Relationship between Working period and Personal Hygiene towards the Incidence of ARI Among Fish Fillet Workers (Case Study In TPI Tegal City 2017)

Desy Karlita Sari ✉, Soesanto, Budi Laksono

Universitas Negeri Semarang, Indonesia

Abstract

The International Labor Organization's (ILO) world body says the third cause of death from work is a respiratory disease. Working periods are important to see how long a person has been exposed to unhealthy environments or chemicals. The longer a person works on the unhealthy the higher the risk of health problems. While the problem of Personal Hygiene is a daily thing to do, but sometimes still considered less important. The purpose of this study is to analyze the working period and personal hygiene of ARI cases among fish fillet workers in TPI Tegal City. This research is a kind of quantitative research. Analytical observational research design with case control approach.The population of all Fish Fillet workers in TPI Tegal City and sample of 80 samples was obtained by lameshow formula. With a sample of 40 samples and a control sample of 40 samples. The sample was obtained by the technique of Consecutive Sampling Instrument used was questionnaire. Data analysis using Chi square test. The result of the research showed that there was a significant correlation between work period to ARI occurrence among fish fillet workers in TPI Tegal City (p = 0.000) with OR = 10,55 and no significant relationship between personal hygiene to ARI occurrence among fillet workers fish in TPI Tegal City (p = 0.189). The conclusion of long-time fish fillet workers ($\geq$ 5 years) is 10 times greater risk of ARI than new workers (<5 years) working as fish fillet workers in TPI Tegal City.

✉Alamatkorespondensi:
Tegalsari Village, West Tegal Sub-district, Tegal, Indonesia
E-mail: desykarlitasari@gmail.com

INTRODUCTION

At this time hundreds of millions of workers around the world work in unsafe conditions and it can cause health problems. The International Labor Organization (ILO) stated that the third cause of death from work was respiratory disease (Hutama, 2013). Acute respiratory infection (ARI) is a major health problem as evidenced by the prevalence of ARI in Indonesia was as much as 25.5% (range: 17.5% - 41.4%) with 16 provinces had prevalence above the National rate and pneumonia was as much as 2.1% (range: 0.8% - 5.6%) (Basic Health Research, 2012).

Factors which influenced the risk of ARI among workers were: 1) individual characteristics (age, gender, working period, type of work, climate factor), 2) behavioral factors (habit of using Personal Protective Equipment (PPE), smoking habit, balanced nutritional intake, maintaining personal hygiene), 3) environmental factors (indoor air pollution, occupancy density, floor, roof, ventilation, lighting, humidity in house) (Achmadi, 2008).

Working period is important to see how long a person has been exposed to unhealthy environments or chemicals. The longer a person works in the unhealthy environment the higher the risk of health problems (Sirait, 2010). Meanwhile, Personal Hygiene is a daily thing to do, but sometimes it still considered less important. This opinion occurs because of lack of socialization on the importance of Personal Hygiene. The people lack of knowledge about Personal Hygiene, making healthy lifestyle is difficult to implement in society. Personal Hygiene is an effort of individuals or groups in maintaining health through individual hygiene by controlling environmental conditions (MOH, 2014).

Fish Auction Place (TPI) Tegal is the largest fish auction place in Tegal. In the TPI there are many economic activities, one of them is Fish Fillet industry. There are about 11 units of Fish Fillet industry with a total of 550 fish fillet workers (DKPP Tegal, 2016)

Preliminary study was conducted in February. Based on data from West Tegal Public Health Center which was the nearest health center to the TPI, 80% of Fish Fillet workers had ARI, while in the work area of East Tegal Public Health Center there were 40% of adults (age 20-45 years) had ARI.

Based on interview and observation results to the Fish Fillet workers, they have been working in the Fish Fillet Industry for over 3 years, with a 10-hours workday each day. During the work, the workers's clothes were wet because they cut the fish fillet, environmental condition around the industry was also moist and smell fishy due to the fish fillets were not fresh. And the number of fish fillet industry in the area of TPI is less attention to the workers. Therefore, this study was conducted to analyze the relationship between working period and Personal Hygiene towards the incidence of ARI among Fish Fillet workers in TPI Tegal.

The purpose of this study is to analyze working period and personal hygiene towards ARI cases among fish fillet workers in TPI Tegal

A benefit for the community especially the fish fillet workers that it can add public health knowledge about the relationship between working period and personal hygiene towards the incidence of ARI among fish fillet workers in TPI Tegal so that it may increase public awareness on the importance of paying attention to personal hygiene in order to prevent the incidence of ARI disease

METHODS

This study was a quantitative study. Analytical observational study design with case control approach. The population was all fillet fish workers in TPI Tegal and 80 samples were obtained by lameshow formula. The instrument

used was a questionnaire. Data analysis used Chi Square test.

