Audio Visual Education To Prevent Fall Risk For Patients' Family In The Icu Of Hospital

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ABSTRACT

Knowledge about fall risk prevention is very much needed by the patient's family, one of which is through audio visual education on fall risk prevention. This study aims to determine the effect of audiovisual education on fall risk prevention in the ICU of Hospital. This research method uses a Preexperimental with One Group Pretest-Posttest Design with 28 respondents. Population in this research are families of patients treated in the ICU of Muslimat Hospital period 24 November until 16 December 2025. The sample determination used a purposive sampling technique. The independent variable in this study is audiovisual education, while the dependent variable in this study is knowledge of fall risk prevention. Data analysis used the Paired T-Test. There is significant increase in knowledge was obtained before and after audiovisual education was conducted on respondents, there was an increase from 3.11 to 6.96 and an increase in knowledge of 57.1% from 1 (3.6%) person to 17 (60.7%) person. Based on the results of the Paired T-test statistical test, the Sig value was obtained. (2-tailed) < 0.001 which means that statistically there is an effect of audiovisual education on the prevention of the risk of falling on the patient's family in the ICU of Hospital. The audiovisual education method for preventing the risk of falls is an effective educational method for education with a result of an increase in knowledge.

Keywords: Audiovisual, Education, Fall Risk

INTRODUCTION

The incidence of falls during treatment is still a concern for health care institutions even though there have been implementations with various strategy improvements. A similar thing was also stated by Esguerra (2021) who said that a patient fall is a condition of falling to the floor that is not planned, with or without injury to the patient. The incident of a patient falling can be concluded as an incident of a patient moving to a lower surface such as the ground or floor unintentionally, with or without injury. (Savitri, 2024)

Joint Commission International (JCI) efforts to overcome the incidence of patient falls in hospitals receive special attention, this is as stated in section 1, chapter 1, namely the International Patient Safety Goals (IPSG), especially target 6, namely Reduce the Risk of Patient Harm Resulting from Fall, the intent and purpose of the 6th target of this JCI accreditation is that most injuries to inpatients occur due to falls, in this context the hospital must evaluate the patient's risk of falling and act immediately to reduce the risk of falling and reduce the risk of injury due to falls. The hospital establishes a program to reduce the risk of falling based on appropriate policies and/or procedures. This program monitors both the intended and unintended consequences of the actions taken to reduce falls. (Astuti, 2021)

The incidence of patient falls in United States hospitals is reported to be 700,000 to 1,000,000 people who fall each year. (Riduan, 2023)Reports from hospitals and mental health units in England in 2011 showed that 282,000 patients fell each year, of which 840 patients experienced hip fractures,

550 patients experienced fractures, and 30 patients experienced intracranial injuries. Cases of patient falls in Indonesia itself have ranked second in the top three incidents that occurred in hospitals where there were 34 cases or equivalent to 14% of falls that occurred in hospitals in Indonesia. (Savitri, 2024)

Based on the results of a preliminary study at the Muslimat Ponorogo Hospital, data from the Adverse Events report in 2021-2023 showed that there were 2 cases of patients falling, while in the ICU room of the Muslimat Ponorogo Hospital itself, there are more than 30 patients at risk of falling every month. These data illustrate that the implementation of safe nursing care for patients referring to patient safety is not optimal because patients still fall, one of the causes is the lack of nurse education for families and patients in implementing fall risk prevention procedures.

