

## FACTORS RELATED TO MOTHER COMPLIANCE CARRYING OUT COMPLETE PRIMARY IMMUNIZATION IN THE WORK AREA OF CIHIDEUNG COMMUNITY HEALTH CENTER TASIKMALAYA CITY

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### Abstract

Immunization must be given to all babies in Indonesia. However, the complete primary immunization was still unsuccessful because of the mother's compliance to immunizing her baby. The study goal was analyzing certain factor of mother's compliance in applying complete primary immunization. The study design applies a mixed-method completed by a sequential exploration strategy. The first stage was a quantitative method to 70 mothers that have a baby age of 12-13 months by using simple random sampling; measuring instrument was a questionnaire, then the data analyzed by chi-square and double logistic regression. The second stage was a qualitative method to 10 mothers by applying purposive sampling, guided by in-depth interviews. The study result of the quantitative bivariable analysis method shows knowledge, attitude, motivation, and family support correlate with the mother's obedience in doing complete primary immunization (p-value <0,001). Multivariable analysis results the dominant affected factor is knowledge (p-value <0,001) with OR 62,21, while motivation with (p-value <0,007) OR 31,98. Furthermore, the qualitative analysis result shows the mother's assumption that the healthy baby did not need to be immunized, she did not know that their baby has not immunized yet, the incomplete immunization information, fever worried, lazy, and believe. Vaccine limitation becomes some factors that interfere with complete primary immunization. Thus, the dominant factor of the mother's obedience is knowledge and motivation.

**Keywords:** *Immunization, mother, obedience*

### 1. Introduction

Infant and child mortality in Indonesia was still a big problem. The results of the 2012 Indonesian Demographic and Health Survey showed that the Infant Mortality Rate (IMR) of 32/1000 live births. While the 2015 Ministry of Health data on infant mortality 23/1000 live births. One of the highest causes of infant and neonatal death in the 0-7 day

age group was premature, low birth weight (LBW) (35%), and asphyxia (33.6%). The highest causes of neonatal death in the 8-28 day age group were infections of 57.1% (including tetanus, sepsis, pneumonia, diarrhea, diphtheria), then feeding problems (14.3%). One cause of infant death in Indonesia was due to diseases that can be prevented by immunization.<sup>[1,2,3]</sup>

A total of 65 of the 194 member countries of the World Health Immunization (WHO) had immunization coverage below the global target of 90%. Complete primary immunization in Indonesia in 2015 reached the target of 86.8%, and 2019 targeted to reach 93%. Based on the results of Riskesdas in 2013, the achievement of complete primary immunization at the age of 0-12 months was 59.2%, 8.7% complete immunization, and 32% had never been immunized. According to data in the Tasikmalaya City Health Office in 2016, there was 94.52%, received complete immunizations, 1.19% had never been immunized, 4.29% had not been fully immunized. Reporting results from 69 sub-districts that reached the target of only 67 sub-district, one of the areas not yet reaching the target was the Cihideung Community Health Center in 2016 with 84.73% of infants receiving complete primary immunizations, 5.04% not immunized and 10, 23% incomplete immunizations.<sup>[2,3]</sup>

The low coverage of complete primary immunization is still a challenging problem to deal with. The reason action developed by Fesbein et al. (1980) emphasizes the critical role of intention as a determinant of behavior. Furthermore, this intention determined by attitudes, subjective norms/motivation, behavioral control. Sackett (1976) in Niven (2002) explains that patient compliance is patient behavior following the provisions given by health workers. According to Feldman (2003), compliance means a person's behavior to follow medical advice following the provisions given. A good and deep understanding of these factors is beneficial for parents to increase compliance in conducting primary immunizations so that the effectiveness of therapy can be monitored.<sup>[4,5]</sup>

Several studies had been done on immunization compliance factors.

Falagas et al. (2008) revealed that the completeness of immunization influenced by maternal compliance and health workers. According to Riani et al. knowledge, attitudes, and motivation of mothers regarding immunization related to the immunization status of children aged 12-24 months at the Ranatona Weru Community Health Center in Manado. Knowledge, attitude, and motivation had a positive effect on the immunization status of children aged 12-24 months. Another study conducted by Rahmawati (2011) revealed that the level of mother's knowledge with immunization compliance in Jombang, there was a relationship between the level of knowledge about the importance of primary immunization with compliance implementing immunizations. Another study according to Mella et al. (2014), the relationship between family support for maternal compliance carrying out primary immunization in children in Tigabolon village, Sidamanik sub-district, Simalungun district in 2014, stated that there was a relationship between family support and maternal compliance in carrying out complete primary immunization.<sup>[6,7,8,9]</sup>

Based on the clarification above, efforts are needed to foster maternal awareness about the importance of complete primary immunization for infants, by increasing immunization compliance, it hoped that it could increase the value of immunization coverage, so a study of factors that influence maternal compliance in carrying out complete primary immunization was needed. The purpose of this study was to analyze the factors related to maternal compliance carrying out complete primary immunization.

