

Identifying Food Intake in Pregnant Women Using the *Food Recall Method* as an Effort to Prevent Stunting

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Urgency: Pregnant mother is group necessary targets get guidance or information in implementation Balanced Nutrition Guidelines: The nutritional status of pregnant women is a focus of attention in community nutrition improvement activities due to its significant impact on the condition of the fetus they are carrying, Objective : to view Intake Overview Food and AKG Macro and micro in mothers pregnant in the region Work Community Health Center Rasana'e Timur City of Bima. Method: study descriptive quantitative, sample of 30 mothers pregnant at the Community Health Center taste east city bima. Ekhnik taking accidental sampling, instrument study food recall sheet and data analysis using analysis table manual nutrition and SPSS, Results: 30 mothers pregnant women aged 20-40 years, age pregnancy part big in the 2nd trimester, Education partly big finish high school level and gravida status ≤ 3 times. Intake energy (calories), substances nutrition macro and some substance gzi micro still $<80\%$ of the AKG. Only intake of vitamin B9 and iron iron that is $>80\%$ of the RDA. Conclusion: Nutritional status Mother pregnant who becomes respondents everything No at risk of KEK. Average intake energy, substances nutrition macro and micro Still less than $<80\%$ of the Recommended Daily Intake (RDA). Intake of Vitamin B9 and other substances iron that is $\geq 80\%$ of the RDA. It is needed activity education For increase knowledge about importance intake substance nutrition that must be consumed by a person Mother pregnant For health mother and child in condition limited, Keywords: Food Intake, Pregnant Women, *Food Recall*, Stunting,

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1. Introduction

Pregnant women experience increased metabolic needs. In addition to overall nutritional intake, protein, iron, and micronutrient intake must be met. When these intakes are insufficient, the body will experience a lack of energy to maintain a stable metabolism. Even if pregnant women consume a variety of foods, they may not meet the general nutritional requirements. If left untreated, this can pose risks to both mother and baby, including the risk of stunting. [1]

Nutritional problems in Indonesia are one of the indirect causes of maternal and child mortality. Nutritional problems for pregnant women in Indonesia include anemia and chronic energy deficiency (CED). Anemia is a condition in which the body has too few or lower than normal red blood cells (erythrocytes). According to WHO (2020), the prevalence of anemia in pregnant women worldwide is 41.8% and the prevalence of anemia in pregnant women in Asia is 48.2%. Meanwhile, the prevalence of anemia in pregnant women in Indonesia in 2013 was 37.1% and increased in 2018 to 48.9%, with the highest prevalence found in the 15-24 year old age group at 84.6% [2].

Indonesia faces a triple burden of nutritional problems in pregnancy (malnutrition, overweight, and anemia), but national data on overweight and obesity during pregnancy is limited. Nearly nine out of ten (89%) pregnant women have low energy intake during the first trimester (considered less than 1700 kcal per day) and at least six out of ten pregnant women have an unbalanced diet containing less than five food groups

(64%) and consuming sweetened beverages (60%). Malnutrition is highly correlated with the socioeconomic status of pregnant women in Indonesia [3]

According to the data obtained from the NTB Provincial Health Service, the prevalence Mother pregnant women suffering from Chronic Energy Deficiency (CED) in 2019 to with 2020 experienced increase, Where in 2019, the prevalence Mother pregnant women experiencing KEK amounted to 11.47% and in 2020 the prevalence Mother pregnant women experiencing KEK amounted to 13.10% (NTB Provincial Health Office, 2020). East Lombok Regency is one of the districts with a prevalence of Chronic Energy Deficiency (CED) in mothers pregnant Enough tall which is 9.96%, so that Chronic Energy Deficiency (CED) problem still become problem Health in East Lombok Regency (UNICEF, 2023)

Based on the nutritional adequacy rate (AKG) in 2019, the energy needs of pregnant women in the first trimester are 180 Kcal per day and the protein needs of pregnant women will increase by 68%, folic acid 100%, calcium 50% and iron 200-300%. During pregnancy, pregnant women normally experience a weight gain of 10-12 kg. 3 Therefore, early detection measures are needed in pregnancy to be able to determine the growth and development of the fetus and the health of the mother during pregnancy [4]

