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Research Article

Overview of Nutritional Knowledge of Pregnant Women about the First 1000 Days of Life

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Abstract

The First Thousand Days of Life (1000 HPK) is a golden period starting from 0-2 years, which is a critical period in brain growth due to a rapid increase in the development of cells in the brain that are very susceptible to damage. If the child suffers from malnutrition at this time, it cannot be guaranteed that further development will run normally. This study aims to describe the level of nutritional knowledge of pregnant women about the first 1000 days of life at the Duren Sawit Health Center in 2019. This study is descriptive. Sampling using a non-random sampling technique with purposive sampling type and obtained a total sample of 100 respondents. The results showed that the description of the nutritional knowledge of pregnant women about the first 1000 days of life at the Duren Sawit Health Center in 2019 showed that most pregnant women had sufficient knowledge of 72 people (72.0%), good knowledge of 13 people (13.0%), and lack of understanding as many as 15 people (15.0%). For further research, it takes a long time and better measuring tools to increase the accuracy of the research results.

Keywords: Knowledge of Nutrition, Pregnant Women, First 1000 Days of Life

INTRODUCTION

The first 1000 days of life are often called the windows of opportunities period, which is calculated from when the baby is still in the womb until the age of 2 years. This mass determines the child's quality of life in the future. The consequences that arise for the child at this time are permanent and cannot be repaired^{1,2}. Data on the prevalence of stunting under five were collected by the World Health Organization (WHO); Indonesia is the third country with the highest prevalence in Southeast Asia. The average prevalence of stunting under five in Indonesia from 2005-2017 was 36.4%. Toddlers are a group that is vulnerable to malnutrition, one of which is stunting. Stunting (short) is a linear growth disorder caused by chronic nutrient intake, malnutrition, or chronic or recurrent infectious diseases as indicated by the z-score of height for age (TB/U) less than -2 SD³.

The incidence of stunting (short) toddlers is a major nutritional problem faced by Indonesia. Based on Nutrition Status Monitoring (PSG) data for the last three years, stunting has the highest prevalence compared to other dietary issues such as undernutrition, thinness, and obesity. Stunted toddlers' prevalence increased from 27.5% in 2016 to 29.6% in 2017³. The purpose of the movement for the first 1000 days of life is to achieve the target of reducing the proportion of stunted children under five by 40%, reducing the balance of children under five who suffer from wasting by less than 5%, reducing the proportion of babies born with low weight by

30%. Also, stopping the increase in the proportion of children who are overweight, reducing the proportion of women of childbearing age who suffer from anemia by 50%, and increasing the percentage of mothers who exclusively breastfeed for six months by at least 50%¹.

Knowledge of pregnant women about nutrition in the first 1000 days of life is essential and is still one of the community's health problems, which impacts the quality of life, good physical condition, and cognitive abilities of the child in later life. Good nutrition is the main foundation of health for every toddler to reach their maximum potential. Considering the magnitude of the influence of nutrition on pregnancy, all this does not work alone if the family, husband, community, and pregnant women have less knowledge about the nutritional needs of pregnancy. Based on the background described above, the researcher is interested in analyzing the description of the nutritional knowledge of pregnant women about the first 1000 days of life at the Duren Sawit Health Center, East Jakarta^{4,5}.

Based on the above background, the formulation of the problem in this research is how is the picture of Nutritional Knowledge of Pregnant Women About the First 1000 Days of Life at the Duren Sawit Health Center. This research aims to describe pregnant women's nutritional knowledge about the first 1000 days of life at the Duren Sawit sub-district health center in 2019.

LITERATURE REVIEW

The period of the first 1000 days of life is often called the window of opportunities or often called the golden period, which is the period from the fetus to the age of 2 years. A process of growth and development occurs very quickly and does not occur in other age groups. This period is susceptible because it can affect the outcome of brain cells in humans, so if there is a disturbance or damage, it will be permanent and cannot be repaired. The First 1000 Days of Life Movement started in September 2012. This movement is a global idea of the Scaling-Up Nutrition (SUN) Movement in strengthening a desire for nutrition improvement on a worldwide scale. The importance of improving nutrition in the first thousand days of life, especially in supporting the growth and development of infants, fetuses, and children up to the age of 2 years, is not due to heredity but to environmental factors and social conditions. This movement can be very helpful in improving the quality of life by focusing on the first 1000 days of life.

