Correlation of Nutritional Status and Subjective Fatigue with the Productivity of Labourers

Hubungan Status Gizi dan Kelelahan Subyektif dengan Produktivitas pada Pekerja Kuli

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ABSTRACT

Introduction: The scallions sorting and weighing center are an informal sector business engaged in fulfilling the supply of scallions for the wholesale market in Sidoarjo. The labourers at the sorting and weighing scallions have varying nutritional status. The labourers with the normal nutritional status of produce more of processed scallions, whereas those who have poor nutritional status usually the produce fewer number of processed scallions. Work fatigue in the labourers also determines their productivity. Therefore, this study aims to analyze the correlation between individual characteristics, nutritional status, subjective fatigue and the productivity of the labourers in the sorting and weighing scallions. **Methods:** Based on the objectives of this study, this research is an observational and correlational type of research. The samples of this study were 28 labourers. The variables of this study are individual characteristics, nutritional status, subjective fatigue, and work productivity. **Results:** The magnitude of the value of the contingency coefficient test and the Spearman correlation with the value α = 1% which showed the results of relationship between years of service with productivity, nutritional status with productivity and also subjective fatigue with productivity. The sig value of correlation coefficient is less than 0.01. **Conclusion:** There is a relationship between individual characteristics, nutritional status, subjective fatigue with work productivity in the sorting and weighing scallions.

Keywords: education, fatigue, nutritional status, productivity, time of services

ABSTRAK

Pendahuluan: Tempat penyortiran dan penimbangan daun bawang merupakan sebuah tempat usaha sektor informal yang bergerak dibidang pemenuhan pasokan daun bawang untuk pasar induk yang ada di Ssidoarjo. Pekerja kuli di tempat penyortiran dan penimbangan daun bawang ini mempunyai status gizi yang bervariasi. Pekerja kuli dengan status gizi normal ikatan daun bawang yang dihasilkan paling banyak, sedangkan pekerja kuli dengan status gizi kurang ataupun status gizi gemuk biasanya jumlah ikatan daun bawang yang diolah mempunyai hasil yang lebih sedikit. Kelelahan kerja pada pekerja kuli juga menentukan produktivitas pekerja tersebut. Oleh karena itu dilakukan penelitian ini yang bertujuan untuk menganalisis hubungan karakteristik individu, status gizi dan kelelahan subyektif terhadap produktivitas pada pekerja kuli di tempat penyortiran dan penimbangan daun bawang. ***Metode:*** Penelitian ini merupakan jenis penelitian observasional, dan berdasarkan tujuan penelitian ini termasuk penelitian korelasional. Besar sampel pada penelitian ini adalah sebanyak 28 orang pekerja kuli. Variabel penelitian ini adalah karakteristik individu, status gizi, kelelahan subyektif, dan produktivitas kerja. ***Hasil:*** Besaran nilai uji koefisien kontingensi dan korelasi spearman dengan nilai α = 1%, didapatkan hasil yaitu ada hubungan antara masa kerja dengan produktivitas, status gizi dengan produktivitas dan juga kelelahan subyektif dengan produktivitas. Nilai sig. koefisien korelasinya adalah kurang dari 0,01. ***Simpulan:*** Terdapat hubungan antara karakteristik individu, status gizi, kelelahan subyektif dengan produktivitas kerja di di tempat penyortiran dan penimbangan daun bawang

Kata kunci: *kelelahan subyektif, masa kerja, pendidikan, produktivitas, status gizi*

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INTRODUCTION

Human resources can be described as the people who are employed in an organization or company who will later become movers to achieve the organizational goals. Republic of Indonesia's Minister of Manpower Regulation No. 1 of 2017 concerning the structure and scale of wages defined laborers as every person who works by receiving wages or other forms of remuneration. Quality human resources is one of the strengths owned by a company to achieve goals, one of which is to improve

employee productivity (Karima, Idayanti and Umar, 2017). Furthermore, informal sector workers are an asset that must be maintained and increased productivity in order to achieve high income turnover (Sedarmayanti, 2009).