In Indonesia, nutrition counseling is primarily delivered through antenatal care (ANC) with a complete nutritional assessment that must be completed during the first trimester (in accordance with Ministry of Health Regulation No. 21/2021). National guidelines include information on a nutritious diet, adequate fluid intake, and iodized salt consumption, as well as the need for additional rest during pregnancy. The guidelines also set monitoring targets such as a minimum weight gain of ≥ 1 kg/month in the first trimester and ≥ 2 kg/month in the second and third trimesters, and a minimum food intake of ≥ 80 percent of the recommended nutritional requirements (Ministry of Health of the Republic of Indonesia, 2015b, 2018b). The ANC guidelines and the Maternal and Child Health (MCH) handbook adopt the latest recommendations from the Institute of Medicine (IOM) regarding healthy gestational weight gain, which is based on pre-pregnancy BMI. Pregnancy classes (pregnancy classes) are also provided and there are national guidelines for this [3]

2. Literature Review and Problem Statement

Intake Food in study Kusumadewi et al., 2022 measured with a 2x24 hour recall carried out for 2 days, Adequacy level energy and matter nutrition macro (carbohydrates, protein and fat), some big Not yet sufficient namely $< 80\%$ of the Adequate Nutritional Intake (AKG) except intake of vitamin B9 and other substances iron. Amount intake food energy and matter nutrition macro except fat does not relate with KEK events and some big respondents with status KEK nutrition has intake good energy, In research conducted by Fauziana In 2020 it was found that Mother pregnant women who consume food not enough diverse tend experiencing KEK compared Mother normal pregnancy (70% and 31.4%). This due to the more Good availability food and consumption diversity food in a family, then allows fulfillment all over need substance nutrition during pregnancy (Yunarti, 2014). Chahyanto (2018) stated diverse foods grouped into 6 groups type food, namely food main as source carbohydrates, side dishes side dishes vegetable as sources of vegetable and animal protein, vegetables as sources of vitamins, minerals and types food other should be fulfilled For consumed Mother pregnant,

Nutritional issues in pregnant women can be addressed through several approaches, including nutrition education, counseling, and supplemental dietary interventions. Nutrition education aims to increase pregnant women's understanding of the importance of balanced nutrition. Nutritional counseling can help pregnant women determine a menu that suits their needs and physical condition. Supplemental dietary interventions, such as iron tablets or vitamin supplements, can help address specific nutritional deficiencies.

Formulation of the problem

1. Identifying characteristics Mother pregnant covering Age, Education, Occupation, Age pregnancy, economic status, gravida.
2. Identifying number adequacy nutrition (AKG) in mothers pregnant covering intake energy and substance nutrition micro
3. Identifying intake energy substance nutrition macro in mother pregnant covering carbohydrates, fats, proteins
4. Identifying intake substance nutrition micro in mother pregnant includes vitamins A, C, B 6, B 9
5. Identifying intake substance nutrition micro on Mother pregnant covering minerals: Calcium, Zinc, and Fe

3. Method

Types of research

Types of research in research This that is study descriptive quantitative which describes characteristics population or current phenomenon researched, So that Research methods moment this is the main focus is explain object object his research, So that answer What incident or phenomena that occur, Research This dig information about phenomena that occur intake food for mothers pregnant,

- a. Population and sample
Population in research This is all Mother pregnant women in the work area community health center taste east while the sample in study This is Part of population Mother pregnant in the work area community health center taste east city Bima,
- b. Technique data collection in research This that is accidental sampling technique, namely technique taking sample based on time certain he did study,
- c. Data analysis
Data analysis using distribution frequency (SPSS)
- d. External
Publication accredited journals or indexed SINTA 1-6

