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THE EFFECT OF PROVIDING POSTER MEDIA EDUCATION ABOUT HYPERTENSION ON KNOWLEDGE CONTRACTOR WORKERS IN THE EAST TELUKJAMBE COMMUNITY HEALTH CENTER WORK AREA

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Abstract

Hypertension is a serious health problem that can affect the productivity and welfare of workers in various sectors, including the construction industry. Hypertension experienced by construction workers is caused by smoking habits, excessive coffee consumption and a family history of hypertension. This study aims to determine the effect of poster media education about hypertension on the knowledge of contractor workers in the East Telukjambe Health Center work area. This research uses quantitative methods in the form of analytical research with a cross-sectional study design with a sample size of 30 people using random sampling techniques. Hypertension data collection uses a blood pressure monitor and data collection instruments for age, weight, height, income, blood pressure, smoking habits, coffee consumption. As a result of the research, it can be concluded that there is a relationship between the influence of providing educational media about hypertension on the knowledge of contractor workers in the East Telukjambe Community Health Center work area as evidenced by the results of statistical tests using the chi square test, which shows a p-value of 0.00 < 0.05, which means there is an influence between providing education using posters with knowledge related to hypertension.

Keywords: Contractor Workers, Hypertension, Posters

Introduction

Contractor is someone or a company that carries out construction, renovation, repair, or other construction projects according to the contract agreement made with the project owner or the party employing them. The performance of the contractor is the result of the quality and quantity of work achieved by the contractor, in carrying out their duties according to the responsibilities assigned to them [1]. Workers have rights regulated in Law No. 13 of 2013 concerning employment, including the right to health. The health of workers and labour are closely intertwined and mutually influential. Workers' health has a significant impact on productivity, performance, and the sustainability of the workforce.

Hypertension is a condition where there is a long-term increase in blood pressure, which leads to organ damage and eventually increases morbidity and mortality rates. The World Health Organization (WHO) estimates that the current global prevalence of hypertension is 22% of the total world population. Based on the Basic Health Research [2], the prevalence of hypertension in Indonesia is 34.1%, showing an increase of 8.3% from 2013, when it was 25.8%. According to the West Java Health Profile in 2019, the prevalence of hypertension patients is 41.6%. The prevalence of hypertension in Karawang Regency is higher than the national prevalence, at 37.51% [2].

Based on research from [3] it is stated that workers in Indonesia who suffer from hypertension are at risk of experiencing injuries while working 2.17 times greater than workers who do not suffer from hypertension. Workers who experience hypertension will experience a decrease in productivity

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which can cause work accidents. The factors causing hypertension and obesity are multifactorial. Increased food consumption, changes in consumption patterns, education, knowledge about nutrition, employment, low physical activity, area of residence, age, genetic factors, and gender are factors that contribute to changes in energy balance and lead to obesity [4]. Meanwhile, the factors that cause hypertension can be divided into factors that can be changed such as stress, obesity, lack of physical activity, excessive salt consumption, smoking and factors that cannot be changed such as age, gender and heredity [5].

Thus, in supporting the provision of more optimal health education, utilizing media for education is highly effective as a means of delivering material to the target audience because media serves as a tool in the learning process. Poster media is one form of visual communication that can convey messages clearly and attractively. On the other hand, posters are more effective in increasing knowledge about hypertension because they are depicted in detail and concretely within the poster. Based on these considerations, researchers conducted a study to determine the effect of poster media education on hypertension awareness among contractor workers in the working area of East Telukjambe Health Center.

Method

This research employed a quantitative method in the form of analytical research with a cross-sectional study design, involving a total of 30 respondents selected through total sampling technique. The study was conducted over the course of one week. Data collection for hypertension utilized a sphygmomanometer, while data collection instruments included respondent characteristics, dietary habits, smoking habits, and coffee consumption habits.

Results

Based on Table 1, the data on the frequency distribution of respondents are known based on age, income, level of education, nutritional status, and history of hypertension.

