Artikel Penelitian

HUBUNGAN PENDIDIKAN, PEKERJAAN, DAN USIA IBU DENGAN KELENGKAPAN IMUNISASI DASAR PADA BALITA DI PUSKESMAS KUOK - RIAU PERIODE JANUARI -JUNI 2013

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Abstrak

Imunisasi mencegah beberapa penyakit berbahaya bagi anak-anak. Kelengkapan imunisasi dasar dipengaruhi oleh beberapa faktor. Penelitian ini bertujuan untuk mengetahui hubungan antara pendidikan, pekerjaan, dan usia ibu dengan kelengkapan imunisasi dasar. Jenis penelitian ini adalah deskriptif kuantitatif analitik dengan metode cross sectional. Penelitian ini dilaksanakan pada bulan Juli 2013 di Puskesmas Kuok-Riau. Jumlah sampel adalah 75 dan dipilih secara non-probability sampling. Status imunisasi pada usia 30 tahun, 67,3% menyelesaikan imunisasi dasar dan 32,7% tidak menyelesaikan imunisasi dasar. Untuk ibu usia 30 tahun, 30,4% menyelesaikan imunisasi dasar dan 69,68% tidak menyelesaikan imunisasi dasar. Untuk ibu dengan pendidikan <9 tahun, 37,9% tidak tamat dan 62,1% tamat. Untuk ibu dengan pendidikan 12 tahun, 67,4% lulus dan 32,6% tidak lulus. Untuk ibu bekerja, 68,3% menyelesaikan dan 31,7% tidak. Ibu rumah tangga, 41,2% menyelesaikan dan 58,8% tidak. Hasil analisis korelasi dengan uji Chi-Square diperoleh p-value 0,005 (p<0,05), pendidikan dengan imunisasi, p-value 0,017 (p<0,05), status pekerjaan dengan imunisasi, p-value 0,022 (p<0,05). Ada hubungan antara status pendidikan ibu, status pekerjaan ibu, dan usia ibu dengan status imunisasi.

Kata kunci: Usia, Pendidikan, Pekerjaan, Status Imunisasi

THE CORRELATION OF EDUCATION, WORK, AND MOTHER'S AGE WITH THE COMPLETENESS OF BASIC IMMUNIZATION IN TODDLERS AT PUSKESMAS KUOK -RIAU IN THE PERIOD OF JANUARY - JUNE 2013

Abstract

Immunization prevents some dangerous diseases for children. The completeness of basic immunization is influenced by several factors. This study aims to determine the relationship between education, occupation, and maternal age with the completeness of basic immunization. This type of research is descriptive quantitative analytic with the cross-sectional method. This research was conducted in July 2013 at the Kuok-Riau Public Health Center. The number of samples is 75 and selected by non-probability sampling. Immunization status at the age of 30, 67.3% completed basic immunization and 32.7% did not complete basic immunization. For mothers aged 30 years, 30.4% completed basic immunization and 69.68% did not complete basic immunization. For mothers with education <9 years, 37.9% did not graduate and 62.1% graduated. For mothers with 12 years of education, 67.4% graduated and 32.6% did not graduate. For working mothers, 68.3% completed and 31.7% did not. Housewives, 41.2% completed and 58.8% did not. The results of correlation analysis with Chi-Square test obtained p-value 0.005 (p<0.05), education with immunization, p-value 0.017 (p<0.05), work status with immunization, p-value 0.022 (p<0 ,05). There is a relationship between maternal educational status, maternal employment status, and maternal age with immunization status.

Keywords: Age, Education, Work, Immunization Status

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Introduction

In essence, health development is the implementation of health efforts for every population so that optimal public health can be realized. One of the efforts to achieve this situation is to reduce the morbidity and mortality rates for infants and toddlers. The immunization development program is one of the prioritized activities in the national health system. Infants are children under 1 year of age. This program aims to protect infants and toddlers from PD3I (a disease that can be prevented by immunization), namely Diphtheria, Pertussis, Tetanus, Tuberculosis, Measles, Poliomyelitis, and Hepatitis B [(1)].

Based on the source of the data on surveillance of PD3I and immunization in Indonesia, there were 18,055 cases of measles in 2009, while from 2010 to June there were 5390 cases. The incidence of diphtheria in 2009 for less than 1 year of age was 0.011 per 10,000 population, aged 1-4 years was 0.021 per 10,000 population, aged 5-14 years was 0.015 per 10,000 population. Neonatal Tetanus cases in 2009 in Indonesia were 158 cases, while from 2010 to June there were 45 cases. It is estimated that PD3I is the cause of approximately 48 infant deaths and 56 under-five deaths per 1000 live births within one year [(2)].

