postes design approach. The sample of this study was pregnant women with SEZ as many as 16 respondents. Data analysis using univariate and bivariate analysis with statistical test techniques, t test dependent tests.

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The average value of weight gain before honey was given to pregnant women was 43.969 SD 6.1494. The average value of weight gain after honey given to pregnant women was 45.719 SD 5.8878. The results of the mean difference value where there was an increase in the average results of body weight in pregnant women before and after as much as 1.75 from all respondents, namely 16 respondents. The result of the P value of 0.000 which means Ha is accepted and Ho is tolah, which means that there is an effect of honey consumption to increase weight in pregnant women with chronic energy deficiency (SEZ) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023. With this study, it is hoped that respondents will be able to apply therapy in the form of honey consumption to increase weight in women of childbearing age if they later find SEZ.

Keywords: CED, weight, pregnancy

INTRODUCTION

Malnutrition in mothers and babies has contributed to at least 3.5 million deaths each year and accounts for 11% of global diseases in the world. According to a survey from the Ethiopia Demographic and Health Survey (EDHS) in developing countries in 2021, the problem of malnutrition in Kerala (India) is around 19%, Bangladesh (Asia) is around 34%, and in the slums of Dhaka around 34%. Subsequent EHDS research also revealed that women who were married less than 18 years were more likely to be malnourished, this was due to early marriages having no plans to become mothers and frequent abortions. WHO also notes that 40% of maternal deaths in developing countries are related to anemia and KEK with the highest prevalence of these cases due to chronic energy deficiency (KEK) mothers which can cause their nutritional status to decrease (WHO, 2021).

The 2021 Riskesdas results state that in Indonesia 17.3% of pregnant women experience CED. Based on Indonesia's health profile data for 2021, the proportion of women of childbearing age at risk of developing CED aged 15-19 years who are pregnant is 38.5%. At the age of 20-24 years there were 30.1% of pregnant women with CED, aged 25-29 years as many as 20.9% of pregnant women with CED. As well as the age of 30-34 years as many as 21.4% of pregnant women with CED. This shows that the proportion of WUS (Women of Reproductive Age) at risk of SEZ has increased over a period of 7 years (RI Ministry of Health, 2021)

Based on data sources for 2020 routine reports collected from 34 Lampung provinces, it shows that out of 4,656,382 pregnant women whose upper arm circumference (LILA) was measured, it is known that around 451,350 pregnant women have Lila < 23.5 cm (experiencing risk of CED). From these calculations it can be concluded that the percentage of pregnant women at risk of SEZ in 2021 is 9.7%, while the target for 2021 is 16%. This condition illustrates that the achievement of the target for pregnant women with KEK this year has exceeded the target of the 2021 Ministry of Health Strategic Plan (Lampung Health Office, 2021).

Chronic energy deficiency (CED) is the condition of pregnant women who suffer from long-lasting (chronic) food shortages with various health problems (Sayogo, 2017). Until now there are still many pregnant women who experience nutritional problems, especially malnutrition such as chronic energy deficiency and nutritional anemia (Mochtar, 2013). Upper arm circumference (LILA) is a type of anthropometric examination used to measure the risk of CED in women of childbearing age which includes adolescents, pregnant women, nursing mothers and Couples of Reproductive Age (PUS). Whereas the LILA threshold for WUS with the risk of KEK is 23.5 cm and if it is less than 23.5 cm the woman experiences KEK (Prawirohardjo, 2016).

Honey can help the brain work to regulate hormones that play a role in regulating appetite. The hormone ghlerin is produced to cause hunger in the stomach. The production of these hormones will increase before eating and decrease after eating, so that hunger can be regulated to get the ideal body weight. The hormone leptin plays a role in regulating appetite, absorption of food essences, and optimizing energy. The fructose content in honey will affect body weight and absorption of nutrients. The efficacy of honey as a supplement to increase body weight gave positive results, where a significant increase in body weight was found in children who were given honey supplementation. The treatment group that received honey supplementation had a better general condition (Limanjaya, 2016 in Harmiati, 2020).