The risk of falling is increased in older adults because (1) these functions decline with age (2) the probability of accumulating medical issues increases with age, and (3) associated medications are often increased as well. With aging usually comes a wide-based gait, along with a decrease in gait velocity, step length, and lower limb strength. A fall most often results from interactions between these long-term predisposing factors and short-term predisposing environmental factors such as an adverse drug reaction, acute illness, or a trip on an irregular surface. (Appeadu & Bordoni, 2023)

Efforts to implement procedures for patients at risk of falling are important things that must be done by hospital staff, especially nurses, as an effort to ensure patient safety while in the hospital, for this reason, it is necessary to study the influence of nurse education on the level of knowledge of families and patients in minimizing patients at risk of falling. (Buhari, 2020) Audio-visual education is one of the effective education used in the learning process. By carrying out audio-visual education, it is hoped that the patient's family will understand and play a role in preventing patient falls so that there are no falls in patients at risk of falling. (Amoisi Santri, 2023)

The result of English Longitudinal Study of Ageing to investigate the prevalence of falls by sex and to examine cross-sectionally sex-specific associations between a range of potential risk factors and likelihood of falling, found that in multivariable logistic regression models, severe pain and diagnosis of at least one chronic disease were independently associated with falls in both sexes. Although found some homogeneity between the sexes in the risk factors that were associated with falls, the existence of several sex-specific risk factors suggests that gender should be taken into account in designing fall-prevention strategies. (Gale CR, 2016)

Previous research on the risk of falls by Amoisi Santri in 2023 entitled Overview of the Implementation of Patient Safety Risk of Falls by Nurses in the Class III Inpatient Room of Arifin Achmad Hospital obtained an overview of the implementation of patient safety risk of falls by nurses in the Class III inpatient room of Arifin Achmad Hospital in the good category, while research by Jayanti in 2018 entitled The Relationship between Knowledge and Nurse Compliance in Implementing Prevention of Patients at Risk of Falls in the Inpatient Room of Abdul Wahab Sjabranie Hospital Samarinda obtained the results of the chi-square correlation analysis, the calculated correlation value was 0.589 with a probability value of 0.000 so that Ha is accepted. It means that a nurse's compliance cannot be separated from the level of knowledge of the nurse in implementing prevention of patients at risk of falls, apart from the level of knowledge, the length of work and age of a person also greatly influence the implementation of prevention of patients at risk of falls. (Retnaningsih, 2023)

Research about Effect Of Health Education With Audio-Visual Media On Adherence To Medication Of Breast Cancer Patients, Long-term treatment is more prone to patient compliance problems, lack of understanding of the pain, and saturation of taking medication leads to non-adherence that worsens the patient's condition. This study analyzes the effect of health education with audio-visual media on drug adherence in breast cancer patients Method. This suggests that audiovisual media can be an effective tool in enhancing medication adherence in this population. Further research is warranted to explore the optimal content, duration, and frequency of audiovisual interventions. (Syaiful, 2024)

From another study by Desliana Manalu in 2019 entitled Application of Audiovisual Media for Health Education: Prevention of Patients at Risk of Falling at the University of North Sumatra Hospital, it was found that respondents' knowledge of preventing patients at risk of falling increased by 10 people (33.3%) of respondents were categorized as having good knowledge, 11 people (36.7%) of respondents were categorized as having sufficient knowledge, 9 people (30.0%) of respondents were categorized as having poor knowledge about preventing patients at risk of falling. The results of this study indicate the benefits of the application of audio-visual media as an educational medium for patients towards increasing knowledge of preventing patients at risk of falling. (Manalu, 2017) From the problems and research that already exist, the background for researchers to conduct research on Audio-Visual Education for Preventing Falling Risks in Patient Families in the ICU of Muslimat Ponorogo Hospital.

METHODS

The type of research used in this study is experimental quantitative research. The research design that will be used is Preexperimental Design with the form of One Group Pretest-Posttest Design. The population in this study was the number of patient families who came to the ICU of the Muslimat Ponorogo Hospital, namely 30 respondents. The sample in this study was the families of patients treated in the ICU of Hospital. The independent variable in this study is Audio Visual Education. The dependent variable in this study is knowledge of fall risk prevention in patient families. The study instrument used for data collection is using a questionnaire. Researchers used univariate analysis to find the frequency distribution and percentage of audiovisual education and fall risk prevention in patient families. As well as the characteristics of respondents in this study such as gender, age, education level, and occupation. In bivariate analysis, a normality test was first performed using Shapiro-Wilk. The research test used was the Paired T-Test, a statistical test that compares the average of two paired samples. Study ethics include informed consent, anonymity, and confidence. Handled with care during the study process. The researcher has received a letter of ethical feasibility from the Health Research Ethics Commitee of Strada Institute of Health Science Kediri City on 16 October 2024 No. 001714/EC/KEPK/I/10/2024.