Constitution No. 36 of 2009 concerning health explains that occupational health efforts are aimed at protecting workers from health problems and adverse effects caused by work while also having the obligation to increase company productivity (Government of the Republic of Indonesia, 2009).

Good health is a potential to achieve high work productivity. Work productivity is a measure of the success of workers in producing a product in a certain time period. A workforce is considered productive if the workforce is able to produce more output than other workers at the same time, or if the workforce produces the same output using fewer resources (Suma'mur, 2009).

Another factor that affects work productivity is work capacity. Work capacity includes age, sex, physical fitness, nutritional status, anthropometry, workload and additional workloads such as workload due to physical, chemical, biological, and social factors (Tarwaka, 2014). The work productivity of each worker differs from one another depending on several factors, including the nutritional status of workers. Good nutritional status in the workforce will affect work productivity (Widiastuti, 2011).

Nutritional status is one of the important factors that affect work productivity. Nutritional status and good health will affect physical health and good thinking in doing the work. Workers who have good nutritional status will work more actively, productively and thoroughly. Nutritional status can be known through measurement of body mass index (BMI). The value of body mass index of excess nutritional status or obesity is if the value is> 25 kg / m2. BMI value of ≥ 18.5 - 24.9 kg / m2 showed

normal nutritional status, whereas the lacking of nutritional status is if the BMI value <18.5 kg / m2 (Suma'mur, 2013).

Subjective fatigue is one of the factors that also affect a worker on his productivity. Workers who experience fatigue will result in loss of willingness to work which caused by the state of central nervous system or psychological conditions. The motivation of labourers in earning wages or income also increases motivation in increasing the amount of their productivity.

The result of a study at PT. Hanil Indonesia Nepen Teras Boyolali obtained a value of p = 0.01; this shows that p <0.05 which means there is a relationship between nutritional status (BMI) with work productivity in the workforce. This study states that there is a significant positive relationship between nutritional status and work productivity. A worker with a good nutritional status will have a better work capacity and endurance (Astuti, 2017).

Research conducted by Suryaningtyas and Widajati in Ballast, states that there is a relationship between nutritional status and subjective fatigue. This is evidenced by the results of the Pearson correlation coefficient test of 0.34. Workers with underweight nutritional status tend to be more easily experiencing fatigue due to limited reserves of nutrients that are converted into energy for work (Suryaningtyas and Widajati, 2017).

The informal sector is a Non Directory Company and Household with a workforce amounting of less than 20 people. The informal sector has special characteristics, including self-employment, family business, irregular working hours and salaries, work often done at home, no government assistance and often without legal status (Ministry of Health, 2018).

Some informal sectors are required in carrying out their work according to the quantity of goods produced. This is due to the product produced must be immediately deposited to the entrepreneur or a larger business entity (Ratna and Fauziah, 2018). The productivity demanded as much as possible is not matched by the facilities provided by the business owner in the business activities. Workers or labourers usually only depend on wages given by business owners. In general, workers in the informal sector have excessive workload and time, while the wages received by workers are far below the standard. This is due to informal sector workers do not need special skills therefore can easily absorb

labor and do not consider the level of education (Yusida et al., 2017).

This research was conducted at the scallions sorting and weighing center in Klampisan, Kedung Gede, Dlanggu District, Mojokerto. The number of scallions processed in this place is obtained from the scallion farmers from Kediri, Tulungangung and Wonosobo so that the number of processed scallions reached the amount of 4 tons per day. This place has a total of approximately 28 workers who are dominated by male workers.

Observations and interviews conducted on a number of workers, it was found that this work began at 05.00 AM - 02.30 PM (WIB). At 05.00 - 06.00 AM, female workers usually prepare workplaces by sweeping and preparing the scallions and sacks to be used. The scallions from farmers came at 05.30 - 06.00 AM, so that the total weighing was done afterwards. The division of labor is carried out by dividing the average number of scallions to be processed according to the number of existing workers. Workers or labourers at the sorting and weighing scallions have varying nutritional status. People with normal nutritional status produce the most number of scallion bonds, while people with excessive nutritional status or obesity usually have the least amount of scallion leaf processed. Therefore this study was conducted which aimed to evaluate the relationship of individual characteristics and nutritional status to the productivity of labourers in the scallions sorting and weighing center.

