




Relationship of Knowledge and Attitude with Nutritional Status of Pregnant Women in One of Malang City Health Center

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Abstract. Pregnancy is a time to increase fetal growth and development. The growth and development of children certainly cannot be separated from the nutritional status of the mother. Lack of knowledge about nutrition can cause mothers not to know how to fulfill nutrition during pregnancy. The purpose of the research was to identify the relationship between knowledge and attitudes with maternal nutritional status. This type of research is descriptive analytic and uses a cross sectional research design. Accidental sampling was chosen as a sample collection technique using a questionnaire sheet to measure the independent variables, namely knowledge and attitudes, and the dependent variable, namely nutritional status using the results of the Mid-upper arm circumference measurement. The results of data acquisition were analyzed by chi test with < 0.05 . In the analysis, the results showed that there was a relationship between knowledge ($p = 0.010$) and attitude ($p = 0.009$) with ($\alpha = 0.05$) on the nutritional status of pregnant women. So it can be concluded that there is a relationship between knowledge and attitudes towards nutritional status in pregnant women.

Keywords: knowledge · attitude · nutrition status · pregnant women

1 Introduction

Nutritional status is a measure of success in fulfilling nutrition for pregnant women [1]. The imbalance of food intake with the nutritional needs of pregnant women results in malnutrition in the mother. The result of an imbalance between consumption and nutritional needs can lead to the emergence of nutritional problems [2]. If the nutritional fulfillment of pregnant women is not met, it can lead to nutritional deficiencies and are at risk of developing health problems because pregnant women need nutrients in large quantities to cover the nutritional needs of pregnant women and the fetus [3]. Nutrition is the most important part in the period of growth, development and is closely related to health. Several factors that can affect nutritional status include socio-economic

conditions, the environment, and health conditions [4]. At least pregnant women need additional energy of around 180 kcal in the First Trimester, 300 kcal in the Second Trimester and Third Trimester from the normal amount every day [5]. The nutritional needs of pregnant women during pregnancy can increase by up to 15% [6]. The need for protein in pregnant women has also increased up to 68% [7]. Pregnant women who experience nutritional deficiencies can trigger various health problems such as stillbirth or neonatal death, babies born with disabilities, and the birth of babies with relatively low body weight or low birth weight [8]. The impact of low body weight or low birth weight is a period of physical growth, mental development that slows down to a decrease in intelligence [9].

These problems can occur because pregnant women experience malnutrition, causing maternal pregnancy to occur with Chronic Energy Deficiency. Chronic Energy Deficiency during pregnancy can be one of the problems with its very important role in fetal development and growth. The results of the Mid-upper arm circumference measurement can be seen as a measure of whether the mother has Chronic Energy Deficiency with a category < 23.5 cm including in the Chronic Energy Deficiency category and 23.5 cm in the non Chronic Energy Deficiency category [10]. According to Apriyanti (2017) in [11], Chronic Energy Deficiency is also the main cause of pregnant women experiencing bleeding and infection as the main trigger for maternal death. Based on Riskedas East Java in 2018, the percentage of pregnant women experiencing Chronic Energy Deficiency risk was 19.59% and in Malang City it was 7.01% [12] According Central Statistics Agency Malang City in 2019 the number of pregnant women from each sub-district, namely Kedungkandang District as many as 2,925 pregnant women, Sukun District 2,947 pregnant women, Klojen District as many as 1,538 pregnant women, Blimbing District as many as 2,722 pregnant women, and Lowokwaru District as many as 2,982 pregnant women. Based on a preliminary study by researchers, data on the percentage of maternal pregnancies with Chronic Energy Deficiency from the total number of pregnant women who underwent examinations in 2017 was 68.7%, in 2018 as many as 70.6%, in 2019 as many as 74.7%, and in 2020 as many as 76.4%.

