

## RESEARCH ARTICLES

### **The Relationship of Maternal Knowledge, Attitude, and Behavior to the Incidence of Atopic Dermatitis in Children as a Prevention Effort at the Sadabuan Village Health Center, Padangsidempuan City**

**Nadhira Amilia Afifi Lubis<sup>1</sup>, Hervina<sup>2</sup>**

<sup>1</sup>Faculty of Medicine, Universitas Muhammadiyah Sumatera Utara, Jalan Gedung Arca No. 53, Medan 20217, Indonesia

<sup>2</sup>Department of Dermatology and Venereology, Fakultas Kedokteran, Universitas Muhammadiyah Sumatera Utara, Jalan Gedung Arca No. 53, Medan 20217, Indonesia

**Email correspondence:** nadhira1410@gmail.com,  
dr.hervina@gmail.com

**Abstract:** Atopic dermatitis (AD) in Indonesia is increasing every year, occupying the first position of the top 10 skin diseases in children. Faktor genetik dan lingkungan berperan dalam DA, menyebabkan kelainan pada sistem kekebalan tubuh dan lapisan kulit epidermis, yang berujung pada hipersensitivitas tipe 2. Padangsidempuan City has a fairly high incidence rate of dermatitis (27.5%) and a low Pure Participation Rate (APM). Based on this background, given the high prevalence of children, along with low APM, the researcher wanted to conduct his research in the city. This study aims to determine the relationship between the level of knowledge, attitude, and behavior of mothers to the incidence of atopic dermatitis at the Sadabuan Health Center, Padangsidempuan City, North Sumatra. This research method is observational analytical, where dependent and independent variables are measured, then the data obtained will be analyzed to find the relationship between variables, with a cross sectional approach, where the variables being studied, are measured at the same time. The results of the analysis showed the relationship between the mother's level of knowledge and the incidence of AD (p-value: 1.000), the mother's attitude with the incidence of AD (p-value: 0.620), and the mother's behavior with the incidence of AD (p-value: 0.591). There was no relationship between the mother's knowledge, attitude, and behavior on the incidence of atopic dermatitis in children at the Sadabuan Health Center, Padangsidempuan City.

**Keywords:** Atopic dermatitis; knowledge level, attitude, behavior, health center, padangsidempuan city

## INTRODUCTION

Atopic dermatitis (AD) or commonly referred to as eczema or eczema is an inflammatory skin disease that is common in children, especially in early life. Nonetheless, it is still possible that AD can occur in adults.<sup>1</sup> AD is chronic and can recur over time. AD is defined as the existence of a genetic predisposition that eventually forms a hypersensitivity reaction to an antigen that comes from the environment.

A recapitulation of data from the Children's Dermatology Study Group (KSDAI) in five major cities in Indonesia shows an increase in AD every year. Of the ten most common childhood skin diseases, AD is in the top position.<sup>2</sup>

Quoted from data released by the International Study of Asthma and Allergies in Childhood (ISAAC), worldwide, 15-20% of children or around 2 million children in 100 countries experience Acute Diarrhea (AD). This case most often occurs in children over 2 years old. In the adult age group, the prevalence of AD ranges from 1-3%. In the last 50 years, the number of AD cases is predicted to continue to increase, especially in developing countries.<sup>3</sup>

North Sumatra is a province that has a fairly high incidence rate of dermatitis as much as 27.5%. One of the cities in the province, namely Padangsidimpuan City, has a high prevalence rate of children.

According to data from the Central Statistics Agency (BPS) as of 2022, the prevalence of children (0-19 years old) reached 83,253.<sup>4</sup>

The city of Padangsidimpuan is included in the city with a low Pure Participation Rate (APM) compared to some areas in North Sumatra. APM describes the proportion of children who are in formal education at an appropriate level based on their age.<sup>4</sup>

The research location conducted at the Sadabuan Health Center has a wide coverage of the work area, consisting of 7 sub-districts and 8 villages. Based on this background, given the high prevalence of children, along with low APM, the researcher wanted to conduct his research in the city, and wanted to

The Relationship between Maternal Knowledge, Attitude, and Behavior with the Incidence of Atopic Dermatitis in Children at the Sadabuan Health Center, Padangsidimpuan City, conducted a study on the level of knowledge, attitude, and behavior of mothers towards the incidence of atopic dermatitis at the Sadabuan Health Center, Padangsidimpuan City..<sup>5</sup>

The purpose of this study is to determine the relationship between the level of knowledge, attitude, and behavior of mothers with the incidence of DA in children at the Sadabuan Health Center, Padangsidimpuan City.

## METHOD

This type of research is analytical observational research. The researcher will measure dependent and independent variables, then will analyze the data obtained to find the relationship between the

variables. This researcher uses *cross sectional*, where the variables studied are measured at the same time.

The time for this research will be conducted in October 2023 - January 2024. This research was conducted at the Sadabuan Health Center, Padangsidempuan City, North Sumatra. The population in this study is mothers whose children are recorded as outpatient or living in the working area of the Sadabuan Health Center, Padangsidempuan City during the research time period.