METHODS

This study is observational type of study. Based on the aims, this study is a correlational study because this research is used to determine the causal relationship between two variables that are observed observationally. Based on research time, this study is cross sectional study. This study was conducted in August until November 2019. The place of scallions sorting and weighing centre used in this study is the business owned by Mr. Eko Hermawan. The location is in Klampisan, Kedung Gede Village, Dlanggu District, Mojokerto, East Java, Indonesia.

The samples in this study were 28 labourers at the scallions the sorting and weighing centre. Number of ethical clearance is 400/HRECC.FODM/VI/2019 by Universitas Airlangga Faculty of Dental Medicine Health Research Ethical Clearance Commision.

The data that has been processed then analysed throughly by using descriptive statistics using crosstab to determine the relationship between the variables studied. Independent variables of this study are individual characteristics (education and time of service), nutritional status and subjective fatigue. Dependent variable is productivity. Analysis of the data used is univariate analysis used on each research variable to describe the frequency distribution so as to produce a distribution and percentage on each variable, bivariate analysis using the Contingency Coefficient test for nominal data scales and for ordinal data scales using the Spearman correlation test. The significance level used was 95% with degrees of freedom (df = 1) and significance value (α = 5%).

RESULTS

Activities of Production Process at the Scallion Sorting and Weighing Centre

The scallion sorting and weighing center is dominated by female workers because the work requires accuracy and diligence to sort good scallion with rotten or yellowed scallion. The male workers have additional task of lifting sacks of scallions weighing several kilograms and then sorting with female workers. These sorted scallions will be weighed immediately with a weight of 1 kg. Then put together in a sack to be bought and sold to the Porong Sidoarjo main market or deposited to traders who have ordered them.

Work on the weighing and sorting of scallions begins at 05.00 AM - 2.30 PM WIB. At 05.00 - 06.00 AM WIB, female workers usually prepare workplaces by sweeping and preparing scales and sacks to be used. Whereas the male workers will lift sacks containing scallions from farmers and will then be weighed as a whole to determine the total number of scallions.

The scallions from farmers came at 05.30 - 06.00 AM WIB, so that the total weighing was done afterwards. The number of scallions processed at this place of business reaches 4 tons per day. The number of scallions processed in this place is obtained from the scallion farmers from Kediri, Tulungangung and Wonosobo so that the number of processed scallions is always 4 tons per day. This was done to fulfill orders from traders and those sold in the market. After total weighing from the farmers, the scallions

are divided equally according to the number of workers.

The division of labor is carried out by dividing the average number of scallions to be processed according to the number of existing workers. Based on this, the average yield of scallions that must be processed for one worker. The amount of scallions is 4 tons or 4000 kg for 28 laborers so that one worker gets 143kg of scallions for their sorting and weighing. Workers will sort the scallions, this sorting is done by removing the rotten and yellowish scallions. After being sorted the scallions are then weighed with a weight of 1 kg and tied with string. The scallions weighing 1 kg is put together and tied again with a weight of 5 kg and 10 kg, then put into a sack to be weighed again and ready to be brought to the market for sale.

Break sharing system, carried out alternately between labourers. Rest is usually done around 12.00 AM to 01.00 PM WIB which is used by workers or labourers for lunch and also dhuhur prayers.

Wage System at the Scallion Sorting and Weighing Centre

The wage system carried out at scallion sorting and weighing center is by means of the results of the sorting and the final weighing of scallions each worker is recorded by a foreman. Wages earned by workers are adjusted to the amount of scallions that they process. If the worker reaches the target, the wage will be paid in full, but if he has not reached the target, the wage paid will be the amount of scallions produced. Workers who exceed the target will also receive additional wages.