In Central Java, PD3I cases often lead to extraordinary events (KLB). In 2005 outbreaks of acute flaccid paralysis (AFP) were found in 65 villages with 104 children, Measles occurred in 449 villages as many as 801 patients, Diphtheria in 36 villages as many as 46 patients. The death rate in cases of outbreaks in Central Java caused by neonatal tetanus is 22% [(3)].

According to data from the Riau Provincial Health Office, the number of measles sufferers in Riau is still high, reaching 521 cases from 2011 to October. Most cases of measles are found in the border areas of Riau and West Sumatra, namely the Kuantan Sengingi Regency, Kampar Regency, Rokan Hulu Regency, which is the border area with North Sumatra. The inhibiting factor that causes the unequal distribution of infants who receive immunization in Riau, is due to the location of areas in Riau which are far from each other [(2)].

Adverse reactions known as post-immunization follow-up events (AEFI) or adverse events following immunization (AEFI) are all illness events that occur after receiving immunization. The incidence rate of anaphylactoid reactions is estimated to be 2 in 100,000 doses of DPT which are truly anaphylactic reactions in only 1-3 cases out of 1 million doses. Older children and adults have more syncope, sooner or later. Hypotonic/hyporesponsive episodes are also not uncommon, generally occurring 4-24 hours after. Severe cases of AEFI polio can occur in 1 / 2.4 million doses of vaccine (CDC Vaccine Information Statement 1/1/2000), while cases of AEFI hepatitis B in children can be mild to moderate fever, occur in 1/14 of the vaccine dose, and adults. 1/100 of the dose (CDC Vaccine Information Statement 8/23/2000). Cases of measles AEFI in the form of fever occur in 1/6 of the dose which occurs in 20% of children, mild skin rash 1/20 of the dose which occurs in 24% of children, seizures caused by fever, 1/3000 dose, serious allergic reactions of 1 / 1,000,000 doses, and a serious side effect of encephalopathy occurs in 1 in 2 million doses of the measles vaccine [(3)].

The reactions that occur after immunization can cause fear in the mother so that the child does not receive complete immunization. This will not happen if the mother has a good knowledge of immunization side reactions. When viewed from the causes of death, actually most babies and children do not need to die, especially from infectious diseases, because all of these can be prevented by immunization. Diphtheria, pertussis, tetanus, polio, and measles vaccines were 80%, 60-90%, 90%, 92%, and 95%, respectively.

Groups of people who are low in acceptance of immunization often have special characteristics such as socioeconomic status and low levels of education. Completeness of basic immunization was influenced by maternal knowledge ($p = 0.006$), number of children ($p = 0.001$), maternal occupation ($p = 0.008$), maternal education ($p < 0.001$) [(4)]. Factors that affect the completeness of basic immunization include the mother's level of knowledge, distance from home to the puskesmas, mother's knowledge, and mother's motivation [(5)]. and there is no significant relationship

between the mother's characteristics (education, employment status) and the immunization status of her child [6].

Based on the data above, the researchers are interested in researching the relationship between education, occupation, and maternal age with the completeness of basic immunizations for children under five at Puskesmas Kuok-Riau, January-June 2013 period.

Method

This research is a descriptive-analytic study with a quantitative method using a cross-sectional approach. This research was conducted in August 2013 and took place at Puskesmas Kuok-Riau. The population of this research is all children under five who have done the immunization program during the period January-June 2013. In this study, the samples taken are those that meet the following inclusion criteria: Mothers who have children under five who come to the Puskesmas, are willing to take part in the study, complete data.

The sampling technique in this study was determined using non-probability sampling. The number of samples obtained from the formula above is 71. The independent variables in this study are education, occupation, and maternal age. Meanwhile, the dependent variable is the completeness of basic immunization.

The data used in this study are primary data from the KMS (Kartu Menuju Sehat) which is owned by the mother to find out the completeness of basic immunization, as well as the form that must be filled in by the mother to find out the education, occupation, and age of the mother and secondary data regarding the list of names of toddlers who do immunization at Puskesmas Kuok-Riau, January - June 2013 period.

The research instrument used in this study was the mother's KMS (Kartu Menuju Sehat) to find out the completeness of basic immunization, a form regarding the mother's data, and a list of names of toddlers who immunized at Puskesmas Kuok-Riau, January - June 2013 period. used in analyzing all the data collected was using the SPSS version 15 program, the chi-square statistical test, and presented in tabular form. The p-value is said to be significant if $p < 0.05$, so the null hypothesis is rejected. The value of the Prevalence Ratio (RP) can be found using the formula and the value of the Confidence Interval (CI) of 95% ($\alpha = 0.05$).