Research conducted by Susanti (2020) The benefits of honey as a supplement to increase body weight gave positive results, where a significant increase in body weight was found in children who were given honey supplementation combined with temulawak. Knowing the effectiveness of honey consumption in improving the nutritional status of pregnant women with CED. This research is a

quantitative study using a quasi-experimental design. The research sample consisted of 36 people consisting of two groups (control and treatment). The results obtained were that there was an effect of honey consumption on the weight of pregnant women with CED. So it can be concluded that pregnant women who consume honey have better weight gain than KEK pregnant women who do not consume honey.

Based on the data source, the routine report for East Lampung Regency in 2021 shows the number of pregnancies as many as 587,230 mothers and of the total pregnancy rate there are around 45% of pregnant women experiencing CED in pregnant women as measured by their upper arm circumference (LILA), it is known that around 5647 pregnant women have Lila < 23.5 cm (experiencing risk of CED) in 2022. Meanwhile, the incidence of CED at the Sumberejo Health Center, East Lampung was ranked first with the incidence of CED, namely around 95 pregnant women, and the second rank was the Pasir Sakti Health Center, East Lampung with 65 events and ranking the third is the incidence of CED in pregnant women, namely the Raja Basa Lama Health Center in East Lampung, with 46 pregnant women, while in 2023 there will be an increase in the incidence of CED with a total of 67 (47.9%) events. (East Lampung Health Office, 2022, 2023).

Based on the results of the initial survey data conducted, it was shown that 21.3% of pregnant women with KEK in the working area of the old Rajabasa Community Health Center and 17.6% in Women of Reproductive Age (WUS). The number of pregnant women was 234 with the number of KEK occurrences of 34 mothers, the number of pregnant anemia was 21 mothers, the number of abortions was 9 mothers, and the pregnancy hypertension was 8 cases. From the results of interviews conducted with 3 pregnant women with CED problems, they said that they did not understand the causes of KEK and how to deal with KEK, the mother said they rarely consumed food with a high content of nutrients and vitamins due to insufficient economic factors so that the intake of nutrients needed by pregnant women experienced problems. .

Based on the background above, the author wants to conduct research with the title "The Effect of Consumption of Honey to Increase Weight in Pregnant Women with Chronic Energy Deficiency (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023"

RESEARCH METHODS

The type of research used in this study is a quantitative research method. This research will be conducted in the Working Area of the Rajabasa Lama Health Center, East Lampung. The time of this research was conducted for 1 month starting from 5 June to 5 July 2023. This study used an experimental design with a pre test and post test design approach. In the study population, the authors carried out a population collection system according to the number of CED events in 2023, starting from May-June 2023, as many as 16 pregnant women. The research sample was an experimental research type, the sample in this study were some pregnant women with KEK problems in pregnancy as many as 16 mothers with cake problems in pregnancy, by providing 15 ml of honey consumption and given for 1 month, given 3 times a day. Data analysis used univariate and bivariate tests with the t test.

RESEARCH RESULTS

Table 1
Normality Test Results/Test of normality

Weight of pregnant women with KEK	N	P-Value
BB before being given honey	16	0,387
BB after being given honey		0,168

Based on table 1 above, it can be seen that the sig value of the Shapiro-Wilk test is 0.387 for the weight gain before being given honey consumption and 0.168 for the weight gain after being given honey consumption with the Shapiro-Wilk test sig value > 0.05. Thus it can be concluded that the variable data in this study are normally distributed, so for the next stage the dependent t-test cannot be carried out.

Univariate Analysis

Average Weight Gain Before Giving Honey to Pregnant Women with Chronic Energy Deficiency (KEK) Problems in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023

Based on table 2 above, it can be seen from 16 respondents the average value of increasing body weight before being given honey to pregnant women with chronic energy deficiency problems (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023 is 43.969 and the standard deviation value is 6.1494 The standard error is 1.5374 with a minimum value for pregnant women with CED, which is 35 kg and a

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maximum value for pregnant women with CED, which is 56 kg.

