

## The Effect of Health Promotion Media on Knowledge of Work Safety and Health of Students of 3 State Vocational School, Jambi City

Andy Amir<sup>1</sup>, Richard Aprialdy Sipahutar<sup>2</sup>, Oka Lesmana S<sup>3</sup>, Fitria Eka Putri<sup>4</sup>, Hubaybah<sup>5</sup>

<sup>1,2,3,4,5</sup> Department of Public Health, Faculty of Medicine and Health Sciences,  
Jambi University

*Author correspondence, email : [andy\\_amir@unja.ac.id](mailto:andy_amir@unja.ac.id)*

**Abstract.** Media or visual aids in health promotion can be interpreted as tools for promoting health that can be seen, touched, heard, tasted or smelled, to facilitate communication and dissemination of health information. The purpose of this study was to find out how the influence of the application of health promotion media (audiovisual) on increasing the knowledge of students at SMK Negeri 3 Jambi City. This study used the Pre-Experimental method by designing one group pretest and posttest. The research location was carried out at SMK Negeri 3 Jambi City. The study population consisted of 221 students and the sample was taken using a proportional stratified random sampling technique with a total of 65. Data analysis used the Paired/Related T test. The results of the study showed that there was an influence from the health promotion media intervention carried out on the knowledge of students at SMK Negeri 3 Jambi City. From the paired t-test conducted, the p-value for knowledge was 0.000. This proves that there is influence before and after being given an intervention using health promotion media. From this study it can be concluded that there is an influence of interventions using health promotion media on students' knowledge of occupational safety and health (K3) at SMK Negeri 3 Jambi City.

**Keywords :** influence of intervention, health promotion media, knowledge

## INTRODUCTION

In carrying out work, almost all of them are assisted by tools that can facilitate human work, for example, machines. Machines can make profits for the company but can also harm the company if at any time the machine is damaged or burned. Damage to the machine or burning of the machine is called a work accident. Work accidents are not only caused by work tools (machines) but also caused by the tendency of workers to have accidents. (Anizar, 2009).

According to the International Labour Organization (ILO), 2,78 million workers die each year due to occupational accidents and occupational diseases (ILO, 2018). Non-fatal accidents are estimated to affect 374 million workers each year and have a serious impact on workers' earnings (Hamalainen et al., 2017 in ILO 2018). Young workers have a higher rate of workplace accidents compared to adult workers. In the United States, young workers between the ages of 15 and 24 years old are twice as likely to experience a non-fatal occupational injury

as workers aged 25 years and older (CDC, 2010 in ILO, 2018). According to European data, the incidence of occupational disease accidents often appears only after a cumulative exposure and latent period. (EU-OSHA, 2007 in ILO, 2018).

Work accident cases that occur in Indonesia are still high. Based on data from the National Statistics Agency (BPS), the number of work accidents in 2014 was 95.906 cases. Work accident cases in 2015 amounted to 98.970 cases. In 2016 there were 106,129 cases, and in 2017 there were 103.228 cases of work accidents. The data shows that the incidence of work accidents in Indonesia is still quite high and tends to increase. This is also directly proportional to the incidence of work accidents that occurred in Jambi Province, which has experienced an increase in the incidence of work accidents over the past 3 years. According to data from BPJS Ketenagakerjaan Jambi Province, in 2016 there were 458 cases of work accidents. Then in 2017, there were 818 cases of work accidents, and in 2018 until the first week of December, there were 1.257 cases of work accidents.

Vocational high school (SMK) students are young people and fall into the category of young workers. The education received at SMKs is geared toward the work they will pursue after graduation. This emphasizes the importance of improving occupational safety and health (OSH) for young workers, both to promote decent work for young people and to contribute to efforts aimed at combating hazardous child labor. Of the 151,6 million children in child labor globally, almost half (72,5 million) are engaged in hazardous work. About 24 percent (more than 37 million) are between 15 and 17 years old (ILO, 2017). From several research results that have been conducted previously by Zubaidi Bajuri (2014), it was found that the effect of counseling using flip sheet media on knowledge of occupational safety and health and its prevention of welding workshop workers in Ciputat in 2014. There was an increase in knowledge and changes in occupational safety and health behavior in welding workshop workers after the extension/intervention conducted using the flip sheet media. The same thing was also obtained from research conducted by Wahyu Pangeran Musa, et al (2016) that students' knowledge about occupational safety and health has a direct effect on students' attitudes towards occupational safety and health, and students' attitudes towards occupational safety and health have a direct effect on the application of occupational safety and health.

