The Relationship of Knowledge Level of Undernourished Mothers in Toddler Nutritional Pattern Intake in Ciledug Public health center

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Abstract

This study aims to determine the relationship between the level of knowledge of undernourished mothers in the nutritional pattern intake of children under five at Ciledug Health Center in 2019. This study uses primary data with quantitative research methods and cross sectional design and uses random sampling techniques. The results showed that there was a significant relationship between work, income, infectious diseases, utilization of health services and the level of maternal knowledge on the nutritional pattern intake of children under five.

Keywords: Knowledge Level, Mother Toddlers, Nutrition

Preliminary

One of the population groups who are prone to malnutrition is toddlers. More than half of child deaths in developing countries are caused by a lack of energy and protein. Disturbances in nutritional status are related to food intake consumed by children under five. Toddler age is an important period in a child's development.

Nutrition is a process of organisms using normally consumed food through the process of digestion, absorption, transportation, storage, metabolism and removal of substances that are not used to sustain life.

In 2012, it was estimated that 165 million children under five years of age worldwide experienced a decline compared to 253 million in 1990. High prevalence rates of stunting among children under the age of five exist in Africa (36%) and Asia (27%), and to date it has not been recognized as a public health problem. While it is estimated that 101 million children under the age of five worldwide are underweight, a decrease compared to an estimated 159 million in 1990. Although the prevalence of stunting and underweight in children under five years has decreased since 1990, on average-progress has been insignificant with millions of children still in the risk category.

Presents the prevalence of underweight by province and national. Nationally, the prevalence of underweight in 2014 (19.6%), consisted of 5.7 percent malnutrition and 13.9 percent malnutrition. When compared with the national prevalence rate in 2007 (18.4%) and 2010 (17.9%), it is seen to have increased. Changes mainly in the prevalence of malnutrition, namely from 5.4 percent in 2007, to 4.9 percent in 2010 and 5.7 percent in 2014. Meanwhile, the prevalence of malnutrition increased by 0.9 percent from 2007 and 2014. To achieve the MDG target in 2015, namely 15.5 percent, the national prevalence of malnutrition must be reduced by 4.1 percent in the 2014 to 2015 period.

In DKI Jakarta Province, out of 887,049 children under five (0.009%) suffering from malnutrition, 116 of them suffer from malnutrition. The...
malnourished children under five in 2007 was 2.9%, and in 2010 it decreased to 2.6%, for the presentation of malnourished underfives in 2007 was 10% and decreased in 2010 to 8.7%.

In South Jakarta Municipality, out of 174,467 children under five, 411 children under the red line, 19 of them suffer from malnutrition. Puskesmas Ciledug which is one of the Puskesmas in the Tangerang Municipality area, of the 18,538 toddlers in Ciledug Puskesmas there are 401 (0.022%) under-nutrition, 40 of them are below the red line, if seen from each Kelurahan, Petukangan Selatan Village with 2724 toddlers, 140 of them experiencing malnutrition or 37.4% of the 401 nutritional infants at Pesanggrahan Health Center.

Generally, nutritional problems are caused by two factors, namely direct factors and indirect factors. The direct factors affecting nutritional status are food intake (energy and protein) and comorbidities. Meanwhile, the indirect factors are knowledge level, education level, income level, parenting style, socio-culture, food availability, health services and environmental factors.

The impact of nutritional problems at an early age does not only result in disruption of growth and development of children, such as increased infant mortality, low intelligence, mental retardation, inability to achieve, low productivity which results in low quality of human resources.

The government continues to strive to improve the degree of public health, especially in dealing with nutrition problems under five years of age, because it affects the achievement of one of the Millennium Development Goals (MDGs) in 2015.

Efforts to improve community nutrition include increasing the exclusive breastfeeding program, efforts to overcome micro nutrition through the provision of Vitamin A, iron tablets for pregnant women, and iodizing salt, and strengthening the implementation of management of cases of malnutrition and malnutrition in health facilities.

Efforts from across sectors in Sudimara Barat Village are the support of posyandu cadres. Cadres are members of the community who are willing, able and have time to organize posyandu activities voluntarily. Cadres are expected to be able to bring new values in accordance with existing values in their area, by exploring the positive aspects. Cadres who are trusted by the community can play a role in improving the health status of the community.

The purpose of this study was to determine the factors related to the level of knowledge of undernourished mothers of toddlers at the Ciledug Health Center.