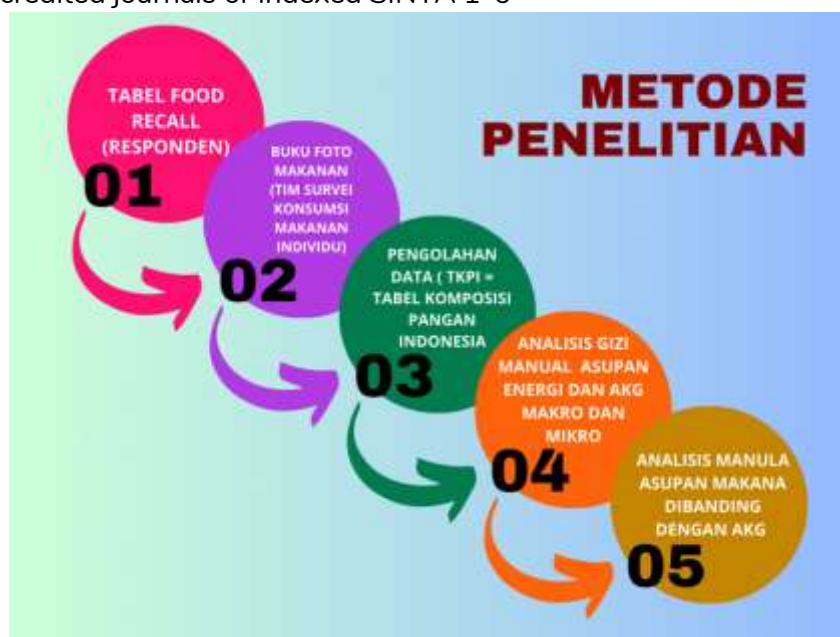


Figure 1. Research Stages

The sample used in this study was 30 pregnant women in the first, second and third trimesters who were in the working area of the Community Health Center. Rasana'e Timur, Bima City, the sampling technique used was accidental sampling, namely the researcher conducted research based on pregnant women who were met at the Community Health Center and each Integrated Health Post (Posyandu) carried out by midwives based on 5 sub-districts in the Community Health Center's work area, Rasana'e Timur.

4. Results and Discussion

The results of this study are the characteristics of respondents based on sociodemographics, average energy intake, macronutrient and micronutrient adequacy figures for 30 pregnant women in the work area of the East Rasana'e PKM, Bima City, which are described in the following table:

Table 1. Frequency Distribution of Respondent Characteristics Based on Age, Education, Gestational Age, Occupation and Graphics of Pregnant Women in the PKM Rasana'e Timur Work Area, Bima City

Characteristics	n	%
Age		
< 25 years	10	33.3
25-35 years	17	56.7
≥ 35 years	3	10.0
Education		
Elementary School	2	6.6
JUNIOR HIGH SCHOOL	1	3.3
SENIOR HIGH SCHOOL	25	83.3
D3/S1, S2	2	6.6
Gestational Age		
First trimester	6	20.0
Second Trimester	14	46.7
Third Trimester	10	33.3
Work		
Honorary	5	16.6
Self-employed	7	23.3
housewife	13	43.3
Farm workers	5	16.6
Gravida		
≤ 3 times	27	90.0
> 3 times	3	10.0

Source: Primary Data, 2025

Based on the data in table 1 Frequency Distribution of Respondent Characteristics Based on Age, Education, Gestational Age, Occupation and Grafida in pregnant women in the work area of PKM Rasana'e Timur, Bima City, from 30 respondents, the results showed that for the most age category in the age category of 23-35 years, there were 17 respondents or (56.7%) and the age category ≥ 35 years were 3 respondents or (10.0%). In the most education category in the high school category, there were 25 respondents or (83.3%) and the least education in the junior high school category, there were 1 respondent or (3.3%). In the most pregnancy age category in Trimester II, there were 14 respondents or (46.7%) and the least in the Trimester 1 category, there were 6 respondents or (20.0%). In the most occupational category, there were IRTs, there were 13 respondents or (43.3%) and the least in the Laborer and Honorary

categories, there were 5 respondents each or (16.6%). In the Gravida category, the most were ≤ 3 times, as many as 27 respondents or (90.0%) and in the > 3 times category, as many as 3 respondents or (10.0%).

Table 2. Average Energy (Calorie) Intake and AKG of Macronutrients in pregnant women in the work area of PKM Rasana'e Timur, Bima City

Intake	Average Intake	Average AKG
Energy (Kkl)	1,370	2,460 (Kkl)
Carbohydrates (Kh)	232.7	385 (g)
Fat (L)	64.8	64.8 (g)
Protein (P)	80	80 (g)

Source: Primary Data, 2025

Based on the data in the table, it is known that that the average intake energy respondents of 1,370 kcal, while the average recommended Nutritional Adequacy Intake (AKG) is 2,460 kcal, This is show that intake energy respondents Still be under number recommended adequacy, On the components carbohydrates, average intake respondents recorded of 232.7 grams, while the average recommended AKG is 385 grams. Condition This show that intake carbohydrate respondents also still more low compared to with recommended requirements, While that, in the fat component, the average intake respondents as big as 64.8 grams, which is worth The same with the average recommended AKG, which is 64.8 grams. This is show that respondents ' fat intake has fulfil recommended requirements, In the protein component, the average intake respondents is 80 grams, which is also suitable with an average AKG of 80 grams. With thus, it can it is said that respondent protein intake has fulfil recommended requirements,

Table 3. Average intake of Vitamin A, Vitamin C, Vitamin B6, Vitamin B9 and AKG of micronutrients in pregnant women in the work area of PKM Rasana'e Timur, Bima City