Lack of knowledge can be a factor in the emergence of health problems. As a result of the lack of knowledge, mothers do not even know how to fulfill nutrition during pregnancy [3]. Knowledge and attitude are factors that can influence maternal nutrition during pregnancy. Nutrition science is knowledge between the relationship between food intake and health [3]. Nutrition plays an important role in the growth and development phase [13]. Knowledge about nutrition needs to be observed by all ages, especially pregnant women. Good maternal knowledge about nutrition is expected to be able to select the food intake consumed in accordance with balanced nutritional needs. It is intended that the nutritional intake of pregnant women can be fulfilled for themselves and the fetus they contain [14]. By understanding nutrition well, it is hoped that it can contribute and be useful for other people, especially mothers, to learn how to behave in choosing, storing, and processing food ingredients for daily consumption according to their needs. The pattern of daily food consumption is also a supporting factor or encouraging a person's nutritional status [2].

Andi Liliandriani (2021) has conducted research that is in line with explaining that there is a significant relationship with the level of knowledge on the nutritional status of maternal pregnancy [15]. A similar study was conducted by Paringotan Simanjuntak

2022 which had the same result, namely that there was a correlation between knowledge and attitudes of mothers with nutritional status during pregnancy [16]. After conducting a preliminary study, the researcher conducted research with the title “The Relationship of Knowledge and Attitude with the Nutritional Status of Pregnant Women in One of the Public Health Centers in Malang City”.

2 Method

The health center that was taken as the target for the research was a health center located in the city of Malang. The health center also has various health services offered including inpatient care, special polyclinic (sanitation, nutrition, pulmonary TB), oral and dental poly, elderly poly, child and maternal health poly, and general poly. There is also a class for pregnant women which is held once a month. The time of the study began on March 5 to April 7, 2022. This study obtained 38 pregnant women respondents with accidental sampling technique and had met the inclusion criteria by using a tool to obtain data, namely a questionnaire. Characteristics of respondents include age, gestational age, education, and occupation.

3 Results

The health center that was taken as the target for the research was a health center located in the city of Malang. The health center also has various health services offered including inpatient care, special polyclinic (sanitation, nutrition, pulmonary TB), oral and dental poly, elderly poly, child and maternal health poly, and general poly. There is also a class for pregnant women which is held once a month. The time of the study began on March 5 to April 7, 2022. This study obtained 38 pregnant women respondents with accidental sampling technique and had met the inclusion criteria by using a tool to obtain data, namely a questionnaire. Characteristics of respondents include age, gestational age, education, and occupation.

3.1 Univariate Analysis

Based on Table 1, the characteristics based on age with a more dominant range of 20–35 years were 23 people (60.5%), > 35 years were 9 respondents (23.7%), and < 20 years were 6 respondents (15.8%). The characteristics according to gestational age are 7 (18.4%) respondents in the first trimester and 31 (81.6%) in the second trimester.

Table 1. Respondent’s characteristics

Variables	n	%
Age		
< 20 Year	6	15.8
20–35 Year	23	60.5

(continued)

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Variables	n	%
> 35 Year	9	23.7
Gestational Age		
Trimester I (1–13 Weeks)	7	18.4
Trimester II (14–27 Weeks)	31	81.6
Level of Education		
Elementary School	5	13.2
Junior High School	17	44.7
Senior High School	10	26.3
College	2	5.3
Not one of them	4	10.5
Profession		
Housewife	31	81.6
Entrepreneur	6	15.8
Kindergarten Teacher	1	2.6
Total	38	100

According to one health worker, more third trimester pregnant women choose to have their pregnancy checked at the nearest midwife, this is due to several factors such as the range of the midwife's location is closer than the health center and the examinations carried out at the midwife can be said to be more intense than at the health center. Based on education level, there are 5 respondents (13.2%) that graduated from elementary school, junior high school there are 17 respondents (44.7%), high school there are 10 respondents (26.3%), S1 there are 2 respondents (5.3%) and others not in school 4 respondents (10.5%). It was concluded that the largest respondents were with junior high school education level. Most respondents work as IRT or housewives totaling 31 respondents (81.6%), then working as entrepreneurs as many as 6 respondents (15.8%), and 1 respondent (2.6%) as working as a Kindergarten teacher.

3.2 Bivariate Analysis

This bivariate analysis was conducted to answer the objectives of this study. Tests are carried out to identify the relationship between several variables by applying the Chi-Square Continuity Correction test.

Relationship between Knowledge and Nutritional Status of Pregnant Women in One of the Public Health Centers in Malang City.