The sample in this study is mothers who meet the inclusion criteria at the Sadabuan Health Center, Padangsidempuan City, with the inclusion criteria 1) Mothers who have children aged 0-18 years, 2) Mothers who have children diagnosed with AD, 3) Mothers who have children with AD and seek treatment for the first time at the Sadabuan Health Center.

Sampling techniques, using nonprobability sampling techniques and using total sampling techniques as the basis for determining sample size.

This study uses primary data, namely data collected directly from the research sample. This was obtained through filling out a questionnaire by Reljic et al. related to the level of knowledge, attitude, and behavior of mothers towards AD at the Sadabuan Health Center, Padangsidempuan City.

Questionnaire created by Reljic et al., which has been translated into Indonesian and tested for validity and reliability by Valentine.<sup>6</sup>

Meanwhile, to find out the incidence of AD at the Sadabuan Health Center, data was collected in the form of medical records. This study uses questionnaires as a measuring tool with scoring systems and ordinal scales. The questionnaire was designed to assess maternal knowledge, attitudes, and behaviors towards atopic dermatitis at the Sadabuan Health Center, Padangsidempuan City.

There are 12 questions to assess the level of knowledge and 8 questions to assess attitudes and behaviors. A questionnaire will be given after making *informed consent*. *This informed consent* aims to ask for consent from the respondents about the purpose of the research.

## RESULT

A study has been conducted on 40 subjects. This study was used to determine the relationship between parental knowledge, attitudes, and behaviors and the incidence of AD in children. The diagnosis was carried out by doctors working at the Sadabuan Health Center, Padangsidempuan City. The level of knowledge, attitudes, and behaviors was assessed with a questionnaire by Reljic, et al. which had been translated into Indonesian and tested for validity and reliability by previous researchers.<sup>6</sup>

**Table 1. Mother's Knowledge About the Incidence of AD in Children at the Sadabuan Health Center, Padangsidempuan City**

Rating Categories	Mother with AD Child Subject	
	N	%
Knowledge		

Good	20	50
Moderate	18	45
Poor	2	5
<b>Total</b>	<b>40</b>	<b>100</b>

In table 1, it was found that the subjects of mothers with AD children had the majority of knowledge that was categorized as good (50%).

**Table 2. Mother's Attitude Regarding the Incident of AD in Children at the Sadabuan Health Center, Padangsidempuan City**

Rating Categories	Mother with Child Subject	
	N	%
<b>Attitude</b>		
Good	32	80
Moderate	8	20
Poor	0	0
<b>Total</b>	<b>40</b>	<b>100</b>

In table 2, it is found that the majority of mothers with AD children have the majority of attitudes that are categorized as good (80%).

**Table 3. Mother's Behavior Regarding the Incident of AD in Children at the Sadabuan Health Center, Padangsidempuan City**

Rating Categories	Mother with Child Subject	
	N	%
<b>Behaviour</b>		
Good	34	85
Moderate	6	15
Poor	0	0
<b>Total</b>	<b>40</b>	<b>100</b>

In table 3, it was found that the subjects of mothers with AD children had the majority of knowledge that was categorized as good (85%)

**Table 4. The number of AD incidents at the Sadabuan Health Center, Padangsidempuan City**

Age	Sum	
	N	%
0-4 y.o	5	12,5
5-9 y.o	24	60
10-14 y.o	10	25
15-18 y.o	1	2,5
<b>Total</b>	<b>40</b>	<b>100</b>

From table 4, it is known that, in the time period of the study, 40 cases were found. The AD at the Sadabuan Health Center, Padangsidempuan City, with the highest age range is 5-9 years, as much as 60%.

**Table 5. AD incidence rate by Gender at the Sadabuan Health Center, Padangsidempuan City**

Gender	Sum	
	N	%
Woman	19	47,5
Man	21	52,5
<b>Total</b>	<b>40</b>	<b>100</b>

From table 5, it is known that, of the 182 cases of AD at the Sadabuan Health Center, it was found that 19 were women (47.5%) and 21 (52.5%) were men.

**Table 6. The Relationship of Mother's Knowledge About the Incidence of AD in Children at the Sadabuan Health Center, Padangsidempuan City**

Mother's Knowledge of AD	AD Occurrence		P-Value (Fisher Exact Test)	Conclusion
	N	%		
Good	20	50	1,000	No significant relationship
Moderate	18	45		
Poor	2	5		
<b>Total</b>	<b>40</b>	<b>100</b>		

From table 6, it was found that between the mother's knowledge about AD about the incidence of AD there was no correlation, with a p-value of 1,000 ( $<0.05$ ).

**Table 7. The Relationship of Mothers' Attitudes Regarding the Incidence of AD in Children at the Sadabuan Health Center, Padangsidempuan City**

Mother's attitude towards AD	AD Incident		P-Value (Fisher Exact Test)	Conclusion
	N	%		
Good	32	50,8	0,620	No significant relationship
Moderate	8	53,5		
Poor	0	0		
<b>Total</b>	<b>40</b>	<b>100</b>		

From table 7, it was found that there was no correlation between mothers' attitudes regarding AD events, with a p-value of 0.620 ( $<0.05$ ).