Tabel 1. Individual Characteristics of Labourers at the Scallions Sorting and Weighing Centre in 2019

Variable	Category	Frequency (n)	Percentage (%)
Education	Elementary	4	14.2
	Junior High School	12	42.9
	High School	12	42.9
	Total	28	100
Time of Service	< 6 years	15	53.6
	6 – 10 years	9	32.1
	> 10 years	4	14.3
	Total	28	100

Whether or not this target is achieved is usually done at the end when weighing the scallions, the workers deposit the amount of scallions they can sort and weigh to get a wage. For 1 kg of scallions that is sorted and weighed the labourers get a wage of Rp. 800 The total daily production is 4 tons, so the target for each labourers is 143kg of scallions. So that the target income of each labourers is Rp. 114,400 per day.

Individual Characteristics of Labourers at the Scallion Sorting and Weighing Centre

The individual characteristic variables examined in this study are education and time of service. Based on table 1, it is known that the highest number of labourers' education is high school and junior high school graduates, each at 42.9%. Distribution of time of service, it is known that the number of workers who work <6 years is the most work period which is equal to 53.6%. Workers with a work period of 6-10 years are as much as 32.1%, while workers with work periods> 10 years is equal to 14.3%.

Nutritional Status of Labourers at the Scallion Sorting and Weighing Centre

The measurement of the nutritional status of these workers uses the Body Mass Index (BMI). The highest BMI of respondents was 30.80 and the lowest BMI was 16.50.

Based on table 2, it is known that labourers with the most overweight nutritional status are at 46.4%. Labourers with underweight nutritional status is 28.6%, while for normal nutritional status is 25%.

Subjective Fatigue of Labourers at the Scallion Sorting and Weighing Centre

Based on table 3, it is known that labourers who experience mild fatigue are the most that is equal

Table 2. Nutritional Status Distribution of Workers at the Scallions Sorting and Weighing Centre in 2019

Nutritional Status	Frequency (n)	Percentage (%)
Underweight (IMT < 18.5)	8	28.6
Normal (IMT 18.5 – < 25.0)	7	25
Overweight (IMT >25.0)	13	46.4
Total	28	100

Table 3. Subjective Fatigue Distribution Of Labourers At The Scallions Sorting And Weighing Center in 2019

Fatigue	Frequency (n)	Percentage (%)
Mild	10	35.7
Low	16	57.1
Very Low	2	7.2
Total	**28**	**100**

Table 4. Distribution of The Productivity of Labourers at the Scallions Sorting and Weighing Centre in 2019

Productivity	Frequency (n)	Percentage (%)
Low productivity (< 143 / 8 hours)	13	46.4
Optimal productivity (= 143 / 8 hours)	4	14.3
High productivity (> 143 / 8 hours)	11	39.3
Total	**28**	**100**

to 57.1%, whereas labourers who experience low fatigue by 35.7% and workers who experience very mild fatigue is equal to 7.2%.

Productivity of Labourers at the Scallion Sorting and Weighing Centre

The highest productivity of the labourers is 156 kg of scallions, while the lowest productivity 129 kg of scallions. Based on table 4, it is known that 46.4% are workers with low productivity. Labourers with high productivity reached the number of 39.3% whereas workers with optimal productivity amounted to 14.3%.

The Correlation of Education with the Productivity of Labourers at the Scallion Sorting and Weighing Centre

Based on table 5, it is known that the majority of the labourers with an elementary school education have a low productivity of 7.1%. Most of the labourers who have a junior high school education have less productivity which is 28.6% and the majority of labourers who have a high school education have high productivity that is equal to 25%.

Based on the Spearman rank correlation test with α = 0.05, the correlation coefficient value is 0.08, which means there is no significant relationship between education and work productivity.

