

# Availability of Audiovisual Animation Education as a Means to Improve Knowledge to Avoid the Risk of Patient Falls in the Hospital

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## ABSTRACT

The risk of falling is one aspect that needs to be studied in patient safety, especially for patients who are at risk of falling due to weakness or the effects of therapy. Providing education with audiovisual animation as an effort to prevent the risk of patient falls in hospitals is very necessary. The aim of this research is to determine the effectiveness of providing audiovisual animation education to increase knowledge of efforts to prevent the risk of falls in patients in hospitals. This research uses a quasi-experimental research design with a one group pretest posttest approach without a control group. The sample determination technique uses a purposive sample technique, namely by determining certain criteria. Data was collected using a questionnaire sheet, bivariate analysis using the Paired Sample T-Test with the help of SPSS. Based on the results of statistical tests, it is known that the sig. (2-tailed) of  $0.000 < 0.05$ , meaning that  $H_1$  is accepted, it can be concluded that audiovisual animation education is effective as an effort to prevent the risk of falls in patients in hospitals. Providing audiovisual animation education is very effective in increasing knowledge about how to prevent patients who are at risk of falling, with guaranteed patient safety it will have a good impact on patient recovery. Guaranteed patient safety cannot be separated from the hospital and family's guidance in caring for patients to avoid various risks that can occur, one of which is the risk of falls in patients.

**Keywords:** Audio Visual Animation Education, Fall Risk, Knowledge

## BACKGROUND

Patient Safety is a system that makes patient care safer, including risk assessment, identification and management of patient risks, incident reporting and analysis, the ability to learn from incidents and follow-up, as well as implementing solutions to minimize risks and prevent injuries caused by errors resulting from carrying out an action or not taking action that should be taken (Ministry of Health of the Republic of Indonesia, 2017).

Fall risk is an increased susceptibility to falls that can cause physical harm. A fall is an event that results in someone suddenly lying down or accidentally lying on the floor or a lower place (Manalu, 2019).

Based on the incidence of patient falls every year in all hospitals in the United States, data is reported as 700,000 to 1,000,000 people fall every year in hospitals. (Nur et al., 2017). In Indonesia, data regarding incidents of patient falls based on the results of a patient safety incident survey conducted by the Hospital Patient Safety Committee (KKPRS) in Indonesia in January-April (2011) reported cases of unexpected events (KTD) and near-miss injuries (KNC) caused by patient falls of (5.15%) (Prasetyo & Rita, 2017).

Based on the report of the XII Congress of the Indonesian Hospital Association (PERSI, 2012), it shows that the incidence of patient falls is included in the top three hospital medical

incidents and is ranked second after medicine errors. Data from this report shows that as many as 34 cases or the equivalent (14%) of falls occurred in hospitals in Indonesia.

Preventing the risk of patient falls is part of the six hospital patient safety targets stated in Minister of Health Regulation no. 11 of 2017 concerning Patient Safety. This regulation is the basis for every hospital in standard patient safety procedures. Each hospital develops an approach to reduce a patient's risk of injury from a fall.

Based on the results of observations made on 10 outpatients at Gambiran Hospital, Kediri City on June 8 2022, the results showed that there were still many incidents of patient falls ranging from children to elderly patients. This occurs due to various factors, including a history of previous falls, decreased visual acuity, walking behavior and attitude, musculoskeletal system, mental status, acute and chronic illnesses. Therefore, special treatment is needed to reduce the risk of falls. Apart from health workers, providing education to patients and families about the risk of falls.

Media is one of the things that needs to be considered when carrying out health promotion. The media commonly used in health promotion are audio media, visual media and audiovisual media. Audiovisual media is a good medium to use, because it involves more senses in the learning process. Animated videos are an example of audiovisual media.

Providing education with audiovisual animation as an effort to prevent the risk of patient falls in hospitals is very necessary. Because with audiovisual animation, patients will not get bored quickly and one of the novelties of delivering education is usually carried out using the lecture method.

