

# Dominant Contributing Factors in Increasing Mother Awareness of Complete Immunization Status for Their School-Aged children in Tangerang City in 2015

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## ABSTRACT

*The school-aged children immunization coverage in Tangerang City in 2014 was low on coverage during School Immunization Month program reaching only 90.84% which was lower than the national target. The complete immunization status for the children was affected by mother awareness. This study was conducted to find out the dominant contributing factors that influenced mother awareness of immunization for their school-aged children in the city of Tangerang using cross-sectional analysis. The respondents were 300 mothers who were selected using snowball sampling with data collection technique using interviews. This study found out only 73% school-aged children had complete immunization status. This study also found out that mother awareness was affected by level of education, knowledge, husband support, healthcare worker support, and AEFI records. Husband support was the most dominant factor because the analysis shows that nearly 40% husbands suggested that immunization was important to their children. The percentage could be increased by improving the role of healthcare workers and intersectoral collaboration in increasing the immunization coverage by giving more knowledge to society especially husband through counseling about the benefits of immunization to their children.*

**Keywords:** *mother awareness, immunization for school-aged children.*

## INTRODUCTION

The improvement of a nation's human quality has been elaborated internationally on Millennium Development Goal (MDGs). One of the objectives is to reduce child mortality. The high number of mortality caused by disease is a major health problem, while child mortality can be prevented by immunization. Furthermore, the low coverage of mandatory immunization for school-aged children plays a big role in contributing to health problems in society, so that government should pay special attention to the problem. In 2014, the percentage of mandatory immunization coverage in Tangerang City for school-aged children was only 90.84%, it is lower than national percentage which was 95%. The contributing factors to the school-aged children complete immunization are support of parents, schools and teachers, healthcare workers (especially pediatrician), local government, referral system, and many more. The main reason why the complete immunization coverage in school-aged children remains low is the disobedience of the mother. Mother, as the closest person to children, is also the main contributor to the complete immunization.

The mother disobedience is usually caused by age, income, education, occupation, knowledge, family support, healthcare workers' attitude, as well as Adverse Effects Following Immunization (AEFI). The objective of this study was to identify factors that contribute to mother's disobedience to their child immunization, especially related to age, income, education, occupation, knowledge, husband support, healthcare workers' attitude, and Adverse Effects Following Immunization (AEFI) in Tangerang City in 2015.

## RESEARCH METHODOLOGY

This study was conducted using qualitative research approach and cross-sectional analysis. The research population was mothers whose children were at Elementary schools in Tangerang in May 2015. The inclusion criteria for research sample was mothers of Elementary school grader (age 8-11 years old) in Tangerang, if they had more than one children, data of the youngest sibling would be used to minimize misinformation given by the mother, able to communicate, and willing to be the respondent by signing

informed consent. Minimum sample used were 300 respondents who were spread across Tangerang, and then cluster sampling was defined to get 30 cluster villages in Tangerang. The respondents were divided into 30 clusters, meaning that each cluster consisted of 10 people. The selection of the respondents was conducted using snowball sampling. The research location was in Tangerang City, Banten Province. The proposal development was initiated in September 2014, followed by data collection and analysis in early and late May 2015. The research instrument was questionnaires consisted of questions pertaining to the contributing factors that affected the immunization disobedience. For data analysis, univariate and bivariate data were analyzed using chi-square method, while multivariate analysis using logistic regression method.

