

Correlation Among Education, Knowledge, And Economics of Mother Toward Antipyretic Drug Usage for Toddler In Kangkung Village, East OKU, South Sumatra 2017

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Abstract

Fever is a symptom mostly happen with all diseases which condition shows elevated body temperature above normal (38 °C) that are common among toddler. Handling fever using antipyretics should be considered related to the rationale of its use. Rationality aspect which include indication accuracy, precision of medicine, patient accuracy, dosage accuracy and precision of administration, and as well as alert to side effects. Handling fever in toddlers is very dependent on the role of parents especially mother. Different maternal education, knowledge, and economics will result in the rationale of the use of different antipyretic drugs. This study aimed to investigate whether there is relation among education, knowledge, and economics of mother toward antipyretic drug usage for toddler in Kangkung Village OKUT SUMSEL 2017 by using cross sectional design. The sample was collected using simple random sampling to get 47 samples which fulfilled the inclusion criteria. The data were collected by interview based on questionnaire and analyzed by Chi-Square test using SPSS version 23.0. The data presented descriptively showed most of the respondents were highly educated (66%), high knowledge (61.7%), and low economic level (93.6%) and the rational use of antipyretic for toddler were 100% for appropriate drug indication, precision of medicine, patient appropriateness, and alert for side effects, as well as 31.9% dosage precision and mode of administration. The result of Chi-Square test showed that the p value for education level ($p > 0.05$) and economic level ($p > 0.05$) had no significant correlation, meanwhile the knowledge level ($p < 0.05$) showed significant different to the rational use of antipyretic for toddler. It can be concluded that the knowledge toward of mother affect the rational use of antipyretic for toddler in Kangkung village OKUT regency SUMSEL 2017.

Keywords

level of education, level of knowledge, level of economic, antipyretic for toddler, rational treatment

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1. Introduction

According to Kania (2007), 10-30% of patients visiting the doctor's practice or pediatric intensive care unit were fever patients. Therefore, fever in children is the most often complained of by parents. Fever is an increase in body temperature from the normal range associated with increasing the set point temperature in the hypothalamus (Dinarello and Gelfand, 2005). The normal body temperature is 37 °C (98.6 °F) and it is generally accepted that rectal temperature ≤ 38 °C (100 °F) can be said to be feverish. Fever usually occurs in response to infection or inflammation due to tissue injury or disease. There are also other possible causes of fever, including drugs, toxins, cancer, heat exposure, injury or brain abnormalities, and endocrine system diseases (hormonal or glandular) (Davis, 2012).

Antipyretic is a drug that can lower body temperature, from

high body temperature to normal temperature. The antipyretic drugs that can be used are paracetamol, ibuprofen, and asetosal (Harahap, 2015). Paracetamol is an analgesic-antipyretic drug that is often given to children and is very safe when used at a dose of 50 to 100 mg in one dose, but if the doses are too high it will cause liver damage. The new study found, paracetamol is the leading cause of liver failure in children in Australia and New Zealand. The researchers identified 54 cases of liver failure in two child hospitals between 2002 and 2012, 14 of these cases were associated with a paracetamol overdose on doses over 4 g daily, and 12 of them were children under the age of five. While the number of childhood cases of liver damage is still low, the researchers urged a review of the practice safety in the use of paracetamol (Apparovo, 2012).

Treatment can be said true, if treatment is done rationally.

Rational aspect which include indication accuracy, precision of medicine, patient accuracy, dosage accuracy and precision of administration, and as well as alert to side effects. According to Notoadmodjo (2007) all activities of organisms or living things are called behaviors, thus rational treatment is a behavior of the officers concerned in medicine, in this case the mother. Factors that influence behavior are predisposing factors (age, educational level, economy, knowledge), enabling factors (facilities and infrastructure), and reinforcing factors (influences from the environment).

2. Experimental Section

2.1 Population

The population of this study is all mothers who have children under 5 years who had a fever and using antipyretic drugs in the Village Kangkung OKU East South Sumatera.