## METHODS

This research uses a quasi-experimental research design with a one group pretest posttest approach without a control group. The research was carried out at Gambiran Regional Hospital. The sample determination technique used a purposive sampling technique, namely by determining certain criteria. Data was collected using a questionnaire sheet, bivariate analysis using the Paired Sample T-Test with the help of SPSS.

## RESULTS

### Respondent Characteristics

The majority of respondents in this study were aged 21-44 years, 25 people (55.6%). With female gender, namely 23 people (51.1%). Most of the respondents were housewives, namely 16 people (35.6%) and the least occupation was farming, namely 1 person (2.2%). The highest level of education among respondents was 30 people (66.7%), 4 people (8.9%), 4 people from elementary school, 6 people from junior high school (13.3%), 3 people from Bachelor's Degree (6.7%), and 2 people at least Diploma (4.4%).

### Variable Characteristics

**Table 1.** Characteristics of Pre and Post Knowledge Variables

Category	Pre Knowledge		Post Knowledge	
	Frequency	Percent	Frequency	Percent
Not enough	18	40 %	1	2,2 %
Enough	24	53,3 %	16	35,6 %
Good	3	6,7 %	28	62,2 %
<b>Total</b>	45	100 %	45	100 %

Based on the table above, it is known that the majority of respondents before being given education had sufficient knowledge about preventing the risk of falls, 24 people (53.3%). After being given education, the majority of respondents had good knowledge about preventing the risk of falls after being given education, namely 28 people (62.2%).

## Statistical Test Results

**Table 2.** Paired Sample T-Test Statistical Test

Variable		Mean	Mean Difference	Sig. (2-tailed)
Patient knowledge about efforts to prevent the risk of falls	Pre Test	5,7556	-1,97778	0,000
	Post Test	7,7333		

Based on the table above, it is known that the difference between the average pre-test score of 5.7556 and the post-test of 7.7333 is -197778 with a sig value. (2-tailed) of  $0.000 < 0.05$ , it can be concluded that there is a real difference between the knowledge of outpatients at Gambiran Regional Hospital about preventing the risk of falls before and after being given education. So that providing effective audiovisual animation education as an effort to increase knowledge of preventing the risk of falls in patients in hospitals is effectively carried out.

## DISCUSSION

### Patient Knowledge Before Providing Audiovisual Animation Education as an Effort to Prevent the Risk of Falls in Patients in Hospitals

Based on the research results obtained during the research, it is known that the total number of outpatients at Gambiran Hospital, Kediri City who were used as research respondents was 45 people. The level of knowledge of respondents or outpatients at Gambiran District Hospital before the audiovisual educational intervention to prevent falls had adequate knowledge about falling risk prevention, 24 people (53.3%), 18 people (40%) had insufficient knowledge about falling risk prevention, and the remaining 3 people (6.7%) already had good knowledge about fall risk prevention efforts.

Based on cross tabulation data from 24 respondents who had sufficient knowledge of fall risk prevention before the intervention, 14 people (58.3%) had an age range of 21-44 years and of the 24 respondents who had sufficient knowledge of fall risk prevention before the intervention, 13 people (54.2%) were female. Meanwhile, of the 24 respondents who had sufficient knowledge of fall risk prevention before the intervention, 12 people (50%) were housewives, and of the 24 respondents who had sufficient knowledge of fall risk prevention before the intervention, 16 people (66.7%) had a high school education level.

This is the same as research conducted by Desliana Manulu (2019) which shows that the level of patient knowledge in efforts to prevent the risk of falls is still more than 50% of patients who still have insufficient knowledge. In Desiana's research, patients with insufficient knowledge were 16 people (53.3%).

Knowledge can be influenced by several factors, one of which is age. Based on the results of demographic data obtained for the age of respondents who were given health education about preventing patients about the risk of falls using audio-visual (video) media, 22.2% had an age range of  $> 60\%$  years, 22.2% had an age range of 45-59 years, and 55.6% had an age range of 21-44 years. In this study, the majority of respondents who had sufficient knowledge were in the age range 21-44 years, namely 14 people.