The government's goals and objectives to be achieved by the movement for the first 1000 days of life are: a) Reducing the number of women of childbearing age who suffer from anemia by 50%; b) Increasing the number of mothers who give exclusive breastfeeding for the first six months in a row by 50%; c) Reducing the number of children under five who are underweight (wasting) by less than 5%; d) Decrease the number of children born with low weight by 30% (infants born weighing less than 2500 grams); and e) Reducing the number of children under five who are stunted [6]. Nutrition plays an essential role in the first 1000 days of life. Malnutrition and deficiency of certain nutrients, for example: (carbohydrates, protein, iron, vitamin A, and iodine) will cause impaired growth and development of the child. Malnutrition can have short-term and long-term impacts. Likewise, with overnutrition, growth and development disorders will be very complex. The consequences of overnutrition can lead to metabolic syndrome in the future. The severity will occur if the improvement of nutritional intake is not achieved optimally ⁶.

Effects of Malnutrition in the First 1000 Days of Life [9]: a) Problems in body organs resulting in chronic diseases such as hypertension and stroke; b) Inhibition of brain development resulting in cognitive decline so that it reduces productivity in later adulthood; and c) Babies born with low weight.

Nutritional Recommendations for the First 1000 Days of Life program ⁷: a) Eat a variety of foods during pregnancy; b) The need for nutrients increases with increasing gestational age; c) Balanced intake of nutrients; d) Ante Natal Care (ANC) at least four times during pregnancy; e) Take Fe tablets for placental growth and hemoglobin; f) Early Initiation of Breastfeeding (IMD); g) exclusive breastfeeding until the age of 6 months; h) Monitor mother and baby's weight regularly; i) Basic immunizations; j) Breastfeeding until the child is two years old; k) Complementary foods for breastfeeding (MP-ASI) after the age of 6 months and continue breastfeeding until two years; l) Avoid smoking, alcohol and caffeine; and m) Exercise regularly and maintain ideal body weight.

The Scaling-up nutrition movement is an effort to overcome all malnutrition based on the principle that every human has the right to good food and nutrition ⁸. This movement was founded in September 2010 by various individuals, institutions, and groups ⁹. Before this movement was introduced, there was concern that the international system failed to effectively address global malnutrition because, in 2008 – 2009, there had been an increase in food prices accompanied by a worldwide financial crisis in other

words, around the world, resulting in concerns against malnutrition ¹⁰.

In 2009, the World Summit on food security invited all countries' leaders to renew their commitment to ending malnutrition and hunger. The outcome of the meeting was the development of a "scaling-up nutrition" policy framework published in the March 2010 issue of the Food and Nutrition Bulletin. The framework has attracted and strengthened the interest of the government and private leaders, followed by a meeting organized by the Worlds Bank and International Monetary Fund in April 2010. The first edition is a roadmap for "scaling-up nutrition," which was published or released in September 2010 initial meeting took place with partners United Nations System Committee On Nutrition (UNSCN) based in Rome in December 2010. The United Nations (UN) appointed Dr. David Nabarro as the coordinator of the SUN movement and formed the secretariat of the slight SUN movement in Geneva ¹¹.

Countries that are members of the SUN are working to achieve the World Health Assembly's target for nutrition, maternal, infant, and child nutrition by 2025, where the marks are ¹²: a) Reducing stunting under five by 40%; b) Reducing anemia in women of childbearing age by 50%; c) Reducing low birth weight babies by 30%; d) No increase in overweight in children; e) Increase exclusive breastfeeding by at least 50%; f) Reduce and keep baby wasting less than 5%; and g) No increase in obesity, overweight and diabetes (child & adolescent). This goal is at the core of the framework of action of the international conference on nutrition and is an integral part of achieving the Sustain Development Goals (SDGs).

Benefits of SUN (Scaling-Up Nutrition) ^{13; 14}: a) The problem of malnutrition that has not been resolved in many developing countries, namely stunting, wasting, anemia and VAC; b) New Nutrition Problems Appear: Double Burden of Nutrition Problems, namely malnutrition (thin, short) as well as excess nutrition (fat/obesity); c) Meta-analyses in the Lancet 2008 and 2013, revealing the complexity of the factors that cause stunting in children and efforts to overcome or prevent it must be done with specific and sensitive interventions; d) According to WHO in 2013, SUN can reduce the prevalence of stunting by 40% and stop the increase in the prevalence of obese children; e) MDGs 2000-2015 with 8 goals to be achieved, ignoring the nutritional aspect there is no specific nutrition goal but only implicit in the 1st goal, namely poverty and hunger; f) Recommendations from the World Economists in Copenhagen 2008 and 2012, namely that investments in nutrition need to be prioritized in nation building; and g) SUN is a global effort to accelerate the overall response to the problem of short children (specific & sensitive) directly under the coordination of the Secretary General of the United Nations.