Method

This research uses quantitative research with analytical research methods and cross-sectional approach. The population in this study were all under-five children who were malnourished at the Ciledug Health Center. The sample in this study were some of the malnourished toddlers in 2019 at the Ciledug Health Center in terms of several factors to be studied including age, education, income, infectious diseases, utilization of health services. The technique of taking in this research is simple random sampling method.

Result and Discussion

Univariate Analysis

Mother's Knowledge Level on Toddler Nutritional Intake

Table 1. Frequency Distribution of Knowledge Levels of Undernourished Mothers in Toddler Nutritional Pattern Intake at Puskesmas Ciledug in 2019

| No | Mother’s knowledge on Nutritional intake | Frequency |
|----|----------------------------------------|-----------|
|    | Numbers | Percentage |
| 1. | Less, if the score < 15 | 54 | 51.9% |
| 2. | Good, if the score ≥ 15 | 50 | 48.1% |
| Amount | 104 | 100% |

Based on table 1 of the Frequency distribution above, it shows that the Numbers of Knowledge Level of Undernourished Mothers at the Nutritional Pattern Intake of Toddlers at the Ciledug
Health Center Year 2019 who have less knowledge are 54 people or 51.9% good sources Knowledge Level of Under-Nutrient Mothers at Pattern Intake Toddler nutrition as many as 50 people or 48.1%.

**Mother’s age**

Table 2. Frequency Distribution of the Relationship between Mother's Knowledge Level of Under-five Children with Nutrition in Toddler Nutritional Diet Based on Mother's Age at Puskesmas Ciledug Year 2019

| No | Mother's Age | Frequency | Percentage |
|----|--------------|-----------|------------|
| 1  | < 29 Year    | 49        | 47.1%      |
| 2  | ≥ 29 Year    | 55        | 52.9%      |
|    | Amount       | 104       | 100%       |

Based on table 2 of the frequency distribution above, it shows that of the 104 mothers of children under five at the Ciledug Year 2019 Puskesmas with age <29 years, 50 people (48.1%), while those with age ≥29 years are 54 or (51.9%).

**Education**

Table 3 Distribution of Frequency Relationship between Knowledge Levels of Undernourished Mothers in Toddler Nutritional Intake Based on Education at Puskesmas Ciledug Year 2019

| No | Education | Frequency | Percentage |
|----|-----------|-----------|------------|
| 1  | Low (≤ SMP) | 48        | 46.2%      |
| 2  | High (≥ SMA) | 56        | 53.8%      |
|    | Amount     | 104       | 100%       |

Based on table 3 of the frequency distribution above, it shows that of the 104 mothers of children under five at the Ciledug Year 2019 Public Health Center with education ≤ SMP, 48 people (46.2%), while those who have education ≥ SMA are 56 people or (53.8%).

**Profession**

Table 4 Frequency Distribution of the Relationship of Knowledge Levels of Undernourished Mothers in Toddler Nutritional Intake Based on Profession at Puskesmas Ciledug Year 2019

| No | Profession | Frequency | Percentage |
|----|------------|-----------|------------|
| 1  | Work       | 56        | 53.8%      |
| 2  | Don’t Work | 48        | 46.2%      |
|    | Amount     | 104       | 100%       |

Based on table 4 of the frequency distribution above, it shows that of the 104 mothers of children under five at the Ciledug Health Center in 2019, 56 people (53.8%) worked (53.8%), while 48 people worked (46.2%).

**Income**

Table 5 Distribution of Frequency Relationship with Knowledge Level of Undernourished Mothers in Toddler Nutritional Pattern Intake Based on Income at Puskesmas Ciledug Year 2019

| No | Income      | Frequency | Percentage |
|----|-------------|-----------|------------|
| 1  | Little (< 2,400,000) | 46        | 44.2%      |
| 2  | Great (≥ 2,400,000) | 58        | 55.8%      |
|    | Amount      | 104       | 100%       |

Based on table 5 of the frequency distribution above, it shows that of the 104 mothers of children under five at the Ciledug Year 2019 Public Health Center, 46 people (44.2%) had little income, while 58 people (55.8%) had great income.

