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## INTRODUCTION

Diarrhea in toddlers is a health problem that occurs in many developing countries, especially Indonesia (1). Improper handling of diarrhea in toddlers can lead to dehydration and death (2). The main cause of the high rate of diarrhea in toddlers is maternal behavior factors that do not pay attention to the cleanliness of clean water facilities, sanitation, and child hygiene (3).

## Overview of Risk Perception, Outcome Expecrancies, and Task Self-Efficacy on Mothers in Handling Diarrhea in Toddlers

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### ABSTRACT

**Introduction:** Treatment of diarrhea in toddlers is still less than optimal for mothers which has an impact on dehydration until death. This study aimed to provide an overview of risk perception, outcome expecrancies, and task self-efficacy in mothers in the treatment of diarrhea under five.

**Method:** The research used a quantitative design with a cross-sectional descriptive approach. The population in the study was mothers with toddlers with a history of diarrhea at the Surabaya Health Center. The sampling technique used was a total sampling of 102 mothers. The independent variables used in this study were risk perception, outcome expectations, and task self-efficacy. The researcher took data with a questionnaire door to door to the respondents' homes. The data that has been collected is then analyzed with statistical analysis descriptions.

**Results:** A total of 55 mothers (53.9%) had risk perception in the medium category, 53 mothers (52%) had moderate outcome expectations, and 49 mothers (48%) had task self-efficacy in the medium category.

**Conclusion:** Mother's awareness of risks, optimism about results, and confidence in carrying out daily tasks, but still need support in knowledge, skills, and resources to increase self-efficacy and outcome expectations.

**Keyword:** diarrhea management, outcome expectations, risk perception, task self-efficacy

Although there are clear guidelines from the Ministry of Health regarding the management of diarrhea, such as the use of oralite and zinc, there are still many mothers who cannot provide optimal treatment, due to fear and uncertainty in managing diarrhea in toddlers (4). Factors such as knowledge, education, and mother's confidence in her abilities (task self-efficacy), outcome expectations, and risk perception in dealing with diarrhea greatly affect maternal behavior in handling diarrhea

in toddlers (Anggraini, 2020). Thus, an analysis is needed related to the mother's picture in handling diarrhea in toddlers related to risk perception, outcome expectancies, and task self-efficacy

WHO (World Wildlife Organization) Diarrhoea is the third leading cause of death in children under the age of five, with nearly 1.7 billion cases each year that killed about 525,000 children under the age of five (6). Balitbangkes (Health Research and Development Agency) in 2016 stated that diarrhea is the main cause of death in children under five, which is 10.3% or an increase from 4.55% in 2020 (1). According to the East Java Health Office, the prevalence of diarrhea in children under five years old was 51.6% in 2022, so that East Java Province is ranked third in Indonesia in terms of the number of diarrhea cases of toddlers (7). Previous research showed that in maternal behavior related to the treatment of diarrhea in toddlers, Nadeak (2019) in Kambu and Azinar (2021) found that 58.0% of mothers had poor behavior and 42.0% behaved well (8). Meanwhile, Anastasiani et al. (2023) stated that 52.0% of mothers showed poor actions in handling diarrhea (9).

Diarrheal diseases come from agent, host, behavioral, and environmental factors (10). Agents of diseases that cause diarrhea can be toxic substances, allergenic substances, or infections from microbes such as viruses, bacteria, and parasites (11). If viewed based on host factors, diarrhea can be caused by toddlers who have not received exclusive breast milk for two years, toddlers experiencing malnutrition, and toddlers experiencing measles (12), poor personal hygiene (3), and also latrines that are not suitable for use at home (13). Disease agents are very closely related to the relationship of environmental factors (11) The causes of diarrhea can include waste treatment, clean water sources, and facilities to dispose of waste (14). According to the Health Action Process Approach (HAPA), maternal behavior in dealing with diarrhea is influenced by three main motivational aspects: Self-efficacy, Outcome Expectations and Risk perception (15). If the mother is able to

manage these three aspects well, it is hoped that it can increase the confidence and ability of the mother to provide appropriate care, which can ultimately prevent complications and improve the health of the toddler without the need to be referred to a health facility.

