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An Effect of Smoking Habits on Rheumatoid Factor (RF) Levels in Fishermen on Brondong Shipping

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ABSTRACT

An abstract is an important part of journal publication. It enables the readers to identify the focus Smoking habits are known to have a negative impact on health, one of the impacts that people are not aware of that arises from smoking habits is getting Rheumatoid Arthritis (RA), someone who gets RA will release Rheumatoid Factor (RF) protein. Basic Health Research Data in 2013 shows that fishermen are one type of job in Indonesia that makes cigarettes a necessity. The purpose of this study was to determine the effect of smoking habits on RF levels in fishermen on Brondong Shipping. The type of research used is analytical observational, using a Cross Sectional research design. The sampling technique in this study used non-probability sampling with a purposive sampling technique, obtained 34 respondents who met the inclusion criteria. The results of the study obtained 25 respondents (73.5%) with negative results and 9 respondents (26.5%) with positive results, positive results were continued with RF examination using a semi-quantitative method to determine how high the titer in the serum was, and the results obtained were titer 1/4 (36 IU / L) as many as 3 respondents, titer 1/8 (64 IU / L) as many as 3 respondents and titer 1/16 (128 IU / L) as many as 3 respondents. After analyzing the data with the Chi Square test using SPSS, the significant calculation result was 0.808, which was greater than the significant value of 0.05, so it can be concluded that there is no influence between smoking habits and RF levels in fishermen in Brondong Shipping.

Keywords: Smoking Habits, Fishermen, Rheumatoid Factor (RF)

INTRODUCTION

According to the World Health Organization (WHO) report on tobacco consumption in 2021, the number of active smokers counted reached 62.8 million people (World Health Organization, 2021). In Indonesia itself, based on data from the Central Statistics Agency in 2020, the percentage of smokers aged over 15 years reached 28.7% (Kalalinggi et al., 2021). According to data from the Central Statistics Agency (BPS) of East Java Province (2022) in East Java Province, the percentage of smokers in the population aged more than 15 years and over in 2021 reached 28.51%. The prevalence of smokers in Lamongan district aged between 15-24 years was 17.51%, 25-34 years was 34.56%, 35-44 years was 35.85%, 45-54 years was 31.39%, 55-64 years was 29.34%, and those aged over 65 years was 18.82%.

Smoking is one of the daily habits that society considers common and widespread. Smoking habits that can cause systematic effects and can cause other pathological conditions (Minnatillah et al., 2020). Smoking itself is an activity of burning tobacco and then smoking smoke consisting of particles and the gas phase. In various countries, smoking has become a major health problem because of the compounds in cigarettes (Paramita et al., 2020). The most dangerous compound in cigarettes is nicotine, which when in the human body can weaken the immune system, causing inflammatory effects (Mahmoudzadeh et al., 2023). One of the

negative impacts that people do not realize that can arise from smoking is getting Rheumatoid Arthritis (RA), where someone affected by RA will release Rheumatoid Factor (RF) protein in their serum (Triwahyudi & Iryadi, 2020).

Basic Health Research data in 2013 shows that fishermen are one type of work in Indonesia that makes cigarettes a necessity (Mulalinda et al., 2015). This is in accordance with the results of observations that have been made on fishermen in Brondong village, it is found that almost all fishermen workers in Brondong have smoking habits and make cigarettes a necessity.

Based on research conducted by Ishikawa and Terao in 2020, it shows an increase in RF levels in smokers perokok (Ishikawa & Terao, 2020). This is supported by previous research which states that RF is one of the risk indicators for increased RA due to smoking (Chang et al., 2020).

From the background description, the researcher is interested in further examining the effect of smoking habits on Rheumatoid Factor (RF) levels in fishermen in Brondong Shipping, Brondong District, Lamongan Regency, East Java.

RESEARCH METHOD

The method used in this study was analytic observational, using a Cross Sectional research design. The sample in this study amounted to 34 respondents who were obtained using purposive sampling technique by observing the predetermined inclusion and exclusion criteria. The data obtained will be analyzed using univariate and bivariate analysis in the form of the Chi Square test of SPSS software version 25 and presented in tabular form.

