Relationship of Health Examination In Bus Driver with Traffic Accident Level in Sidoarjo District, 2019

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ABSTRACT

The increase in the number of traffic accident cases in Sidoarjo Regency in 2016 there were 1177 traffic accident cases, and an increase of 18.6% which in 2017 there were 1446 traffic accident cases. Whereas in 2018, there were 1518 cases of traffic accidents resulting in an increase of 4.74%. The purpose of this study was to analyze the relationship between health checks on bus drivers and the level of traffic accidents in Sidoarjo Regency in 2019.

This study was an observational analytic study with a cross sectional study design with a total of 77 bus drivers in the Bungurasih Terminal.

The results of the study based on the characteristics of the bus driver are the majority of male sex as many as 76 people (98.7%) and most are 41-50 years old as many as 34 people (44.2%). Based on statistical results the bus driver accident rate was influenced by variables of health examination results including blood pressure with $P_{value} = 0.000$, blood glucose variable with $P_{value} = 0.023$, while the results of respiratory alcohol and urine amphetamine tests on all bus drivers had negative results, so the value obtained constant and cannot be analyzed statistically.

The conclusion of the study is the variable examination of pressure and examination of blood glucose while having a significant relationship with the level of traffic accidents in Sidoarjo Regency in 2019.

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1. INTRODUCTION

Indonesia is a developing country with the fourth largest population in the world. According to The Global Report on Road Safety in 2015, Indonesia ranks third in Asia with the highest number of deaths due to traffic accidents after China and India with a total of 38,279 deaths. Based on statistical percentages of the population, Indonesia ranks first with a fatality rate due to traffic accidents of 0.015% of the total population [1].

Data from the Sidoarjo Police Traffic Police in 2018 in table 1 above, an increase in the number of traffic accident cases in Sidoarjo Regency. In 2016 there were 1177 cases of traffic accidents, and an increase of 18.6% which in 2017 there were 1446 cases of traffic accidents. Whereas in 2018, there were 1518 cases of traffic accidents resulting in an increase of 4.74%. Based on data from the Sidoarjo District Police Station, most of the perpetrators and victims of accidents are in the productive age range, namely 16-40 years with 473 people involving accidents and 689 victims [2].

The results of research by [3] about the situation of traffic accidents in Indonesia in 2010-2014 showed that traffic accidents caused by the state of a sick driver by 32%, while those caused by drivers with the influence of alcohol by 1%.

Safety on the way becomes a destination for everyone who is traveling. Travel activity generally increases during the holidays or on religious holidays. Efforts to improve safety when traveling during Eid must be prioritized to reduce the number of accidents, deaths and disabilities [4]. Data from the National Traffic Police Corps of the Litbangkes Media year showed that fatal accidents during Eid increased enough compared to normal days. Vehicle buildup has increased so that road transportation is a type of transportation that has a great risk for accidents. According to [5] stated that the factors that contribute to the high number of traffic accidents are human factors, vehicles and road conditions. In land transportation, the role of the driver is the main factor that becomes important. Focused on land transportation which is relatively cheap and widely used by the public such as public bus transportation. So the bus driver becomes an element that must be considered so that safety during the trip is guaranteed. Drivers must have driving skills and have adequate knowledge about the health conditions and vehicle readiness [6]. The government, through related agencies, has established rules that must be obeyed by bus transportation companies by following vehicle safety procedures. The driver's health can be checked through a medical test before driving, and when driving the driver must be in good health status to drive the bus and its passengers. Drivers must be in good health or fit, there should be no influence of alcohol, narcotics, and other drugs that have a negative impact on the driver. Efforts to anticipate traffic accidents due to surges in passengers during Lebaran in 2019 have prepared various activities which constitute the Safety Action Decade Program to anticipate passenger safety. Related agencies such as health, transportation, public works have made preparatory efforts related to the health conditions of bus drivers, driving vehicles, and road environmental conditions.