Tabel 2
Average Weight Gain Before Giving Honey to Pregnant Women with Chronic Energy Deficiency (KEK) Problems in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023

Weight	N	Mean	Std. Deviation	SE	Min-Max
BB before being given honey	16	43,969	6,1494	1.5374	35-56

Average Weight Gain After Giving Honey to Pregnant Women with Chronic Energy Deficiency (KEK) Problems in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023

Table 3
Average Weight Gain After Giving Honey to Pregnant Women with Chronic Energy Deficiency (CED) Problems In the working area of the Rajabasa Lama Health Center East Lampung in 2023

Weight	N	Mean	Std. Deviation	SE	Min-Max
BB after being given honey	16	45.281	6.1427	1.5357	35-56

Based on table 3 above, it can be seen from 16 respondents that the average value of weight gain after being given honey to pregnant women with chronic energy deficiency problems (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023 is 45.281 and the standard deviation value is 6.1427. The standard error is 1.5357 with a minimum value for pregnant women with CED, which is 35 kg and a maximum value for pregnant women with CED, which is 556 kg.

Bivariate Analysis

Based on the results of the table above, it shows that the results before and after being given honey consumption to increase body weight in pregnant women with chronic energy deficiency (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023 with the results of a mean different value where there is an increase in the average yield the average weight of pregnant women before and after was 1.312 out of all respondents, namely 16 respondents, with a P value of 0.000 which means that Ha is accepted and Ho is rejected, which means that there is an effect of consuming honey to increase body weight in pregnant women with chronic energy deficiency (KEK) In the Working Area of the Rajabasa Lama Health Center, East Lampung, in 2023.

Tabel 4
The Effect of Consumption of Honey to Increase Weight in Pregnant Women with Chronic Energy Deficiency (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung, is Known in 2023

Weight	N	Mean	Mean	Std. Deviation	CI 95%	P value
BB before being given honey	16	43,969	1,312	0,6801	-1.6749-0,9501	0.000
BB after being given honey		45,281				

DISCUSSION

Respondent Characteristics

The results of the characteristics of the research conducted on pregnant women in the Working Area of the Rajabasa Lama Health Center in East Lampung in 2023 based on the characteristics of the mother's age with 10 (62.7%) 20-30 year age categories and 6 (37.3%) 31-40 year old). Characteristics of education with undergraduate education category as many as 1 (6.3%) high school education as many as 3 (18.8%), junior high school education as many as 12 (75.5%). The characteristics of the mother's work in the category of non-working mothers or as housewives were 8 (50.0%) respondents, as traders (12.5%) respondents, as employees as many as 3 (18.8%) respondents and as civil servants as many as 3 (18.8%), based on the characteristics of the mother's gestational age, the most were 5 (31.3%) respondents, based on the characteristics of

multiparous parity as many as 10 (62.5%), primipara as many as 2 (37.5%) respondents.

Based on the results of research that has been done there are changes or problems in increasing weight in mothers with KEK problems, in increasing the weight of each mother there are differences based on the characteristics of the mother where mothers experience less significant weight gain due to the influence factor of the mother's age where the age of the mother who is more than 35 years will find it more difficult to gain weight if she has a cake problem where at this age the mother has difficulty absorbing it and will be prone to having complications in pregnancy. Meanwhile, other influencing factors are maternal parity where mothers with more than 2 children will find it difficult to take care of nutritional adequacy in accordance with the mother's pregnancy so that nutrition will be lacking, and mother's education also has an effect where mother's education is able to increase mother's knowledge in digging good information And it's true, if mothers with low or high education but are reluctant to dig up information about complications in pregnancy will also cause problems in their pregnancies and lack of information for mothers about how to treat and prevent CED.

Average Weight Gain Before Giving Honey to Pregnant Women with Chronic Energy Deficiency (KEK) Problems in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023

The average value of increasing body weight before being given honey to pregnant women with chronic energy deficiency problems (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023 is 43.969 and the standard deviation value is 6.1494, the standard error value is 1.5374 with a minimum value for the weight of pregnant women with KEK is 35 kg and the maximum value for the weight of pregnant women with KEK is 56 kg.