## 2. Method

This study used a mixed-method research design with a first phase sequential explanatory qualitative strategy of 70 mothers who have babies

aged 12-13 months through simple random sampling measuring instruments using a questionnaire. It analyzed using chi-square and multiple linear logistic analysis — the second stage, followed by qualitative data on ten mothers using a purposive sampling technique. Data collection used an interview guide. Inclusion criteria were mothers who have babies aged 12-13 months, Residing in the Cihideung Community Health Center work area, agree to participate in the study by signing informed consent. The exclusion of addresses was unclear, and the babies have severe systemic/disease disorders. The study was conducted in July through September 2017.

### 3. Results and discussion

**Table 1** Analysis of Respondent Characteristics Based on Mother Compliance Implementing Complete Primary Immunization

Characteristic	Compliance		p-value
	Compliant (n=53)	Not Compliant (n=17)	
Age			
17-24	18	4	0.476
25-34	33	13	
35-44	2	0	
Means (SD)	26.8 (3.7)	26.6 (2.8)	
Median (Range)	26 (21-36)	27 (22-30)	
Education			
Primary (< Junior High school)	17	8	0.424
Middle	34	9	
Higher	2	0	
Occupation			
Worked	15	4	1.00
Unworked	38	3	

Results of the analysis on 70 mothers of infants aged 12-13 months were about 53 compliant people (75.7%), and 17 mothers who were not compliant did complete primary immunization (24.3%). Characteristics of respondents

based on age, education, and occupation show that the differences between respondents in the categories of compliant and non-compliant.

Characteristics of respondents based on the age of mothers who have babies 12-13 months, most were in the age range of 25-34 years, about 46 people (65.7%), respectively 33 in the compliant group and 13 in the not-compliant group. Based on the level of education, the majority of respondents with a middle education background were 43 people (61.4%) every 34 people in the compliant group and nine people in the not-compliant group. While the characteristics based on work in both groups were mothers who did not work about 74.5%.

Age is one of the characteristics that can affect one's knowledge, attitudes, and actions. The more a person ages, the better his knowledge, and the better his health behavior. The results showed that the majority of respondents were in the range of early adulthood (25-34 years), this is due to the increasing physical and psychological ability and logical way of thinking so that it is easy to adjust to paying attention to health problems for himself or others<sup>[10]</sup>.

In theory, the level of individual education influences on increasing one's thinking ability. Someone who is better educated will be able to make rational decisions, generally open to accepting changes or new things compared to individuals with low education. The level of education of the mother is very influential on the health status of the child compared to the level of education that his father has, thereby reducing the risk of child death.<sup>[11]</sup>

People who work will have more time at work so that they do not have much free time to take their children to get an immunization. Getting immunizations to children is closely related to mothers who do not work

because she has more time at home so that immunization can be on schedule.<sup>[12]</sup>

**Table 2** Comparative Analysis of Knowledge, Family Support, Motivation and Attitudes of Mothers who Compliant and Not-compliant with Complete Primary Immunization

Variable	Compliance		p-value
	Compliant (n=53)	Not Compliant (n=17)	
Knowledge			
Media	90	65	0.001
Range	45-100	50-100	
Family Support			
Median	95	60	0.001
Range	65-100	50-100	
Motivation			
Median	90	60	0.001
Range	50-100	50-100	
Attitude			
Median	83.3	40	0.001
Range	33.3-93.3	33.3-83.5	

Table 2 presents the differences in the various variables studied between compliant and not-compliant mothers in carrying out complete primary immunization. Of the four variables studied, knowledge, family support, motivation, and attitude between the compliant and not-compliant groups showed that there were very significant differences (p-value <0.01), higher than the group of mothers who were not compliant in carrying out complete primary immunization.

The result from interviewed on non-compliant mothers showed that they got information about immunization from the print media, television, family, neighbors, and even from health workers. However, they did not understand very well what was needed to do immunization and what immunizations should be given to their babies. Mothers assumed that the immunization was injected once, and the

baby would be healthy, so there was no need to be immunized.

Tukiman's study (2014) stated that the family support that respondents have comes from their husbands, in-laws/parents, and siblings. Forms of support can be in the form of information support, assessment support, instrumental support, and emotional support that can provide stimulus or stimulation for respondents to be compliance in carrying out complete primary immunizations. Respondents who were supported by families have good behavior in immunizing their children.<sup>[7]</sup>

According to Rachmawati (2011), that there was an influence between family support for incomplete immunization status in infants or toddlers. This influence was due to the majority of respondents who have babies or toddlers with incomplete immunization status who did not have the support of their families, and that is contrary to respondents who have babies or toddlers with complete immunization status, most of whom have family support.<sup>[13,14]</sup>

Based on Table 4.2, it showed that the median value of positive attitudes among compliant mothers in carrying out primary immunization is 83.3 and not-compliant with 40. The existence of a positive attitude shows that there are very significant difference.