2.2 Sample

The number of samples is taken by simple random by using the formula (Notoadmodjo, 2007).

$$n = \frac{N}{1 + N(d)^2} \quad (1)$$

$$n = \frac{54}{1 + 54(0.050^2)} = 47 \quad (2)$$

Where N is the large of the population, n is sample size, and d is the desired confidence level of precision 0.05. Based on the calculation with the above formula, the number of samples required for this study was 47 mothers.

2.3 Inclusion and Exclusion Criteria

2.3.1 Inclusion Criteria

1. Living in Kangkung Village
2. Can communicate well
3. Have children under 5 years who have had fever and use antipyretic drugs
4. Willing to be a respondent

2.3.2 Exclusion Criteria

1. Do not live in Kangkung Village
2. Unable to communicate well or have a mental disorder
3. Have a child under 5 years who had a fever, but did not use antipyretic drugs
4. Not willing to be a respondent

2.4 Operational Definition

2.4.1 Dependent Variables

The antipyretics use of toddlers rationally.

- Definition : Drugs that are meet 5 criteria
- Measuring tool : Questionnaire
- Measures: Interview
- Measuring scale : Ordinal

- Measurement Results :

1. Rational if 5 criteria was fulfilled
2. It is irrational if one is not met

2.4.2 Independent Variables

Education

- Definition: The last education mother in Kangkung Village OKU Timur South Sumatera Year 2017
- Measuring tool : Questionnaire
- Measures : Interview
- Measuring scale : Ordinal
- Measurement results:
 1. Low (if education \leq Junior High School)
 2. High (if education $>$ Junior High School)

Knowledge

- Definition: Mother's knowledge of ripe antipiretik toddler usage rationally
- Measuring tool : Questionnaire
- Measures : Interview
- Measuring scale : Ordinal
- Measurement results :
 1. Knowledge low less from 70%
 2. High knowledge of more than 70%

Economics

- Definition : Earnings are obtained per month
- Measuring tool : Questionnaire
- Measures : Interview
- Measuring scale : Ordinal
- Measurement results :
 1. Low (if \leq Rp 2.206.000)
 2. High (if $>$ Rp 2.206.000)

2.5 Data Collection

2.5.1 Primary Data

Primary data is data obtained from the distribution of questionnaires to the mothers in Kangkung Village OKUT District South Sumatera in 2017 includes education, knowledge, and the mother's economy on the use of antipiretik toddler drugs rationally.

2.5.2 Secondary Data

Secondary data is supporting data taken from books, journals, and website theoretically about the usage of antipiretik toddler in a rational and variable (education, knowledge, and economy).

2.6 Data Analysis

The data has been processed, then analyzed using SPSS® (Statistical Package for the Social Sciences) version 23.0. Data analysis conducted, among others, as follows:

2.6.1 Univariate Analysis

The analysis was conducted to determine the frequency distribution of each independent variable (education, knowledge, and economy) and dependent variable (rational antipyretic toddler usage), and to explain or describe the characteristics of each of the variables studied.

Table 1. Characteristic of Respondents

Independent Variable	Percentage	Frequency	Total
	Low	High	
Education	16 (34%)	31 (66%)	47 Respondents
Knowledge	18 (38,3%)	29 (61,7)	47 Respondents
Economics	44 (93,6)	3 (6,4%)	47 Respondents

2.6.2 Bivariate Analysis

The analysis was conducted to determine the correlation between independent variables (knowledge, education, and economy) and dependent variable (random antipyretic drug usage) using Chi-square test with contingency table 2 x 2 on computerized system and significance level at α 0.05 if there is a relation between independent variable and dependent variable and if p value $>$ α value (0,05), then there is no relation between independent variable and dependent variable (Notoadmodjo, 2007).

3. Results and Discussion

3.1 Characteristics of Education, Knowledge, and Economics of Respondents

The result of the characteristic of education, knowledge, and economic of the respondent of this research is presented in the Table ??.