Table 5. Cross Tabulation Between Education with Productivity of Labourers at the Scallions Sorting and Weighing Centre in 2019

Education	Productivity						Total	
	Low		Optimal		High			
	n	%	n	%	n	%	N	%
Elementary	2	7.1	1	3.6	1	3.6	4	14.3
Junior High School	8	28.6	1	3.6	3	10.7	12	42.9
High School	3	10.7	2	7.1	7	25	12	42.9

Table 6. Cross Tabulation Between Time of Service with Productivity of Labourers at the Scallions Sorting and Weighing Centre in 2019

Time of Service	Productivity						Total	
	Low		Optimal		High			
	n	%	n	%	n	%	N	%
< 6 years	11	39.3	0	0	4	14.3	15	53.6
6 – 10 years	2	7.1	3	10.7	4	14.3	9	32.2
> 10 years	0	0	1	3.6	3	10.7	4	14.3

Correlation of Time of Service with Productivity the Labourers at the Scallion Sorting and Weighing Centre

Based on table 6, it is known that labourers with a working period of <6 years are mostly having less productivity which is 39.3%. labourers with tenure of 6-10 years are mostly having high productivity that is equal to 14.3% while labourers with tenure of> 10 years mostly have high productivity that is equal to 10.7%.

Based on the Spearman rank correlation test with α = 0.05 obtained sig. The correlation coefficient is 0.00, which means that there is a relationship between work period and work productivity. While the correlation coefficient is 0.50, which means that the working period with work productivity has a moderate relationship.

The Correlation of Nutritional Status with Productivity of Labourers at the Scallion Sorting and Weighing Centre

Based on table 7 regarding the cross tabulation between nutritional status and productivity of labourers, it is known that most workers with underweight nutritional status have a high productivity of 17.6%. Most of the labourers with

Table 7. Cross Tabulation Between Nutritional Status and Productivity of Labourers at the Scallions Sorting and Weighing Centre in 2019

| Nutritional Status | Productivity | | | | | | Total | |
| | Low | | Optimal | | High | | | |
	n	%	n	%	n	%	N	%
Underweight	2	7.1	1	3.6	5	17.6	8	28.6
Normal	0	0	2	7.1	5	17.6	7	25
Overweight	11	39.3	1	3.6	1	3.6	13	46.4

Table 8. Cross Tabulation Between Subjective Fatigue With Productivity of Labourers at the Scallions Sorting and Weighing Centre in 2019

| Fatigue | Productivity | | | | | | Total | |
| | Low | | Optimal | | High | | | |
	n	%	n	%	n	%	N	%
Mild	2	7.1	1	3.6	7	25	10	35.7
Low	9	39.2	3	10.7	4	14.3	16	57.2
Very low	2	7.1	0	0	0	0	2	7.1

normal nutritional status have high productivity that is equal to 17.6%. Most workers with overweight nutritional status have low productivity at 39.3%.

Based on the Spearman rank correlation test with α = 0.05 obtained sig. the correlation coefficient is 0.00 which means there is a relationship between nutritional status and productivity. While the correlation coefficient is 0.61 which means that nutritional status with productivity has a strong relationship.

Correlation of Subjective Fatigue with Productivity of Labourers at the Scallion Sorting and Weighing Centre

Based on table 8 regarding the cross tabulation between subjective fatigue and productivity of the labourers, it is known that most workers with mild fatigue category have high productivity, which is 25%. Most of the labourers with low fatigue category have low productivity that is equal to 39.2%. All labourers with very low fatigue category have low productivity at 7.1%.

Based on the Spearman rank correlation test with α = 0.05 obtained sig. the correlation coefficient is 0.00 which means that there is a relationship between subjective fatigue and work productivity. While the correlation coefficient value is 0.49 which means subjective fatigue with work productivity has a moderate relationship.

DISCUSSION

Education of Labourers at the Scallion Sorting and Weighing Centre

Education is a fast way to improve the quality of human resources. The higher the education levels the higher the quality of the workforce (Putri, 2016). In this study the results show that labourers with high school education have higher work productivity compared to coolie workers who have elementary and junior high school education. This is in accordance with the argument of Gaol (2014) that education and training will shape the knowledge and skills for workers to do work safely and safely in a fast time.