The behavior of mothers who are not confident in their ability to provide diarrhea management can be changed with the HAPA approach (Health Action Process Approach). ERROR shows that health behavior is a process of motivation and will phase (15). In the motivation phase, there are three factors that affect the behavior of the mother when the child has diarrhea, namely the mother's confidence to overcome the child's diarrhea independently (Self-efficacy), the behavior of the mother's expectation weighs the pros and cons of the behavior of the mother overcoming the child's diarrhea (Outcome Expectations) and confidence in how risky it is to manage diarrhea independently (Risk Perception) (16). Task self-efficacy Referring to the mother's assessment of whether or not the mother is good or bad in doing first aid when the toddler has diarrhea, this belief is related to the cognitive and also the knowledge of the mother (Anggraini, 2020). Outcome expectancies Related Estimates or self-estimates that the behavior carried out by the mother in handling the child's diarrhea will achieve certain results (17). Risk perception related to the mother's belief in the risks posed if the behavior of handling children with diarrhea is done correctly and incorrectly (18). These aspects of motivation, if able to be mastered well by the mother, can affect the Proper maternal behavior so that it can be the main factor in the recovery of children with diarrhea without having to be rushed to health services. Therefore, this study aimed to provide an overview of risk perception, outcome expectancies, and task self-efficacy in mothers in handling diarrhea under five.

## METHOD

The study used quantitative with a cross-sectional descriptive approach. The population in the study was mothers with toddlers with a history of diarrhea at the

Surabaya Health Center. The sampling technique used was a total sampling of 102 mothers. The independent variables used in this study were risk perception, outcome expectations, and task self-efficacy. The risk perception questionnaire was compiled by (Rosiana 2014 in Lestari 2017) with a valid value of 0.559-0.725 and a reliability value of 0.969. The outcome expectancies questionnaire has been compiled by (Pinheiro et al 2002 in Nurkholiq 2020) with a valid value of 0.588-0.887 and a reliability value of 0.969. The self-efficacy task uses a

self-efficacy questionnaire that has been compiled by (Nursalam 2017 in Kimilaningsih 2019). with a valid value of 0.711-0.860 and a reliability value of 0.969. The researcher took data with a questionnaire door to door to the respondents' homes. The data that has been collected is then analyzed with statistical analysis descriptions. This research has been ethically feasible from the Health Research Ethics Commission (KEPK) of the Faculty of Nursing, Airlangga University with certificate number 3462-KEPK dated November 18, 2024.

## RESULT

**Table 1 Characteristics of respondents (n=102)**

No.	Characteristic	Parameters	f	%
1.	Age	20-25	10	9,8
		26-30	70	68,6
		31-35	22	21,6
		<b>Total</b>	<b>102</b>	<b>100</b>
		SD	4	3,9
2.	Final Education	JUNIOR	27	26,5
		SMA	66	64,7
		Diploma/Bachelor's	5	4,9
		<b>Total</b>	<b>102</b>	<b>100</b>
		Civil Servants/POLRI	5	4,9
3.	Work	Housewives	51	50
		Self employed	18	17,6
		Other Jobs	28	27,5
		<b>Total</b>	<b>102</b>	<b>100</b>
		< Rp. 3,500,000	81	79,4
4.	Income	IDR 3,500,000 – IDR 4,500,000	13	12,7
		> Rp. 4,500,000	8	7,8
		<b>Total</b>	<b>102</b>	<b>100</b>

Table 1 contains information related to the demographics of 102 maternal respondents from the Puskesmas in November 2024. In terms of age, the majority of respondents were 26-30 years old at most as many as 70 respondents (68.6%). The last level of education was dominated by the equivalent

of high school education, which was 66 respondents (64.7%). Most of the respondents had a job as a housewife with a total of 51 respondents (50%). The income of almost all respondents with an income of < Rp. 3,500,000 was 81 respondents (79.4%).

**Table 2 Research Variables (n=102)**

Variable	Category	Frequency (f)	Present (%)
Risk Perception	Low	0	0
	Keeping	55	53,9
	Tall	47	46,1
	<b>Total</b>	<b>102</b>	<b>100</b>
Outcome Expectations	Low	0	0
	Keeping	53	52
	Tall	49	48

Variable	Category	Frequency (f)	Present (%)
	Total	102	100
Task Self-Efficacy	Low	0	0
	Keeping	49	48
	Tall	53	52
	Total	102	100

Table 2 shows that in variable risk perception, 55 mothers in the medium category (53.9%), outcome expectations were 53 mothers in the medium category (52%), and task self-efficacy was dominated by mothers in the medium category as many as 49 (48%).

