



## The Effectiveness of Audiovisual Media and Fairytale on The Level of Anxiety in Toddler during Immunization

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### Abstract

Anxiety during immunization is a response shown by toddler during the treatment and it is indicated through mood disorder, that is deep and continually dreadful or worry feelings. The anxiety on the toddler must be overcome well, because it can influence his/her future development, and one way to overcome the anxiety on the toddler is giving media distraction through fairytale reading and audiovisual. The purpose of this research is to know the differences between giving the audiovisual media and the fairytale towards the anxiety level on the toddler during immunization. The research design uses Quasi-Experimental with Two Group Pre-Post Test Design, and the total sample is 94 respondents and they were taken by using consecutive sampling method. The data collection technique uses questionnaire, and in order to analyze the data, this research uses 'Wicoxon' and 'Mann Whitney' statistic tests. The results of this research were, it was found that the counseling by giving the fairytale reading method was little bit more effective than the audiovisual media, with Mean Rank score of the audiovisual was 51.50 and Mean Rank of the fairytale was 43.50, and the Significance value was 0.026 which was smaller than the significance level  $p < 0.05$ . These two counseling methods could be used to decrease the anxiety level on the toddler during immunization. According to the results above, the average score of giving the fairytale reading was more effective than giving the audiovisual media. It was caused by the distraction effect which was experienced by the toddler during his/her interaction with the fairytale reader was stronger, so it could decrease his/her anxiety level.

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## INTRODUCTION

Toddler age (1-3 years) is the age of the child in which basic growth occurs which will affect and determine the further development of a child, where toddlers are included in the toddler period (Ahmad, 2012). Children are very valuable children for parents, that is, they will become the nation's successor. To prepare the nation's successor, Indonesian children who are physically and mentally healthy are needed so that it is beneficial for the nation and state (Hadinegoro et al., 2011). Care and protection against diseases that can hinder the growth and development of children towards high quality adults is needed in realizing this (Ranuh, et al., 2011).

Preventive, curative and rehabilitative are the three main pillars in improving public health, especially children. However, prevention efforts have yielded results that can reduce curative and rehabilitative needs. Through efforts to prevent the transmission and transmission of dangerous infectious diseases, it will reduce the morbidity and mortality of infectious diseases in children, especially those under five years of age. One of the main elements in this prevention or preventive effort is immunization (Hardinegoro et al., 2011). Some infectious diseases that can be prevented by complete basic immunization include: tuberculosis, diphtheria, pertussis, tetanus, hepatitis, polio, and measles. This disease can cause death in children, so it is necessary to give immunization to protect against various diseases (Human, 2010).

Currently in Indonesia there are still children who have not received complete immunization and have never received immunization since birth. This causes them to be susceptible to contracting dangerous diseases because there is no immunity against them. Data from the Directorate of Disease Prevention and Control, Ministry of Health (Kemenkes) RI shows that since 2014-2016, approximately 1.7 million children have not received immunization or their immunization status is incomplete (Indonesian Ministry of Health, 2018). Indonesia is committed that in order to achieve the target of measles elimination by 2020, it requires measles immunization coverage of at least 95% evenly across all districts / cities. This is related to the reality that measles is the main cause of death in children under five. In Indonesia, measles is the 10 biggest cause of death in children aged 29 days - 4 years (Riskesda, 2007).

Immunizations given to toddlers include DPT 4 which is given at 18 months of age through

intramuscular injection and repeat measles immunization at the age of 2.5 years through subcutaneous injection. (Rofiasari et al., 2020). The way of giving immunization by injection will cause fear of immunization. The fear experienced by toddlers who will receive immunizations will cause anxiety in these children.