The Guide to Balanced Nutrition (PGS) is a refinement of the Four Healthy Five Perfect, which Mr. Gizi Indonesia put forward, Prof. Poerwo Soedarmo, in 1952. The Indonesian Ministry of Health officially put forward guidelines for balanced nutrition in 1995. However, until now, the slogan still needs to be successful in educating the public due to obstacles or shortcomings in explaining or socializing, so the goals or expectations in educating the masses towards balanced nutrition still need to be fully achieved. Healthy living behavior, especially regarding food quality and quantity, is inadequate ¹⁵.

Balanced nutrition for pregnant or lactating mothers indicates that the consumption of pregnant or lactating mothers must follow their own needs and for the growth or development of the fetus/baby. Therefore, pregnant women or breastfeeding mothers must receive more nutritional intake

than non-pregnant and non-breastfeeding conditions, with various foods and balanced portions.

A balanced nutritional intake for infants aged 0-6 months is sufficient with breastfeeding. Breast milk is the best food for babies because it can meet all the nutrients that babies need until the age of 6 months, according to the development of the digestive system. Therefore, every baby aged 0-6 months should receive exclusive breastfeeding. When the baby has reached the age of 6-24 months, the need for various nutrients is increasing; breast milk is not enough to meet the baby's needs because, at this age, the child experiences a period of swift growth and development, thus requiring more nutrients.

In children aged 2-5 years, nutritional needs are still increasing because children are still in a period of rapid growth and high activity. At this time, the child already has a desire or choice of the desired food, including snacks. Therefore, the variety and amount of food should get the caregiver's attention¹⁶. Pregnancy is the process of fertilization that will produce an individual continued offspring. The pregnancy period is a crucial period for optimal fetal growth and preparation for childbirth. Therefore, nutrients are helpful for pregnant women's health during delivery, breastfeeding preparation, and growth and development¹⁷. Things that need to be considered are: a) Eat more portions than before pregnancy; b) For mothers who are overweight, reduce the portion of food; c) energy sources are adjusted to Normal needs. The first weeks of pregnancy occur when essential organs are formed in the fetus's body. Therefore, it is imperative to maintain a nutritional balance. Malnutrition can lead to failure in formation, so babies are born prematurely or with low birth weight. Arrange a varied menu and prioritize fresh food to maximize the intake of the vitamins needed¹⁸.

Before pregnancy, all women must strive to achieve the appropriate weight. Usually, pregnant women will gain weight by 12.7-13.5 kg. It happens because the need for food intake of pregnant women increases with increasing gestational age. Women who have a pre-pregnancy weight that is less or underweight and fail to achieve the appropriate weight during pregnancy have a high probability of giving birth to a baby with low birth weight. Women with large body proportions are more likely to have large babies, preeclampsia, diabetes, and urinary tract infections¹⁸.

The body mass index category of pregnant women was categorized as underweight (BMI 18.5), normal (BMI=18.6-25.0), overweight (BMI= 25.1-30.0), and obese (BMI 30.1). Physical conditions and normal weight gain for pregnant women in each trimester are as follows [19]: a) First trimester (0 - 12 weeks). Generally, the mother's appetite is reduced, and nausea and vomiting often occur. In this condition, the mother must keep trying to eat so the fetus can grow properly. Normal gain is between 0.7 and 1.4 kg; b) appetite has recovered in the second trimester (up to 28 weeks). Needs to eat must be increased. Normal weight gain between 6.7 - 7.4 kg; and c) Third trimester (up to 40 weeks of age), appetite is very good, but don't overdo it. Normal weight gain is between 12.7 kg - 13.4 kg.

Food intake during pregnancy differs from before pregnancy to meet the mother's and fetus's needs. Based on the 2013 Nutritional Adequacy Rate (RDA), an additional 300 kcal per day during pregnancy is required. Adding protein 20g/day, fat 10g/day, carbohydrates 40g/day during pregnancy, and other micronutrients help the process of fetal growth in the womb. Nutritional requirements in pregnancy include carbohydrates, proteins, fats, vitamins, and minerals¹⁹.