## DISCUSSION

The perception of diarrhea-related risks in toddlers is often influenced by past experiences, knowledge of the dangers of diarrhea, and the severity of the disease. Mothers with higher risk perceptions tend to be quicker to take precautions and seek medical care. In this context, understanding how mothers interpret risks and expectations for their outcomes and abilities in dealing with everyday situations is essential for designing effective public health interventions.

The majority of respondents have a perception of risk and expected results that are in the medium category. As many as 53.9% of respondents had a perception of moderate risk, which indicates that most mothers are quite aware of the potential threat to their family's health or well-being, but do not feel overly anxious or worried. The same can be seen in the Outcome Expectations variable, with 52% of mothers expecting moderate results from their efforts. Meanwhile, for the Task Self-Efficacy variable, the majority of respondents (52%) felt that they had high self-efficacy, which reflected their confidence in completing daily tasks, although there were still 48% who felt that their level of self-efficacy was in the medium category. Overall, these results show that most mothers have a good awareness of the risks involved, optimism about the results achieved, and confidence in carrying out their duties, despite the feeling that challenges still exist in some aspects of their lives.

Judging from the age distribution of respondents, the majority were in the age

range of 26-30 years (68.6%). This age tends to be at a stable period in a person's life, where many individuals have built families and are at productive age. Younger ages usually have limited life experience, which can affect risk perception (19). Previous research has shown that younger individuals tend to have a lower perception of risk, as they may feel healthier and less prone to health problems (20). In this case, although the majority of respondents were in that age range, there was no significant difference in risk perception categories. Most mothers in this category had a moderate perception of risk (53.9%), which may reflect a cautious but not overly cautious attitude in the face of potential danger.

The last level of education owned by the majority of respondents was high school (64.7%). Education often affects the understanding and assessment of the potential outcomes of an action, including in terms of health. Those with higher levels of education may better understand the consequences of actions taken, both positive and negative (21). However, most of the respondents in the study had moderate outcome expectations (52%) even though their education was generally at the high school level. This can indicate that even if they have enough knowledge, they may feel less confident or less confident about the results that can be obtained from an action, for example in maintaining health.

The respondents' jobs are dominated by housewives (50%). This work can affect the extent to which the mother feels able to perform certain tasks, especially those related to family care or social activities (22). The category of self-efficacy in tasks shows dominance in the moderate category (48%), which indicates that most mothers feel quite capable, but may still feel challenges in

carrying out their tasks. Work as a housewife does have its own challenges in terms of time and resource management, which may be a factor that affects their confidence in their ability to complete tasks.

The income distribution of respondents shows that the majority of mothers have an income of less than Rp 3,500,000 (79.4%). This relatively low income may be related to levels of anxiety and uncertainty in decision-making related to family health and well-being (23). However, there was no marked difference between income and risk perception, expected outcomes, or self-efficacy. One possibility is that despite low incomes, mothers still feel it is important to take care of their family's well-being in a simple way, which is reflected in moderate risk perception, moderate outcome expectations, and moderate self-efficacy.

According to behavioral theories such as the Health Belief Model (HBM) (24), a person will be more likely to take actions that benefit their health if they feel vulnerable to health problems, believe that the problem has serious consequences, and believe that the actions taken can reduce the risk. In this case, although most of the mothers in this study had moderate risk perceptions, moderate outcome expectations, and moderate self-efficacy, demographic factors such as age and education may affect the extent to which they believed in their ability to change outcomes or mitigate risk. Lower incomes can cause mothers to feel less resourceful to take preventive measures or undergo better health care, even though their knowledge and understanding of the importance of health remains.

These findings have important implications for public health practice. Although most mothers have sufficient risk awareness and confidence, educational interventions and psychosocial support are still needed to reinforce risk perceptions, increase outcome expectations, and strengthen self-efficacy (25). Evidence-based education, practical training, and support from health workers can help mothers be more agile in dealing with conditions such as diarrhea in toddlers (26). The right program not only reduces the

emotional burden, but also improves the quality of parenting and the overall health of mother-children.

## CONCLUSION

The mothers in this study had a high awareness of the risks faced, optimism about the desired outcome, and confidence in their ability to manage daily tasks. Nonetheless, there is room to improve self-efficacy and outcome expectations, by providing greater support in terms of knowledge, skills, and resources. The next study is expected to analyze the relationship between variables and maternal behavior in the treatment of diarrhea in toddlers.

## Conflicts of interest

Author declared no conflict of interest.

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