RESULTS AND DISCUSSION

Data collection was conducted from November 1 to November 30, 2024 in the ICU room of Hospital.
1. **Univariat Analysis**
Table 1. Univariate analysis of the respondents at ICU room of the Ponorogo Muslimat Hospital

Variables	Category	Frequency (n)	Percentage (%)
Gender	Man	11	39.3
	Woman	17	60.7
Ages	20 – 30 years	12	42.9
	31 – 40 years	4	14.3
	41- 50 years	4	14.3
	51 – 60 years	6	21.4
	61 – 70 years	2	7.1
Level of education	Elementary School	3	10.7
	Junior High School	7	25
	Senior High School	13	46.4
	College	5	17.9

The results of the study showed that the characteristics of the respondents were mostly female, totaling 17 people (60.7%), and the remainder were male, totaling 11 people (39.3%). The results of the study showed that the characteristics of the respondents in first place with the largest population aged 20-30 years with a total of 12 people (42.9%), and in second place aged 51-60 years as many as 6 people (21.4%), in third place aged 31-40 years and 41-50 years as many as 4 people each (14.3%), and in fourth place with the smallest population aged 61-70 years as many as 2 people (7.1%). Respondent characteristics based on the highest level of education were high school with 13 people (46.4%), in second place with junior high school education with 7 people (25%), in third place with college education with 5 people (17.9%), and in fourth place with the fewest respondents with elementary school education with 3 people (10.7%).

2.   Bivariat Analysis

Table 2. Normality Test

Normality Tes	Shapiro-Wilk
PRE	Sig. .129
POST	Sig. .145

In bivariate analysis, a normality test is first performed using Shapiro-Wilk. Analysis to find the influence between independent and dependent variables using the Paired T-test with a decision value of significance value <0.05 then Ho is accepted and if the significance value> 0.05 then Ho is rejected and H1 is accepted. The results of the normality test using Shapiro-Wilk on the pre and posttests obtained a p value > 0.05, which indicates that the data is normally distributed. Furthermore, a test will be carried out to analyze the influence using the Paired T-test.

Table 3. Paired Samples Statistics

Paired Sampel Statistik	Average	Frequency (n)
PRETEST	3.11	28
POST TEST	6.96	28

Table 4. Paired Samples Correlations

Paired Sampel correlation	Jumlah responden	Korelasi	Sig.
PRETEST & POST TEST	28	.762	.000

Table 5. Paired Samples test

DATA	RESULT
PRETEST-POST TEST	Sig. (2-tailed) = .000

The results of the statistical test showed that there was an effect of increasing knowledge before and after audio-visual education was carried out on respondents, namely before education the minimum value was 0 and the maximum was 7 and after education the minimum value was 3 and the maximum was 10. From the average value of the pre-test and post-test results, there was also an increase from 3.11 to 6.96 indicating that there was an effect of increasing knowledge from before education to after audio-visual education on preventing the risk of falling.

The results of the Paired T-test obtained a Sig. (2-tailed) value = .000, which means that statistically there is an influence of audiovisual education on the prevention of fall risks on patient families in the ICU of the Ponorogo Muslimat Hospital. Audiovisual education on the prevention of fall risks on patient families in the ICU of the Ponorogo Muslimat Hospital obtained Sig. = .000, which means that there is an influence between variables.