RESULT AND DISCUSSION

Based on the results of research that has been conducted on 34 respondents, the results show that all respondents (100.0%) in this study are male who work as

fishermen for more than 10 years and are smokers, the age range of the most fishermen in this study is 40-49 years old with a total of 17 respondents (50.0%). Increasing RF levels can be influenced by a person's age, in research conducted by Kodariah (2022) states that ages 55-65 years are more vulnerable due to the aging process which causes the ability to tolerate to decrease and the reaction to antigen-self-antigen increases (Kodariah, 2022).

While the category of smoking habits in this study is divided into 3, namely the mild category with the number of cigarettes smoked 1-10 cigarettes per day, the moderate category with the number of cigarettes smoked 11-20 cigarettes per day and the heavy category with the number of cigarettes smoked more than 20 cigarettes per day (Rahmatika, 2021), the most common type of category in this study was the moderate category with a total of 23 respondents (67.6%). According to Marieta and Lestari (2021), the higher the frequency of someone smoking, the higher the risk of someone developing RA (Marieta & Lestari, 2021). According to the assumptions of researchers, many respondents said that smoking while at sea can reduce sleepiness at night and become a time filler when resting, because at sea there is no signal so to avoid boredom the fishermen do smoking activities and gather together with their coworkers.

The results of the qualitative RF examination method obtained negative results as many as 25 respondents (73.5%) and positive results as many as 9 respondents (26.5%), positive results were obtained in sample code S5, S11, S15, S16, S21, S22, S26, S29, S32. According to Soryatmodjo (2021), explaining that risk factors in increasing RF are not only due to smoking habits but are supported by other factors such as genetic heredity or family history, age, and lifestyle such as coffee consumption of more than three cups a day, especially decaffeinated coffee, never exercise, do not maintain good sleep and diet patterns (Soryatmodjo *et al*., 2021).

According to the researcher's assumption, respondents with positive test results have other bad habits such as lack of rest time, never exercise and often consume coffee. The positive result was followed by a semi-quantitative RF examination to determine how high the titer in the serum was, and the results were obtained with a titer of 1/4 (36 IU/L) as many as 3 respondents in samples S15, S29, S32, a titer of 1/8 (64 IU/L) as many as 3 respondents in samples S11, S16, S26 and a titer of 1/16 (128 IU/L) as many as 3 respondents in samples S5, S21, S22. According to Harti and Yuliana (2021), the higher the titer value in the serum, the worse the prognosis with severe joint disorders (Harti & Yuliana, 2021).

The results of the Chi Square test between smoking habits and RF levels can be explained that the calculated result obtained a significant 0.808 greater than the significant value of 0.05, so it can be said that there is no significant influence between smoking habits and RF levels in fishermen in Brondong Shipping. The results in this study are in line with research conducted by Midanda in 2023, showing no relationship between smoking habits and the incidence of rheumatoid arthritis in Pulau Birandang Village, UPT Puskesmas Kampa Work Area in 2022 (Midanda *et al.*, 2023). This is supported by Triwahyudi's research (2020), which states that the main factor in increasing RF is not only due to smoking habits (Triwahyudi, 2020).

Researchers argue that smoking is not the main factor causing the presence of RF in serum or increasing RF levels in serum, it can occur if supported by other factors, such as hereditary genes, age, gender, unhealthy lifestyles and the presence of other diseases that can cause RF levels to increase.

CONCLUSION AND RECOMMENDATION

Based on the results of research conducted on fishermen in Brondong Shipping, there were 34 respondents who met the criteria of researchers, after the examination was obtained as many as 9 respondents (26.5%) with positive results of RF in their serum, with a titer of 1/4 36 IU / L as many as 3 respondents, a titer of 1/8 64 IU / L as many as 3 respondents, and a titer of 1/16 128 IU / L as many as 3 respondents. After the Chi Square test analysis, the significant result of 0.808 is greater than the significant value of 0.05, which means that in this study H0 is accepted and H1 is rejected, so it can be concluded that there is no effect of smoking habits on Rheumatoid Factor (RF) levels in fishermen in Brondong Shipping. For the community, especially fishermen, it is hoped that they can reduce the number of cigarettes consumed to avoid diseases that arise from smoking habits. For further researchers, it is recommended to further examine other factors that can affect RF levels such as the type of cigarette consumed, the age of the respondent, genetic or family history, the disease experienced and the lifestyle of the respondent.

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