**Infectious Diseases**

Table 6 Frequency Distribution of the Relationship between Maternal and Childhood Knowledge Levels with Undernutrition on Intake of Toddler Nutritional Patterns Based on Infectious Diseases at Puskesmas Ciledug Year 2019

| No | Infectious Diseases | Frequency | Percentage |
|----|---------------------|-----------|------------|
| 1  | Yes (cough / runny nose, fever, diarrhea) | 47        | 45.1%      |
| 2  | No                  | 57        | 54.9%      |
|    | Amount              | 104       | 100%       |

Based on table 6 of the frequency distribution above, it shows that of the 104 mothers of children under five at the Ciledug Year 2019 Public Health Center, 47 people (45.1%) had infectious diseases, 57 people (54.9%) had no infectious diseases.

**Utilization of Health Services**

Table 7 Distribution of Frequency Relationship of Knowledge Levels of Undernourished Mothers in Toddler Nutritional Intake Based on Utilization of Health Services at Puskesmas Ciledug Year 2019

| No | Utilization of Health Services | Frequency | Percentage |
|----|--------------------------------|-----------|------------|
| 1  | No (11 – 13 < 3)              | 43        | 41.3%      |
| 2  | Ya (11 – 13 ≥ 3)               | 61        | 58.7%      |
|    | Amount                         | 104       | 100%       |

Based on table 7 of the frequency distribution above, it shows that of the 104 mothers of children under five at the Ciledug Health Center Year 2019 who don’t use health services as many as 43 people (41.3%), and 60 people (58.7%) use health services.

**Bivariate Analysis**

**Mother’s age**
Table 8 Relationship between Mother’s Age and Knowledge Level of Undernourished Mothers in Toddler Nutritional Intake at Puskesmas Ciledug Year 2019

| No | Age      | Knowledge Level of Undernourished Mothers in Toddler Nutrition Intake | Total | P Value | OR (95% CI) |
|----|----------|-------------------------------------------------|-------|---------|-------------|
|    |          | Less, if the score <15 | Good, if the score ≥15 |       |           |
|    |          | Amount (%) | Amount (%) |       |           |
| 1  | < 29 Year| 30 (61.2) | 19 (38.8) | 49 | 100% | 0.111 | 2.039 |
| 2  | ≥29 Year | 24 (43.6) | 31 (56.4) | 55 | 100% | (0.931 - 4.466) |
|    | Total    | 54 (51.9) | 50 (48.1) | 104 | 100% |           |

Based on table 8 of 49 mothers of children under five with Age <29 years, it can be seen that there are 30 people who have less knowledge (61.2%) and those who have good knowledge are 19 people (38.8%). Of the 55 mothers of children under five with age ≥29 years who had less knowledge, 24 people or (43.6%) and those who had good knowledge were 31 people (56.4%).

The results of the chi square statistical test with continuity correction obtained a value of α (P-Value = 5%), meaning that at α = 0.111 shows that No there is a significant relationship between mother's age and the level of knowledge on the nutritional pattern intake of children under five. Analysis of the closeness of the relationship between the two variables obtained OR = 2.039 (95% CI: 0.931 - 4.466). From the OR value it can be concluded that respondents with Age ≥29 years, 2,039 times have a better level of knowledge than mothers under five years of age <29 years.

**Education**

Table 9 Relationship between Education and Knowledge Level of Undernourished Mothers in Toddler Nutritional Intake at Puskesmas Ciledug Year 2019

| No | Education | Knowledge Level of Undernourished Mothers in Toddler Nutrition Intake | Total | P Value | OR (95% CI) |
|----|-----------|-------------------------------------------------|-------|---------|-------------|
|    |           | Less, if the score <15 | Good, if the score ≥15 |       |           |
|    |           | Amount (%) | Amount (%) |       |           |
| 1  | Low (≤SMP)| 28 (58.3) | 20 (41.7) | 48 | 100% | 0.220 | 1.761 (0.806 - 3.847) |
| 2  | High (≥SMA)| 26 (46.4) | 30 (53.6) | 56 | 100% |           |
|    | Total     | 54 (51.9) | 50 (48.1) | 104 | 100% |           |

Based on table 9 above, of the 48 mothers of children under five with Low education (≤ SMP) who have less knowledge, 28 people (58.3%), and 20 mothers with low education (≤ SMP) who have good knowledge (41.7 %). Of the 56 mothers under five who had high education (≥ SMA), 26 had less knowledge (46.4%), and 30 people had good knowledge (53.6%).

The results of the chi square statistical test with continuity correction obtained a value of α (P-Value = 5%), which means that at α = 0.220, it shows that No there is a relationship between maternal education and the level of maternal knowledge on the intake of toddler nutrition patterns. Analysis of the closeness of the relationship between the two variables obtained OR = 1.761 (95% CI: 0.806 - 3.847). From the OR value, it can be concluded that mothers under five with High education (≥SMA), 2 times have a better level of knowledge compared to mothers under five with Low education (≤SMP).