Results

Data were collected in August 2013 at Puskesmas Kuok-Riau. This study took primary data from KMS (Kartu Menuju Sehat) in January-June 2013 and also from filling out questionnaires. In this study, 75 mothers carried out basic immunizations for their babies.

Table 1. Distribution and Characteristics of Respondents

Variable	Number of Respondents	(%)
Age		
≤ 30 years	52	26.9
> 30 years	23	73.1
Education		
< Senior high school	29	38.7
≥ Senior high school	46	61.3
Job		
Unemployment	34	45.3
Employment	41	54.7
Total	**75**	**100**

The results of the study were the majority of mothers aged 20-30 years old were 52 people (69.3%). The majority of mothers have high school education (Senior High School) 46 people (61.3%). The majority of mothers were work (54.7%). Based on table 1 of 75 respondents studied at Puskesmas Kuok-Riau, it can be described that the majority of respondents did not work, namely as housewives as many as 34 respondents (45.3%) and respondents who worked as many as 41 respondents (54.7%).

Of the 75 respondents studied at Puskesmas Kuok-Riau, it can be described that respondents who did complete basic immunization were 42 respondents (56%) and respondents who did not complete basic immunization were 33 respondents (44%). The distribution of respondents based on age and immunization status showed that respondents who did complete immunization were mostly aged 20 to 30 years, namely 35 (67.3%) of respondents and those who did not complete immunization were mostly the age

group of 31 - 40 years as many as 16 (69, 68%) of respondents.

Table 2. Distribution and Analysis of Age Groups with immunization status

Age Category	Immunization status		Total
	Incomplete	Complete	
≤ 30 years	17 (32.7%)	35 (67.3%)	52 (100%)
> 30 years	16 (69.68%)	7 (30.4%)	23 (100%)
Total	33 (44%)	42 (56%)	75 (100%)

p = 0.005 (P<0.05), PR = 0.213 (CI 95% = 0.074-0.614)

From the calculations using the Chi-Square analysis, the results show that the mother's age with immunization status has a value of p = 0.005. This value indicates that p less than 0.05, and the correlation value r = 0.34, it means that there is a relationship between maternal age with under-five immunization status at Puskesmas Kuok-Riau. Then, the results show that PR value 0.213 (PR <1) (95% CI = 0.074 -0.614), this indicates that maternal age is a significant protective factor (Table 2).

The distribution of respondents based on educational status and immunization status found that respondents who did complete immunization were mostly high school educated, namely as many as 31 people (67.4%) while those who did not complete immunization were those with less than high school education, namely 18 respondents (62.1%).

Table 3. Distribution and Analysis of the Relationship between Mother's Education and Immunization Status

Education Status	Immunization status		Total
	Incomplete	Complete	
< Senior high school	18 (62.1%)	11 (37.9%)	29 (100%)
≥ Senior high school	15 (32.6%)	31 (67.4%)	46 (100%)
Total	33 (44%)	42 (56%)	75 (100%)

p = 0.017 (P<0.05), PR = 3.382 (CI95%= 1.281-8.929)

From the calculations using the Chi-Square analysis, the results show that the mother's educational status and immunization status have a value of p = 0.017. This value indicates that p value less than 0.05, and the correlation value r = 0.28, it means there is a relationship between status of mother's education with student immunization status at Puskesmas Kuok-Riau. The value of RP is 3.382 (RP> 1) with a 95% CI = 1.281-8.929 (excluding number 1), thus the mother's education status can be said to be a significant risk factor for completing child immunization. Mothers with less than high school education have the risk of not getting complete immunization 3,382 times compared to mothers with more or the same education as high school education (Table 3).

The distribution of respondents based on the mother's employment status with immunization status found that 28 people (68.3%) completed the immunization status, while 13 people (31.7%) did not complete the basic immunization. Respondents with non-working status were 20 people (58.8%) who did not complete basic immunization and 14 people (41.2%) who completed basic immunization.

Table 4. Distribution and Analysis of the Relationship between Employed and Unemployed Mother and Immunization status

Work Status	Immunization status		Total
	Incomplete	Complete	
Unemployment	20 (58.8%)	14 (41.2%)	34 (100%)
Employment	13 (31.7%)	28 (68.3%)	41 (100%)
Total	33 (44%)	42 (56%)	75 (100%)

p = 0,022 (p<0.05), PR=3.077 (CI95%= 1.192-7.942)

From calculations using Chi-Square analysis, the results show that the work status of mothers with immunization status has a value of p = 0.022, this value indicates that (p <0.05), with a correlation value of r = 0.27, meaning that according to statistical calculations there is a relationship between mother's employment status with student immunization status at Puskesmas Kuok-Riau. With a PR value of 3.077 (RP> 1) with a 95% CI 1.192-7.942 (not including number 1), these data indicate that the status of working mothers can be said to be significant as a complementary factor for child immunization. Mothers who do not

work have the risk of not doing complete immunization 3.077 times when compared to mothers who work (Table 4).