**Table 3** Analysis of the Relationship Between The High and Low Level of Knowledge, Family Support, Motivation, and Attitude with Compliance Mother Implement Complete Primary Immunization

Variable	Compliance		p-value	OR (CI 95%)
	Compliant (n=53)	Not-compliant (n=17)		
Pengetahuan				
Median (≥ 85)	48	1	< 0.001	4.11 (1.91-8.85)

Median ( $\leq 85$ )	5	16		
Family Support Median ( $\geq 95$ )	42	1	< 0.001	2.40 (1.52-3.79)
Median ( $\leq 95$ )	11	16		
Motivation Median ( $\geq 90$ )	45	1	< 0.001	2.93 (1.66-5.18)
Median ( $\leq 90$ )	8	16		
Attitude Median ( $\leq 80$ )	37	1	< 0.001	1.95 (1.37-2.76)
Median ( $\geq 80$ )	16	16		

Table 3 shows that supportive attitude is related to compliance with the implementation of complete primary immunization with a value of p-value <0.001 so that the more supportive attitude of the mother, the opportunity to comply with complete primary immunization is 1.95 times compared to the less supportive attitude. Table 4.4 Multiple logistic regression analysis of the relationship between attitude and maternal compliance in carrying out complete primary immunization with an initial model p-value of 0.856 OR 1.40.

Supporting attitudes arising from respondents reflect that the community accepted and agreed that immunizations need to be carried out to health workers. However, the positive attitude was not accompanied by good knowledge, meaning that the lack of knowledge does not affect the attitude, in this case, the respondent acknowledges that immunization is essential for infants even though the respondent does not know clearly about the immunization. The results of this study indicate that the positive attitude of respondents can have a positive impact on improving the health of neonates and infants.<sup>[12,15]</sup>

The positive attitude that arises from the mother reflects that she accepted and agreed that primary

immunization needs to be carried out to health workers. The attitude will arise accompanied by good knowledge, meaning that the increase in knowledge will lead to an excellent inner response that will lead to good behavior too.<sup>[15,16]</sup>

**Table 4** Multiple Logistic Regression Analysis The Relationship Between Knowledge, Family Support, Motivation and Attitudes with Mother Compliance Implementing Complete Primary Immunization

Variable	Coefficient B	SE (B)	p-value	OR (CI 95%)
<b>Initial Model</b>				
Knowledge	2.950	0.590	0.064	19.11 (0.85-431,45)
Family Support	2.023	1.479	0.171	7.56 (0.42-137.13)
Motivation	2.330	1.620	0.150	10.28 (0.43-245.7)
Attitude	0.336	1.852	0.856	1.40 (0.04-52.76)
<b>Final Model</b>				
Knowledge	4.130	1.249	0.001	62.21 (5.37-719,96)
Motivation	3.465	1.283	0.007	31.98 (2.59-395,29)

Table 4 analyzes the multiple logistic regression of the relationship of attitude with maternal compliance in carrying out complete primary immunization with an initial model of the p-value of 0.150 OR 10.28 and a final model p-value of 0.007 and OR value 31.98. It means that parents who have high motivation toward immunization have 31.98 times more likely to be compliant in providing complete primary immunization to their babies than mothers who have low motivation.

The answers given by respondents did not originate because of the answer based on what they had seen and felt. Barriers that mothers encounter to get primary immunization related to low motivation were healthy children; why

they should be immunized, afraid of children to get a fever, the mothers were lazy or busy, and mothers also did not know that their children were not yet fully immunized because of the information obtained by mothers was unclear. Respondent 9 stated that she did not provide primary immunization at Posyandu because the condition of her children was healthy. Also, respondents still experience fear of providing primary immunization for fear of fever. Even though the fever experienced by children after immunization was a side effect as a respondent working immunity, but did not cause harm to children. Trust is also a reason for the incompleteness of immunization. Mothers have come to the community health center, but sometimes the vaccine is limited, and then at the Community Health Center, the day for immunization only held once a week with the specified time, and in private practice midwives usually, they should pay.

According to Riani's study, motivation becomes a strength, energy or power, or a complicated situation and readiness in an individual to move towards a particular goal, whether realized or not realized. A person's motivation can be generated and grow through themselves (intrinsic) and from the environment (extrinsic). Intrinsic motivation means a desire from oneself to act without external stimulation.<sup>[9,17,18]</sup>

#### 4. Conclusion

Knowledge and motivation factors are closely related to the mother's compliance in carrying out complete primary immunization. The results of the qualitative analysis concluded that mothers assumed that healthy children did not need immunizations, did not know their children were incompletely immunized; information about immunization was overwhelming but still confusing. Motivation is also a dominant factor in compliance with

immunization because mothers are afraid of children to get a fever, the mothers were lazy or busy, trustworthy to health workers, and the availability of vaccines were the influencing factors. Authors suggest to health workers, in particular, the holders of immunization programs to increase counseling, disseminate leaflets about immunization and cadres training on the importance of immunization.

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