Anxiety is a natural disturbance characterized by feelings of fear or worry that are deep and sustainable. Anxiety arises due to frequent worries that haunt you in facing something that was never before worried (Lumongga, 2009 in the journal (Irwinda., 2017). Needle fear is a barrier to carrying out immunizations in children and adults, as in Canada, 205 parents (24%) and 636 children (63%) reported being afraid of needles. Fear of needles is one of the reasons for not getting immunizations. At the age of under five who received immunization showed their fear and anxiety by crying until they fainted, of the 883 immunized toddlers, 85% cried, 38% screamed, 33% beat, 23% refrained from the procedure, 20% ran away, 15% kicked, 4 % shortness of breath, 2% fainting (Taddio et al., 2012).

Based on data from the Bojonegoro District Health Office, it is known that the target target for the Baduta immunization in 2018 at the Kanor Health Center is 735 children, divided into two immunization targets, namely DPT4 immunization for 696 children and Measles Rubella 2 for 607 children. A preliminary study conducted in December 2018 in the Puskesmas Kanor area found 12 toddlers who will receive DPT 4 immunization and repeat measles immunization. From the results of interviews with the village midwife regarding the child's condition at the time the immunization procedure was carried out, the forms of anxiety were crying, screaming, shouting, trying to stay away from health workers, pulling their parents home and refusing verbally from seeing the syringe. When starting immunization, the child cries until the immunization is complete. When the immunization procedure is given, if the companion is the mother, it is asked to adjust the position by holding the child while being breastfed so that the child tends to be calm. however this method is still ineffective because children still cannot be distracted from their attention during immunization.

There are several ways that can be done to reduce anxiety in children, including through audio media, visual media, (human) displays, audiovisual media and fairy tales. Audiovisual media is an intermediary medium or the use of

material and absorption through sight and hearing so as to build conditions that can acquire skills, knowledge and attitudes. (Hasanudin, 2018).

Audiovisuals favored by toddler age children are cartoons or moving pictures, which are very attractive media for children, especially toddlers who have high imagination. Audiovisuals can make it easier for children to get learning on a fun basis. Children can also explore feelings, emotions, and memory through audio visual, audiovisual can also help health workers carry out injection procedures, making it easier for health workers to divert attention so that children are cooperative in implementing therapeutic procedures (Taufik, 2007).

Media is a tool for conveying information to recipients and everything used to transmit messages to the recipient so that it can stimulate thoughts, feelings, attention so that effective and efficient communication occurs (Silalahi et al., 2018). Good and effective media is media that pays attention to various kinds of factors, one of which is the characteristics and tastes of the counseling targets (Setiawan et al., 2017)

## METHOD

This research is a quantitative study using a quasi-experimental research design with two group pretest-posttest design. The sample of this research is toddlers who will get DPT 4 immunization and repeat measles as many as 94 respondents at Puskesmas Kapas and Temayang, Bojonegoro

Regency. The sampling technique was consecutive sampling. (Notoatmojo, 2012)

The independent variable in this study is counseling with audiovisual media and fairy tales. The dependent variable in this study is the age anxiety level of the toodler. The data collection technique is by using a questionnaire. The questionnaire used in this study concerns general data on respondents which were filled in by the respondents' parents. The scale used to assess the level of anxiety in this study is the HARS (Hamilton Anxiety Rating Scale) scale to retrieve data. The HARS scale is used to measure the level of anxiety in toddlers before being given immunizations.

In this study, bivariate and multivariate analyzes were carried out using the Wilcoxon and multivariate tests using the Man Withney test to see differences in effectiveness on the dependent variable and the independent variable (Sugiyono, 2012).

## RESULT AND DISCUSSION

The effectiveness of audiovisual media and fairy tales on the level of anxiety in toddlers during immunization can be seen from the results of the bivariate and multivariate analysis. The bivariate analysis in this study was used to determine the effectiveness of telling stories with audiovisual media and fairy tales on toddler anxiety during immunization.