3.2 Analysis of Rationalization of Antipyretic Toddler Drug Use Indication accuracy, Precision of medicine, Patient accuracy, Dosage accuracy and precision of administration, Alert to side effects

Indication accuracy is the accuracy of antipyretic use on the basis of established diagnosis. The diagnosis in this study was obtained from respondents who had previously received diagnosis information from the village midwife. The overall conclusion of the analysis of the rationale of the use of antipyretic drugs for children under five in Kangkung Village consisted of 100% indication accuracy (T1), 100% precision of medicine (T2), patient accuracy (T3) (T4) of 31.9% dosage accuracy and precision of administration, and alert to side effects (W) of 100% can be seen in Figure 1.

The results showed that as many as 15 respondents (31,9%) who in this case is the mother is appropriate in providing pharmacological treatment by giving the drug in accordance with the dose, and effective for children. However, more than half of respondents were 32 respondents (68,1%) who did not know how to dose the right drug for children. The inaccuracy occurs because the dose of the drug is given less than the standard dose or the usual dosage. If the given dose is less than or exceed the standard dose, then it is said to be inaccurate dose. If the dose given is less than the standard dose, then the effect of therapy will be longer achieved, so the treatment process will take a long time. However, if excessive doses are given, especially for drugs with a narrow range of therapies, it is very risky for

toxic effects Depkes (2006). According to Gunawan (2007), excessive paracetamol administration will cause hepatotoxic and analgesic nephropathy.

3.3 Analysis of Maternal Education, Knowledge and Economics of Antipyretic Drug Usage for Toddler

3.3.1 Correlation Maternal Education with Antipyretic Drugs Rationally

Chi-Square test results show that the expected frequency value is eligible, that is, none of the cells have expected frequencies less than 5, and a minimum expectation value of 5.11. The probability value obtained is 0,085 which means p value $>$ α value (0,05), so it can be concluded that there is no significant correlation between educational level toward antipyretic drug usage rationally in Kangkung Village. This case is not in accordance with the theory Notoadmodjo (2003) which states that the higher level of education a person, the higher the level of knowledge. That is, if the level of higher education then it should be higher the level of rational treatment. However, in this study the high or low level of education of mothers in the village of Kangkung, does not affect the pattern of antipyretic toddler usage.

3.3.2 Correlation Maternal Knowledge with Antipyretic Drugs Rationally

Chi-Square test results show that none of the cells have an expected value of less than 5 with a minimum expectation grade of 5.74. The resulting probability value is 0.006 which means p value $<$ value α (0.05), so it can be concluded that there is a significant relationship between the level of knowledge on the rational use of antipyretic drug under five in the Village Kangkung. Based on the percentage of questionnaires about the level of knowledge of mothers in the village of Kangkung, the majority of respondents did not know the characteristics of fever correctly. Respondents did not know the child's normal body temperature, so it tends to give antipyretics at <38 °C. This case is in accordance with research conducted by Her-mawati (2012) who get 30% of parents do not know the normal body temperature, so wrong in terms of use of antipyretics.

Notoadmodjo (2003) states that the level of education is one of the factors that affect knowledge. A person who is more educated, will have a wider knowledge than someone with a lower level of education. The results showed that mothers in Kangkung village had higher knowledge level than low knowledge level. However, when viewed in terms of age, all respondents are relatively young with age under 35 years, it also affects their knowledge of rational treatment. In accordance with the theory of Wawan and Dewi (2010) which states that factors that can also affect the level of knowledge is age, environmental and socio-cultural. The increasing age of a person then the knowledge is also increasing. Therefore, because of the young age, more than half of respondents are as many as 32 respondents are not rational in the use of antipiretik toddlers in the village of Kangkung.