Pregnancy is an investment that needs to be prepared, in this process nutrition has an important role to support the growth and development of the fetus. Studies prove that mothers with poor nutritional status can cause fetal growth disturbances, give birth to babies with low birth weights, and in turn can have an impact on intergenerational malnutrition. Pregnant weight gain is the weight of several components in the body of pregnant women that experience development during pregnancy. Mothers with a nutritional status of less than 18.5 kg/m2 have less nutritional stores, therefore during pregnancy they have to gain more weight than normal or obese mothers. Recommendations for maternal weight gain during pregnancy are based on the nutritional status of the mother, namely the mother's pre-pregnancy BMI (Prawirohardjo, 2016).

Honey is a natural viscous liquid that generally tastes sweet. Honey is produced by honey bees from plant flower extracts or other parts of plants. Honey is a food that contains various nutrients such as carbohydrates, proteins, amino acids, vitamins, minerals, dextrins, plant pigments and aromatic components. In fact, based on the results of research by nutritionists and food experts, honey contains the highest carbohydrates among other livestock products such as: milk, eggs, meat, cheese and butter (Aden, 2018 in Harmiyati, 2020).

Research conducted by Harmiati (2020) This research is a quantitative study using a quasi-experimental design. The research sample consisted of 32 people consisting of two groups (control and treatment). The t test showed that the p value for body weight was 0.016 <0.05, which means that there is an effect of honey consumption on the weight of pregnant women with CED. Pregnant women who consume honey have better weight gain compared to KEK pregnant women who do not consume honey.

According to the researchers' assumptions that abnormal weight in pregnant women can affect the growth of the fetus in the womb, if pregnant women with CED it will be difficult for absorption in the body so optimal therapy needs to be given to help increase body weight in pregnant women. In this study the researchers provided honey consumption to help increase the weight of pregnant women so that when the mother gave birth she was at normal weight and there were no problems with underweight.

The results of the research that has been carried out show that there is an average value of 43.969, where the mother's weight decreases which is normal for pregnant women, namely women with a BMI of less than 18.5 where an increase in body weight that is less can cause complications in pregnant women which will affect fetal development which is in it.

Average Weight Gain After Giving Honey to Pregnant Women with Chronic Energy Deficiency (KEK) Problems in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023

The average value of weight gain after being given honey to pregnant women with chronic energy

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deficiency problems (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023 is 45.281 and the standard deviation value is 6.1427, the standard error value is 1.5357 with a minimum value for the weight of pregnant women with KEK is 35 kg and the maximum value for the weight of pregnant women with KEK is 556 kg.

Body weight is seen from the quatelet or body mass index (Body Mass Index = BMI). The body mass index is a simple tool to monitor the nutritional status of adults, especially with regard to underweight and overweight. Women with low nutritional status or commonly said to be low BMI, have a negative effect on pregnancy outcomes, usually low birth weight and preterm birth. Meanwhile, women with excessive nutritional status or obese BMI are said to have a high risk of pregnancy such as miscarriage, operative delivery, preeclampsia, thromboembolism, perinatal death and macrosomia (WHO, 2019).

Honey can help the brain work to regulate hormones that play a role in regulating appetite. The hormone ghlerin is produced to cause hunger in the stomach. The production of these hormones will increase before eating and decrease after eating, so that hunger can be regulated to get the ideal body weight. The hormone leptin plays a role in regulating appetite, absorption of food essences, and optimizing energy. The fructose content in honey will affect body weight and absorption of nutrients. The efficacy of honey as a supplement to increase body weight gave positive results, where a significant increase in body weight was found in children who were given honey supplementation. The treatment group that received honey supplementation had a better general condition (Limanjaya, 2016 in Harmiati, 2020).