RESULTS AND DISCUSSION

Fish Fillet workers in TPI Tegal were mostly aged 36-45 years, i.e. as many as 33 people (41.3%). From the characteristic of sex, most of the respondents were female, as many as 70 people (87,5%). From the characteristic of education, most of the respondents had elementary education, as many as 61 people (76,2%).

Table 1. Relationship between Working Period and the Incidence of ARI

Working period	The Incidence of ARI						p-value	OR
	ARI		Non ARI		Total			
	f	%	f	%	f	%		
Long	32	74.4	11	25.6	43	100	0.000	10.55
Short	8	21.6	29	78.4	37	100		
Total	40	50.0	40	50.0	80	100		

From the results in Table 1. It can be seen that the respondents who had long-term working period fillet workers ($\geq$ 5 years) were mostly experienced ARI incidence, as many as 32 people (74.4%). While the respondents who had just worked as fillet workers (<5 years), were mostly did not experience ARI incidence, as many as 29 people (78,4%).

Chi Square test results obtained p-value of 0.000. Because p-value was 0.000 <α (0,05) it can be concluded that there was a significant relationship between the working period and ARI cases among fish fillet workers in TPI Tegal. Then, the value of Odds Ratio obtained was OR = 10.55. This indicated that long-term workers ($\geq$ 5 years) were at risk of 10.55 times more likely to experience ARI events than the new fish fillet workers (<5 years)

This is in accordance with Yusnabeti (2010) study on PM_{10} and Acute Respiratory Infection in Furniture Industry Workers which showed that there was a correlation between concentration (PM_{10}) and working period (p = 0,010), working period was related to ARI.

Workers who worked $\geq$10 years were at increased risk of ARI compared to the workers who worked <10 years. The working period might increase the number of workers exposed to PM10. The longer a person was at work the more he or she had been exposed to the dangers posed by the work environment (Suma'mur, 2009). The working period affects the amount of exposure to the working environment such asdust, acid aerosols, steam, smoke, and others that are inhaled by workers. The longer the worker works in a dusty work area, had acidic aerosol, gas, smoke, etc. more frequently they will be exposed and more dangerous substances will be inhaled. The working period is related to ARI symptoms. It is possible because the long working period in a workplace that has a potential harm to breathing that it is not felt and will accumulate into a disease. If this keeps happening then the symptoms of ARI will be changed to ARI disease so that it will reduce work productivity (Siswanto, 1991 in Martiana & Rizka, 2013)

Table 2. Relationship between Personal Hygiene and the Incidence of ARI

Personal Hygiene	The Incidence of ARI						p-value	OR
	ARI		Non ARI		Total			
	f	%	f	%	f	%		
Poor	12	63.2	7	36.8	19	100	0.189	2.02
Good	28	45.9	33	54.1	61	100		
Total	40	50.0	40	50.0	80	100		

From the results in Table 2 it can be seen that most of the respondents who had poor personal hygiene experienced ARI incidence, as many as 12 people (63.2%). While most of the respondents who had good personal hygiene did not experience the ARI incidence as many as 33 people (54.1%).

Chi Square test results obtained p-value of 0.189. Since the p-value was 0,189> α (0,05) it can be concluded that there was no significant relationship between personal hygiene and ARI cases among fish fillet workers in TPI Tegal.

This is in line with the study conducted by Listautin (2012) which observed the environmental impact of waste disposal sites, personal hygiene, and body mass index (BMI) on health complaints in Terjun Village, Medan Marelan Sub-district which obtained result that there was no significant relationship between personal hygiene and health complaints (p = 0.422). Personal hygiene among fish fillets workers was good so it did not affect the incidence of ARI, and personal hygiene was good since 87.5% of workers were dominated by women who diligently kept their personal hygiene.

According to the study conducted by Tri & Arum (2017) on the relationship between the use of PPE mask, smoking habit and the volume of waste paper with ARI in Kudus Regency, there was a relationship between the use of PPE, smoking habit and the volume of waste paper. This explained that many factors that could cause ARI were not only influenced by personal hygiene alone.

CONCLUSION

Based on the study that has been conducted on the relationship between working period and personal hygiene towards the incidence of ARI among fish fillet workers in TPI Tegal in 2017, there was no significant relationship between personal hygiene and the of incidence ARI among fish fillet workers in TPI Tegal (P -Value of 0.189 > A (0.05)). Meanwhile, there was a significant correlation between the working period and the incidence of

ARI among fish fillet workers in TPI Tegal (P-Value 0.000 < A (0.05)). Long-term workers (≥ 5 Years) were 10 times more likely to experience ARI than new workers (< 5 Years) as fish fillet workers.

Fish fillet workers are expected to perform regular health checks or when there is a symptom of ARI directly to the nearest health service for early detection of ARI disease for it is not to become more severe. Meanwhile, the Health Department and Coastal Fishing Port Office Tegal are expected to make health promotion efforts to minimize the risk of ARI among fish fillet workers in TPI Tegal.

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