The high level of education of a worker will increase efficiency in his work or the higher the level of productivity. That is because workers have a broader view of their work so as to increase their productivity (Rahmawati, 2013). However, in this study, there is no significant relationship was found between education and work productivity of labourers at the sorting and weighing scallions proven by the results of the Spearman rank correlation test which obtained the correlation coefficient value of 0.08 with α = 0.01.

This is in accordance with research conducted by Putra and Wardana (2019) which suggests that the level of education has no effect and is related to the productivity of woodcarving craftsmen. The place of research is conducted in the informal sector so that it does not place much importance on the level and status of education but rather the ability and skills and dexterity that are more widely used. The skills and agility of labourers at the sorting and weighing scallions have been obtained through experience during work.

Time of Service of Labourers at the Scallion Sorting and Weighing Centre

Time of service is the time or length of time a worker works in a place or company. This work period can be calculated through the first day the worker starts actively working until the worker is still working at the place or company (Ramadhani, 2018). The length of work is also one indicator of the tendency of workers to carry out work activities,

so that it can be interpreted that a long work period shows more experience than a worker with other colleagues (Sedarmayanti, 2011).

Working years can be categorized into 3 namely new work periods (<6 years), moderate work years (6-10 years), long work periods (> 10 years). With the increase in work period, the experience gained by workers can be used as an effort to increase productivity, in contrast to workers who have just entered or started work, the workers must adapt first so that productivity is not optimal (Soedirman and Suma'mur, 2014).

The results of the study revealed that the majority were labourers who had a working period of <6 years out of a total of 28 labourers in the sorting and weighing scallions. The working period can be seen from how long the work period or service of a worker, so each worker has a sense of responsibility, a sense of belonging, courage and introspection in the survival of the place of business or company.

The longer working period can increase the work experience of a worker more and more. Longer tenure has a positive impact on income levels. With longer work experience, it also impacts on the level of welfare (Hasibuan, 2013).

Nutritional Status of Labourers at the Scallion Sorting and Weighing Centre

Nutritional status assessment can be done in various ways both directly and indirectly. In this study the assessment of nutritional status was carried out by means of anthropometric measurements namely the measurement of Body Mass Index (BMI) or Basal Metabolism Rate (BMR).

Body Mass Index (BMI) is an anthropometric index method used in determining the nutritional status of individuals. BMI is a simple way that can indicate the presence of Protein Calorie Deficiency (CTF), besides BMI is also a tool to monitor nutritional status, especially related to excess and or underweight (Ratnawati, 2011).

The results of research on 28 workers on measuring nutritional status using BMI found that the nutritional status in the environment of labourers in the sorting and weighing scallions was mostly fat nutritional status.

Nutritional status is a description of what is consumed by someone in a long time and can manifest more or less. Nutritional status is not only a reflection of the nutritional factors themselves but also non-nutritional factors such as age, gender, physical activity and so forth. In addition, it is also influenced by health conditions and infectious diseases. Fat or excess nutritional status is a condition where the body's condition exceeds the ideal limit, although having a higher body weight compared to the ideal body weight; this condition has a higher risk of lower health status.

Someone who has a nutritional status of fat can occur because of relatively excessive inactive fat reserves and exceeds 20% of normal nutritional status. Inactive fat does not play a direct role in the body's work activities. In that condition, places which are nutrient reserve piles are already filled, so that they cannot accommodate the remaining stored nutrients and excess nutrients. The remaining nutrients and inactive fat will be stored excessively in unusual places such as shoulders, chest, pelvis, buttocks and stomach (Mardalena, 2017).

Subjective Fatigue of Labourers at the Scallion Sorting and Weighing Centre

Subjective fatigue will have a direct impact on workforce performance. Fatigue usually shows different conditions for each individual, but it all leads to a loss of efficiency and a decrease in work capacity and endurance (Tarwaka, 2014).

