



Relationship between Maternal Attitudes, Subjective Norm, and Perceived Behavior Control with Intention of Basic Immunization Perceived among Babies at the Pademawu Public Health Center, Pamekasan Regency, Indonesia

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Abstract. One of the effective efforts to reduce child mortality is by giving immunization. The study aimed to examine the relationship between attitudes, subjective norms, and perceived behavior control on the intention of basic immunization perceived among babies. A cross-sectional study was applied in this study. One hundred thirty-nine samples were carried out by using simple random sampling. The data analyzed using Logistic Regression with a significance level ($\alpha=0.05$). The results showed that attitude ($p=0.000$), norms ($p=0.025$) and perceived behaviors controls ($p=0.000$) have positive correlation with the basic immunization for babies. The mother's intention in giving basic immunization to the baby was influenced by attitudes, subjective norms, and perceived behavior control for giving basic immunization to the babies. Attitudes, subjective norms, and perceived behavior control will form the mother's intention to give basic immunization to the baby. Counseling and espionage will be needed for mothers and families to give basic immunizations to the babies because giving it prevents the occurrence of diseases that can be caused by immunization.

Keyword: attitudes, subjective norm, perceived behavior control, basic immunization



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INTRODUCTION

In Indonesia, more than 1.4 million children die every year due to various diseases such as diphtheria, tetanus, hepatitis B, inflammation of the lining around the brain, pneumonia, pertussis, and polio. These diseases are often referred to as diseases that can be prevented by immunization (1). One of the effective efforts to reduce child mortality is by giving a vaccination. Not only that thing, but the vaccine is also one of the efforts that the most successful public health intervention, and cost-effective (low cost), especially for developing countries (2).

Village's Universal Child Immunization (UCI) is a description of the town where 90% of infants (0-11 months) in the village have received complete basic immunization. The performance of the immunization program is declared successful if immunization coverage is high and evenly distributed throughout the region. The high immunization coverage and even distribution throughout the area can be realized if the target of complete basic immunization (CBI) and the village's UCI is fulfilled.

The high achievement of complete basic immunization and the village's UCI can provide community immunity against PD3I transmission (3). Complete basic immunization coverage in Pamekasan Regency in 2018 has reached its target, but many villages that have not yet reached UCI are still at risk of becoming PD3I cases. However, the village's UCI achievements of the Pamekasan Regency have not yet reached the target of 90% (4). This is due to the number of babies which not immunized and not given immunizations completely still high.

Pademawu Community Health Center is the achievement of Village's UCI that does not reach the target of 90% (4). This is indicated by the mother's refusal to give basic immunization to the baby. Mothers refuse immunization because, according to the mother's beliefs, immunization does not benefit the baby. The mother is afraid of the side effects of immunization, and there is an assumption that immunization can cause children with disabilities, so that has an impact on maternal behavior.

The theory of Planned Behavior predicts the behavior plan that someone will do through an intention. The research conducted by Askelson et al. (2010) shows that attitude was the strongest predictor of mother's intention to vaccinate children, and subjective norms also influence the mother's intention to vaccinate (5). In the study of Britt et al. (2014), it was explained that subjective norms and perceived behavior control, in particular, had a substantial effect on the intention to get a vaccine (6)

The theory of Planned Behavior is widely used in behavioral studies of giving vaccination or immunization. Theory of Planned Behavior as a model of behavioral approaches to individuals that is very appropriate to use for assessing the intention and behavior of parents in giving basic immunization to the babies

OBJECTIVE

The study aimed to analyze the relationship between maternal attitudes, subjective norm, and perceived behavior control on the intention of basic immunization perceived among babies at the Pademawu Public health center, Pamekasan Regency Indonesia.

METHOD

An observational analytic with the cross-sectional design was applied to determine the relationship between maternal attitudes, subjective norm, and perceived behavior control on

the intention of basic immunization perceived. This study conducted at Pademawu Community Health Center, Pamekasan. The samples were selected using simple random sampling by using the sample size from Stanley Lemeshow. Thus, 139 participants were involved in this study.

