Implementation of the use of masks to prevent respiratory diseases in pedicab and motorized becak drivers

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ABSTRACT

The application of Personal Protective Equipment (PPE), especially masks, greatly affects the health of workers on the streets, especially pedicab and motorized becak (bentor) drivers, where masks have the ability to protect someone whose function is to isolate part or all of the body from potential hazards in the workplace. The purpose of this community service activity is to provide education in the form of counselling to pedicab and bentor drivers so that they understand and are aware of the importance of preventing respiratory diseases. The target participants of this community service activity are pedicab drivers and bentor who work along the South Veteran Road of Makassar City. The knowledge of the target audience is assessed through pre-test and post-test which are distributed before and after the delivery of the material. In accordance with the results of the pre-test and post-test recapitulation, it is known that the target does not have enough knowledge so, after delivering the material, the level of target knowledge increases by 10%. In addition to delivering materials, masks were also distributed for counselling participants. The enthusiasm of the target in applying the material obtained can be seen from the target who immediately uses the mask to work along Jalan Veteran.

Keywords: counseling; masks; personal protective equipment; respiratory tract diseases

ABSTRAK

Penerapan Alat Pelindung Diri (APD) terutama masker sangat berpengaruh terhadap kesehatan bagi pekerja di jalanan terutama para tukang becak dan becak motor (bentor), dimana masker mempunyai kemampuan untuk melindungi seseorang yang fungsinya mengisolasi sebagian atau seluruh tubuh dari potensi bahaya di tempat kerja. Tujuan dari kegiatan pengabdian masyarakat ini adalah memberikan edukasi dalam bentuk penyuluhan kepada tukang becak dan bentor agar mereka paham dan sadar akan pentingnya mencegah penyakit gangguan pernafasan. Sasaran peserta kegiatan pengabdian masyarakat ini adalah tukang becak dan tukang bentor yang bekerja di sepanjang jalan Veteran Selatan Kota Makassar. Pengetahuan khalayak sasaran dinilai melalui pretest dan post est yang dibagikan sebelum dan sesudah penyampaian materi. Sesuai dengan hasil rekapitulasi pretest dan post est diketahui bahwasanya sasaran belum mempunyai pengetahuan yang cukup sehingga, setelah dilakukan penyampaian materi, tingkat pengetahuan sasaran naik sebesar 10%. Selain penyampaian materi, juga dilakukan pembagian masker bagi peserta penyuluhan. Antusiasme sasaran dalam menerapkan materi yang telah didapatkan dapat dilihat dari sasaran yang langsung menggunakan masker tersebut untuk beraktivitas bekerja di sepanjang Jalan Veteran.

Kata Kunci: *penyuluhan; masker; alat pelindung diri; penyakit saluran pernafasan*

INTRODUCTION

The Ministry of Environment (KLH) conducts regular annual monitoring of the quality of gasoline and diesel fuel in Indonesia. As support for the Blue Sky Program, LAPAN contributed by coordinating air pollution observations and observations in other major cities involving several agencies including universities. Another activity is to conduct a study on motor vehicle exhaust emissions. In the implementation of the Blue Sky Program, air pollution control is focused on pollution sources from industry and motor vehicle transportation facilities because both contribute the most to air pollution. Based on monitoring of air pollution in urban areas, transportation emissions are proven to be the highest contributor to air pollution in Indonesia, which is around 85% (Alfani, 2021).

The results of a World Bank study which shows that an increase in the number of motor vehicles in Jakarta and of course also in similar conditions in other big cities are estimated to contribute to the level of pollution or air pollution lead 100%, suspended particulate matter (SPM10) 42%, hydrocarbons 89%, nitrogen oxides 64% and almost all carbon monoxide. Pb heavy metal is very dangerous to living things, especially humans because it is carcinogenic, causes mutations, decomposes over a long period of time, and its toxicity does not change (Briffa et al., 2020). Broadly speaking, the source of heavy metal pollution Pb (lead) comes from motorized transportation modes that traffic on highways and other public facilities such as; public transportation terminals both indoor and outdoor, as well as parking lots in shopping centres (malls) and so on (Rinawati et al., 2020).

Makassar City pollution produced from vehicle fumes over time is increasing and based on data from Makassar City Samsat, in 2018 there were 1,425,151 units or an increase of 87,009 units compared to 2017. Meanwhile, in 2016 the number of motorized vehicles in Makassar City was only around 1,252,755 units. That is, in two years there was an increase of 172,395 units. This condition is certainly very worrying considering the pollutants released by motor vehicles such as carbon monoxide (CO), nitrogen oxides (NOx), hydrocarbons (HC), Sulphur dioxide (SO_2), lead (Pb) and carbon dioxide (CO_2) are very dangerous to human health. In addition, information about air quality can be a reference for the government to review policies related to regulating and limiting the number of motorized vehicles (Aini, &; Ruktiari, 2019)

Several preliminary studies conducted in Makassar City showed that high levels of Pb came from contamination due to vehicle emissions (Bella &; Rappe, 2020; Ruhban, 2020; Purwoko &; Prastiwi, 2019). So it is important to provide intervention to road users to prevent respiratory diseases due to air pollution. The purpose of this service activity is to provide education in the form of counselling to pedicab and bentor drivers to understand the importance of preventing respiratory diseases.

