

Socialization of Occupational Health and Safety Implementation in Transportation Activities for Passengers Experiencing *Low-Back Pain* on Inter-City Inter-Provincial Buses

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ABSTRACT

Introduction: Economic needs make bus drivers pay less attention to safety and health factors while driving. Inter-City Inter-Province Buses, as a mode of mass transportation, must meet Occupational Health and Safety (OHS) requirements in various aspects. In addition to maintaining the health and safety of all bus passengers and crew, the application of OHS maintains the reliability of the transportation system. This study aims to related disease at risk with bus drivers: Low Back Pain because of prolonged sitting position with non-ergonomic seats and little opportunity to move or relax during the trip. The aim is to increase knowledge about techniques to reduce LBP for bus drivers. This activity is a socializing technique to minimize low back pain (LBP). **Method:** Qualitative descriptive research methods and data collection techniques are carried out by observation, interviews, and documentation techniques. **Results:** This research was carried out with the stage that is for socialization. This urgency aims to avoid occupational accidents or work consequences that often occur in the informal sector because the workers in the informal sector still do not understand Occupational Safety and Health (OHS). Hence, efforts in reporting and OHS supervision still need special attention. One sector job informal worker at risk of disease due to work or work accidents is Inter-city bus drivers (drivers) province; this is due to demands of the economy that make bus drivers pay little attention to safety and occupational health while driving. **Conclusion:** The implementation of the OHS program for passenger buses has been carried out with applicable standards, but for facilities and infrastructure in the vehicle, it must be completed on all vehicles eligible to operate according to passenger bus standards.

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INTRODUCTION

Adolescents are susceptible to non-communicable diseases (PTM) because they develop and search for identity and engage in risky behavior. Adolescent risk factors include increased blood pressure, blood sugar, body mass index or obesity, unhealthy eating patterns, lack of physical activity, and smoking and alcohol. Prevention and efforts to control PTM risk factors are carried out, namely: advocacy and cooperation, promotion, prevention and reduction of risk factors, strengthening the capacity and competence of health services, as well as strengthening surveillance, supervision, and research of PTM including through the activities of the Integrated Non-Communicable Diseases Foster Post (Posbindu PTM).

This study analyzed the relationship between attitudes and youth's interest in participating in Posbindu PTM. Methods: This study used an analytic observational study with a cross-sectional sample of 170 respondents. The data collection technique uses a form distributed to ABBS SMA students. Categorizing the variables of attitudes and interests of adolescents uses the median value of the results of data analysis, and data analysis uses the Chi-Square test. Results: The results of the analysis showed that there was a relationship between attitudes and youth's interest in participating in Posbindu PTM ($p=0.001$). Most ABBS SMA students are interested in participating in Posbindu PTM. Conclusion: It is necessary to follow up with the health agency and the school to carry out Posbindu PTM in schools with the aim of not only teachers and employees but also students.

LITERATURE REVIEW

One of the workers who are at risk for health problems in the form of complaints of low back pain is an inter-city inter-provincial bus driver; this is because bus drivers whose daily job is to sit and drive the bus where the sitting position of the inter-city drivers takes a long time (>8 hours/day) with non-ergonomic chair conditions, and drivers have little opportunity to move or relax during the journey. Sitting for a long time in the wrong position can cause the back and waist muscles to become tense, damaging the surrounding soft tissue. If this condition continues, it will cause pressure on the spinal cord, which can later result in a herniated nucleus (Ibrahim et al, 2015).

Limited facilities and infrastructure, as well as the provision of Occupational Health and Safety (OHS) information on land transportation, especially Inter-City Inter-Provincial passenger buses, must be balanced along with the times and population growth each year with the security, health, and safety of workers and passengers who better. However, occupational health and safety are essential to pay attention to. Many workers ignore safe work procedures.

High population growth in Indonesia, especially in Java, has caused various problems, including transportation. This chapter discusses the public health impact associated with transportation deaths and injuries. The more advanced the times, the more complex and more complicated transportation in Indonesia. Best safety practices include ensuring that everyone is protected from accidents, hazards, health-related illnesses, and illnesses from daily activities. The increasing development and need for fast transportation equipment will affect the risk of road accidents, which can cause death (fatality) and injuries (injury). This is evident from the 2014-2018 data on accidents at the Indonesian police station, which are increasing yearly, and most of the victims are of a productive age. Law no.22/2009 concerning Road Transportation Traffic in article 204 states that every public transportation company must create, implement, and improve a safety company system.

With a few records of the problems found, the solution offered in this research to overcome the problems in Terminals, especially for intercity bus drivers, is to socialize

about techniques to reduce pain and Lower Back (*Low Back Pain*) on the intercity bus drivers. Through the solution, the drivers will give knowledge and insight about techniques to reduce pain in the bone lower back to increase worker productivity.

This aims to increase the understanding and insight of the driver about taste reduction techniques for pain (*Low Back Pain*). The objectives of this study include (a) protecting the health and safety of bus workers and passengers from a need for more and (b) the lack of awareness and knowledge of employees and passengers about the importance of OHS in transportation.