Validity and reliability were tested on the questionnaire result through some procedures. There were 43 questions in the questionnaire. The techniques and procedures for data collection were carried out through filling out and interviewing conducted at home visits. During the home visit, the researcher was accompanied by a village midwife or village cadre for acquaintanceship, explaining the purpose, objective, and stage of the study using language that was easily understood by the respondents. The respondents were then asked to fill in the general data on the first page, for respondents who did not understand it, the researcher invited respondents to ask questions.

Questionnaires and interviews for each participant were filled in for 30 minutes. After completing it, the researchers gave leaflets and counseling about the importance of basic immunizations to babies. Then the researchers followed up on information that had been obtained during the questionnaires and interviews filling process. Feedback was given to the respondents or participants as a follow up to ensure that the answers were correct. Questionnaires that had been filled by respondents were carefully checked for completeness and then analyzed. This study has been passed from the research ethics committee from the Faculty of Nursing of University Airlangga with number 1745-KEPK

RESULTS

Frequency of attitudes, subjective norms, perceived behavior control and intentions of receiving the basic immunization

Table 1 showed that mothers who did not give complete basic immunization mostly had a non-supportive attitude to basic immunization for the babies, which were equal to (64.6%). In comparison, mothers who had a supportive attitude in giving complete basic immunization were equal to (35.4%). It did mean that mothers who did not provide complete primary immunization have a non-supportive attitude to the behavior of giving primary immunization to the babies because mothers who did not believe about giving basic immunizations can provide benefits to the health of the baby.

Most mothers who did not give complete basic immunization had harmful subjective norms, which were equal to (38.8%), while mothers had positive subjective norms equal to (0.0%). It did mean that mothers who did not give complete basic immunization to the babies had harmful subjective norms for giving the babies primary vaccination. The behavior of the surrounding community in giving basic immunization to the babies could affect mothers' perceptions and beliefs to provide a basic immunization to the babies.

Mothers who did not give complete basic immunization had a low perception of behavioral control, which was equal to (46.2%). In comparison, mothers who had a high opinion of behavior control were similar to (89.6%). It did mean that mothers who did not give complete primary immunization to the babies had low behavioral control, making it difficult for mothers to provide complete basic immunization to the babies.

Most mothers who did not give complete primary immunization had weak intentions, which were equal to (66%). In comparison, mothers who had strong intentions were equal to (82.6%), meaning that the weaker the mother's intention, the more they did not give complete basic immunization to the babies.

Intention to carry out basic immunization behavior to the babies included encouragement to give basic immunizations appropriate to immunization schedules, even though giving primary immunization have negative issues or rejection about it and even though the distance of residence was far from the place of vaccination.

Table 1. frequency of attitudes, subjective norms, perceived behavior control and intentions of receiving the basic immunization

Variables	Behavior				Total	
	(Complete Basic Immunization)		(Incomplete Basic Immunization)		n	%
	n	%	n	%		
Attitudes						
Supportive	75	82.4	16	17.6	91	100.0
Non-Supportive	17	35.4	31	64.6	48	100.0
Subjective Norms						
Positive	18	100.0	0	0.0	18	100.0
Negative	74	61.2	47	38.8	121	100.0
Perceived Behavior Control						
High	43	89.6	5	10.4	48	100.0
Low	49	53.8	42	46.2	91	100.0
Intentions						
Strong	76	82.6	16	17.4	1	100.0
Weak	17	35.4	31	64.6	48	100.0

Relationship between attitudes with intentions of providing the primary immunization

Table 2 showed the logistic regression analysis results that attitudes affected maternal intentions in giving basic immunizations to the babies with $p = 0.000$ (p -value < 0.05). The value of Exp (B) was the prevalence ratio. The value of prevalence ratio = 5.305 showed that the possibility of the mothers who did not have a supportive attitude would have a weak intention of 5.305 times greater than mothers who did have a favorable attitude in giving primary immunization to the babies.