Subjective fatigue includes a group of symptoms associated with a decrease in work efficiency, skills and increased anxiety or boredom. Work fatigue is characterized by feelings of fatigue, decreased output, and physiological conditions resulting from excessive activity. Work fatigue is also often interpreted as a decrease in work performance and reduced strength or physical endurance of the body to continue to do (Tarwaka, 2011).

The results of the study of 28 respondents about the measurement of subjective fatigue using KAUPK2 measuring instrument found that fatigue in labourers at the sorting and weighing scallions are mostly experiencing mild levels of fatigue. Respondents with mild subjective level of fatigue stated that the circumstances and feelings of men are a matter of course experienced by them due to their work position, relatively long sitting in the process of sorting between good onions with rotten or yellowed scallions.

Productivity of Labourers at the Scallion Sorting and Weighing Centre

Productivity can be expressed as a simple index that is the output (output) is equal to the total input

(input) divided by the number of labour, while labour productivity is obtained from the division between the amount of work output (output) with the amount of work time (Wignjosoebroto, 2003).

A worker's productivity for a company is very important as a measure of success in running a business. Measurements of productivity should be carried out on total output and total input, but this is not always easy to do, so a partial assessment is actually to be used (Manik, 2018).

Measurement of productivity in this study was carried out by observing work results. The results of this work were obtained from the number of input of scallions to be processed on that day which was 4000 kg and divided by the number of workers, 28 workers, so that the output (143) was obtained by the scallions ties one worker. To determine the productivity of workers is obtained by means of the output of scallion ties (output) compared with the working time of 8 hours per day. Measures of worker productivity are grouped into less productivity i.e <143 kg / 8 hours, optimal productivity = 143 kg / 8 hours, and high productivity> 143 kg / 8 hours. The results of this study in measuring productivity were mostly labourers who had less productivity, amounting to 46.4% of 28 labourers in the sorting and weighing scallions.

Manpower achieving a less, optimal and high productivity is influenced by several factors. According to Gaol (2014), these factors include education and training, health conditions of workers, nutritional status, motivation or willingness, job opportunities, managerial ability of leaders, government policy and also years of service. When viewed from the educational factor, most of the respondents are high school graduates but because this place of business is an informal sector where education is not very influential because of the ability and skills and dexterity that more widely used. Workers' skills and dexterity have been gained through work experience.

Correlation of Time of Service with Productivity of Labourers at the Scallion Sorting and Weighing Centre

The longer working period can increase the work experience of a worker more and more. The results of the cross tabulation between work period and work productivity of labourers in the sorting and weighing scallions are known that most labourers with working period of <6 years have less work productivity while labourers with tenure of 6-10 years and> 10 years have productivity high work. Based on the results of the cross tabulation it can be concluded that workers who have a working period of> 6 years have high productivity, this is supported by the longer the worker works, the skills and dexterity possessed will also increase along with increasing work experience.

Spearman rank correlation test results with α = 0.05 obtained sig. the correlation coefficient is 0.00, which means that there is a relationship between work period and work productivity. While the correlation coefficient is 0.50, which means that the working period with work productivity has a moderate relationship. This shows that the longer the work period of a worker, it will illustrate the existence of a significant relationship to work productivity.

The results of this study are in accordance with research conducted by Pasaribu (2018) and Aprilyanti (2017), which states that there is a relationship between tenure and work productivity. The longer the work period of an employee, the higher the level of productivity compared to employees whose tenure is still small. This has an impact on increasing the ability, experience and skills of employees in supporting increased work productivity and company progress.

Previous research conducted by (Elia, Josephus and Tucunan, 2016) also stated that there was a significant relationship between work tenure and work productivity, which means workers who have long years of work will have a lot of work experience so that it will increase their productivity and vice versa.

Workers will be more efficient in doing work, this can be caused by increased experience, namely in terms of the work period of a worker who has been obtained while working. With the increase in the work period, workers will increasingly develop and master their work (Laminia and Muniroh, 2018).