**Profession**

Table 10 The Relationship between Profession and Knowledge Level of Undernourished Mothers in Toddler Nutritional Intake at Puskesmas Ciledug Year 2019

| No | Profession | Knowledge Level of Undernourished Mothers in Toddler Nutrition Intake | Total | P Value | OR (95% CI) |
|----|------------|-------------------------------------------------|-------|---------|-------------|
|    |            | Less, if the score <15 | Good, if the score ≥15 |       |           |
|    |            | Amount (%) | Amount (%) |       |           |
| 1  | Work       | 35 (62.5) | 21 (37.5) | 56 | 100% | 0.020 | 2.747 (1.240 - 6.089) |
| 2  | Don’t Work | 19 (39.6) | 29 (60.4) | 48 | 100% |           |
|    | Total      | 54 (51.9) | 50 (48.1) | 104 | 100% |           |
Based on table 10 of 56 mothers under five who work, have less knowledge as many as 35 people (62.5%) and those who have good knowledge are 21 people or (37.5%). Of the 48 mothers under five who work No have less knowledge as many as 19 people or (39.6%) and those who have good knowledge are 29 people (60.4%).

The results of the chi square statistical test with continuity correction are obtained by the value of α (P-Value = 5%), meaning that at α = 0.020 shows that there is a relationship between Profession and the level of knowledge on the nutritional pattern intake of children under five. Analysis of the closeness of the relationship between the two variables obtained OR = 2.747 (95% CI: 1.240 - 6.089). From the OR value it can be concluded that mothers under five who work No, have 3 times the level of knowledge better than mothers under five who work.

Income

Based on table 11 of the 46 mothers of children under five who received Little income had less knowledge as many as 30 people (65.2%) and those who had good knowledge were 16 people or (34.8%). Of the 58 mothers of children under five who had an income great had less knowledge as many as 24 people or (41.4%) and those who had good knowledge were 34 people (58.6%).

The results of the chi square statistical test with continuity correction obtained a value of α (P-Value = 5%), which means that at α = 0.041, it shows that there is a relationship between profession and the level of knowledge on the nutritional pattern intake of children under five. Analysis of the closeness of the relationship between the two variables obtained OR = 2.475 (95% CI: 1.113 - 5.502). From the OR value, it can be concluded that mothers under five who received great income, 2.475 times had a better level of knowledge than mothers under five who had little income.

Infectious Diseases

Based on table 12 of 47 mothers under five who had infectious diseases had less knowledge as many as 30 people (63.8%) and those who had good knowledge were 17 people or (36.2%). Of the 57 mothers under five who had No Infectious Diseases, 24 people had less knowledge or (42.1%) and 33 people had good knowledge (57.9%).

The results of the chi square statistical test with continuity correction obtained a value of α (P-Value = 5%), meaning that at α = 0.026 showed that there was a relationship between infectious diseases and
the level of knowledge on the nutritional pattern intake of children under five. Analysis of the closeness of the relationship between the two variables obtained OR = 2,664 (95% CI: 1,197–5,931). From the OR value, it can be concluded that mothers under five with No Infectious Diseases, 3 times had a better level of knowledge than mothers under five with Infectious Diseases.

Utilization of Health Services

Table 13 Relationship between Utilization of Health Services and Knowledge Level of Undernourished Mothers in Toddler Nutritional Intake at Puskesmas Ciledug Year 2019

| No | Utilization of Health Services | Knowledge Level of Undernourished Mothers in Toddler Nutritional Intake | Total | P Value | OR (95% CI) |
|----|--------------------------------|-------------------------------------------------|-------|---------|-------------|
|    |                                | Less, if the score <15                          | Good, if the score ≥15 |       |            |
|    |                                | Amount (%) | Amount (%) |       |            |
| 1. | No (11 – 13 ≤ 3)               | 29 (67.4)  | 14 (32.6)  | 43    | 100%       | 0.038       | 2.528 (1.129–5.659) |
| 2. | Ya (11 – 13 ≥ 3)               | 25 (41.0)  | 36 (59.0)  | 61    | 100%       |             |               |
| Total|                               | 54 (51.9)  | 50 (48.1)  | 104   | 100%       |             |               |

Based on table 13 out of 43 mothers under five who use health services, 29 people have less knowledge (67.4%) and 14 people have good knowledge or (32.6%). Of the 61 mothers under five who took advantage of health services, as many as 25 people or (41.0%) had less knowledge and 36 people (59.0%) had good knowledge.