## METHODS

The type of research conducted is experimental research using a pre-experimental design (one group pretest and post-test). This study compares how the level of knowledge of students at the time before the intervention and after the intervention. The population in this study were all students majoring in machining techniques at SMK Negeri 3 Jambi City, totaling 221 students, and after calculating the sample with the Lameshow formula, 65 samples were obtained. Analysis using the dependent / paired T-test or Paired / Related T-test.

## RESULTS

### 1. Respondent Characteristics

**Table 1. Distribution of Respondents Characteristics at SMK Negeri 3 Jambi City**

Characteristics	Total	%
<u>a</u>		
<b>Gender</b>		
Male	65	100
Female	0	0
<b>Age</b>		
15 years old	12	18,5
16 years old	28	43,1
17 years old	20	30,8
18 years old	4	6,2
19 years old	1	1,5
<b>Father occupation</b>		
PNS/TNI/Polri/BUMN	3	4,6
/BUMD		
Private Employee	8	12,3
Private entrepreneur	14	21,5
Farmers	13	20
Fisherman	2	3,1
Labour	16	24,6
Lainnya	9	13,8
<b>Mother occupation</b>		

PNS/TNI/Polri/BUMN	1	1,5
/BUMD		
Private Employee	3	4,6
Private entrepreneur	4	6,2
Farmers	5	7,7
Fisherman	0	0
Labour	2	3,1
Lainnya	50	76,9
<b>Work experience in the workshop</b>		
Yes	29	44,6
No	36	55,4

Based on Table 1 above, The characteristics of respondents in this study are male gender as many as 65 people (100%), most students aged 16 years with a total of 28 people (43,1%), and the least aged 19 years totaling 1 person (1,5%). The father's occupation mostly worked as a laborer with a total of 16 people (24,6%), and the mother occupation mostly answered others with a total of 50 people (76,9). Furthermore, for work experience in the workshop, there were 29 students (44,6%) who had experience working in a workshop and 36 students (55,4%) who had never worked in a workshop.

## 2. Univariate Analysis

**Table 2. Descriptive pre-test and post-test**

<b>Variables</b>	<b>n</b>	<b>Min</b>	<b>Max</b>	<b>Average</b>
Knowledge Before Intervention	65	0	7	3,74
Knowledge After Intervention	65	3	9	7,14

Based on Table 2 above, the lowest score for the pre-test of students' knowledge of occupational safety and health (K3) is 0, the highest score is 7 and the average value is 3,74. As for the standard deviation of 1,698. The student post-test for occupational safety and health (K3) knowledge got the lowest score of 3, the highest score was 7, and the average value was 7,14.

**Table 3. Knowledge of students of SMK N 3 Jambi City**

<b>Variables</b>	<b>n</b>	<b>Less</b>	<b>Enough</b>	<b>Good</b>
Knowledge Before Intervention	65	56	9	0
Knowledge After Intervention	65	5	32	28

Based on Table 3 above, the difference in knowledge levels before and after the intervention using audiovisual media. It is clearly seen that before being given the intervention as many as 56 students get the category of less knowledge, then 9 students get the category of sufficient knowledge and no students get good knowledge. After the students were given the intervention, the level of knowledge of students in the poor category decreased to 5 students, then 32 students got the moderate knowledge category, and 28 students got the good knowledge category.

### 3. Bivariate Analysis

**Table 4. Analysis results of Paired Samples Test Knowledge of Occupational Safety and Health of Students of SMK Negeri 3 Kota Jambi**

Variables	The Difference						P Value
	Before		After Intervention		Difference		
	Intervention						
	Mea	SD	Mea	SD	Mea	SD	
	n		n		n		
Knowledge	3,74	1,69	7,14	1,18	3,4	0,51	0,000
		8		4		4	

Based on the results of the table 4, it can be seen that the average value of student knowledge before the intervention is 3,74 with a standard deviation of 1,698. After the intervention, the mean value of students' knowledge was 7,14 with a standard deviation of 1,184. There is a difference of 3,4 for the average value of student knowledge and a p value of 0,000. This shows that there is a significant influence between knowledge before being given health promotion media intervention and knowledge after being given health promotion media intervention.