Table 1. Distribution of Respondent Characteristics

Characteristic	Category	n	%
Age	Productive (15-60 years)	27	90
	Unproductive (0-15 years, >60 years) [6]	3	10%
Income	Height (> Rp. 2.500.000)	30	100
	Medium (Rp. 1.500.000-2.500.000)		
	Low (< Rp. 0-1.500.000) [7]	0	0
		0	0
Level education	Diploma/bachelor's degree	6	20
	Senior hight school		
	Junior hight school	9	30
	Elementary school	7	23,3
		8	26,6
Nutrition Status	Underweight	4	13,3
	Normal	10	33,3
	Overweight	1	3,3
	Obesity I	12	40

Characteristic	Category	n	%
	Obesity II [8]	3	10
Hypertension	Normal	11	36,6
	Pre-hypertension	6	20
	Grade I Hypertension	10	33,3
	Grade II Hypertension [9]	3	10
Total		**30**	**100**

Source: Primary data, 2023

All respondents are male. The majority (90%) of respondents are in the productive age range (15-60 years old). All respondents have a relatively high income, i.e., > Rp 2,500,000 (100%). From the interviews, the income of contract workers is Rp 150,000 per day and for supervisors, it is more than Rp 250,000 per day. The educational level of the workers is as follows: Diploma/bachelor's degree/Senior hight school for 6 individuals (20%), high school for 9 individuals (30%), junior high school for 7 individuals (23.3%), and elementary school for 8 individuals (26.6%), although the difference in the number of respondents at each educational level is not significant. Most respondents have obesity level I nutritional status, and four individuals have underweighted nutritional status. As for blood pressure, workers with normal blood pressure are 11 individuals (36.6%), those with pre-hypertension are 6 individuals (20%), those with hypertension level I are 10 individuals (33.3%), and those with hypertension level II are 3 individuals (10%).

Hypertension experienced by construction workers is caused by smoking habits, excessive coffee consumption, and a family history of hypertension. Smoking and excessive coffee consumption during breaks, as well as infrequent exercise, can lead to various diseases among construction workers such as hypertension, when considering both controllable and uncontrollable factors [10]. Data regarding smoking habits and coffee consumption are presented in Table 2.

Table 2. Frequency of smoking habits and coffee consumption

Characteristics	Category	n	(%)
Habit	Do not smoke	10	33.4
Smoke	Light (1-10 bar/day)	4	13.3
	Medium (11-24 bar/day)	12	40
	Heavy (> 24 bar/day) (Nusa, 2016)	4	13.3
Coffee Consumption	Good (< 250 ml/day)	3	10
	Bad (≥ 250 ml/day) (Sari, 2022)	27	90
Total		**30**	**100**

Source: Primary data, 2023

Based on the table above, it is known that the most common smoking habit among workers falls into the moderate category (11-24 cigarettes/day), accounting for 13.3%, while coffee consumption is most prevalent in the poor category (≥ 250 ml/day). Risk factors for hypertension include age, gender, family history, genetics (uncontrollable factors), salt consumption, saturated fat consumption, use of cooking oil, lack of physical activity, stress, smoking habits, obesity, and alcohol consumption (Center

for Data and Information of the Indonesian Ministry of Health, 2014). Ignored hypertension can lead to cardiovascular diseases, with a sevenfold increased risk of stroke, six times greater risk of Congestive Heart Failure (CHF), and three times greater risk of heart attack.

Based on the observation results in Table 1 regarding respondent characteristics based on hypertension characteristics, it is known that many workers have high blood pressure. There are 6 workers (20%) with pre-hypertension, 10 workers (33.3%) with hypertension level I, and 3 workers (10%) with hypertension level II. Therefore, the study proceeded with the administration of a pre-test to contractor workers in the working area of East Telukjambe Health Center.

Table 3. Employee Knowledge Results Before Education

Variable	n	(%)
Hypertension Knowledge		
● Less	28	93.3
● Enough	0	0
● Good	2	6,7
Total	**30**	**100**

Source: Primary Data, 2023

Based on Table 3, it is noted that the knowledge about hypertension among workers, on average, yields results ≤ 60% based on categorization according to (Arikunto, 2013), which mentions three levels of values based on percentage with the knowledge level categorized as Good ≥ 76-100%, Adequate 60-70%, and Poor ≤ 60%.

Knowledge related to low food and nutrition is one of the risk factors for the emergence of nutritional problems. Nutrition knowledge will influence food intake because nutrition knowledge provides information related to nutrition, food, and its relationship to health. The selection of healthy and nutritious foods is related to the fulfilment of balanced nutrition, and health is influenced by knowledge [11]. Thus, knowledge is categorized as a priority factor to be addressed immediately. The following are the results of nutrient intake using the SQ-FFQ, which aims to determine the average nutrient intake of workers.