Practical safety can be interpreted as control over an unwanted loss in injury, illness, or damage to another loss. In this case, it includes efforts to prevent work accidents. The term Safety Culture (Safety Culture) first appeared in 1987 OECD (Nuclear Agency Report on the 1986 Chernobyl Disaster) (INSAG). Cooper (2002) defines Safety Culture as "The set of norms, attitudes, rules, and social and technological practices that minimize the exposure of employees, managers, customers and members of the public conditions considered heard or injured." This definition is meaningful in that Safety Culture is a set of norms or attitudes, roles, and social practices technology that minimizes exposure to hazards/accidents on the conditions of workers, management, consumers, and society.

Total Safety Culture is formed when workers are involved in effective procedures for control safety. Further explained by Geller (2001)," A total Safety Culture requires continuous involvement from personal operations, such as hourly workers. After all, these people know where safety hazards are located and when at-risk behaviors occur. Also, they can have the most influence in supporting safe behavior and correcting at-risk conditions. The ongoing process involved in developing a Total Safety Culture needs to be supported from the top but driven from the bottom. This is more than employee participation; it is employee ownership, commitment, and empowerment."

The Offshore Safety Division of the HSE (2000), Safety Measurement User Guide and Toolkit, has described a model based on Safety Culture by conceiving the organization as a socio-technical (Socio-Technical). In the view of a system, socio-technical dynamics occur in the process of harmonization between values, attitudes, beliefs, behavior, and the work system of personnel/worker subsystem, technology, environment, and organization/management in all levels of the organization to work together, increase productivity, satisfaction work, Occupational Safety and Health as well as commitment.

The British Health Safety Commission stated that someone will have Safety values and related Occupational Health with himself (individual), with the group (group), and with the organization." Values or related individual attitudes with Occupational Safety and Health include three contexts, i.e., individual values as members of the organization, group and individual values of Occupational Health and Safety owned by the individual concerned as Organization members are shown in individual perception of commitment management, management, primacy safety, and procedures and regulations safety.

METHOD

This type of research is descriptive qualitative; the selection of this method aims to provide conditions that only describe conditions based on facts found in inter-city inter-provincial buses passenger activities at the Terminal. The researcher intends to present data systematically, facts, and accurately following the reality of applying occupational health and safety in inter-city inter-provincial buses and passenger bus transportation activities at the Terminal.

Community service activities in the form of socialization about techniques for reducing lower back pain (*Back Pain*) on Intercity Bus Drivers at the terminal target intercity

bus drivers with the hope socialization activities can add knowledge and insight into bus driver techniques for reducing pain lower back (*Back Pain*), then applied by the drivers when they rest and at the time waiting for passengers.

It is the implementation of outreach activity that needs attention is the content to be disseminated to the public about techniques for reducing backbone pain (*Low Back Pain*) packed as simple and effectively as possible so that the delivery is easy to understand by bus drivers, because of the process implementation of socialization lasts 10-15 minutes.

RESULT AND DISCUSSION

The bus terminal is where a group of buses ends and begins its operational trajectory. Concerning this definition, passengers can end their journey at the terminal building by changing to another bus route. On the other hand, for bus drivers, the terminal building is where vehicles can rest for a while, which can then be used for light maintenance or engine checks. The terminal is a type A Terminal serving public transportation for Inter-City, Inter-Provincial, city, and rural transportation. Type A terminal location requirements:

- a. Located in the capital of the province, municipality, or regency in the Inter-City Inter-Provincial and/or Cross-Border route network.
- b. Located on an arterial road with a minimum road class of class III A.
- c. The minimum distance between the two type A terminals is 20 km on Java Island, 30km on Sumatra Island and 50 km on other islands.
- d. Available land area is at least 5 hectares for Java and Sumatra and 3 hectares for other islands.
- e. Has an access road to and from the terminal as far as 100 m on Java Island and 50 m on other islands.

There is the location or research object; there are 3 (three) aspects in it, namely: Quality of Human Resources, OHS implementation policy at the Passenger Bus Terminal, OHS Facilities, and Infrastructure. Public transport drivers, especially the average bus driver, work around 12 hours per day with a steady number of passengers, especially before the holidays/days National holidays. One of the consequences of risky work for bus drivers is (*Low Back Pain*). This is due to the sitting position of the old drivers with the condition of the seats, which could be more ergonomic, as the drivers have little chance to move or relax while making the journey.

Occupational factors included in risk factors for low back pain such as posture, body position, design place of work, length of work, and length of service, while individual factors can affect this low back pain, such as age, nutritional status, gender, and habits smoking (Tarwaka, 2014). Age can affect back pain because getting older, for the most part, decreases physical activity. Besides that, increasing age can affect the function of the affected organ degradation (decreased function), one of which is bone.