Correlation of Nutritional Status with Productivity of Labourers at the Scallion Sorting and Weighing Centre

The results of cross tabulation between nutritional status and work productivity of labourers at the sorting and weighing scallions are known that most labourers with normal nutritional status have high work productivity whereas the majority of labourers with fat nutritional status have less work productivity. Based on the Spearman rank

correlation test with α = 0.05 obtained sig. the correlation coefficient is 0.00 which means there is a relationship between nutritional status and work productivity. While the correlation coefficient is 0.61 which means that nutritional status with work productivity has a strong relationship.

This is in accordance with what was stated by Suma'mur (2013) that working nutrition is used to maintain and improve health status. Work nutrition also strives for optimum labour power. Work nutrition is expected to realize the welfare and health of human resource factors in a production process.

Good nutritional status will affect physical freshness and good thinking in doing work. Workers who have good nutritional status will work more actively, thoroughly and productively (Farikha and Ardyanto, 2018). While workers with poor or excessive nutritional status will have less physical ability, lack of motivation, lack of enthusiasm, fatigue and apathy which will reduce work productivity (Gaol, 2014).

The results of this study indicate that workers with normal nutritional status have high productivity evidenced by the number of scallion bonds produced more than workers who have fat nutritional status. This is consistent with previous research conducted by Astuti (2017) on the workforce at PT. Hanil Indonesia Nepen Teras Boyolali stated that there is a significant relationship between nutritional status and productivity.

Other research, namely research conducted by Risaldi, Wirapuspita and Iriyani (2017) stated that there is a significant relationship between nutritional status and the level of productivity of female workers at PT. Idec Abadi Wood Industries. From the results of testing and analysis, interpret that indicators of nutritional status variables have a relationship with productivity levels. Humans who are healthy and get adequate food both in quality and quantity will have the maximum ability to carry out their work (Utami, 2012). Good nutritional status means having balanced nutrition in the body, these nutrients are needed for growth, repair and maintenance of body tissues. In addition, it can also obtain enough energy to work optimally.

Correlation of Subjective Fatigue with Productivity of Labourers at the Scallion Sorting and Weighing Centre

The results of the cross tabulation between subjective fatigue and labour productivity of labourers showed that workers with mild fatigue category have high productivity, amounting to 25%. Most of the labourers with low fatigue category have low productivity that is equal to 39.2%. All workers with very low fatigue category have low productivity at 7.1%.

Based on the Spearman rank correlation test with α = 0.05 obtained sig, the correlation coefficient is 0.00 which means that there is a relationship between subjective fatigue and work productivity. The correlation coefficient is 0.49 which means subjective fatigue with work productivity has a moderate relationship.

Moreover, subjective fatigue that occurs in workers due to the work process carried out is a physical work process, this can be seen from the process of sorting, and weighing up to lifting processed scallions into sacks. In addition, the amount of scallion that must be processed is very large with little time limit. Work fatigue that occurs in workers is characterized by symptoms - general symptoms of physical weakness and weakening of activities in work fatigue that is generally felt like thirst, feeling tired all over the body, feeling like lying down, shoulders and back feel stiff and painful and so forth.

This might happen because the work done is mostly physical work with a static attitude and almost all of this work is done using both hands. The process of work activities like this can cause static muscle loading which can cause fatigue. These symptoms will make a worker stop their work as well as physical weakening and the weakening of the activity which causes the worker will stop his work and will reduce his productivity (Suma'mur, 2013).

Subjective fatigue that occurs will result in decreased work power and reduced endurance to work (Amalia and Widajati, 2019). Feeling tired constantly can cause a worker to stop his work and will take longer breaks. Fatigue that occurs will show symptoms of reduced power of workers in completing their work and will become less productive.

CONCLUSION

Based on the results of this study, the conclusion that can be obtained is that there is a significant relationship between individual characteristics (time of service), nutritional status, subjective fatigue and productivity of labourers at the scallion sorting and weighing center.

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