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## KNOWLEDGE IMPROVEMENT OF SANDSTONE'S CRAFTSMEN IN A OCCUPATIONAL LUNG DISEASE PREVENTION AT GAMPING VILLAGE

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### ABSTRACT

Health education in sandstone's craftsmen at Gamping Village is one form of community service in the form of counseling to increasing understanding of the potential hazards and health impacts, especially on the lung function of craftsmen caused by exposure to sandstone dust that was inhaled during the production process. In addition to counseling, free health checks were also carried out, distribution of special respirable dust masks and simulations on how to use masks properly. The activity was carried out on June 17, 2022 at the Gamping Village, Tulungagung. The target of this activity was the sandstone craftsmen of Gamping Village. Before the activity was carried out, the activity preparation process was carried out for approximately 1 month starting from determining the extension theme to submitting permits to related parties. As a form of evaluation, the activity was attended by 32 participants consisting of sandstone craftsmen, village ministers and village officials. All participants participated in the activity with great enthusiasm. Counseling activities could run on time and smoothly.

**Keywords:** *Health Education; Knowledge Improvement; Sandstone Craftsmen; Occupational Lung Disease Prevention.*

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## INTRODUCTION<sup>4</sup>

Sandstone is a type of sandstone sedimentary rock formed by the deposition of material on the earth's surface and water bodies such as rivers, which are mostly composed of silica minerals (64.18-92.68%) (Yulianti *et al.*, 2016). Most of the dust in the sandstone craft home industry in Gamping village is produced from the grinding process of raw materials with particles below 2.5 microns which can be inhaled by workers and is harmful to lung function. The size of the dust is very influential on the occurrence of diseases in the respiratory tract. Inhalation is the only route of exposure that has a direct relationship with the health effects of dust particles (WHO, 2000).

Based on the results of a preliminary survey of sandstone craftsmen, when carrying out the main production process they still use equipment that is not so sophisticated and craftsmen do not use masks. Whereas sandstone dust is a respirable dust measuring below 2.5 microns with a silica content of 95% which can harm the lung function of river stone craftsmen (Pettijohn *et al.*, 2014). According to Hamilton *et al.*, 2008, silica is usually found in the form of inhaled silica crystals which can cause decreased lung function, acute lung inflammation, autoimmune disorders, and even lung cancer. Health education regarding efforts to prevent occupational lung disease is rarely given in the area so that this allows the lack of knowledge of craftsmen to take preventive measures (Ilmiawati *et al.*, 2017)

Based on this background, it is necessary to provide education to workers through health education to sandstone craftsmen in Gamping Village so that sandstone craftsmen can know the health

hazards of lung function as a result of the work process and can apply prevention efforts against occupational lung diseases.

## OBJECTIVES

### *General Purpose*

After the health education to sandstone craftsmen can understand of the health risk by the sandstone working process and the importance of applying occupational health when they worked to prevent occupational lung disease.

### *Special Purpose*

After the health education of occupational lung disease, it is expected that sandstone craftsmen can be:

1. Know the health risk of sandstone working process, mainly related to occupational lung diseases.
2. Know the prevention of health hazards caused by the working process related to occupational lung diseases.
3. Able to apply efforts to prevent lung disease caused by the working process.

## PLAN OF ACTION

### *Strategy Plan*

The strategy plan implemented, including:

1. Coordinate with the village head and head of the sandstone craftsman group in Gamping Village regarding the permit for the implementation of activities.
2. Execution time contract with a group of sandstone craftsmen in Gamping Village.
3. Providing occupational health education as an effort to prevent occupational lung disease to sandstone craftsmen in Gamping Village.

4. Providing free medical check-up to blood sugar, uric acid and blood pressure.

#### *Implementation*

The community service permit was granted by the Research and Community Service Institute Kerta Cendekia Health Polytechnic, Sidoarjo with the number: 067/SPPD/D/IV/2022. In addition to obtaining permission from the Kerta Cendekia Health Polytechnic Research and Community Service Center, this community service has also received.

Actions taken in the implementation of these activities, including:

1. Contact the head of Gamping Village, Head of the Gamping Village sandstone craftsman group and coordinate the implementation.
2. Prepared places and media for occupational health education.
3. Carried out of occupational health education as an effort to prevent occupational lung disease to sandstone craftsmen in Gamping Village
4. Carried out free medical check-up of blood sugar, uric acid and blood pressure.

#### *Setting*

This activity was carried out at the sandstone home industry in Gamping Village, Tulungagung on June, 17<sup>th</sup> 2022.

#### *Target*

The target in this activity is the craftsmen in sandstone home industry of Gamping Village, Tulungagung.

### **RESULTS AND DISCUSSION**

The activity starts at 13.00 and ends at 15.00. The activity was carried out at the Gamping Village Hall, Campurdarat,

Tulungagung Regency. The activity was attended by 32 participants consisting of sandstone craftsmen, village nurse and village officials.

The equipment used during the health education process were laptop, LCD, power point, video, leaflet and mask. Activities in the form of counseling on material delivery, simulation and practice of using special respirable dust masks and free medical check-up.

Health education to improve knowledge and attitudes of the community in prevention of occupational lung disease must be done through the right method so that the purpose of the counseling can be achieved (Nor *et.al*, 2014). The counseling were carried out using the lecture method with the slides which the language and sentences were simple so that the craftsmen were easy to understand (Sahuri, 2021). The participants who attended seemed enthusiastic during the activity in the series of events.

In addition to counseling, a leaflets were also distributed in this activity containing information about sandstone dust and it was health effects and prevention efforts, accompanied by attractive illustrations as additional information to increased of the craftsmen's knowledge (Karuniawati *et.al*, 2019). According to Azwar (2013) attitude is a readiness to react to an object in a certain way. Therefore, to change a person's attitude into an action, namely prevention of a disease, a supporting factor is needed, such as the availability of facilities which in this case are special masks type N95 that can protect the craftsmen from a health effects caused by sandstone dust (US FDA, 2015).

Every questions asked by participants can be answered by the presenter. 90% of

participants are able to understand the material presented. 90% of participants are able to practice how to use masks properly. It was mean that the health education provided has been effective.

The Gamping Village government were willing to cooperate in the implementation of this health education activity.

## CONCLUSION

Knowledge improvement of the craftsmen in the sandstone home industry of Gamping Village was considered quite successful because 90% of the participants could understand the material presented. 90% of participants were able to apply the proper use of masks.

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