Based on the prevalence ratio value seen from the For

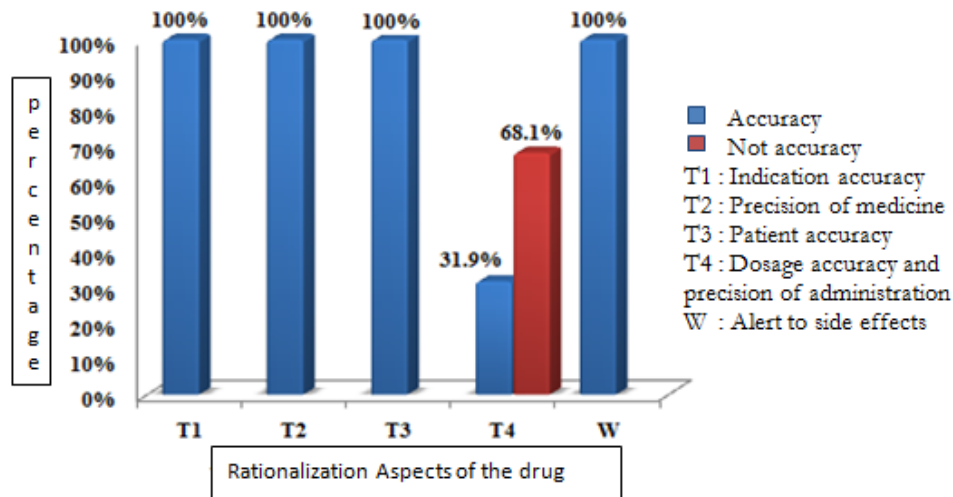


Figure 1. Analysis of the rationale of the use of antipyretic drugs for children under five in Kangkung Village

Cohort section value. The resulting value of 0.115, which means that the high level of knowledge of mothers will tend to use the antipyretic toddler drug rationally 0.115 times greater than the mother who has a low level of knowledge. The 95% confidence interval range (<1), so the maternal knowledge level factor can be summed up as a factor influencing the rational use of antipyretic drugs.

3.3.3 Correlation Mother's Economy with Antipyretic Drug Rationally

The result of Chi-square test of correlation mother's economy to rational antipyretic drug usage showed that there are 2 cells or there are 50% cells that have a frequency of less than 5 and a minimum expectation frequency of 0.96. The value of the probability is 0.487 which means p value $> \alpha$ value (0,05), so it can be concluded that there is no significant relationship between economic level to antipyretic toddler usage. Based on the survey that has been done, the majority of people in the village of Kangkung have a low economic level. Only 3 out of 47 respondents who have high economic levels and one of them is still not rational in the use of antipyretic drugs under five.

In this study, the results obtained are not in accordance with the theory of the Depkes (2000) which states that the role of economic status in health is very influential on one's health and tends to have a fear of the cost of health, care and delivery. Therefore, the economic status of the mother is very influential on the quality of children's health, where if the mother's economic status is high then it will tend to do a rational treatment without thinking about cost. The case will occur if the treatment is a doctor's treatment with prescription which will be dispensed by pharmacy. A person with a high economic level, will get drugs with prescription, but if the low level of economy likely only get as necessary (not according to recipe),

so it can be said to affect the rational treatment. However, in this research, all villagers went to the village midwife, so the cost incurred would be in accordance with the economic level of the community in the village of Kangkung with the priority of rational treatment. Therefore, there is no relationship between maternal economic level with the use of antipyretic drug under five in Kangkung Village.

4. Conclusions

There is no significant correlation between maternal education and maternal economics with rational antipyretic drug. High or low level of mother education or mother knowledge does not affect of antipyretic toddler usage rationally. The health service provided in Kangkung Village has been adjusted to the economic condition of the community, so that both the high economic community or low will get the same treatment. But, there is a significant correlation between mother's knowledge with rational antipyretic drug usage in Kangkung Village, East OKU district, South Sumatra in 2017. Mothers who have a high level of knowledge will tend to use the antipyretic toddler drug rationally 0.115 times greater than the mother who has a low level of knowledge.

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