Age can influence a person's knowledge, because the older one gets, the more a person's grasping power and thought patterns develop so that the knowledge obtained becomes better. However, there is a decrease in the ability to catch in old age which is influenced by physiological factors so that the level of knowledge possessed also decreases. This also happened in research conducted by Desliana Manulu which showed differences in levels of knowledge based on age level, respondents with an age range of 26-35 years and 36-45 years had sufficient knowledge.

A fall is a patient's experience of an unplanned fall, an unintentional incident that happens to a person at rest that can be seen or felt or a fall that cannot be seen due to an illness such as stroke, fainting, etc. Insufficient knowledge in caring for patients regarding preventing the risk of falls will worsen the disease they suffer, patient safety is very important and requires appropriate treatment. Patient safety is a system established by hospitals that makes patient care safer. The system includes patient risk assessment, incident reporting and analysis, the ability to learn from incidents and follow-up as well as implementing solutions to minimize the occurrence of risks.

The lack of knowledge that respondents had before being educated about the risk of falling was due to a lack of understanding of what causes patients to be at risk of falling. Lack of knowledge includes not knowing that degenerative diseases pose a risk of falls, a history of previous falls can be a risk factor for falls, mental status is a risk factor for falls, loss of focus during activities is a risk factor for falls, side effects from taking medication can cause a risk of falls.

Based on the research that has been carried out, there are several statement items in the lack of knowledge category, namely that the average respondent still does not understand the statement that mental status is a risk factor for falls and the side effects of taking medication can cause the risk of falls. Some respondents only know that the drug is healing, in fact some drugs themselves have side effects that cause drowsiness and this can trigger the risk of falls in patients.

#### **Patient Knowledge After Providing Audiovisual Animation Education as an Effort to Prevent the Risk of Falls in Patients in Hospitals**

Based on the results of research after an audiovisual animation educational intervention was carried out as an effort to prevent the risk of falls in patients, it was found that some respondents had good knowledge about preventing the risk of falling after being given education, namely 28 people (62.2%), with sufficient knowledge of 16 people (35.6%) and 1 person (2.2%) who still had insufficient knowledge about preventing the risk of falling.

Based on cross tabulation data from 28 respondents who had good knowledge of fall risk prevention after intervention, 16 people (57.1%) of them had an age range of 21-44 years. And of the 28 respondents who had good knowledge of fall risk prevention after the intervention, 14 people (50%) were men and 14 people (50%) were women. Meanwhile, of the 28 respondents who had good knowledge of fall risk prevention after the intervention, 10 people (35.7%) were private employees. And of the 28 respondents who had good knowledge of fall risk prevention after the intervention, 20 people (71.4%) had a high school education level.

The same research conducted by Aan Nurhasanah (2020) showed changes in the level of knowledge after being given education. This is proven by the results of the research, after the intervention was given, there was a significant difference in the fall prevention knowledge score in the family before and after the educational intervention ( $p=0.001$ ), as well as in the skills aspect, the results of the analysis showed that respondents before the education showed 49,200, after the education there was an increase of 50,360 with a difference of 1,100. This means that there is a significant difference in the fall risk prevention skills score in the family before and after the educational intervention ( $p=0.035$ ) with an average difference in increase in behavior score =1.100.

According to Kholid and Notoatmojo, this level of knowledge starts from the individual recognizing or knowing or observing something, then understanding or being able to explain the object he knows, then increasing to practice or application, followed by analysis, namely the ability to explain then connect the parts of something to form a whole or synthesize and finally evaluation to make an assessment of an object (Notoatmojo, 2012).

Good knowledge will ensure patient safety and minimize the risk of falls so as not to worsen the disease the patient is suffering from. Providing audiovisual animation education is very effective in increasing knowledge about preventing the risk of falls in outpatients. Audiovisual media is media that has sound elements as well as image elements. This type of media has better expertise, because it includes both types of auditive (hearing) and visual (seeing) media. Audiovisual media is an audiovisual aid which means materials or tools used in learning situations to assist written and spoken words in providing knowledge, attitudes and ideas.

After being given audiovisual animation education as an effort to prevent the risk of falls, the level of knowledge of respondents increased from before, most respondents with less knowledge, after being given education, the level of knowledge became good and there was only one respondent who had less knowledge. Lack of knowledge is caused by respondents still having difficulty understanding how mental stress can cause the risk of falls and the side effects of taking medication. For this reason, it is necessary to provide education in stages so that respondents can understand it well.