## **DISCUSSION**

### **The Effect of Audiovisual Media Intervention on Increasing Knowledge of Occupational Safety and Health**

In accordance with the theory of Notoadmojo (2014) that knowledge is the result of human sensing or the result of someone knowing about objects through their five senses. Most of human knowledge is obtained through the sense of sight (eyes) and the sense of hearing (ears), therefore the knowledge of SMK N 3 Jambi City students has increased due to interventions carried out by researchers using media in the form of educational videos that display images and sound so that students can easily understand the information provided in the video. Based on the research that has been conducted, the results show that there is a change in the level of knowledge of students before the intervention and after the intervention.

The results of statistical tests showed a change in the average before being given an intervention using media of 3,74 and after being given an intervention using media to 7,14. In addition, the level of student knowledge also changed before and after the intervention using audiovisual media as many as 56 students got the category of less knowledge, then 9 students got the category of sufficient knowledge and no students got good knowledge.

After students were given the intervention, the level of knowledge of students in the poor category decreased to 5 students, then as many as 32 students got the category of sufficient knowledge, and as many as 28 students got the category of good knowledge. This shows that there are changes in the knowledge of SMK N 3 Jambi City students before and after the intervention using health promotion media. The results of this study are also in line with research conducted by Nurul Aeni, and Diyah Sri Yudhadini (2018) which states that health counselling with videos on adolescent girls SMAN 1 Sumber Cirebon Regency can clarify the steps and pictures and the importance of SADARI examination. At the time before the

intervention students got a minimum score of 25, a maximum score of 90 and an average of 65,17. After receiving the intervention, the minimum score increased to 65, the maximum score was 95 and the average was 76,50.

According to research from experts, the sense that channels the most knowledge into the brain is the sense of sight or eyes. Approximately 75% to 87% of human knowledge is obtained / channelled through the eyes. Therefore, it can be concluded that visual tools can facilitate the delivery of information or materials (Sinta Fitriani, 2011). One of the purposes of using media in learning is to make it easier for students to acquire skills and knowledge, because in a teaching and learning process the presence of the media has an important meaning, because the unclear material conveyed can be helped by bringing in the media as an intermediary (Mubarak, Wahit Iqbal et al, 2007). Based on the results of statistical analysis tests that have been carried out, there is a significant relationship between the knowledge of SMK N 3 Jambi City students before and after being given an intervention using health promotion media (Audiovisual). This was evidenced by the paired sample test (T-test) analysis which obtained a p value of 0,000. From the results of the research that has been conducted, the use of media on students of SMK N 3 Jambi City has a significant impact on increasing the knowledge of students about occupational safety and health (K3). The same results were also obtained by Risma Meidiana et al (2018), which stated that the results of statistical tests on knowledge obtained a p-value (0,003) or a p value <0.05, which means that there is a significant difference between adolescent knowledge before and after being given an intervention using video. The same thing was also obtained by Nurul Aeni, and Diyah Sri Yuhandini (2018) which states that there is a significant effect on the provision of health education using video media and also the demonstration method on the level of knowledge of SADARI. This is evidenced by the results of the t count of respondents who received an intervention using video of -4.163 with a p-value = 0,000.

## CONCLUSIONS

1. There is an effect of intervention using health promotion media on student knowledge about occupational safety and health conducted at SMK Negeri 3 Jambi City with a p-value of 0,000.
2. The difference in the average knowledge of students of SMK N 3 Jambi City before and after the intervention, before being given the intervention the average value of students was 3,74 after being given the intervention 7,14.

3. The level of knowledge of students before being given an intervention using audiovisual media is 56 students get less knowledge, 9 students get sufficient knowledge, and no students get good knowledge. After receiving the intervention, it increased to 5 students getting less knowledge, 32 getting enough knowledge, and 28 students getting good knowledge.