**Table 1.** The effectiveness of telling stories with audiovisual media on the level of anxiety of toodler's age children during immunization

Description		N	Mean Rank	Sun of Rank
Audiovisual Post test	Negative ranks	43	22.00	946.00
Audiovisual Pre test	Positive ranks	0	.00	.00
	Ties	4		
	Total	47		
Z				-6.405
Asymp.sig. (2-tailed)				.000

Based on table 1, it is known that of the 47 respondents there is a Negative Rank of 43 and ties 4 respondents with a significance level of  $p < 0.005$  so that the anxiety level value of the toodler age children before and after being told a story with audio visual media  $\rho = 0,000$  with a Z value of -

6.405 and Mean Rank 22.00 which means less than the level of significance  $\rho < 0.050.05$ . So that there is an influence on telling stories with audiovisual media on the level of anxiety in children aged toodler during immunization.

**Table 2.** The effectiveness of fairy tale media on the level of anxiety in toodler's

Description		N	Mean Rank	Sun of Rank
Fairytales Post test	Negative ranks	39 <sup>a</sup>	20.00	780.00
Fairytales Pre test	Positive ranks	0 <sup>b</sup>	.00	.00
	Ties	8 <sup>c</sup>	8 <sup>c</sup>	
	Total	47		
Z				-6.085
Asymp.sig. (2-tailed)				.000

Based on table 2 it is known that of the 47 respondents there is a Negative Rank of 39 and Ties 8 with a significance level of  $\rho < 0.05$ , the results of the anxiety level of children aged toddler before and after being told a story with tales  $\rho =$

Multivariate analysis based on testing the effectiveness of telling stories with audiovisual media and fairy tales on the level of anxiety in

0.000 with a Z value of -6.085 and Mean Rank 20.00 which means less than the significance level  $\rho < 0.05$ . So that there is an influence on the provision of stories with audio visual media on the level of anxiety in children aged toddler.

toddlers during immunization using the Mann Whitney U Test obtained the following results as seen in Table 3.

**Table 3.** Differences in the effectiveness of telling stories with audiovisual media and fairy tales against anxiety levels in toddlers during immunization

Audiovisual and Fairytales		N	Mean Rank	Sum of Ranks
Child Anxiety	Audiovisual	47	51.50	2420.50
	Fairytales	47	43.50	2044.50
	Total	94		
Mann-Whitney U				916.500
Wilcoxon W				2044.500
Z				-1.530
Asymp. Sig. (2-tailed)				.026

Based on table 3, it is known that a value of  $\rho = 0.026$  with Mean Rank Audiovisual 51, 50 and Mean Rank of fairy tales 43.50 with a significance value of 0.026 which means less than the level of significance  $\rho < 0.05$ . So that there are differences in the effectiveness of telling stories with audiovisual media and fairy tales on the level of anxiety of Todler age children during immunization.

These results prove that the average value or Mean Rank of telling stories with tales is smaller than the average value or mean rank of giving stories with audiovisuals. Interestingly, from the results of this study, story telling is a little more effective or slightly more influential on changes in the level of activity in toddlers during immunization. As is well known in this digital era, usually children will be more comfortable with their own world and are distracted by what they see, especially when they use audiovisual media. However, in reality, storytelling through fairy tales can reduce the average reduction in anxiety levels compared to story telling through audio-visual media. So the researchers can conclude that telling stories through fairy tales is more effective than

telling stories through audiovisuals. This can be proven from the results of the effect before and after giving intervention by using fairy tales, the researcher argues that the most important thing in reducing anxiety or having a distraction effect on children is the interaction between the child and / the storyteller and the content of the fairy tale itself.

Toddler (1-3 years) is the age of a child where in its journey there is basic growth that will influence and determine the further development of a child, where toddler age is included in the toddler period (Ahmad, 2012). At the age of toddlers is the golden period in the human life span, therefore at this time children must get attention about the process of growth and development. During the development period, children can experience several problems such as growth disorders and health problems. Common health problems that occur in toddlers are dengue hemorrhagic fever, diarrhea, respiratory infections, influenza and measles. Infectious diseases that occur in toddlers can be prevented, one of which is by immunization (Padila et al., 2019).