DISCUSSION

The results of this study showed that most families' knowledge of preventing the risk of falling in patients was very lacking, namely 19 out of 28 (67.9%) people had poor knowledge of preventing the risk of falling. This is in line with the lack of good family knowledge, only 1 out of 28 (3.6%)

people before audio-visual education on preventing the risk of falling was carried out. Knowledge is a variety of symptoms encountered and obtained by humans through observation of reason. Knowledge arises when someone uses their reason to recognize differences or certain events that have never been seen or felt before. Knowledge can be obtained through the learning process, the learning process can occur anywhere. (Achjar, 2022)According to knowledge is the result of human efforts in combining or integrating information. In addition, knowledge is also obtained through the use of human senses (such as eyes, nose, ears, and so on) in understanding an object or phenomenon. (I Ketut Swarjana dan I Ketut Swarjana, 2022) Meanwhile, according to, knowledge is an understanding of something or a topic that has been studied. The knowledge of the family as the closest person to the patient is very lacking, namely 19 respondents (67.9%). So family knowledge must be improved so that the family understands to prevent patients from falling.

From the results of the Crosstabulation of knowledge about the risk of falling by gender before audiovisual education was carried out, it showed that 7 out of 11 (63.6%) men and 12 out of 17 (70.6%) women had insufficient knowledge. From the results of the Crosstabulation of knowledge about the risk of falling by age before audiovisual education was carried out, 6 out of 6 (100%) aged 51-60 years had insufficient knowledge. From the results of the Crosstabulation of knowledge about the risk of falling by education before audiovisual education was carried out, 8 out of 13 (61.5%) people with high school education had insufficient knowledge.

The level of knowledge affects a person's behavior in taking action, but it is possible that good knowledge in an unsupportive environment will result in the same actions as people with less knowledge. With a good level of knowledge, it will affect family behavior to prevent patients from falling. From the results of this study, it was found that almost all respondents had insufficient knowledge. Knowledge is obtained not only from formal education, but can also be obtained from print/electronic media, or counseling in various health services. (Maisarah, 2023)

Researchers assume that a person's knowledge is related to learning, whether it is obtained from the learning process or from experience. A person without knowledge will be confused in facing a problem. Respondents who have a low level of knowledge about preventing the risk of falling will result in the risk of the number of patients falling, especially if at home without medical supervision. Facing various conditions of family patients must of course have fall prevention measures that are in accordance with what the patient needs.

The results of this study after conducting audio-visual education on fall risk prevention showed that family knowledge on fall risk prevention in patients increased, namely that most respondents had a good level of knowledge of 17 people (60.7%), while some had a sufficient level of knowledge of 10 people (35.7%) and the rest had a low level of knowledge of 1 person (3.6%). Based on the data obtained from the average value of the pre-test and post-test results, there was an increase from 3.11 to 6.96 and an increase in knowledge of 57.1% from 1 (3.6%) person to 17 (60.7%) people who had a good level of knowledge, dominated by female gender of 13 (46.4%), at the age of 20-30 years as many as 12 (42.9%) people, with the highest education of high school as many as 12 (42.9%) people. From this data, it shows a significant increase in knowledge.

From the results of the crosstabulation of knowledge about the risk of falling by gender after audiovisual education was conducted, it showed that 4 out of 11 (36.4%) men and 13 out of 17 (76.5%) women had good knowledge. From the results of the crosstabulation of knowledge about the risk of falling by age after audiovisual education, 1 out of 6 (16.7%) people aged 51-60 years had poor knowledge and 12 out of 12 people (100%) aged 20-30 years had good knowledge. From the results of the crosstabulation of knowledge about the risk of falling by education after audiovisual education, 1 out of 3 (33.3%) people with elementary school education had poor knowledge and 12 out of 13 (9.3%) people with high school education had good knowledge.