Intake	Average Vitamin Intake	Average AKG
Vitamin A	575.6	950 (mg)
Vitamin C	33.3	85 (mg)
Vitamin B6	0.9	1.9(mg)
Vitamin B9	511.3	600 (mcg)

Source: Primary Data, 2025

Based on the data in the table, it is known that that the average vitamin A intake of respondents of 575.6 mg, while the average recommended Nutritional Adequacy Intake (AKG) is 950 mg. This is show that respondents' vitamin A intake Still be under number recommended intake, For vitamin C, the average intake respondents of 33.3 mg, while the recommended AKG is 85 mg. This data show that respondents' vitamin C intake Still classified as low compared to with recommended requirements, Furthermore, for vitamin B6, the average intake respondents of 0.9 mg, while the average recommended AKG is 1.9 mg. This is show that Respondents' vitamin B6 intake is also still Not yet fulfil need recommended daily basis, Temporary that, in vitamin B9 (acid folate), average intake respondents of 511.3 mcg, while the recommended AKG is 600 mcg. Although its value Enough approaching, but respondents ' vitamin B9 intake Still A little more low from number recommended adequacy,

Table 4. Average intake of Calcium, Zinc, Fe and Micronutrients in pregnant women in the work area of the PKM Rasana'e Timur, Bima City

Intake	Average mineral intake	Average AKG
Calcium	679.5	1200 (mg)
Zinc	4.2	12 (mg)
Fe	42.3	27 (mg)

Source: Primary Data, 2025

Based on the data in the table, it is known that that the average intake calcium respondents of 679.5 mg, while the average recommended Nutritional Adequacy Intake (AKG) is 1,200 mg. This is show that intake calcium respondents Still be under number recommended adequacy, so need calcium Not yet fully fulfilled, On intake zinc, average consumption respondents of 4.2 mg, while the recommended AKG is 12 mg. This data show that intake zinc respondents Still classified as low compared to with recommended requirements, While that, on intake substance iron (Fe), average intake respondents recorded of 42.3 mg, while the average recommended AKG is 27 mg. This is show that intake substance iron respondents has exceed number adequacy recommended nutrition, In general overall, results the show that intake some important minerals like calcium and zinc Still is below the Recommended Nutritional Intake (RDA), whereas intake substance iron has exceed recommended requirements, Conditions This show the need improvement consumption source foods rich in calcium and zinc For fulfil respondents ' mineral needs,

Table 5. Nutritional status of pregnant women in the work area of PKM Rasana'e Timur, Bima City

Nutritional status	Frequency	percentage
KEK Risk	0	0.0
No risk of KEK	30	100.0
Total	30	100

Source: Primary Data, 2025

Based on the data in the table, it is known that that Of the 30 respondents studied, no there is respondents at risk Chronic Energy Deficiency (CED). This shown with frequency respondents 0 people are at risk of CED (0.0%). Temporary that, the whole respondents namely 30 people (100%) including in category No at risk of KEK. This data show that in a way general nutritional status respondents is at in good and bad conditions experience risk lack energy chronic

The participation that becomes respondents in research This totaling 30 mothers pregnant women aged 20-40 years age pregnancy part big in the 2nd trimester, Education partly big finish high school level and gravida status ≤ 3 times. Intake energy (calories), substances nutrition macro and some substance gzi micro still $<80\%$ of the AKG. Only intake of vitamin B9 and iron iron that is $>80\%$ compared to with AKG (Recommended Nutritional Intake) For the Indonesian People, 2019). All respondents have nutritional status No KEK risk, Determination with use mark LILA (circumference) measurement Upper Arm) in the mother pregnant.

Discussion

Research result describe that all Mother pregnant who becomes respondents have nutritional status No at risk of KEK. All respondents own LILA value above 23.5 cm. Intake Food in study This measured with a 2x24 hour recall carried out for 2 days, Adequacy level energy and matter nutrition macro (carbohydrates, protein and fat), some big Not yet sufficient namely $<80\%$ of the Adequate Nutritional Intake (AKG) except intake of vitamin B9 and other substances iron, The same research was also conducted by Putri et al., (2020) with results show that amount intake food energy and matter nutrition macro except fat does not relate with KEK events and some big respondents with status KEK nutrition has intake good energy,

Age pregnancy most respondents is in the second trimester. This trimester intake eat on mother pregnant starting to get back to normal, no There is nauseous or vomiting, The reality that occurred in study that intake food Mother pregnant Still less, The cause is habits and patterns Eat Mother pregnant women who tend to more prioritize member family other No only That habit consume food Ready serving or junk food, leaving Eat in time morning and tend to more Lots eat on time afternoon and evening, Uniting time eating is influenced availability food House stairs, Selection food respondents more Lots consume source energy, protein and fat derived from from rice and grains,