The following Table 2 is the result of a bivariate analysis of the relationship between knowledge and the nutritional status of maternal pregnancy in one of the Public Health Centers in the city of Malang:

Table 2. Relationship between knowledge and nutritional status of pregnant women in one of the public health centers in Malang city

Knowledge	Chronic Energy Deficiency				P-value
	No		Yes		
	n	%	n	%	
Normal	15	75.0	5	25.0	0.010
Inadequate	5	27.8	13	72.2	
Total	20	52.6	18	47.4	

Most respondents whose knowledge level was normal did not experienced Chronic Energy Deficiency (75.0%). While, among respondents who had inadequate knowledge tend to have Chronic Energy Deficiency (72.2%). The statistical test showed that there was a relationship between knowledge and nutritional status of pregnant mothers (p-value < 0.05).

Relationship between Attitude and Nutritional Status of Pregnant Women in One of the Public Health Centers in Malang City.

The following Table 3 is the result of a bivariate analysis of the relationship between attitudes and the nutritional status of maternal pregnancy in one of the Public Health Centers in Malang City.

The majority of respondents who had good attitude did not experienced Chronic Energy Deficiency (77.8%). While, among respondents who had normal attitude tend to have Chronic Energy Deficiency (72.2%). The statistical test showed that there was a relationship between attitudes and nutritional status of pregnant mothers (p-value < 0.05).

Table 3. Relationship between attitude and nutritional status of pregnant women in one of the public health centers in Malang city

Attitude of Pregnant Woman	Nutritional Status				P-value
	No Chronic Energy Deficiency		With Chronic Energy Deficiency		
	n	%	n	%	
Excessive	14	77.8	4	25.0	0.009
Normal	6	30.0	14	72.2	
Total	20	52.6	18	47.4	

4 Discussion

4.1 Relationship Between Knowledge and Nutritional Status of Pregnant Women in One of the Public Health Centers in Malang City

Knowledge is an important basis that can be used as a reference for further action. According to Notoadmodjo (2007) in [17], knowledge is the result of sensing done by a person on objects through their senses. Most knowledge is obtained from the senses of sight and hearing. There are several factors that can affect a person's level of knowledge including age, education, and occupation [18]. Pregnant woman level of knowledge can affect nutritional status during pregnancy, one of which is knowledge about Chronic Energy Deficiency. In addition, knowledge about the myth of taboos on consuming certain foods which turned out to be a source of nutrition causes most pregnant women not to consume these foods. This statement is supported by research conducted by Desta Stallaza Alifka in 2020 which states that there is a correlation between food abstinence factors and the incidence of Chronic Energy Deficiency in pregnant women [19]. A person's knowledge of health can be a factor that influences a person's behavior, this is because knowledge-based behavior is more often carried out than non-knowledge-based behavior.

It is shown from the results of the research where the knowledge of pregnant women on the nutritional status of pregnancy in one of the Puskesmas in Malang City is in the sufficient category. Based on his experience, as well as the level of education of the research sample. Most of the respondents had a junior high school education amounting to 17 (44.7%). In addition, the respondents are dominated by the age of 20–35 years, which in this age range has excellent reproductive organs and is the peak of the fertile period of women, so that in this age range is the right age to have children and minimize things that can harm the mother. Pregnancy such as giving birth to a baby at a low age, delays in fetal growth, and miscarriage [20]. Delayed fetal growth can cause babies to be born to have low birth weight which can be at risk of stunting [21]. Stunting is a condition in which individuals are malnourished so that individual growth is below the average or short growth chart [22]. Mothers who experience pregnancy under the age of 20 and above 35 are very at risk and can affect nutritional status. Mothers who experience pregnancy at the age of less than 20 years have their reproductive organs that are still not optimally developed, besides that knowledge about maternal and fetal health is still minimal, and it is difficult to control emotions. Ages over 35 years tend to experience changes due to aging of reproductive organs.

Knowledge includes the power of thinking and the ability to make decisions on a problem rationally. The knowledge that develops is based on positive transformation if one can think and experience solving a problem. Most respondents work as housewives which allows mothers to share their time in paying attention to consumption and health to be greater. The educational status of most respondents who have stepped on school makes respondents more able to think more critically in solving a problem they are experiencing, especially regarding nutritional status. This is shown by the easy access to information facilitated by health workers at the puskesmas and various questions about nutrition that were asked by respondents to health workers.