Honey contains water, glucose, fructose, sucrose, ammoniac acid and fatty acids. Honey also contains important minerals such as potassium, phosphorus, potassium, sodium, iron, magnesium and copper. In addition, honey also contains large amounts of vitamin C and vitamin B complex. These vitamins stimulate the body to produce protein and hormones and protect the body from various diseases. Honey also acts as a natural antibiotic which acts as an anti-microbial agent, besides that honey is also an anti-bacterial agent, thick honey stops the growth of bacteria and strengthens white blood cells to fight bacteria from diseases caused by viruses (Aden, 2018 in Harmiyati, 2020).

Based on research (Tietze, 2019) suggests taking 2 teaspoons of honey at bedtime which is believed that the sweetness of honey triggers the salivary glands to produce more saliva which can lubricate the airways, reduce coughing and can reduce inflammation in the bronchial tubes which helps break down mucus and as an antioxidant that fights inflammation and boosts immunity.

Susanti's research (2020) found out the effectiveness of honey consumption in improving the nutritional status of pregnant women with CED. This research is a quantitative study using a quasi-experimental design. The research sample consisted of 36 people consisting of two groups (control and treatment). The results obtained were that there was an effect of honey consumption on the weight of pregnant women with CED. So it can be concluded that pregnant women who consume honey have better weight gain than KEK pregnant women who do not consume honey. The results of research that has been done by researchers shows that there is an influence between honey consumption on increasing the weight of pregnant women. The p value is 0.016 with a 95% confidence level. So that 0.16 <0.05 so there is a relationship between honey consumption and weight gain for pregnant women with CED.

The results of the research that has been done show that there is a change after being given the consumption of honey in pregnant women with chronic energy deficiency problems where the mean or average is 48.653, where the result is an increase. In this study, the increase did not occur optimally because during the research, pregnant women said they were still lacking in consuming the vitamins and nutrients needed during pregnancy so that the weight gain was less.

According to the researchers' assumption, the increase in body weight in pregnant women can be caused by some honey content, namely vitamins, fructose and glucose, the hormones leptin and gleherin. Vitamins help metabolic processes in the body, glucose and fructose as a source of calories, and the hormones leptin and ghlerin as appetite regulators. Consuming honey every day can help increase the mother's appetite and help absorption in pregnant women with CED problems, because honey contains substances that help increase appetite.

The results of research that has been carried out are an increase in maternal weight before and after being given honey consumption where the increase in weight of pregnant women with cake is no more than 2 kg because in management they do not use chemicals that can increase body weight instantly

The Effect of Consumption of Honey to Increase Weight in Pregnant Women with Chronic Energy Deficiency (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung, is Known in 2023

The results before and after being given honey consumption to increase body weight in pregnant women with chronic energy deficiency (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023 with the results of mean different values where there is an increase in the average weight results in pregnant women before and after as many as 1.75 of all respondents, namely 16 respondents, with a P value of 0.000 which means Ha is accepted and Ho is rejected, which means that there is an effect of consuming honey to increase body weight in pregnant women with chronic energy deficiency (KEK) in the working area of the Rajabasa Health Center East Lampung Old Year 2023

Benefits of honey Fully natural antibiotic properties. Honey in a concentration of 30% to 50% functions much better than antibiotics. Acting as an anti-microbial agent, a number of studies show that honey has anti-microbial content specifications. Helps as an anti-bacterial agent, viscous adu stops the growth of Candida alba bacteria. Honey that dilutes up to 40% becomes bacteridal which can act as an anti-bacterial and anti-fungal. Honey helps in the utilization of calcium, thereby preventing osteoporosis. Potassium in honey provides relief in painful arthritis. Honey helps control and prevent asthma. Honey is a mild disinfectant, so it can cure a sore throat. In addition to overcoming colds, honey also functions as a cough medicine. Honey functions to clean the blood, and improve the formation and circulation and prevent atreriosclerosis. Honey is used in conjunction with other items. In a spoonful of honey with lemon juice can reduce the acidity of constipation. Honey with ginger and basil functions as a smoothing airway in people with asthma. Honey in concentrations of 30% to 50% functions much better than antibiotic drugs (Aden, 2018 in Harmiyati, 2020).