2. RESEARCH METHOD

This type of research is analytic observational research that aims to find the relationship between exposure and outcome by only measuring and observing
without any treatment of the variables studied. The design in this study is cross sectional where the exposure and outcome of the research object are measured or collected at the same time [7].

The population in this study were all bus drivers who were working in the Bungurasih Terminal, Sidoarjo Regency. The total bus driver population in this study was 1669 people.

The sample is a portion of the number and characteristics possessed by the population [8]. Although the sample is only part of the population, the facts obtained from the sample must be able to describe in the population. The sample in this study is that most bus drivers in Bungurusih Terminal are willing to have a health check up before Lebaran in 2019.

The above calculation results can be seen the minimum number of samples that must be met is 77 bus drivers.

3. RESULTS AND DISCUSSIONS

a. Characteristics of Bus Drivers Based on Gender

| No | Gender   | Frequensi | Percentage (%) |
|----|----------|-----------|----------------|
| 1  | Male     | 76        | 98,7           |
| 2  | Female   | 1         | 1,3            |
|    | Totals   | 77        | 100            |

b. Characteristics of Bus Drivers by Age

| No | Age         | Frequensi | Percentage (%) |
|----|-------------|-----------|----------------|
| 1  | < 20 years old | 1         | 1,3            |
| 2  | 20 – 30 years | 2         | 2,6            |
| 3  | 31 – 40 years | 13        | 16,9           |
| 4  | 41 – 50 years | 34        | 44,2           |
| 5  | 51 – 60 years | 27        | 35,1           |
|    | Totals      | 77        | 100            |
### c. Blood Pressure

| No | Type of Blood Pressure                  | Frequensi | Percentage (%) |
|----|----------------------------------------|-----------|----------------|
| 1  | Normal (< 120/80 mmHg)                 | 17        | 22.1           |
| 2  | Mild hypertension (120-139/80-89 mmHg) | 31        | 40.3           |
| 3  | Moderate hypertension (140-159/90-99 mmHg) | 22      | 28.6           |
| 4  | Severe hypertension (≥160/100 mmHg)    | 7         | 9.1            |
|    | **Totals**                             | **77**    | **100**        |

### d. Examination of Blood Glucose at a Time

| No | Types of blood glucose at a time     | Frequensi | Percentage (%) |
|----|--------------------------------------|-----------|----------------|
| 1  | 80 mg/dl – 200mg/dl                  | 56        | 72.7           |
| 2  | > 200 mg/dl without symptoms         | 17        | 22.1           |
| 3  | > 200 mg/dl with symptoms            | 4         | 5.2            |
|    | **Totals**                           | **77**    | **100**        |

### e. Respiratory Alcohol Examination

| No | Respiratory Alcohol | Frequensi | Percentage (%) |
|----|---------------------|-----------|----------------|
| 1  | Negative            | 77        | 100            |
| 2  | Positive            | 0         | 0              |
|    | **Totals**          | **77**    | **100**        |

### f. Urine Amphetamine Examination

| No | Amphetamine Urin | Frequensi | Percentage (%) |
|----|------------------|-----------|----------------|
| 1  | Negative         | 77        | 100            |
| 2  | Positive         | 0         | 0              |
|    | **Totals**       | **77**    | **100**        |

### g. Traffic Accident Rate

| No | Accident Status Traffic | Frequensi | Percentage (%) |
|----|--------------------------|-----------|----------------|
| 1  | Ever                     | 61        | 79.2           |
| 2  | Never                    | 16        | 20.8           |
|    | **Totals**               | **77**    | **100**        |
h. Relationship of Blood Pressure Checks on Bus Drivers to the Level of Traffic Accidents in Sidoarjo Regency in 2019

| Examination Blood pressure | Accident Traffic |       |       |       |
|----------------------------|------------------|-------|-------|-------|
|                            | Ever             | Never | Totals|
|                            | N    | %   | N    | %   | N    | %   |
| Normal                     | 2    | 11,8| 15   | 88,2| 17   | 100,0|
| Mild hypertension          | 30   | 96,8| 1    | 3,2 | 31   | 100,0|
| Moderate hypertension      | 22   | 100,0| 0   | 0   | 22   | 100,0|
| Severe hypertension        | 7    | 100,0| 0   | 0   | 7    | 100,0|
| **Totals**                 | **61** | **79,2**| **16** | **20,8**| **77** | **100**|