## **SUGGESTIONS**

1. Schools can provide learning about occupational safety and health (K3) to students since class x and continue, in order to equip students during practicum and internships.
2. Providing messages or education to students or workers regarding occupational safety and health (K3) can be done using audiovisual media.
3. The Jambi Provincial Education Office can coordinate with the Manpower and Transmigration Office (Disnakertrans) to provide occupational safety and health (K3) training to teachers and students of vocational schools in Jambi City.
4. Students must obey, carry out, and be supervised in applying the occupational safety and health (K3) regulations that have been taught and that apply wherever students work.
5. Companies or workplaces can provide information to workers through audiovisual media by providing media where they work so that the production process at work is not reduced and can increase worker productivity.



## REFERENCES

- Aeni Nurul, dan Diyah Sri Yuhandini., 2018. Pengaruh Pendidikan Kesehatan Dengan Media Video dan Metode Demonstrasi Terhadap Pengetahuan SADARI. Jurnal Care. Vol. 6 No. 2
- Badan Pusat Statistik (BPS) Indonesia <https://www.bps.go.id/linkTableDinamis/view/id/1134>
- Bajuri Zubaidi, 2016. Intervensi penyuluhan menggunakan media lembar balik terhadap peningkatan pengetahuan bahaya K3 dan pencegahannya pada pekerja las di Ciputat Kelurahan Pisangan Tahun 2016. Skripsi Sarjana. Fakultas Kedokteran dan Ilmu Kesehatan. Universitas Islam Negeri (UIN) Syarif Hidayatullah, Jakarta.
- Fitriani, Sinta. 2010. Promosi Kesehatan, Yogyakarta, Graha Ilmu.
- International Labour Organization (ILO). (2018), “Meningkatkan Keselamatan dan Kesehatan Pekerja Muda”
- Kholid Ahmad. 2012, Promosi Kesehatan Dengan Pendekatan Teori Perilaku, Media, dan Aplikasinya, Depok, Rajawali Pers.
- Meidiana Risma, Demsa Simbolon, Anang Wahyudi., 2018, Pengaruh Edukasi Melalui Media Audio Visual Terhadap Pengetahuan dan Sikap Remaja Overweight. Jurnal Kesehatan Vol. 9, No. 3 hal. 478-484
- Meily Kurniawanwidjaja L., 2011, Teori dan Aplikasi Kesehatan Kerja, Jakarta, Penerbit Universitas Indonesia.
- Modul Bahan Ajar Cetak Farmasi, (2016), Kementerian Kesehatan Republik Indonesia.
- Mubarok, Wahid Iqbal, dkk. 2007. Promosi Kesehatan, Yogyakarta, Graha Ilmu
- Mulyati Sri, Oki Suwarsa, dan Insi Farisa Desy Arya., 2015. Pengaruh Media Film Terhadap Sikap Ibu Pada Deteksi Dini Kanker Serviks. Jurnal Kesehatan Masyarakat Vol. 11 No. 1 hal 16-24
- Notoadmojo Soekidjo. 2014. Ilmu Perilaku Kesehatan. Jakarta. Penerbit Rineka Cipta
- Notoadmojo Soekidjo. 2012. Promosi Kesehatan dan Perilaku Kesehatan. Jakarta. Rineka Cipta.
- Salami, Indah Rachmatiah Siti, dkk. 2015. Kesehatan dan Keselamatan Lingkungan Kerja. Yogyakarta. Gadjah Mada University Press
- Sholihah Qomariyatus, Kuncoro Wahyudi., 2014, Keselamatan Kesehatan Kerja Konsep, Perkembangan, & Implementasi Budaya Keselamatan, Jakarta, Penerbit Buku Kedokteran.
- Subaris K Heru. 2016. Promosi Kesehatan, Pemberdayaan Masyarakat, dan Modal Sosial. Yogyakarta. Nuha Medika.
- Sugiyono. 2017. Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung. Penerbit Alfabeta.
- Wawan A dan Dewi M., 2010. Teori dan pengukuran pengetahuan, sikap, dan perilaku manusia. Yogyakarta. Nuha Medika.
- Yulinda Arif, dan Nurul Fitriyah., 2018. Efektivitas Penyuluhan Metode Ceramah dan Audio Visual Dalam Meningkatkan Pengetahuan dan Sikap Tentang Sadari di SMK N 5 Surabaya. Jurnal Promkes Vol. 6 No. 2 hal. 116-12