Knowledge results from knowing after people have sensed a certain object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste, and touch. Most human knowledge is obtained through the eyes and ears²⁰. Knowledge is very important in shaping human action (overt behavior). Knowledge has six levels: to know, to be comprehend, to apply, to analyze, to synthesize, and to evaluate²¹. The factors influencing knowledge are age, place of residence, sources of information, experience, socio-culture, environment, and intelligence²². Measurement of knowledge can be done through interviews or questionnaires that ask the knowledge level about the material's content to be measured from the research subject or respondents. The sharpness of knowledge we want to know or measure can adjust to the level of knowledge in the cognitive domain. The criteria for assessing the level of knowledge use values: ²³ a) The level of knowledge is good if the score or value is 76-100%; b) The level of knowledge is sufficient if the score or value is 56-75%, and c) The level of knowledge is lacking if the score or value is < 56%.

RESEARCH METHOD

The research design used is a descriptive study that aims to obtain an overview of nutritional knowledge in pregnant women about the first 1000 days of life at the Duren Sawit sub-district health center, East Jakarta 2019. This research was carried out at the Duren Sawit Health Center, Duren Sawit District, East Jakarta, 2019, which was carried out on November 4-8, 2019. The implementation of research always deals with the object being studied or investigated. The entire research object or object under scrutiny is the research population, while the object that is examined and considered to represent the whole population is called the research sample. The population in this study were pregnant women in the first to the third trimester at the Duren Sawit Health Center. The object examined and considered to represent the entire population is called a sample, where the researcher will take all data that meet the inclusion criteria.

In taking research samples, a certain method is used so that the sample is as representative of the population as possible. The sampling technique used in this study is a non-random sampling procedure with a purposive sampling type. So that the results obtained to follow the objectives, the determination of the desired sample must follow certain criteria that the sample in this study was determined by taking into account the inclusion and exclusion criteria²⁴. The instrument used in this study was a questionnaire. Research data processing is done through several stages: editing, coding, data entry, and cleaning. After all, the data is collected completely, and the next step is to analyze the data. Data analysis is an important part of scientific research methods because data analysis will provide useful meaning for solving problems in research. This study uses a data processing procedure, a descriptive data analysis technique, by describing and scientifically summarizing the data in tables or graphs.

RESEARCH RESULT

Research on the description of nutritional knowledge in pregnant women about the first 1000 days of life was carried out at the Duren Sawit Health Center on November 4-8, 2019. This study used purposive sampling and obtained 100 data on pregnant women who met the criteria for being the research sample. Furthermore, the research results in tabular form are presented in full below.

The characteristics of the respondents in this study which will be explained include the frequency distribution based on age, gestational age, education, and occupation, which is shown in the following table:

Table 1: Frequency Distribution of Respondents' Characteristics at Duren Sawit Health Center in 2019

Characteristics of Respondents		n	%
Mother's Age	<20 years	9	9.0
	20-35 years	81	81.0
	35>	10	10.0
Mother's Education	Elementary school equivalent	3	3.0
	Middle school equivalent	12	12.0
	High school equivalent	63	63.0
	Diploma-Bachelor	22	22.0
Mother's Job	Housewife	74	74.0
	Entrepreneur	21	21.0
	Civil Servant	5	5.0

Based on table 1, out of 100 respondents, nine were aged < 20 years, 81 were aged 20-35 years, and 10 were aged > 35 years. This study's results indicate that most pregnant women are 20-35 years (81.0%). A healthy and safe reproductive age is 20-34 years. At the age of under 20 years, a woman's reproductive function is not fully developed so that she is not ready to get pregnant and give birth, while at the age of over 35 years, there is a progressive deterioration of the endometrium which reduces the strength of contractions during labor and after delivery.

In the results of the frequency distribution based on education, from 100 respondents, three respondents had elementary school education, 12 respondents graduated from junior high school, the majority of respondents had high school education, as many as 63 (63.0%), and 22 respondents graduated from college. The level of education is the level of the learning process at the formal level. With a higher level of education, more information is obtained so that a person's knowledge about health is also more. The higher a person's education level, it is expected that his knowledge and health behavior will be better so that women can make their pregnancies safer by finding quality antenatal places.

However, increasing knowledge is not obtained from formal education but can also be obtained from non-formal education, as well as education from parents, their experiences, environment, culture, and traditions.

