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FUNCTIONAL ACTIVITY AMONG WORKERS IN HOME INDUSTRY OF MELINJO CHIPS AT PLUMBON VILLAGE

Marta Cintia Dewi[1], Nur Setiawati Dewi[2]
Program Studi Ilmu Keperawatan, Fakultas Kedokteran , Universitas Diponegoro Jl Prof. Soedarto, Tembalang, Semarang, 50239, Telp/Fax: (024) 76486849

Abstract

Functional activities is a potential ability performed by an individual to perform normal activities and duties as expected. Evaluation of the functional activity of workers is important to be done to improve the labor productivity. The purpose of this study was to determine the functional activity of the workers. The research was conducted using cross sectional approach with 166 samples. The research was conducted in February-March 2012 in melinjo home industry at Plumbon village. Functional activity was assessed by using the instrument of Back Pain Function Scale (BPFS) which has been translated into Indonesian language. Research results showed an average score of functional activity in melinjo chips workers was 54.46. Suggestion from this study for community nurses especially occupational nurse is making efforts to increase the functional activity score of melinjo chips workers.

Keywords: Functional activity, workers, melinjo chips
Bibliography: 18 (2001-2012)

INTRODUCTION

Functional activity can be defined as activities performed by an individual to fulfil the needs of daily living in many aspect of life such as physical, psychological, social, spiritual, intellectual and conduct his roles as expected (Tsae-Jyy Wang, 2004). Functional activity of a person can be affected by pain (Asmadi, 2008). W. S. P. Shaw (2002) states that pain can decreased someone's physical functional ability. According to Fikri (2005) lower back pain is a problem that is often found in every occupation and becomes one of the causes of physical limitations so that someone does not come to work.

Based on preliminary studies related to functional activity among the workers of home industry *melinjo chips*, all activities performed by workers in work environment and daily activities related to the use of spine such as sitting, standing, bending, or walking. According to research in chips workers conducted by Winarno (2004) and Jasman (2004), unergonomic

[1] Mahasiswa Program Studi Ilmu Keperawatan Fakultas Kedokteran Universitas Diponegoro
[2] Dosen Program Studi Ilmu Keperawatan Fakultas Kedokteran Universitas Diponegoro

position related to lower back pain. Sitting, bending, standing also would increase the risk of lower back pain (Samara,2005a; Samara,2005b; Fikri, 2012; Harumawati,2006).

Two of five percent who reported having lower back pain each year suffer a physical disability (Snook, 2004). Based on interviews to chips workers, they had some problems related to their functional activities such as amnesia, unable to do activities, unable to wash clothes at home, and difficult to sit in long periods.

Evaluation of the functional activity of workers is important to be done to improve the labor productivity. This evaluation can be used to evaluate disability of worker, make the intervention and treatment action plan. (APTA, 2010).

The result of preliminary study underlying the researchers to know the functional activity of the workers in the *melinjo chips* home industry at Plumbon Village. This aim of the study is to acknowledge the description of the functional activity of the workers in the home industry *chips melinjo* at Plumbon Village. The benefit of this research for the nursing profession is as a scientific discourse especially in community nursing field to improve nursing care plan in it and as a source of information on the functional activity of the workers in the *melinjo chips* home industry. The reseach benefit for the owners of *melinjo chips* home industry is to provide information about the level of functional activity and its impact on worker productivity. The benefit of the research for the researchers are improving the knowledge and giving a description of the functional activity of the workers.

METHODS

The research was conducted using croos sectional design at home industry of melinjo chips in Plumbon Village. 116 workers at home industry of melinjo chips were taken using accidental sampling technique.

This sample was selected using the inclusion criteria. The inclusion criteria were those of production worker who has been working in *melinjo chips* home industry for at least 2 years, has no congenital spine defects, can read and understand Indonesian language, and willing to sign a letter of approval to be respondent. While the subjects who withdrew from the study and during pregnancy period were excluded.

The instrument of functional activity used in this study were back pain scale function (BPFS). BPFS questionnaire requires the rating of functional impairment for 12 activities on a scale with six levels ranging from 'unable to perform activity' (0) to 'perform with no difficulty'(5). Summing the scores for the 12 activities provides an overall rating of function between 0 and 60. Instruments functional activity used in this study is the instrument that previously had tested the validity and reliability. This instrument has a reliability of 0,88 and an internal consistency of 0,93 (Stratford, 2000).

In this study, BPFS which is used have been translated into Indonesian language and tested for validity and reliability again. The researcher also changed the question number 9 by convert miles into kilometers. validity and reability test was done in February 16, 2012 with 30 *melinjo chips* workers in Srabanan Village. 12 items question in the questionnaire has coefficient validity greater than 0,361 and the alpha value is 0,821. This questionnaire is valid and reliable.

The researcher's way in collecting the data was through several stages. At the preparation stage, the researcher manage to conduct the correspondence relating to research and licensing requirements. Then she explained the purpose and benefits of research to the owner of the *melinjo chips* home industry.