Less Support	78	26
<b>Healthcare Workers Support</b>		
Good Support	226	75,3
Less Support	74	24,7
<b>AEFI record</b>		
No record	194	64,7
Have record	106	35,3

## RESULTS

### 1. Awareness Status Overview Mother of School-Age Children immunized In Tangerang 2015

Table 1

Distribution of Respondents According to Awareness In immunize In Tangerang Regency at 2015  
N= 300

Awareness Mother	Frequency	%
Yes	219	73.0
No	81	27.0
Total	300	100

### 2. Univariate Selection

Table 2

Distribution of Respondents Between Age, Education, Income, work , Knowledge, Husband Support , Healthcare Workers Support, AEFI Record In School Age Children immunized in Tangerang Regency at 2015

Variable	Frequency	%
<b>Mother's</b>		
≥40 years	252	84
<40 years	74	16
<b>Mother's Education</b>		
Higher education	194	64,7
low education	106	35,3
<b>Mother's Income</b>		
≥2,4 million	180	60
<2.4 million	120	40
<b>Mother's Occupation</b>		
Work	122	40,7
Does not work	178	59,3
<b>Mother's Knowledge</b>		
good knowledge	211	70,3
Lack of knowledge	89	29,7
<b>Husband support</b>		
Good Support	222	74

### 3. Bivariate Selection

Table 3

The Result of Bivariate selection

Variable	p-value
Mother's Age	0,207
Mother's Education	0,001
Mother's Income	0,276
Mother's Occupation	0,498
Mother's Knowledge	0,001
Husband support	0,001
Healthcare Workers Support	0,001
AEFI record	0,002

### 4. Multivariate Selection

Table 4

Final Model on Multivariate selection

Variabel	B	SE	Df	Sig	Exp(B)
Education	,943	,307	1	,002	2,569
knowledge	,694	,302	1	,021	2,001
Husband Support	,951	,320	1	,003	2,589
Healthcare support	,645	,336	1	,055	1,906
AEFI record	-1.01	,334	1	,002	,363

## RESEARCH DISCUSSION

### 1. Limitation of the study

Using primary data was advantageous in providing new data obtained from on-the-spot interview with the

respondents, which can be used by other researchers. However, the study used snowball sampling method that it affects the result of the study.

## **2. Immunization Awareness**

Based on the 2014 report, it is said that only 90,84% of third elementary grader received the immunization. However, on this study, it is found that the complete immunization percentage was only 73%. The low percentage of immunization was caused by the immunization report that was based on the coverage of each school grade, not the total number of immunization received. At that moment, school-aged children who received immunization on the previous class grade would be considered to have complete immunization which applied to those who were on the third grade. The number of percentage would increase if the immunization coverage was considered as complete after children received all compulsory vaccinations regardless their school grade.

## **3. The Relationship between Independent Variable with Mother Awareness in Having their Children Getting Immunization**

### **3.1 Mother's Age**

The older the mother is, the more knowledge the mother has. The premise is in accordance with the research conducted by Al-Lela (2014) and Febri (2012) who had tremendous experience with immunization. The study shows that around 58% mothers who were < 40 years old and 42% who were  $\geq$  40 years old had positive awareness in having their child getting immunization. However, based on the multivariate analysis, mother's age did not have any relationship with their awareness to have their children getting immunization. Based on the writer's analysis, the older a mother was, the more knowledge she would have. Therefore, they would know better the logical danger of the disease threat so that they were willing to do a preventive action. On the other hand, younger mothers would have less experience which was caused by the lack of exposure to useful health information and the lack of understanding the importance of immunization for their beloved children.

### **3.2 Mother's Education**

The respondents' education level fell into two categories, high and low level of education. It was found out that the percentage of immunization awareness on those with high level of education was 79.4%, while the percentage of awareness on mothers who had low level of education was 61.3%. From the result of multivariate analysis, it was concluded that there was a relationship between the education level and the mother awareness in having their children getting immunization. The hypothesis that education level affected the immunization awareness for school-aged children was acceptable. It was in accordance

with the study by Hartati (2008) and Ishak (2006) that mothers' education level had a good impact on the success of immunization program. This research is also supported by a theory proposed by Notoatmodjo (2003) that a person's knowledge could be influenced by how much information that they had not only directly but also indirectly. Knowledge can also be influenced by a person's ability in absorbing information, so that the more information a person obtains, the better the knowledge a person has, while the less information a person obtains, the less knowledge a person has. Those information can be obtained from the mass and electronic media as well as healthcare workers and health counseling.