The results of the chi square statistical test with continuity correction obtained a value of α (P-Value = 5%), meaning that at α = 0.038 showed that there was a relationship between infectious diseases and the level of knowledge on the nutritional pattern intake of children under five. Analysis of the closeness of the relationship between the two variables obtained OR = 2.528 (95% CI: 1.129–5.659). From the OR value, it can be concluded that mothers under five who use health services are 3 times better at knowledge levels than mothers under five who use health services.

Statistical Test Results

Table 14 Bivariate Statistical Test Results

| The variables studied | P Value | α | Information |
|-----------------------|---------|---|-------------|
| Mother’s age          | 0.111   | 0.05 | There is not a relationship |
| Education             | 0.220   | 0.05 | There is not a relationship |
| Profession            | 0.020   | 0.05 | There is a relationship |
| Income                | 0.041   | 0.05 | There is a relationship |
| Infectious Diseases   | 0.026   | 0.05 | There is a relationship |
| Utilization of Health Services | 0.038 | 0.05 | There is a relationship |

Discussion

Knowledge Level of Undernourished Mothers on Nutritional Pattern Intake

Numbers of Maternal Knowledge Level on Nutritional Diet Intake at Puskesmas Ciledug Year 2019 are 54 people or 51.9%, good sources Knowledge Level of Undernourished Mothers on Nutrition Intake for Toddlers is 50 people or 48.1% of all toddlers as many as 140 in Year 2019.

Knowledge and experience will shape a person's attitude. Therefore knowledge is the initial phase of the decision where ultimately a person will act like the knowledge he has acquired. The level of nutritional knowledge of a person affects attitudes and behavior in food selection which in turn will affect the nutritional state of the individual concerned. The higher the level of knowledge of a person's nutrition, it is expected that the better the nutritional condition.

One of the results of her research shows that maternal knowledge about nutrition is a risk factor for malnutrition in children under five at Mandonga Health Center Year 2008. Maternal knowledge about adequate nutrition will help mothers, especially in terms of fulfilling nutrition for toddlers and families, will be fulfilled.

Relationship between Mother’s age and Knowledge Level of Undernourished Mother in Toddler Nutritional Intake

Based on the bivariate analysis, it is known that from 49 mothers of children under five with Age ≤ 29 years, it can be
seen that there are 30 people who have less knowledge (61.2%) and those who have good knowledge are 19 people or (38.8%). Of the 55 mothers of children under five with age ≥ 29 years who had less knowledge, 24 people or (43.6%) and those who had good knowledge were 31 people (56.4%).

The results of the chi square statistical test with continuity correction obtained a value of α (P-Value = 5%), which means that at α = 0.111 shows that No there is a significant relationship between mother's age and the level of knowledge on the nutritional pattern intake of toddlers. Analysis of the closeness of the relationship between the two variables obtained OR = 2.039 (95% CI: 0.931–4.466). From the OR value it can be concluded that respondents with Age ≥ 29 years, 2,039 times have a better level of knowledge than mothers under five years of age <29 years. From the OR value, it can be concluded that respondents with Age ≥ 29 years, 2,039 times have a better level of knowledge than mothers of children under age ≤ 29 years.

Age affects the formation of abilities, because the abilities they have can be obtained through daily experiences outside the education factor. Age of parents, especially mothers who are relatively young, tend to prioritize their own interests. Most of the mothers who are still young have very little knowledge about nutrition and experience in caring for children.

This is in line with research which states that most young mothers have very little knowledge of nutrition and experience in parenting. The results of the Spearman Rank correlation test showed that there was a relationship between the mother's age of toddlers and the nutritional knowledge of the toddler's mother (rs = 0.181 p = 0.227).

This study No is in line with the opinion that mother's age has a significant influence on the nutritional status of children under five, where younger mothers (≤ 29 years) have a 3 times greater chance of having children under five with a good nutritional status when compared to mothers who are older (p = 0.004, OR = 0.32).

The Relationship between Education and Knowledge Level of Undernourished Mothers in Toddler Nutritional Intake

Based on the bivariate analysis, it is known that 48 mothers of children under five with Low education (≤ SMP) have less knowledge as many as 28 people (58.3%), and mothers with low education (≤ SMP) who have good knowledge are 20 people (41.7%). Of the 56 mothers of children under five who had high education (≥ SMA), 26 had less knowledge (46.4%), and 30 people had good knowledge (53.6%).