At the implementation stage, after conducting a good coordination with the owner of the home industry, the researcher approached the respondent and explained the purpose, benefits and participation throughout the study. She ensured the confidentiality of respondents and the respondents' right to refuse. If the respondent agreed, the the reseacher asked respondents to sign the inform consent. Researchers respected the right of workers to refuse to be respondents in this study.

The researcher asked to the workers about work period and their condition. If they were included in inclusion criteria they were recruited as respondent. Then the researcher gave questionnaires to the respondents. She explained how to fill the questionnaire and informed that the questionnaire should be filled completely. Questionnaire distribution process was performed after the process of chips production finished because there were no break time during the production. Questionnaires were collected back and checked their completeness. If there were incomplete questionnaire, then the responden would be asked to solved it oon.

RESULTS

a. Characteristics of Respondents

Table 1 Distribution of respondent Based on Characteristics, March 2012 (n = 166)

Characteristic	Frecuency	Persentage (%)
Period of work		
a. 2-5 year	50	30,1
b. 5-10 year	74	44,6
c. > 10 year	42	25,3
Gender		
a. Male	24	14,5
b. Female	142	85,5
Responsibility		
a. Penyangraian (roasting melinjo nut)	27	16,3
b. Pengupasan Kulit (peeling melinjo nut)	19	11,4
c. Pemipihan (flattening melinjo nut)	113	68,1
d. Penggorengan (fry the emping chips)	7	4,2
Position during work		
a. Sitting	137	82,5
b. bending many times	19	11,4
c. standing	10	6

The analysis results of table 1 shows that the majority of chips workers 74 (44.6%) have been working for 5-10 years. While the highest sex as many as 142 are women (85.5%). There are more workers in Melinjo flattens job as many as 113 (68.1%) compare with the other process. Based on Table 2 can be seen that the distribution of workers based on body position during the

process of making chips indicates the majority position of the body while working was sitting position, which as much as 137 (82.5%).

b. Characteristics of Respondents

Table 2 Distribution of respondents according to age, March 2012 (n = 166)

	Mean	SD	Min	Max	Median	CI 95%
Age	38,70	8,217	20	60	38	37,44-39,96

The analysis result table table 2 shows that the average age of respondents are 38.70 years old with deviation standard of 8.217 . The range of minimum and maximum age of workers,which were between 20 years and 60 years, was quite large.

c. Functional activity scores on March 2012 (n = 166)

	Mean	SD	Median	Modus	Min-mak	Cl 95%
AKS	54,46	6,823	56	60	28-60	53,42-55,51

The results analysts of table 3 shows that the average score on the functional activity of workers in the Plumbon village chips is 54,46 with a deviation standard of 6,823 and the minimal and maximal range of score is 28-60.

DISCUSSION

The lower spine or lumbar disc is a complex structure that connects the upper body (including chest and arms) with a lower body (including hips and legs). Mobility and strength of spines is important. The mobility allows movements such as turning, twisting or bending. While strength allows a person to stand, walk and lift. (Elisabeth Quinn, 2003). Therefore, it can be said that the lower back functions is required for almost all activities of daily living. Disturbances in the lower back can restrict activity and reduced work capacity.

The analysis results of table 3 shows the average score on the functional activity of *melinjo chips* workers in the Plumbon Village is 54.46 with deviation standard of 6.823. If this is viewed

from the minimum-maximum value of 28-60, an average value close to the maximum value of 60. it can be concluded that the functional activity is still good.

This result of this reseach is different from a reseach conducted by Emmanuelle Cambois et al (2011). Manual workers have shorter life expectation and more years with poor health and disabilities. Despite a relatively high life expectation, manual workers spend a similar proportion of their life with poor perceived health and functional limitation as farmers.

Based on table 1 where the majority of workers were in sitting position (82.5%) could be attributed to the onset of lower back pain that cause activity limitations. However, Miller et al (2002) states that the pain factor only explained 16% in functional limitations. There are other factors that need to be explored to assess a person's functional limitations such as the person's ability to withstand pain, solve problems, the use of excessive force, and the use of the unergonomic workplace. These factors also affect a person's functional ability.

A person who works harder physically in a long period would be more at risk of disruption in their daily activities. A research conducted by Dong et al Xs (2010) states that construction workers have functional limitations which are higher than white collar workers. Job of making *melinjo chips* is a job that drains a lot of energy and exhausting (Kassam, 2012). In addition, based on Table 2 the majority of chips workers have been working for a long period, which is 5-10 years. It indicates that the factors that lead to the use of physical force fatigue while working in a long time need to be assessed in relation to a person's functional activity.

There is possibility that functional activity is also influenced by the age of the workers as illustrated in Table 1,which is 38.70 years. Functional capacity will change as the process of aging occur (G. Chan, 2000). The average age of workers is included in the productive age range (Central Bureau of Statistics, 2012) so it still has the ability to perform activities properly.

CONCLUSIONS

The average score of functional activities including approaching the normal value of 54.46. This indicated that the functional activity of the workers are still good. Community nurses in the workplace can provide related health education efforts to increase the ability of the functional activity of the workers chips and emphasize to the use of ergonomic position during work so the score of functional activity can be optimalized.

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