### **3.3. Mother's Occupation**

Mother's occupation is an activity to earn a decent living. It is a predisposition factor which enables anyone to pay for health services. The respondents' occupation status fell into two categories, working mothers and non-working mothers. From the analysis, the relationship between occupation and immunization awareness shows that the percentage of working mothers who comply to do the complete immunization was 70.5%, while the percentage that represented the non-working mothers was 74.7%. The statistics test result shows that there was no relationship between mother's occupation and their awareness in immunizing their children. Based on the writer's opinion, non-working mothers (housewife) did not always have less health knowledge. Although the opportunity to share information between mothers were often, sharing information was usually done while they were working. However, housewife had longer spare time that could be used to get much information from any media that could influence her child immunization awareness. Therefore, it can be concluded that mother's occupation was not a predominant factor in child complete immunization status. The conclusion was similar to the research conducted by bot Isfan (2006) and Sandra (2010) that there was no relationship between mother's occupation and immunization status.

### **3.4 Mother's Income**

Based on the relationship analysis between mother's income and child immunization awareness, it shows that the percentage of respondents who earned < IDR 2.4 million/month towards the child immunization awareness was 75.6%, while the percentage of mothers who earned > IDR 2.4 million was 75.6%. It can be concluded from the statistics test that there was no relationship between mother's income and child immunization awareness. Therefore, the hypothesis which proposed that mother's income had influenced the child immunization awareness status was unacceptable. This research result had completely different outcome with the research conducted by Ismet (2013) and Bundt (2004) which said that family income and economic factor were related to the child immunization awareness status. The government program that gave free health service (in this case immunization)

made the respondents who had low level of income had the same opportunity with those who had high level of income to get the service. Based on the above research results and descriptive theories, it shows that government policy regarding the free child immunization could lead to the completeness of child immunization status, because every child coming from family with any level of income had the same opportunity to get the immunization or in other words, the immunization was still able to be held. Therefore, income did not really have significant influence on immunization awareness.

### **3.6. Mother's Knowledge**

The relationship analysis between knowledge and child immunization awareness for mothers shows that approximately 61.3% mothers with less immunization knowledge that had positive awareness to child immunization, while around 79.6% respondents who had good knowledge complied with the child immunization. It can be concluded from the statistic test result that there was a relationship between mother's knowledge and child immunization awareness. The behavior that was based on knowledge about immunization would last forever compared to the behavior that was not based on one. Therefore, the chance that mothers with good knowledge about immunization would have their children get the complete immunization was bigger, because a person's knowledge level would have a significant influence to their life. On this research, it was found out that approximately 80.67% of respondents who knew the immunization benefits, around 55.67% of them knew the types of immunization given during School Immunization Month Program, and around 72.67% of them knew the immunization requirements needed for the school-aged children. However, only 47.67% of mothers who knew about the complete immunization, so that they did not have their children get complete immunization because they did not think that it was important. As for the respondents who had 50% score on average, it shows that the better their level of knowledge was, the more rational and logical the mother was in dealing with problems. They would be able to find alternatives and breakthrough in solving problems, for example (regarding with child health problem) by having their children getting immunization.

### **3.6. Husband Support**

The relationship analysis between husband support and mother awareness in giving immunization to their children shows that around 52.8% of mothers had good support from their husband would comply to do the complete immunization for school-aged children (78.3%), while mothers who did not have good support from their husband were around 52.8%. The result of statistic test shows that there was a relationship between husband support and mother awareness in giving immunization to their children. The hypothesis which said that husband support had positive influence on the child immunization awareness was acceptable. Husband who always

supported their wife in giving immunization to their children was only 60%. Based on this research, it was found out that family positive response towards the implementation of immunization was influenced by knowledge they had (in this case, husband who was the closest person to the respondent regarding the importance of immunization to school-aged children.) Based on writer's opinion, basically if mother awareness of the importance of immunization to their children was influenced by their husband support.