i. Relationship of Examination of Blood Glucose at the Bus Driver with the Level of Traffic Accidents in Sidoarjo Regency in 2019

| Examination Blood Glucose  | Accident Traffic |       |       |       |
|----------------------------|------------------|-------|-------|-------|
|                            | Ever             | Never | Totals|       |
|                            | N    | %   | N    | %   | N    | %   |
| 80 mg/dl – 200 mg/dl      | 40   | 71,4| 16   | 28,6| 56   | 100,0|
| > 200 mg/dl without symptoms | 17   | 100,0| 0   | 0   | 17   | 100,0|
| > 200 mg/dl with symptoms  | 4    | 100,0| 0   | 0   | 4    | 100,0|
| **Totals**                 | **61** | **79,2**| **16** | **20,8**| **77** | **100**|

j. Relationship of Examination of Respiratory Alcohol During Bus Driver with Traffic Accident Rate in Sidoarjo Regency in 2019

| Examination Alcohol respiration | Accident Traffic |       |       |       |
|---------------------------------|------------------|-------|-------|-------|
|                                 | Ever             | Never | Totals|       |
|                                 | N    | %   | N    | %   | N    | %   |
| Negative                        | 61   | 79,2| 16   | 20,8| 77   | 100,0|
| Positive                        | 0    | 0   | 0    | 0    | 0    | 0   |
| **Total**                       | **61** | **79,2**| **16** | **20,8**| **77** | **100,0**|
k. Relationship of Urine Amphetamine Examination at the Bus Driver with the Level of Traffic Accidents in Sidoarjo Regency in 2019

| Urine Amphetamine Examination | Accident Traffic | Totals | P_value |
|-------------------------------|------------------|--------|---------|
|                               | Ever N %         | Never N % | N % |
| Negative                      | 61 79,2          | 16 20,8 | 77 100 |
| Positive                      | 0 0              | 0 0     | 0 0     |
| Total                         | 61 79,2          | 16 20,8 | 77 100 |

4. CONCLUSION

The conclusions obtained from this study are:

a. The characteristics of the bus driver in this study were mostly male sex as many as 76 people (98.7%) and mostly increased by 41-50 years as many as 34 people (44.2%).

b. The results of the examination of the pressure on the bus (P_value = 0.000) that has a relationship with the level of traffic accidents in Sidoarjo.

c. The results of bleeding checks during the bus (P_value = 0.023) have a significant relationship to the level of traffic accidents in Sidoarjo.

d. The results of the inspection of respiratory alcohol on the bus driver do not have a relationship that represents the level of traffic accidents in Sidoarjo because the results of the examination on the bus driver are all negative alcohol status.

e. Results of urine amphetamine examination on bus drivers do not have a relationship that opposes the level of traffic accidents in Sidoarjo related to the results of examinations on bus drivers all have negative status of amphetamine.

f. Most of the identification results of bus drivers have experienced traffic accidents in January to May 2019 as many as 61 people (79.2%).

5. SUGGESTION

Suggestions obtained from this study are:

a. Increase self-awareness about the importance of health checks (blood pressure, blood glucose, respiratory alcohol and urine amphetamine) as a preventive measure in minimizing traffic accidents. Because those who know very well about their personal health and self-condition for driving are the bus drivers themselves, which is a job that requires high concentration.

b. The Health Office in collaboration with DLAJJ continues to increase efforts for health checks for drivers not only during the Eid season, but instead becomes routine activities (quarterly).

REFERENCES

[1] Abdullah, I.R. 2014. Risk Factors of Traffic Accidents in Benton at the Police Station Limboto Gorontalo Regency 2007-2009. Journal of the Society of Epidemiology, Vol.2 No.2 Hal: 108-112.
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