Table 2. Relationship between attitudes with intentions of providing the basic immunization

Variable	B	p-value	Exp (β)	Information
Attitudes	1.669	0.000	5.305	Significant
Supportive				
Not Supportive				

Relationship between subjective norms with intentions of providing the basic immunization

Table 3 showed the results of logistic regression analysis that subjective norms affected the mother's intentions to give basic immunization to the babies with $p=0.000$ (p -value < 0.05). The value of Exp (B) was the prevalence ratio. The value of prevalence ratio = 10.427 showed that the possibility of mothers who did have harmful subjective norms would have weak intentions of 10.427 times greater than mothers who did have positive subjective

norms in giving basic immunization to the babies

Table 3. Relationship between subjective norms with intentions of providing the basic immunization

Variable	B	p-value	Exp (β)	Information
Subjective Norms	2.334	0.025	10.427	Significant
Positive				
Negative				

Relationship between perceived behavior control norms with intentions of providing the basic immunization

Table 4 showed the results of logistic regression analysis that behavioral control perceptions affected the mother's intentions to give basic immunization to the babies with $p = 0.000$ ($p\text{-value} < 0.05$). The value of Exp (B) was the prevalence ratio. The value of prevalence ratio=22.500 showed that the possibility of mothers who did have low subjective norms would have weak intentions of 10.427 times greater than mothers who did have high subjective norms in giving basic immunization to the babies

Table 4. Relationship between perceived behavior control norms with intentions of providing the basic immunization

Variable	β	p-value	Exp (β)	Information
Behavior Control Perceptions	3.114	0,000	22.500	Significant
High				
Low				

DISCUSSION

Relationship between attitudes with intentions of providing the basic immunization

The results showed that attitudes affected the mother's intentions to give basic immunization to the babies. Mothers who did have supportive attitudes for giving basic immunization to the babies will have strong intentions in giving basic immunizations. Mother believes that giving basic immunization to the babies was a beneficial action and did have a positive impact on the baby's health, such as providing immunity to the babies and preventing PD3I. This belief is then continued in such intention or desire before carrying out the behavior of giving basic immunization to the baby.

The research was conducted by Febriastuti et al. (2014), which stated that attitudes affected parents' intentions in giving basic immunization to toddlers (7). The research was conducted by Dube et al. (2012) in Canada about determining parents' decision to vaccinate their children against rotavirus, stated that parental attitudes affected the mother's intentions to immunize rotavirus (8). This was consistent with the study of Gallagher et al. (2006) in the United Kingdom stated that adults who did have a positive attitude to influenza vaccination have a high intention to vaccinate compared to those who did not do it (9).

Priest et al. (2015) in Alabama conducted a study that aimed to operate directly from the Theory of Planned Behavior to predict the behavioral intentions of male students in carrying out HPV vaccinations at Southeastern University. It was found that attitudes were predictors of male students' intentions to vaccinate HPV (10). The research conducted by Askelson et al. (2010) used the Theory of Planned Behavior to predict the mother's intentions to vaccinate her daughter to prevent the Human Papilloma Virus (HPV) by using the Theory of Planned Behavior. The result was attitude is the strongest predictor of the mother's intentions to vaccinate children (5).

This was different from the study conducted by Negussie et al. (2016) in Ethiopia, which stated that attitudes toward immunization do not affect the incompleteness of immunization to children (11). Community attitudes about immunization need to be improved by increasing espionage, providing education, and counseling on basic immunizations. This was done with the expectation that there was no longer presumption that immunization was not significant. The more the mother's attitudes supported giving basic immunization to the babies, the more it would be followed by a strong intention to carry out basic immunization to the babies.

Relationship between attitudes with intentions of providing the basic immunization

Based on the results of the research, subjective norms did have a positive effect on the intentions to give basic immunization to the babies. It did mean that the mothers who did have positive subjective norms would have strong intentions in giving basic immunization to the babies. Subjective norms were related to trust in a behavior. This belief or faith raised from the effect of someone's social environment.

Basically, subjective norms would affect someone's intention to carry out the behavior. In this study, there was an effect between subjective norms on mother's intentions in giving basic immunization due to the suggestion or opinion of the family, people, and community leaders, which were considered important by the mother in providing immunizations or not giving basic immunization to the babies.