Immunization is an effort to actively generate or increase a person's immunity against a disease, so that if one day someone is exposed to the disease, they will not get sick or only experience a mild illness (Ministry of Health, 2013). Immunization aims to provide immunity to the child's body. You do this by giving vaccines. This vaccine comes from certain germs that can cause disease, but this disease is weakened or killed first so that it is no longer dangerous to human survival (Borji et al., 2018). Immunization that will be carried out on toddlers can cause fear that will be experienced by the child and this fear can cause anxiety in the child.

Immunizations given to toddlers include DPT 4 which is given at 18 months of age which is given via intramuscular injection and repeat immunization of measles at the age of 2.5 years which is given through subcutaneous injection (Mulyani, 2013). Giving immunization by injection will cause fear of immunization (Taddio et al., 2012). The fear experienced by toddlers who will receive immunizations will cause anxiety in these children. The cause of anxiety in Toddler's age children is fear of the procedures that will be performed. A child's reaction to something that is not painful is the same as a reaction to an action that is very painful. Based on observations, when checking the ears, mouth, or temperature will make the child very anxious (Nursalam, 2010). This anxiety is often experienced by children due to body injury and pain. The child's response to injury and pain is shown to vary according to their level of development (Hockenberry & Wilson, 2009).

Toddlers' reactions to pain are the same as they were when they were babies, but the number of variables that affect their responses is more complex and varied. Children will react to pain by grinning, crying, clenching their teeth, biting their lips, opening their eyes wide, or taking aggressive actions such as biting, kicking, hitting, or running (Nursalam, 2010). Anxiety at toddler age, such as losing a parent, is known as separation anxiety, anxiety towards strangers, loud noises, and large animals (Cahyaningsih, 2011). Most of the stress that occurs in infants in middle age to pre-school children, especially children aged 6 to 30 months, is anxiety due to separation (Pawiliyah et al., 2019). Anxiety arises as a result of frequent worries that haunt you in dealing with something that was never before worried (Lubis, 2009). In Wahyuningrum's research (2015), it shows that toddlers who will receive immunization show fear and anxiety by crying until fainting, of the 883 immunized toddlers, 85% cry, 38% scream, 33%

hit, 23% refrain from the procedure, 20% fleeing, 15% kicking, 4% shortness of breath, 2% fainting (Pulungan et al., 2017). Successfully overcoming anxiety and fear in childhood will have a big impact in the future. Children who are not successful in overcoming their fears in childhood tend to be timid and lack self-confidence later in life. On the other hand, children who can overcome their childhood fears usually grow up to be brave and have self-confidence (Mushoffa, 2009).

There are several ways that can be done to reduce anxiety in children, including through audio media, visual media, (human) displays, audiovisual media and fairy tales. Audiovisual media is an intermediary medium or the use of material and absorption through sight and hearing so as to build conditions that can acquire skills, knowledge and attitudes. Audiovisuals favored by toddler age children are cartoons or moving pictures, which are very attractive media for children, especially toddlers who have high imagination. Audiovisuals can make it easier for children to get learning on a fun basis. Children can also explore feelings, emotions, and memories through audio visual, audiovisual can also help health workers carry out injection procedures, making it easier for health workers to divert attention so that children are cooperative in implementing therapeutic procedures (A'diilah et al., 2016).

Children usually respond poorly when injection is done, including children becoming more aggressive and uncooperative or hostile to health workers. This condition makes it difficult for nurses to carry out nursing actions (Purba, 2012). Researchers argue that this study will reduce the impact of anxiety experienced by children aged toddler who will be immunized, one of which is the impact of growth and development in children, especially on language and motor aspects. In addition, this research can be used as an effort to increase the response of children's acceptance to immunization or medical action so that children can respond well during medical action procedures or when immunization is taking place.

## CONCLUSION

Both methods can reduce the level of anxiety in the toddler at the health center. It is known that the average value of telling stories with fairy tales is more effective than audio visual media. This is because the distraction effect experienced by children when interacting with the

storyteller is stronger, so that it can reduce the level of anxiety in toddler.

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