

# Improving Compliance using Helmet through Watching Video in Vocational Student Riding Motorcycles

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**Abstract:** Various efforts have been made to reduce the risk of head injury due to motorcycle accident, but has not succeeded. According to the police records, Surakarta has the highest ranks of motorcycle accident compared to five other police areas in Central Java. An effort that has not been made to reduce the risk of head injury is increase the knowledge about head injury, especially in the vocational students who use motorcycles considering their age is included in groups at high risk of accidents and head injuries. The study aims to analyze the effect of watching video on knowledge and compliance using helmet of motorcycling students in Surakarta. The design of this study was quasi experiment using pre-post test approach on population of vocational students in Surakarta with 343 sample using a knowledge questionnaire due to head injury and compliance observation sheets using a helmet. Research data were analyzed using Chi-square test. The results showed that there was no significant difference in the knowledge about head injuries before and after watching video. As for the compliance using a helmet there are significant differences. Researchers suggest it is important to provide knowledge about head injury to improve compliance using a helmet.

## 1 BACKGROUND

The World Health Organization (2014) states that severe head injuries can cause death and disability. For that motorcyclists need to be reminded of risk factors of head injury that can cause permanent brain damage. Moreover, when looking at the amount of costs that must be incurred for the operation, the purchase of drugs and nursing costs. Furthermore, it is stated that the only effective way to reduce the death rate due to head injuries to motorcyclists is to use a helmet that can reduce the risk of injury severity by 72% and the likelihood of death by 39%. But until now all efforts to improve the compliance of motorcyclists have been done but have not gained maximum results. So it can be understood if the accident rate is quite high as in the area of Surakarta city police tend to rise. It can be seen on the record number of head injuries in the emergency room of Dr. Moewardi Surakarta Regional Hospital that handle the majority of head injuries caused by traffic accidents. At the national level the incidence of head

injuries ranks 3 of the 10 most common diseases in several hospitals in Indonesia.

During this time the use of helmets by motorcyclists perceived as a form of compliance with the rules and applicable law that is Law No. 22 of 2009 on Traffic and Road Transport. This approach favors the juridical approach of giving legal sanctions to motorists who violate traffic regulations. To change perceptions and compliance using helmets using a health education approach has not been widely developed. Some activities have been carried out such safety riding campaign and helmet user campaign but have not made compliance with better helmets. It is hoped that through a health education approach riders will be aware of a threat to their health in the form of head injuries.

Methods for changing perceptions and compliance may use video as a tool described by Bastable (2002). Changing perceptions are expected to change behaviors such as adherence to the advice of health care workers.

The results of research by Tondok et al. (2012) note that helmets are used only when traveling far away, or when there is a police or when remembered. It was also revealed that their compliance to helmets is not done wholeheartedly because it simply obeys the rules or applicable laws.

This study was conducted on vocational students who have different characteristics of students with high school students who have been studied by Suyanto and Puri (2013). The behavior of vocational students who have a sense of freedom and tend to be aggressive, especially when leaving and coming home from school when using a motorcycle. So that this research is expected to increase the understanding of senior high school students as a whole about the result of head injury and compliance helmet. For that the researcher is interested to complete the existing research so it can reveal whether the understanding of the impact of head injury through health education using video media can improve the compliance of the use of helmets.

## 2 METHODS

The study used quasi-experimental pretest-posttest design in the study population of vocational students in the city of Surakarta. Sampling conducted as much as 25% of 54 Vocational School so that the number of samples of 12 Vocational School. The number of 12 students of randomly determined vocational as many as 4,997 people was taken 370 people randomly with purposive technique as the sample. Sample were students who ride a motorcycle while going to school. At the time of the

study there was one school with a sample size of 27 students withdrawing as respondents so the number of samples became 343 people. Data were collected in August and September 2017 by measuring the knowledge of respondents using questionnaire knowledge of the consequences of head injury before and after watching the video. Compliance with helmets was measured by observing the students before watching the video as much as three observations and after watching the video three times the observations made when students came to school. Video that will be watched respondents containing the film head injury due to motorcycle accident that does not use a helmet and brain surgery (craniotomy). Data were analyzed using quadratic test (chi-square) to see the difference between variables before and after treatment.

## 3 RESULTS

Based on Table 1, we can see that knowledge of respondents before and after watching video has  $p = 0.994$ . This mean that there are no significant difference of knowledge between before and after intervention.

Table 2 showed that the compliance of respondents before and after watching the video has a value of  $p = 0.000$ . It means that there is a significant difference in compliance for using helmet while riding a motorcycle between before and after watching a video.

Table 1: Knowledge of respondents before and after watching video about using helmet when riding motorcycles.

Knowledge	After Watching Video						p-value
	Good		Average		Total		
	n	%	n	%	n	%	
Before watching video							0.000
Good	338	98.6	1	0.3	339	98.8	
Average	4	1.1	0	0	4	1.2	
Total	342	99.7	1	0.3	343	343	

Table 2: Compliance of respondents before and after watching video about using helmet when riding motorcycles.

Compliance	After Watching Video						p-value
	Good		Average		Total		
	n	%	n	%	n	%	
Before watching video							0,000
Disobey	42	12	126	37	168	49	
Obey	1	0.5	174	50.5	175	51	
Total	43	12.5	300	87.5	343	100	

## 4 DISCUSSION

Respondent's knowledge based on the data analysis did not have differences between before and after watching video. The results of this study differ from the research conducted by Chrussiawanti et al. (2015) on the relationship between knowledge and compliance of safety riding in adolescents in Senior High School 2 Sukoharjo mostly 63.4% enough category and good only 19.7%. Similarly, when compared with the results of research by Suyanto and Puri (2013) who found that respondents perceptions of high school students in Bandar Lampung against the most head injury disease before being given health education is not good that is equal to 56%.

Some of these differences can be understood that because information about head injuries for not using helmets while riding a motorcycle has been widely uploaded and easily accessible via the internet and social media in various forms such as video. Various parties such as the Police of the Republic of Indonesia have also been counseling about the rule of law and the Traffic Act about the use of helmets for motorcyclists. Not to mention the possibility that in the explanation of the law the use of helmets is also touched on the effect that will be experienced for motorcyclists who do not use a helmet.

Compliance of respondents using helmets based on analysis results there are differences in compliance using helmets between before and after watching video. This can be explained by Bastabel (1999) which states that compliance has manipulative and authoritarian tendencies so that officers are regarded as authoritative figures. However, it differs in the health field because every individual has the right to make a decision to obey or not follow the advice submitted by health personnel. Thus it can be understood that compliance is directly proportional to the objectives to be achieved which are in great need of motivation from the officer. Furthermore, this study demonstrates compliance with the theories described by Eraker et al and Laventhal and Cameron in Bastable (1999) suggest that compliance in health can be viewed from the field of biomedical perspectives concerning the seriousness of illness and the complexity of treatment. Respondents who understand the seriousness of head injury and the complexity of their handling will become obedient with helmets. Such obedient behavior is due to a good perception of the reasons for using a helmet when riding a motorcycle. This can be seen in the

increasing number of well-informed respondents and increased compliance.

## 5 CONCLUSIONS

Good knowledge about head injury but not followed by compliance with a helmet should be the concern of the school and related elements such as the Indonesian Police and Health Department dealing with health education through video showing the cause and effect of head injury. So that compliance is expected to increase so as to reduce the incidence of head injury due to traffic accidents. A good perception of why using a helmet is expected to improve compliance with a helmet education to adolescent in school.

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