The thick liquid produced by honey bees from various sources of nectar. Forest honey is composed of 17.1% water; 82.4% total carbohydrates; 0.5% protein; amino acid; vitamins and minerals (Al fady, 2019). Forest honey contains many minerals such as sodium, calcium, magnesium, aluminum, iron, phosphorus and potassium. The vitamins contained in honey are thiamin (B1), riboflavin (B2), ascorbic acid (C), pyridoxine (B6), niacin, pantothenic acid, biotin, folic acid, and vitamin K. diastase, invertase, glucose oxidase, peroxidase, and lipase enzymes. Diastase is an enzyme that converts complex carbohydrates (polysaccharides) into simple carbohydrates (monosaccharides). The invertase enzyme is an enzyme that breaks down sucrose molecules into glucose and fructose. Oxidase enzymes are enzymes that help oxidize glucose to peroxide acid. Peroxidase enzymes carry out metabolic oxidation processes. All of these substances are useful for the body's metabolic processes.

Research conducted by Harmiati (2020) This research is a quantitative study using a quasi-experimental design. The research sample consisted of 32 people consisting of two groups (control and treatment). The t test showed that the p value for body weight was 0.016 <0.05, which means that there is an effect of honey consumption on the weight of pregnant women with CED. Pregnant women who consume honey have better weight gain compared to KEK pregnant women who do not consume honey.

According to the assumptions of researchers in honey has a high carbohydrate content and low fat. The sugar content in forest honey reaches 80% and of that sugar 85% is in the form of fructose and glucose. The main acid found in wild honey is glutamic acid. Meanwhile, the organic acids contained in wild honey are acetic acid, butyric acid, formic, succinic, glycolate, malic, proglutamic, citric, and pyruvate. These ingredients can help in increasing body weight in women with chronic energy deficiency. In research that has been done there is a decrease before and after consumption of honey because honey is able to increase appetite.

In this study there was a relationship between changes in maternal weight and gender, there were changes and differences, this was due to the influence of the mother's age, as well as the consumption of food consumed by the mother every day, thereby affecting changes in existing body weight. Parity can also affect changes in body weight where multipara parity changes in body weight less than optimal due to problems in nutritional intake that exist in pregnant women with problems.

The results of the research that has been done show differences in the increase or in some research respondents differ in the increase this is due to different absorption, consumption and preparation of different maternal nutrients, where there are several mothers with underweight at the start but mothers also pay less attention to food consumption so that the absorption of honey is less than optimal. In this study, the increase in body weight of some respondents experienced

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differences, this was because there were differences in BMI and LILA values in respondents so that weight gain could not be equated, and differences in honey absorption to increase body weight in respondents. In this study, the increase in body weight can be influenced by the initial weight and height of the mother, where BMI can be calculated from the results of the mother's weight and height.

RESEARCH LIMITATIONS

In this study there were limitations in conducting respondents' home visits because there were several respondents who lived far away, therefore in this study the village midwife assisted in distributing honey. In this study, the increase in body weight in pregnant women was not more than 2 kg due to the different absorption in pregnant women. In this study, pregnant women sometimes consumed honey not according to the hours suggested by the researchers. In this study there were limitations in increasing body weight in some respondents because in BMI and LILA measurements there were differences between respondents where the results of BB more than 50 kg still experienced KEK due to differences in the BB and TB of the respondents.

CONCLUSION

1. The average value of increasing body weight before being given honey to pregnant women with chronic energy deficiency problems (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023 is 43.969 and the standard deviation value is 6.1494.
2. The average value of weight gain after being given honey to pregnant women with chronic energy deficiency problems (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung in 2023 is 45.281 and the standard deviation value is 6.1427.
3. The results of a P value of 0.000, which means that Ha is accepted and Ho is rejected, which means that there is an effect of honey consumption to increase body weight in pregnant women with chronic energy deficiency (KEK) in the Working Area of the Rajabasa Lama Health Center, East Lampung, in 2023.

SUGGESTION

By conducting this research, it is hoped that the respondents will be able to apply therapy in the form of consuming honey to increase body weight in women of childbearing age if later they find similar cases and problems outside of this study.

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