**Table 8. Maternal Behavior Relationship Regarding the Incidence of DA in Children at the Sadabuan Health Center, Padangsidempuan City**

Mother's Behavior Regarding AD	AD Occurrence		P-Value (Fisher Exact Test)	Conclusion
	N	%		
Good	34	50,7	0,591	No significant relationship
Moderate	6	53,5		
Poor	0	0		
<b>Total</b>	<b>40</b>	<b>100</b>		

From table 8, it was found that there was no correlation between maternal behaviors regarding AD incidence and the p-value was 0.591 ( $<0.05$ ).

## DISCUSSION

The results of the questionnaire answers distributed to the respondents, the results were obtained that the level of knowledge of the mother was good. This is also in line with the research conducted by Amelia, W.S., and Sari, P.M., who researched dermatitis subjects, and obtained good results in the category of knowledge level (45.7%).<sup>7</sup> Similarly, in a study conducted by Valentine, A., which obtained good results (81.9%) in the category of parental knowledge in children with atopic dermatitis.<sup>6</sup> Good knowledge can be obtained through a high motivation in understanding information, involvement in the learning process, understanding shortcomings, and allowing oneself to practice knowledge in real situations. This is explained in Gagne's theory.<sup>8</sup>

The results of the answers in the attitude category are included in the category of good attitude. This is in line with the research conducted by Amelia, W.S., and Sari, P.M., who researched dermatitis subjects, and obtained good results in the attitude category (40%).<sup>7</sup> Similarly, in a study conducted by Valentine, A., which obtained good results (86.1%) in the category of parental attitudes in children with atopic dermatitis.<sup>6</sup>

The behavior seen in the respondents falls into the category of good. Similarly, in a study conducted by Valentine, A., which obtained good results (83.3%) in the category of parental behavior in children

with atopic dermatitis.<sup>6</sup> Mothers who have good behavior in handling a dermatitis at home, have a lot of information about prevention when children are sick at home, so that the information obtained can be applied to children who are sick at home. On the other hand, if the mother does not get good information, then the handling given to the child will have bad consequences or the prevention process will take a long time.<sup>8</sup>

During the research period, 40 cases of AD were found at the Sadabuan Health Center, Padangsidempuan City. The prevalence of AD at the Sadabuan Health Center, Padangsidempuan City, has the most predominantly age range, which is 5-9 years, as much as 60%. In line with research conducted by Monalisa D. et al., AD is more common in children's age group.<sup>9</sup> The age of the child is the initial age of AD.

Table 6, it was found that there was no relationship between maternal knowledge and AD incidents. This is in line with research conducted by Rahmayani, S. et al., which showed that there was no relationship between knowledge and the frequency of dermatitis events. In the study conducted by Valentine, A., the results of the mother's knowledge level dominated the category of good in mothers with AD children.<sup>6,10</sup> This is because a person's knowledge is not one of the causes of AD, various factors affect it, including a weakened skin barrier, increased immune cell activity in the skin, and the community of microorganisms (microbiome) that live on the skin. Some external environmental factors, such as

living in urban areas or areas with low humidity, can increase the risk of atopic dermatitis.<sup>11</sup>

Table 7, which compares maternal attitudes to AD events, also does not have a AD unrelated. This is in line with the conclusion of the study by Amelia W.S. and Sari P.M., who said that attitude does not have a complete influence on dermatitis, although these factors play an important role.<sup>7</sup> In the study conducted by Valentine, A., the results of the mother's attitude level dominated the good category in mothers with AD children.<sup>6</sup> This is because the relationship between the incidence of dermatitis and a person's attitude cannot be generalized directly, and this is complex and non-linear. Attitudes can affect behaviors that are risky to skin health, while dermatitis itself can have an impact on the attitude and psychic life of the sufferer.<sup>7</sup>

Table 8, it was found that there was no relationship between the mother's behavior regarding AD and the AD incident. In line with the results of the study conducted by Valentine, A., the results of the mother's behavior level dominated the good category in mothers with AD children.<sup>6</sup> In the results of a study conducted by Damayanti Y., at the Mawaridussalam Islamic Boarding School, it was assessed that some behaviors are not related to a skin disease condition. This suggests that mothers, even with high levels of behavior, do not have a lower risk of developing atopic dermatitis than children with low levels of behavior.<sup>12</sup>

## CONCLUSION

There is no relationship between the mother's knowledge, attitudes, and behaviors and incidence of atopic dermatitis in children at the Sadabuan Health Center, Padangsidempuan City. The incidence of atopic dermatitis cases at the Sadabuan Health Center, Padangsidempuan City was 40 in the study timeframe.

Suggestions for further research are expected to be conducted by assessing the risk factors of subjects and children with DA with the incidence of AD, research is conducted by assessing the risk factors of children related to AD, research is carried out by reaching a wider population and a larger sample.

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