The results of the chi square statistical test with continuity correction obtained a value of α (P-Value = 5%), which means that at α = 0.220, it shows that No there is a relationship between maternal education and the level of maternal knowledge on the intake of toddler nutrition patterns. Analysis of the closeness of the relationship between the two variables obtained OR = 1.761 (95% CI: 0.806 - 3.847).

From the OR value, it can be concluded that mothers of toddlers with High education (≥ SMA) have twice the level of knowledge compared to mothers of toddlers with Low education (≤ SMP).

The level of education taken by mothers of toddlers will affect the receipt of messages and information on nutrition and children's health. Mothers with a high level of education are more likely to receive messages about nutrition and children's health.

The Relationship between Profession and Knowledge Level of Undernourished Mothers in Toddler Nutritional Diets

Based on the bivariate analysis, it is known that 56 mothers of children under five who work, have less knowledge as many as 35 people (62.5%) and who have good knowledge as many as 21 people or (37.5%). Of the 48 mothers under five who work No have less knowledge as many as 19 people or (39.6%) and those who have good knowledge are 29 people (60.4%).
The results of the chi square statistical test with continuity correction are obtained by a value of $\alpha$ (P-Value = 5%), meaning that at $\alpha = 0.020$ shows that there is a relationship between profession and the level of knowledge on the nutritional pattern intake of children under five. Analysis of the closeness of the relationship between the two variables obtained OR = 2.747 (95% CI: 1.240 - 6.089).

From the OR value it can be concluded that mothers under five who work No, have 3 times the level of knowledge better than mothers under five who work. Parents' profession also determines nutritional adequacy in a family. Profession is related to the amount of salary received. The higher the position, the higher the income received, and the greater the amount of money spent to meet nutritional adequacy in the family.

This is in line with research conducted through correlation testing, which shows a positive and very significant relationship between family income and nutritional status of children under five. Low income affects the intake of food consumed because their income is limited. Previous research results showed a significant correlation between family income and nutritional status (p = 0.024).

**The Relationship between Infectious Diseases and Knowledge Level of Undernourished Mothers in Toddler Nutritional Diets**

Based on the bivariate analysis, it was found that from 47 mothers under five who had infectious diseases had less knowledge as many as 30 people (63.8%) and who had good knowledge were 17 people or (36.2%). Of the 57 mothers under five who had No Infectious Diseases, 24 people had less knowledge or (42.1%) and 33 people had good knowledge (57.9%).

The results of the chi square statistical test with continuity correction obtained a value of $\alpha$ (P-Value = 5%), meaning that at $\alpha = 0.026$, it showed that there was a relationship between infectious diseases and the level of knowledge on the nutritional pattern intake of children under five. Analysis of the closeness of the relationship between the two variables obtained OR = 2.664 (95% CI: 1.197 - 5.931).

From the OR value, it can be concluded that mothers under five with No Infectious Diseases, 3 times had a better level of knowledge than mothers under five who had little income.

This is in line with research conducted through the Spearman correlation test, which shows a positive and very significant relationship between family income and nutritional status of children under five. Previous research results showed a significant correlation between family income and nutritional status (p = 0.024).
Based on the bivariate analysis, it is known that from 43 mothers under five who use health services, 29 people (67.4%) have less knowledge and 14 people (32.6%) have good knowledge. Of the 61 mothers under five who took advantage of health services, as many as 25 people or (41.0%) had less knowledge and 36 people (59.0%) had good knowledge.

The results of the chi square statistical test with continuity correction obtained a value of α (P-Value = 5%), meaning that at α = 0.038 showed that there was a relationship between infectious diseases and the level of knowledge on the nutritional pattern intake of children under five. Analysis of the closeness of the relationship between the two variables obtained OR = 2.528 (95% CI: 1.129-559).

From the OR value, it can be concluded that mothers under five who use health services are 3 times better at knowledge levels than mothers under five who use health services.

Health care resources, lack of education and knowledge are obstacles for the community and families to make good use of the available health services. This has an impact on the nutritional status of the child.

**Conclusion**

There is a significant relationship between Profession, Income, Infectious Diseases, Utilization of Health Services and the level of maternal knowledge on the nutritional pattern intake of children under five.

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