METHODS

The first stage is the preparation stage of the location that is the target of community service, the preparation of this location is carried out before carrying out activities for the gathering of participants in the Mamajang village hall The target or target is pedicab drivers and Bentor drivers along the veteran road. Furthermore, administrative activities through letters / permits to related parties such as addressed to the local government and Mamajang sub-district. Letter of assignment for the proposing team to go to the field in carrying out these activities. The last is socialization of village head partners and their tools.

Figure 1. Participant Registration

At the implementation stage, 20 pedicab drivers and bentor pertitik were gathered in the Mamajang Village hall and then registered before entering the counselling place (see Figure 1). Then alternately education was given in the form of counselling and provision of stimulants, as well as masks.so that the time needed for 2 (two) days (See Figure 2). Before counselling, participants are welcome to fill out the attendance list, questionnaire and leaflet assisted by students (see Figure 3). The implementation of counselling with material on the benefits of using masks and the impact of not using masks, counselling materials will be presented by the chairman and continued by members. The last activity at this stage is the provision of masks and stimulants.

In the evaluation stage, monitoring was carried out after a month of activities by visiting the location of pedicab drivers and bentor was grounded. Observation along the Veteran street of Makassar City for 3 times (weeks I, II and III.

Figure 2. Material Submission

Figure 3. Leaflet Distribution

RESULTS AND DISCUSSION

The implementation of this community service activity will be held on Tuesday, June 6, 2023 at the South Maricaya Village Office. This community service is in the form of delivering material related to the application of the use of masks to prevent respiratory diseases in pedicab and bentor drivers along Jalan Veteran Makassar City and distributing masks to counselling participants.

Based on the results of observations in the field, around Jalan Veteran Kota Makassar, there are many pedicab drivers and bentor who do their work but do not use masks. While the profession is very vulnerable to respiratory problems because it is always exposed to dust and pollution along the road, so it is necessary to increase knowledge of pedicab drivers and bentor related to the importance of Personal Protective Equipment (PPE) in the form of masks. Before delivering the material, the first step of implementation is to provide leaflets which are protests for counselling participants to find out the level of knowledge before delivering information related to the application of masks.

The knowledge of the target audience is assessed through pre-test and post-test which are distributed before and after the delivery of the material. In accordance with the results of the pre-test and post-test recapitulation, it is known that the target does not have enough knowledge regarding the importance of applying masks in preventing diseases due to respiratory problems. The lack of target knowledge can also be seen from the curiosity of the questioning and answering, including confirmation of the information they have obtained before. Thus, after delivering the material, the level of target knowledge increased by 10%. In addition to delivering materials, masks were also distributed for counselling participants. The enthusiasm of the target in applying the material obtained can be seen from the target who immediately uses the mask to work along Jalan Veteran Kota Makassar.

The results of this study are in line with the findings of Nidianti & Lukiyono (2022) which obtained that 96% of participants knew the use of masks given counselling so that there was an understanding of the use of appropriate masks as a preventive effort against respiratory infections as a result of CO exposure in Sumput Village, Gresik Region. In addition, the findings of Sari et al. (2021) obtained an increase in children's knowledge and

children's independence after being given counselling related to increasing knowledge of the correct use of masks by (85%).

The motivation to use a mask is one of the keys that is very influential and also with personal experience and influence from others who are considered important to strengthen the occurrence of a behaviour (Howard, 2020). Good knowledge does not guarantee that it will affect the preventive measures of respiratory diseases. Risk factors that influence the incidence of disease other than air pollution (exhaust gases from transportation and industry, household combustion smoke, forest fires, cigarette smoke) are demographic, biological, population density (Bhatta &; Glantz, 2020; Kim et al., 2018; Reid et al., 2019). Demographic factors include age, gender, and education. Biological factors include nutritional status and home conditions (Calder et al., 2020; Princess, 2017). One of the diseases caused by respiratory disorders is ARI. ARI is one of the most contagious diseases in developing countries which is the cause of death and illness (Taksande &; Yeole, 2016).

CONCLUSIONS

The knowledge of target participants regarding the importance of implementing the use of masks to prevent respiratory diseases is quite good. This can be seen from the results of the pre-test and post-test which have increased knowledge. The enthusiasm of the target in applying the knowledge that has been obtained can be seen from the use of masks when doing their work outdoors. The results of this service recommend that it is necessary to refresh the material to continue to increase knowledge and awareness regarding the importance of using PPE in the form of masks for outdoor workers.

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