Adequacy level intake substance nutrition microelements (vitamin A, Vitamin C, Vitamin B6, calcium, and zinc) all Mother pregnant who becomes respondents not enough from adequacy except Vitamin B9 and other substances iron, Source type material food that complements it is consumption vegetables and fruit, Intake food respondents not enough consume various vegetables and fruits Good type and amount from AKG due to environment or area place stay respondents only available Janis the same vegetables every day and lack of culture or habit consume fruit due to limitations economy from some respondents, Research that is in line with done by Indarto et al (2021) who stated that reason Mother KEK pregnancy, namely Because lack of consume vegetables, fruit and also less food contain Lots Fe sources, lack of taking additional tablets blood moment pregnant and suffering from mild anemia,

From the results interview, part big Mother pregnant make an effort fulfil intake more utilise food local and easily available vegetables around place stay and get with No buy it, The low level consumption food influenced multifactorial, visible factors dominant that is Because low availability food at level House ladder Because consequence low Power buy as well as knowledge in the field malnutrition, and can influence intake adequacy substance nutrition,

Dietary habit is the good one for Mother pregnant must fulfil source carbohydrates, proteins and fats as well as vitamins and minerals. Food that doesn't Good consumed by the mother pregnant is food canned food, excessive sweet food, full fat milk, excessive margarine, food that has been not fresh.

Nutritional status Mother pregnancy greatly affects growth fetus in content, If nutritional status bad, good before pregnancy and during pregnancy will cause disturbance growth in the fetus, causing obstruction growth brain fetus, anemia in infants new born, baby new born easy infection, abortion and so on so that own risk give birth to baby with LBW.

If mother pregnant suffer nutrition bad or KEK conditions This will have a big impact on growth the fetus she is carrying, The influence This will determine birth weight her baby will be not enough from should be, Low birth weight baby This will be very influential to death more babies big, A results studies in Guatemala (United States) show that the more low baby weight new born the more big number death

5. Conclusion

The participation that becomes respondents in research This totaling 30 mothers pregnant women aged 20-40 years age pregnancy part big in the 2nd trimester, Education partly big finish high school level and gravida status ≤ 3 times. Intake energy (calories), substances nutrition macro and some substance gizi micro still $<80\%$ of the AKG. Only intake of vitamin B9 and iron iron that is $>80\%$ compared to with AKG (Recommended Nutritional Intake) For the Indonesian People, 2019). All respondents have nutritional status No KEK risk, Determination with use mark LILA (circumference) measurement Upper Arm) in the mother pregnant, Nutritional status Mother pregnant who becomes respondents everything No at risk of KEK. Average intake energy, substances nutrition macro and micro Still less than $<80\%$ of the Recommended Daily Intake (RDA). Intake of Vitamin B9 and other substances iron that is $\geq 80\%$ of the RDA. It is needed activity education For increase knowledge about importance intake substance nutrition that must be consumed by a person Mother pregnant or health mother and child in condition limited,

Based on results research that has been done, there is a number of recommendations that can be conducted by researchers and For researchers furthermore, First, it is necessary activity Nutrition Education for Pregnant Women For increase knowledge about importance fulfillment intake energy, substances nutrition macro and substances nutrition micro during pregnancy, Education This can done through counseling by personnel health in facilities service health like community health center or integrated health post, so that

Mother pregnant can more understand type and quantity food nutritious food that is needed consumed For support health mother and fetus, especially in condition source limited power.

Second, in the research This researchers own a number of limitations, including that is amount relative respondents limited Where only 30 mothers pregnant, and distance travel integrated health post based on place stay Mother pregnant or respondents so that results study This Not yet can describe condition all over Mother pregnant in a way more extensive, In addition, research This only evaluate intake nutrition based on consumption food as well as use LILA measurement for determine nutritional status, so that Not yet describe nutritional status conditions in a way comprehensive through other indicators such as index mass body weight (BMI) before pregnancy, increase weight during pregnancy, or inspection biochemistry.

Third, to researchers Next, it is recommended For involving amount more samples larger and more comprehensive research areas area for results study can more representative, Research next can also study factors that influence intake nutrition Mother pregnant, such as level knowledge nutrition, condition social economy, habits eat, and availability food local, In addition, research advanced can develop intervention utilization food local, such as processing material food valuable local nutrition high, as alternative For increase intake nutrition Mother pregnant and supportive health Mother as well as fetus,

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