The researcher assumes that this audiovisual education on fall risk prevention is an effective educational method for education with a result of increasing knowledge by 57.1%. The average results of the pre-test and post-test showed an increase from 3.11 to 6.96. This shows that with

education through audiovisuals, the educational process runs optimally even though there is 1 respondent with a knowledge score that is still lacking. From the post-test data, it is known that 1 respondent with less knowledge has not been able to understand the educational video with a score of 3 out of 10 points. Based on the characteristics of the respondents, the 1 respondent is male, 55 years old, and has an elementary school education. The involvement of the patient's family during the healing process is one application of patient centered care. (Aprin, 2017)

Digital learning media based on visuals and audio are used to deliver education in an interesting and interactive way. Videos can contain a combination of text, images, animations, sounds and visual effects to make it easier to understand. (Tiwow, 2023) Audiovisual educational media developed by prioritizing educational processes such as selecting the right material, time duration, use of language, use of audio and visuals in the right video will make it easier for patients to understand the information conveyed. Education using audiovisual educational media can improve patient understanding of treatment and its side effects. (Asmorosari, 2024)

The video contains information about medical care that is tailored to the patient's needs. The results of using this educational video show that the effectiveness of the video shows significant value, especially reducing anxiety and increasing the ability to absorb new information and instructions from the nursing team. (Purwanti, 2022)

The researcher assumes that low education and old age affect a person's ability to understand learning. Audio-visual media is a type of media used in learning activities by involving hearing and sight at the same time in one process or activity. With education through audiovisuals, respondents find it easier to understand the learning being studied.

Based on the results of data processing, it shows that there is an effect of increasing knowledge before and after audio-visual education was carried out on respondents, namely before education the minimum value was 0 and the maximum was 7 and after education the minimum value was 3 and the maximum was 10. From the average value of the pre-test and post-test results, there was also an increase from 3.11 to 6.96 indicating that there is an effect of increasing knowledge from before education to after audio-visual education on preventing the risk of falling. The results of the Paired T-test obtained a Sig. (2-tailed) value = 0.000, which means that statistically there is an effect of audio-visual education on preventing the risk of falling on the families of patients in the ICU of the Muslimat Ponorogo Hospital. Audio-visual education on preventing the risk of falling on the families of patients in the ICU of the Muslimat Ponorogo Hospital obtained Sig. = 0.000, which means that there is a significant difference between before and after being given education on preventing the risk of falling through audio-visual media.

The results of the study at Bhakti Asih Brebes Hospital showed that there was a significant influence of providing audio-visual education on the lifestyle of DM patients (p = 0.0001). Audio-visual education was proven to be effective in changing the lifestyle of DM patients compared to verbal education (p 0.032). (Rodiyah, 2025)

Health education media is selected based on needs so that it can be well received by the audience. (Sandra, 2023) Changes in the knowledge of patient families who were respondents before and after being given health education, namely an increase of 60.7% of respondents who had increased knowledge to the good category. This can be assumed that the information about preventing patients at risk of falling that was given was conveyed well to patients, so that there was an increase in the number of those who had knowledge from the less and sufficient categories to having knowledge in the good category using audiovisual media. Education is a learning process that can increase knowledge, skills and attitudes that shape us to be able to see from various perspectives in life. (Rokhaidah, 2021)

Knowledge can be influenced by several factors, one of which is age. (Rosmin Ilham, 2023) Based on the results of demographic data obtained for the age of respondents who had a significant increase in knowledge before and after being given health education on patient prevention of the risk of falling using audio-visual media (video) as many as 42.9% were aged 20-30 years, and the least

increase in knowledge as much as 7.1% were aged 60-70 years. Age can affect a person's knowledge, because the older they are, the more their comprehension and mindset develop so that the knowledge obtained is also better. However, there is a decrease in comprehension in the elderly which is influenced by physiological factors so that the level of knowledge possessed also decreases.

Conclusion

There is an effect of audiovisual education on the prevention of the risk of falling on the patient's family in the ICU of Hospital. The audiovisual education method for preventing the risk of falls is an effective educational method for education with a result of an increase in knowledge, for example use QR Code to scan information or education.

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