This could lead to feelings of pressure in the mothers themselves. This feeling of pressure would affect the mother's belief in deciding whether to follow the opinions or suggestions of people who were considered essential or not. On the other hand, mothers who did have less support from their husbands have low intentions in giving immunizations. Husbands were the strong contributors in encouraging mothers to provide immunizations for their children because the husband was the closest person to the mother. In addition, there was a belief that the husband was permitted to give basic immunizations or not so that it would affect the mother's intentions to immunize their baby.

Sipahutra's (2017) research results stated that subjective norms affect the mother's intention to give immunizations (12). Mothers who did have low support from their husbands, parents, and health care workers have low intentions in giving them immunization. The research conducted by Askelson et al. (2010) used the Theory of Planned Behavior to predict the mother's intentions to vaccinate Human Papilloma Virus (HPV) against girls, stating that subjective norms affect the mother's intentions to give HPV vaccination to their daughter. The higher the subjective norms that mothers have to vaccinate their daughters, the greater the intentions to vaccinate their children (5).

This was in line with research by Dube et al. (2012) in Canada about the determinants of parents' decision to vaccinate their children against rotavirus. The result was that subjective norms affect parents' intentions to vaccinate their children. Subjective norms, which were felt by parents, were the main psychosocial determinants of parents' intentions to immunize their

children against rotavirus vaccines while normative belief was affected by good intentions by parents in vaccination behavior (8)

Relationship between perceived behavior control norms with intentions of providing the basic immunization

Based on the results of this study, it was found that there was a positive effect on the perceived behavior control on the intentions of giving primary immunization to babies. Mothers who did have a high perception of control would have strong intentions in giving basic immunization to the babies. In the context of receiving basic immunization, its essence was how strong the level that the mother did have in giving basic immunization to the baby.

Mothers would control the extent to which mothers intended to give basic immunization to babies and control the extent of their understanding of basic immunization in babies, and how easily mothers could estimate their understanding of the importance of giving basic immunization to babies.

The research conducted by Sipahutra (2017) showed a relationship between perceptions of control and mothers' intentions in giving basic immunization. Mothers who did have a high willingness to give basic immunization would likely have a desire to fulfill basic immunization status for their children (12). This was in line with the research conducted by Britt et al. (2016) in America, which stated that there was a relationship between Perceived Behavior Control and adults' intentions to get HPV vaccination by using online media to obtain information (6).

Perceived behavior control could be formed based on the level of ease or difficulty in implementing behavior (13). The easiness level of behavior occurred when someone has many conditions that support implementing behavior. Otherwise, the behavior would be difficult to do if the person has conditions that could hinder the implementation of a behavior. Mothers who did have high Perceived behavior control about basic immunization to babies would be encouraged and tried to give basic immunizations wholly and regularly. It was due to the mother's beliefs in the resources and opportunities that existed, and the difficulties that would be faced can be overcome or not.

In addition, the possible factors in giving basic immunization to babies were access to health services such as the distance of the mother's residence to the place of immunization services (Posyandu/Pos Pelayanan Terpadu/Integrated Service Post or Poskesdes/Pos Kesehatan Desa/Village Health Post), transportation that mothers used for going to immunization services, availability of vaccines and health workers (resources). Mothers who knew the schedule of immunization would have free time to give immunizations, and Posyandu schedules would have high confidence and control to provide a basic immunization to babies.

The behavioral control that was felt by the mother was also indicated by the person's response in giving immunization. Behavior control could measure a person's ability in intention to provide basic immunizations. The higher a person's beliefs in the ability to control the decision, then the better of the intention was perceived that person. Conversely, if someone felt unsure and unable, then what was perceived personally would not be good (14).

CONCLUSION

Attitudes, subjective norms, and perceived behavior control effected the mother's intention to give basic immunization to babies. Mothers who did have attitudes, subjective norms, and perceived behavior control would form strong maternal intentions in giving basic

immunization to babies. In contrast, mothers who did not have attitudes, subjective norms, and perceived behavior control would form weak intentions in giving basic immunization to babies.

RECOMMENDATION

Counseling and espionage will be needed for mothers and families about the importance of giving basic immunization to babies because giving basic immunization to babies can provide immunity to babies and prevent the occurrence of diseases.

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