Discussion

The results of the univariate analysis showed that the youngest age of the mother was less than 20 years and the oldest was more than 40 years. The lowest maternal education is elementary school (11 people or 14.7%). The majority of mothers are housewives (45.3%). The results of the study stated that 42 mothers had complete immunization, 56% achievement means that the program was not successful. To determine the success of the program, you can look at the cumulative achievement line per year [(7)].

Based on the results of the study, the calculation using the Chi-Square analysis showed that the mother's age with immunization status had p = 0.005, this value indicates that (p <0.05), it means that according to statistical calculations there is a relationship between maternal age and immunization status of children under five in Puskesmas Kuok-Riau. PR value 0.213 (PR <1) with 95% CI = 0.074 -0.614 (excluding number 1), this indicates that maternal age is a significant protective factor. This study is in line with the research of Sitompul (2011) which states that maternal age is in the category <30 years and maternal age ≥ 30 years. There is a significant relationship between maternal age and infant immunization status with a value of p = 0.001 and a value of RP = 0.088 [(8)]. Also Reza's study (2006) with 2 categories of maternal age <30 years and maternal age ≥ 30 years found that there is a significant relationship between maternal age and infant immunization status with a value of p = 0.000 [(9)].

Wardhana's study (2001) that mothers aged ≥ 30 years tended not to complete immunization compared with mothers aged <30 years tended to complete immunization 2.03 times compared with mothers aged ≥ 30 years. However, statistically, the relationship between maternal age and immunization completeness status was not significant (p-value = 0.16) [(10)]. Lienda (2009) in her study, the statistical test results of p-value 0.109 showed that there was no significant difference between maternal age and completeness of basic immunization [(11)].

From the research results above, younger mothers who have just had children usually tend to pay more attention to their children, including the need for health services. The increase in maternal age may be followed by an increase in the number of children and increasing activity will affect motivation and reduce the availability of time for mothers to provide health services for their children.

The family health program policy states that the safe age for a mother to bear children is 20 to 35 years. Along with that, referring to the results of this study, the socialization of family health programs and immunization programs to the community is expected to motivate increasing the completeness of immunizations before 1 year of age in the future. Health education efforts are needed for mothers.

The currents study identified that there is a relationship between the educational status of mothers and the immunization status of students at the Kuok-Riau Health Center. This study is in line with Sitompul's research (2011) which states in the results of his research that maternal education with education categories 9 years and education > 9 years can be concluded that there is a significant relationship between mother's education and infant immunization status with p-value = 0.004 [(8)]. This result is also in line with previous research conducted by Reza (2006) that there was a significant relationship between a mother's education and the completeness status of children's basic immunization with p-value = 0.010 by Lienda (2009). The results of this study were mothers with low education had a risk of 3.14 times. greater the immunization status of their children for incomplete compared to mothers with higher education [(11)].

Education is very important for a person to provide the ability to think, examine and understand the information obtained with more rational considerations. A good education will also give a person a good ability in making decisions regarding family health, especially child immunization. Population Report, according to Lienda

(2009), education is important in changing behavior, especially in utilizing health services because educated women tend to improve the health status of their families by seeking better services, including immunizing their children[11].

Other factor that related with immunization status in this study is mother employment. This finding is in line with the research conducted by Sitompul (2001) in Siabal-abal II Village, which states that mothers with farming and self-employed women have a significant relationship between maternal occupation and infant immunization status with p value = 0.001 and RP = 0.086. The results of this study are different from Lienda (2009), the work of mothers with the category of working mothers with not working, there is no relationship between maternal work and completeness of immunization, p-value = 0.250 This is because mothers who work, the proportion of children who do not get complete immunization is almost not different from mothers who work [11]. Reza (2006) found no relationship between maternal occupation and basic immunization status in children with a p-value = 0.902. The proportion of children who did not receive complete basic immunization was almost no different from children who had complete basic immunization in each group of maternal occupations [9]. This is because those selected to be respondents were mothers who worked in the non-formal sector or as housewives only. This work status will give mothers more time to bring their children to receive immunizations at integrated service posts [9].

Conclusion

Based on the results of the research "Relationship of Education, Occupation and Maternal Age with Completeness of Basic Immunization for Toddlers at Kuok-Riau Health Center for January-June 2013", so the conclusion is that there is a relationship between maternal age and immunization status, there is a relationship between maternal education and immunization status, and there is a relationship between maternal age and immunization status. the relationship between the type of work of the mother with immunization status.

Acknowledgment

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