Table 4. Macronutrient intake category results using SQ-FFQ

Category	Nutritional intake							
	Energy		Protein		Fat		Carbohydrate	
	n	%	n	%	n	%	n	%
Severe deficit (<70%)	3	10	8	26,7	7	23,3	6	20
Moderate deficit (70-79%)	2	6,7	4	13,3	1	3,3	1	3,3
Mild deficit (80-89%)	1	3,3	5	16,7	1	3,3	0	0
Good (90-119%)	20	66,7	9	30	10	33,3	13	43,3
More (> 120%)	4	13,3	4	13,3	11	36,7	10	33,3
Total	30	100	30	100	30	100	30	100

Source: Primary data, 2023

Based on Table 4, it is known that for energy intake, the highest percentage is found in the good category, which is 66.7%, while the lowest percentage is in the mild deficit category. For protein intake, the highest percentage is in the good category, at 30%, and the lowest is in the excess and moderate deficit categories, both at 13.3%. Regarding fat intake, the highest percentage is in the fat category, with a percentage of 36.7%, and the lowest is in the moderate deficit and mild deficit categories, both at 3.3%. Meanwhile, for carbohydrate intake, the highest percentage is in the good category at 43.3%,

and the lowest is in the mild deficit category at 0%. Balanced and adequate intake of macronutrients is necessary to ensure optimal body function.

Table 5. Results of sodium intake categories using SQ-FFQ

Hypertension category	Sodium Intake				*p-value*
	More		Enough		
	n	%	n	%	
Normal	2	6,67	5	16,67	0,55
Pre-hypertension	5	16,67	5	16,67	
Stage I hypertension	3	10	7	23,33	
Stage I hypertension	2	6,67	1	3,33	
Total	**12**	**40**	**18**	**60**	

Source: Primary data, 2023

Based on Table 5, it is shown that among workers in the hypertension stage 1 category, there are 10 individuals, with the highest sodium intake in the adequate category (23.33%), where 3 workers (10%) have sodium intake exceeding daily requirements. Meanwhile, among workers in the hypertension stage 2 category, totaling 3 individuals, the highest sodium intake is in the excess category (6.67%), where 1 worker (3.33%) has adequate intake.

The results of the workers' knowledge after receiving education were obtained from the post-test. The post-test was conducted with the aim of assessing the improvement in knowledge among contractor workers and the influence of using nutrition education media. The post-test was carried out by 30 contractor workers assisted by students in filling out the post-test questionnaire. The post-test consisted of 5 questions from each education media provided regarding balanced nutrition and hypertension. The results of the workers' knowledge after receiving education are presented in Table 6.

Table 6. Knowledge results of workers after education

Variable	n	(%)
Knowledge about hypertension		
Less	1	3,3
Enough	0	0
Good	29	96,6
Total	**30**	**100**

Source: Primary data, 2023

Based on the data above, it can be observed that knowledge outcomes experienced an improvement after receiving education and were categorized as good, with a percentage of 96.6%.

Table 7. The Influence of education on worker's knowledge

Media		Min	Max	Mean±SD	*p-value*
Poster	Pre	0	80	36,67±22,335	0,000
	Post	60	100	93,33±10,933	

Source: Primary data, 2023

Looking at the results in the table above, there was an increase in both the maximum and minimum values of respondents' knowledge regarding hypertension. In the statistical test results using the chi-square test, a p-value of 0.00 was obtained, which is less than 0.05. Therefore, it can be interpreted that there is an influence of education using posters on knowledge related to hypertension.

Discussion

The program implementation begins with measuring height and weight to determine the nutritional status of workers and measuring blood pressure to assess whether workers' blood pressure is normal or not. This is followed by interviews on nutrient intake to understand eating patterns, dietary habits, and nutrient intake among workers, as well as inquiring about smoking habits.

The difference in these results may occur because all respondents tested in the previous study were classified into stages 1 and 2, which could affect the results of the test conducted. Additionally, in this study, there are other factors besides nutritional status and sodium intake, such as habits of consuming coffee and fried foods, lack of physical activity, and others. This is consistent with previous research by Pratama et al., 2020[12], which found a relationship between hypertension factors (gender, age, and education). To address this issue, prevention efforts are needed by providing more information about the risk factors for hypertension through education to prevent hypertension or non-communicable diseases, so that workers become aware of the need to change to healthier lifestyles.

To assess the influence of education on workers' knowledge related to nutrition, monitoring and evaluation were conducted with a post-test on different days. However, during the education session, there were time constraints because the workers were only given a 1-hour break during the day and could not be gathered in one room or location. As a result, students were required to bring in respondents one by one during the workers' spare time, which took a considerable amount of time.

Conclusion

Based on the research findings, it can be concluded that there is a relationship between the Influence of Providing Education Media on Hypertension towards the Knowledge of Contractor Workers in the Working Area of East Telukjambe Health Center, as evidenced by the statistical test results using the chi-square test with a p-value of $0.00 < 0.05$, indicating an influence between education using posters and knowledge related to hypertension.

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