### **Effectiveness of Providing Audiovisual Animation Education as an Effort to Increase Knowledge of Fall Risk Prevention in Hospital Patients**

The results of the research carried out obtained data analysis using the Paired Sample T-Test, namely a significance value or p-value for blood pressure of 0.000 with a significance level of 5% or  $\alpha = 0.05$ . Because the significance value or p-value  $< \alpha = 0.05$ ,  $H_0$  is rejected and  $H_1$  is accepted, which means that there is an increase in the knowledge of outpatients at Gambiran Hospital about preventing the risk of falls before and after being given education. In the research that has been carried out, the results of the level of knowledge show that there is a difference in the average increase in knowledge between the mean value before 5.7556 and the mean after education, 7.7333.

The results of the tabulation between knowledge before and after being given education about preventing the risk of falls in patients showed an increase in knowledge that 10 people (55.6%) before being given the education had poor knowledge about preventing the risk of falling and after being given the education they experienced an increase, namely having good knowledge about preventing the risk of falling.

This is in line with research conducted by D. Manulu (2019) with the title Application of audio-visual media for health education: preventing patients at risk of falling at the North Sumatra University Hospital which shows that there is a significant difference in the provision of education on family knowledge and skills in preventing falls in the elderly, as evidenced by the significant difference in fall prevention knowledge scores in the elderly before and after the educational intervention. In research by Aan Nurhasanah (2020), the results of the research presented in the previous chapter can be concluded that in the application of audiovisual media, the author found that audiovisual media is a good media for health education and can increase patient knowledge about preventing patients at risk of falls at the North Sumatra University Hospital. The change in knowledge of patients who were respondents before being given health education and after being given health education was an increase of 33.3% of respondents whose knowledge increased to the good category. Audio visual media is a type of media used in learning activities that involves hearing and sight simultaneously in one process or activity.

Knowledge or erudition is the result of human sensing or the result of someone's knowledge of an object through their five senses. The five human senses for sensing objects are sight, hearing, smell, taste and touch. When sensing to produce knowledge it is influenced by the intensity of attention and perception of the object. A person's knowledge is mostly obtained through the sense of hearing and the sense of sight (Notoatmodjo, 2014).

Audiovisual animation education was intervened on outpatients after filling out a pre-test questionnaire. It was known that there were still many patients who had insufficient knowledge regarding efforts to prevent the risk of falls. After the education, a post-test level of knowledge was measured. From the implementation of education, satisfactory results were obtained because there was an increase in knowledge of inpatients. Increasing knowledge through audiovisual animation education can be an effort to increase patient knowledge in efforts to prevent the risk of falls. The patient's understanding of the material presented becomes faster due to additional insight.

Providing audiovisual animation education is very effective in increasing knowledge about how to prevent patients who are at risk of falling, with guaranteed patient safety it will have a good impact on patient recovery. Guaranteed patient safety cannot be separated from the hospital and family's guidance in caring for patients to avoid various risks that can occur, one of which is the risk of falls in patients. For this reason, family knowledge about the risk of falls in patients is very important and must be understood.

## **CONCLUSION**

Based on research conducted at Gambiran Regional Hospital, it was found that prior to the audiovisual educational intervention on fall prevention, 24 respondents (53.3%) had sufficient knowledge, 18 respondents (40%) had insufficient knowledge, and only 3 respondents (6.7%) had good knowledge regarding fall prevention efforts. However, after the intervention was carried out, there was a significant improvement in the respondents' knowledge. A total of 28 people (62.2%) demonstrated good knowledge, 16 people (35.6%) had sufficient knowledge, and only 1 person (2.2%) still had insufficient knowledge about fall prevention. The data analysis using the Paired Sample T-Test showed a significance value (p-value) of 0.000, which is less than the alpha level of 0.05. This indicates that the hypothesis (H1) is accepted, confirming that audiovisual animation education is effective in increasing knowledge and serves as a beneficial effort to prevent the risk of falls in hospital patients.

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