According to Notoatmodjo (2007) in (Retnaningsih, 2016), there are several levels of a person's knowledge, including knowing, understanding, applying, analyzing, synthesizing, and evaluating. These things as indicators of people who have knowledge as well as influence the respondent, it can be interpreted as having sufficient knowledge about the nutrition of pregnant women [17]. At this puskesmas, a class for pregnant women is held once a month. The percentage of classes for pregnant women in Malang is still 30% for classes for pregnant women that are well implemented, 20% are not good, and 50% have not held classes for pregnant women. This is because 32% of the percentage of standards and class goals for pregnant women are not clear, 36% of the resources are not adequate, 60% of communication between organizations has not gone well, 72% of the characteristics of the implementing agency are not good, and the disposition is not good 32% [23]. While the Chi Square test obtained $p \text{ value} = 0.010 < = 0.05$ H_0 is rejected and H_1 is accepted, then there is a relationship between knowledge and nutritional status of pregnant women in one of the Public Health Centers in Malang City.

In line with the research of Andi Liliandriani (2021) "The Relationship of Knowledge and Behavior of Pregnant Women with Nutritional Status During Pregnancy" which shows that there is a correlation between the level of knowledge of maternal pregnancy on nutrition. This is according to the results of the Chi Square test, the value of $p = 0.001 < = 0.05$ [15].

4.2 Relationship Between Attitude and Nutritional Status of Pregnant Women in One of the Public Health Centers in Malang City

Attitude is a person's response to the whole thing that is known and felt, with his readiness to refuse or accept, or to react to a stimulus. Attitude is a person's willingness to act, not a person's execution or certain actions. (Dayaningsih & I, 2022) stated that attitude refers to a person's willingness to take action [24]. Being able to meet nutritional needs in daily life shows a good attitude. More knowledge is applied when balanced with experience. By repeating the experience that has been done by solving problems. This is a reference for respondents to determine the attitude that will be taken to deal with nutritional problems.

Attitude as reciprocal of knowledge. Depends on the acceptance process and how to apply the knowledge. Attitudes towards the behavior of fulfilling daily nutrition in pregnant women greatly affect their nutritional intake [25]. The fulfillment of nutritional needs is very important in improving the quality of a person [26]. A positive attitude will also have a positive impact on the behavior of pregnant women, such as a positive attitude towards nutrition, pregnant women will tend to behave positively in meeting their nutritional needs.

From the resulting research, it is known that respondents have the most distribution, namely respondents who have good attitudes towards not Chronic Energy Deficiency and respondents have sufficient attitudes but in Chronic Energy Deficiency each totaling 14 respondents, the attitude of pregnant women is sufficient and nutritional status is good or not Chronic Energy Deficiency as many as 6 respondents, and while pregnant women with good attitudes and with Chronic Energy Deficiency as many as 4 respondents. The results of statistical tests showed that there was a significant relationship between the attitudes of pregnant women to their nutritional status. Chi Square test results obtained

p value = 0.009 because < 0.05 so H_0 is rejected and H_1 is accepted, then there is a relationship between attitude and nutritional status of pregnant women in one of the Public Health Centers in Malang City.

The results of a similar study conducted by Arifah Istiqomah et al. (2016) “Mother’s Attitude in Fulfilling Nutritional Needs With Chronic Energy Deficiency Incidence in Pregnant Women” which shows that there is a correlation between maternal attitudes to meet nutritional needs in Chronic Energy Deficiency whose value is calculated χ^2 of 6.995 χ^2 table 5,991 and p value = 0.03 less than 0.05 ($p < 0.05$) [27].

5 Conclusion

In accordance with the research conducted “The Correlation of Knowledge and Attitude with the Nutritional Status of Pregnant Women at One Public Health Center in Malang City”, it was concluded that there was a relationship between knowledge and attitudes towards the nutritional status of maternal pregnancy. After the research is carried out, it is hoped that it can serve as input for all relevant agencies and for the entire community, especially pregnant women, regarding knowledge and attitudes about the nutritional status of maternal pregnancy. And the research that has been conducted has obtained useful results in expanding knowledge and experience to conduct research on other variables that have not been studied such as educational, economic, and cultural factors.

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