### **3.7 Healthcare Workers Support**

From the analysis result between healthcare workers support and mother awareness in giving immunization to their children shows that the percentage of mothers who had positive support from them was 78.3%, while mothers who had less support were around 56.8%. It can be concluded from the result of statistic test that there was a relationship between healthcare workers support and the mother awareness in giving immunization to their children. This research explains that around 83.67% respondents had been given a specific time to discuss the importance by healthcare workers, however only 40% respondents who had been supported by them in decision-making process. The support from healthcare workers regarding the side-effect treatment of immunization for school-aged children was only 52.33%. This research was based on another similar research conducted by Ismet (2013) that shows there was a significant relationship between healthcare worker services with the complete immunization status. Based on writer's analysis, basically, healthcare workers' good services had significant influence on the complete immunization status for school-aged children. The support from Healthcare workers who always keep mothers informed apropos of the importance of immunization for school-aged children would influence mothers to let their children get the immunization.

### **3.8 AEFI (Adverse Effects Following Immunisation) in Children**

The analysis result between AEFI with mother awareness in giving immunization to their children shows that nearly 67% mothers whose children had no AEFI history would comply with the immunization, and around 84% mothers whose children had light AEFI previously would comply with the immunization. It can be concluded from the statistic result that the hypothesis which said that history of AEFI in children had significance influence in mother awareness was acceptable.

Mothers whose children had AEFI before would care with the immunization rather than those mothers whose children did not had AEFI. The main reason why it happened was because the mothers prefer to give complete immunization to their children, and the light symptoms of AEFI that occurred on their children would heal by using a regular pain reliever or by using warm water compress. Therefore, mothers prefer to have more benefits from immunization rather than to have side

effects from another immunization given to their children. This was in line with another research conducted by Thaib (2013) which explained the most common reason why parents did not give immunization to their children, which was caused by the fear of immunization side effects (70.6%). The same reason was also stated by Falagas (2008) that AEFI records would have significance influence on children immunization status.

## CONCLUSION

1. From 300 mothers in Tangerang City who had children ranging from 8-11 years old who had been studied in May 2015, it was found out that around 73% school-aged children had the complete immunization.
2. From this study, it was found out that 58% respondents were younger than 40 years old, 64.7% mothers had high level of education, 60% mothers had income greater or equal to IDR 2.4 millions/month, 59.3% housewives, 70.3% mother had good knowledge on immunization, 74% mothers had good husband support, 75.3% mothers had good support from the healthcare workers, and 64.7% mothers had children who had light AEFI records.
3. Correlating factors with mother awareness in giving immunization to their children were level of education, knowledge, husband support, healthcare worker support, and AEFI records, while age, education, family income, and mother occupation did not have any correlation with mother awareness in giving immunization to their children.
4. AEFI records would have a protective effect where mother whose children had light AEFI from the previous immunization would comply with the Immunization.
5. The most dominant factor in influencing mother awareness of children immunization in Tangerang City in 2015 was the husband support. From this study, it was found out that approximately 40% husbands suggested that immunization was important to their children.

## SUGGESTION

1. For Tangerang City Health Department
  - a. Improving the role of healthcare workers in increasing the immunization coverage by giving more knowledge to society especially husband through counseling about the benefits of immunization to their children.
  - b. Establishing program which is more promoting and preventive in regards to the immunization to the school-aged children by using School Immunization Month Program campaign by the Tangerang City Mayor and Health Department on printed and electronic media and formulating the

Local Legislation and Regulation about immunization.

- c. Improving the role of intersectoral collaboration, for instance collaborating with Education Department in coordination with schools, collaboration with Indonesian Pediatric Association as one of the supporting factor in giving immunization services, and collaboration with Sub-district government on the society empowerment for the purpose of increasing the knowledge of society.

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