Another individual factor that is said to be associated with the occurrence of bone pain in the lower back is the smoking habit. According to the official *World Health Report Organization* (WHO) (2023), the number of deaths caused by smoking each year is 8 million people per year. There is a significant relationship between smoking habits and waist muscle complaints, especially for work that requires exertion of muscles because the nicotine in cigarettes can cause reduced blood flow to the network. In addition, smoking can also cause loss of content minerals in the bones, thus causing pain due to cracking or bone damage.

Quality of Human Resources

Regarding the quality of competency standards and knowledge, the company has conducted a selection of bus drivers since the initial entrance test through the procedure for acceptance to become a driver or for workers who work in bus transportation activities. The bus party conducts introductory activities for newly entered workers. This introduction includes an introduction to the structure and parts of the bus so that new workers recognize each part of the bus. This introduction also introduces the use and maintenance of tools on the bus. The company often holds several training courses on OHS to know about services and emergency response so drivers can understand traffic ethics after conducting training provided by the company and conducted regularly every three months.

In addition, occupational health is a state of well-being of workers both physically and mentally so that they can work well without feeling disturbed by the work environment. Conduct regular driver health checks every six months, and the company has a policy that requires drivers to check their blood pressure (tension) before the fleet's departure. Before the driver departs, this is done to ensure that the drivers who will depart do not experience any physical or mental health problems. Mentally, drivers traveling must take a break every 4 hours, which is done by changing between driver one and driver two to realize excellent service and safety on the road because the driver is the spearhead of AKAP bus transportation activities (Fitria et al, 2017).

OHS implementation policy of Passenger Bus Terminal

Policies in the implementation of OHS must meet the requirements of the OHS Management System following the ISM-Code (International Safety Management Code), which was compiled in an integrated manner on July 1, 2000, concerning the implementation of the Quality and Safety Management System (ISO-9002 and ISM-Code). What needs to be done to comply with SMK3 standards is testing whether the vehicle is feasible or not to operate and routine vehicle inspection reports. In carrying out routine vehicle inspection activities, each company has a workshop that is in the exact location as the vehicle pool; each company also has a head of repair (maintenance) and vehicle technicians who are employees of the company and have work procedures (SOP) related explicitly to maintenance activities and vehicle maintenance.

The physical condition of a healthy, safe, and comfortable work environment can motivate employees to carry out their work. To create a healthy, safe, and comfortable environment, all must support it.

Facilities and Infrastructure to Support Safety

This includes in-vehicle lighting systems, glass breakers/batters, fire extinguishers, first aid kits, passenger manuals, emergency exits, and windows. From the results of observations, several safety support tools are not contained in the AKAP passenger bus, and the feasibility of these facilities needs to meet standards due to lack of maintenance.

Based on the results of observations or observations at the bus terminal, the company has yet to be entirely consistent in implementing a safety management system. This is because the implementation safety that has been running has yet to be carried out with a safety management system approach. After all, the implemented safety program has only focused on fulfilling the company's technical and operational aspects.

Based on the results analysis and discussion regarding the implementation of passenger bus occupational health and safety at the terminal, the following conclusions can be drawn:

1. The conditions for whether the vehicle can operate and periodic maintenance have been implemented according to applicable regulations.

2. Implementation of occupational health and safety for workers starting from using PPE.
3. Periodic OHS training for workers correctly follows the specified SOP.
4. Provision of facilities and infrastructure still needs to be improved in vehicles.

Bus drivers are so risky to experience *low back pain*. Spinal pain is back pain on the bottom that can be caused by traumatic causes on the vertebrae and surrounding nerves. Because it needs to be done countermeasures to reduce techniques to reduce low back pain, namely:

1. Before and after performing activities or work activities, it is better to stretch first.
2. Avoid positions and activities that trigger back pain; if sudden back pain, stop the activity because if it continues, it will exacerbate the situation.
3. Posture while sitting or standing also needs attention to avoid load accumulation at one point; the end will burden the back. Stay upright when sitting or standing because the weight is well distributed.
4. If it takes a long time to sit while working, ensure the knees are in line with the thighs. Upright the car seat so the knees can be bent not and adequately stretched.
5. Use tools (e.g., footrests/pads) if applicable needed and can use a pillow on the back if not enough buffer at the moment sits on the chair.
6. Pay attention to the sleeping position; avoid sleeping prone because if the stomach's center of gravity goes down, it will be exciting and burden the back. Also, the back will withstand a more significant load when sleeping on your back. The best position for preventing back pain at the bottom is slanted, with the wrong leg bent.

CONCLUSION

Lower back pain occurs due to disturbance of vertebrate biomechanics lumbar region due to changes in body weight by compensating for changes in body position, which will cause pain. Factors affecting back pain (*Low Back Pain*) include individual factors, work factors, and work environment factors.

Occupational accidents/illness work consequences often occur in the informal sector; this is because the workers in the informal sector still do not understand Occupational Safety and Health (OHS), so efforts in reporting and OHS supervision still need special attention. One sector job informal worker who are at risk of disease as a result of work or work accidents are Inter-city bus driver's province; this is due to the demand of the economy that makes bus drivers pay little attention to safety and occupational health while driving, several cases of accidents ago traffic results from negligence driver is a factor cause of the accident.

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