In the results of the frequency distribution based on occupation, the majority of respondents have jobs as IRT (housewives), as many as 74 respondents (74.0%), and the lowest is PNS (Civil Servants), as many as five respondents (5.0%). It is said that respondents who have jobs as IRT are more likely to stay at home and receive little information about health problems during pregnancy, childbirth, and the puerperium.

Table 2: Frequency Distribution of Nutritional Knowledge Levels in Pregnant Women on the First 1000 Days of Life at the Duren Sawit Health Center in 2019

Knowledge of Pregnant Women	n	%
Good	13	13
Sufficient	72	72
Lack	15	15
Total	100	100

In the research conducted, respondents are said to have a good level of knowledge if they have a score or value of 76-100, while the level of expertise is sufficient if the score or value is 56-75, and the level of knowledge is lacking if the score or value is <56. Based on table 2, out of 100 respondents, 13% (13 pregnant women) had good knowledge about nutritional intake in 1000 HPK (First Day of Life). The majority have sufficient expertise, as much as 72%, and 15% have knowledge categorized as lacking.

The lowest score in this study was 38.09, while the highest score obtained was 95. The average value for a total of 100 respondents was 72.0%.

Most of the respondents at the Duren Sawit Health Center had sufficient knowledge about nutrition knowledge in 1000 HPK. The results of this study differ from those of Purba (2015) at the Saitnihuta Health Center, which showed that most pregnant women had a low level of knowledge about the first 1000 days of life.

Many factors also influence the knowledge of pregnant women, namely age, education, and occupation. The level of expertise categorized as sufficient and good in this study must

be distinct from the characteristics of the respondents. In this study, the most significant percentage of respondents' age characteristics were in the age range above 20 years, namely the age of 20-35 years, which was 81.0%.

The age of 20-35 is a productive age for a woman to have children, and with increasing age, there will be changes in physical and psychological (mental) aspects. In general, there are four categories of physical growth: changes in size, changes in proportions, loss of old characteristics, and the emergence of new characteristics. In the psychological or mental aspect, a person's level of thinking is getting more mature and mature. This age is a reproductive age and includes adulthood so that they are grown in review and making decisions to change attitudes or behavior based on correct knowledge about nutritional intake in the first 1000 days of life.

The study results show that the education level of most of the respondents is high school graduates, as much as 63.0%. Educated mothers are expected to understand the information and explanations given by health workers well. Generally, mothers with moderate to high levels of education can accept new things and changes to maintain health, especially during

the first 1000 days of life. They will be driven to want to know and seek experience so that the information obtained will become knowledge and be applied to their lives. Notoatmodjo explained the concept of education as a learning process that means growth, development, or change toward a more mature, better, and more mature individual, group, or community. The higher the level of education, the easier it is to accept and adapt to these new things. The education of parents or families, especially the baby's mother, is important in managing the program for the first 1000 days of a baby's life. The mother's education level will affect her knowledge about the first 1000 days of life.

In addition to the level of education, work can affect a person's knowledge. People who work will have better access to a variety of information. For those who do not work, if data from their environment is lacking, their knowledge is also lacking, especially if they are not active in various activities so less information will be received. The research shows that the number of mothers who do not work (homemakers) is 74.0%. It shows that more mothers do not work than those who work.

The work environment can be used by someone to gain knowledge either directly or indirectly. On the other hand, if a mother works as a housewife, she will have more free time than working mothers, so mothers are expected to always be active in the presence of counseling events about the first 1000 days of life held by local health workers.

Based on this research, the researcher sees that there are limitations that affect the results of this study. The results of this study could be better; there are still shortcomings. Limitations of this study include the following: This research was conducted at the same time as lecture hours, so the number of respondents can also be said to be less than optimal in determining overall knowledge. Another obstacle researchers face is that many respondents need to be more cooperative in filling out the questionnaire, so researchers find it difficult to get valid results.

CONCLUSION

Based on the results of research and discussion of the description of nutritional knowledge in pregnant women about the first 1000 days of life at the Duren Sawit Health Center in 2019, it can be concluded that: a) In 100 pregnant women respondents, 81.0% aged 20-35 years, last educated graduated from high school 63.0% and 74% are housewives; and b) The level of knowledge of pregnant women obtained 72% have sufficient knowledge, 13.0% have good knowledge and 15% have less knowledge. Thus, the community is expected to guide good food consumption patterns for pregnant women so that nutritional intake can be fulfilled to prevent stunting. It is also hoped that the results of this study can be used as learning materials for both undergraduate and professional education students in disseminating nutritional knowledge to pregnant women about the first 1000 days of life.

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