Intervention "Cakram of Degenerative Disease" to Knowledge and Attitude of Employees Sriwijaya University

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Abstract: The degenerative disease into a leading cause of death globally. Hypertension is one of the degenerative diseases that become important health problems worldwide because of its high prevalence and continued to rise and its relation to cardiovascular disease, stroke and kidney disease. Hypertension risk factors also became the third-largest cause of premature death and obesity is a risk factor hypertension that can be modified. The purpose of this study is to know the effect of nutrition education by Cakram media to increase knowledge and attitude of about hypertension dan obesity.This study used quasi-experimental design with two group pre and post-test design, The population of this study were all employees of Sriwijaya University in Indralaya with consist of 110 employees from five faculty. Sampling was carried out with a Cluster Random Sampling. There were 57 sample on experimental group and 53 sample on control group. Results of statistical analysis using Mean Whitney. The mean score of knowledge after being given a nutritional education was 29,00 in the experimental group and in the control group was 26,00 (p-value=0.031). The mean score of attitudes after being given a nutritional education was 28,88 in the experimental group and in the control group was 27,00 (p-value=0.942). There was no difference in mean score of attitudes between the experimental and control groups after being given a nutritional education. There was a difference in mean values of knowledge between the experimental and control groups after being given a nutritional education.

Keywords: Cakram of Degenerative Disease, Knowledge, Attitude.

I. INTRODUCTION

The degenerative disease into a leading cause of death globally (Ezzati et al., 2002). Hypertension is one of the degenerative diseases that become important health problems worldwide because of its high prevalence and continued to rise and its relation to cardiovascular disease, renal disease (Kannel, 2000). Hypertension risk factors also became the third-largest cause of premature death and obesity is a risk factor hypertension that can be modified.

Worldwide, raised blood pressure is estimated to cause 7.5 million deaths, about 12.8% of the total of all deaths.

Globally, the overall prevalence of raised blood pressure in adults aged 25 and over was around 40% in 2008 (WHO, 2019).

The number-one risk factor for death in the world (according to the Global Burden of Disease Study, the most comprehensive and systematic analysis of the causes of death ever undertaken) is high blood pressure. Also known as hypertension, high blood pressure reportedly lays waste to nine million people worldwide every year.

Report on Noncommunicable year 2010 from WHO said that as many as 40% of the developing country experiencing hypertension, whereas developed countries only 35% for incidence of hypertension. The African region occupies the position of the highest hypertension that is as much as 46%, followed by Southeast Asia to experience hypertension by as much as 36% and the lowliest Americans with hypertension incidence by as much as 35%. In the United States the incidence of hypertension increased from 31% to 48.2%, and in India the number of occurrences of hypertension increased from 32% to 44%. This figure continues to rise sharply, and forecast to the year 2025 about 29% of adults worldwide suffer from hypertension (Khanam, Lindeboom, Razzaque, Niessen, & Milton, 2015).Based on data indicates that the prevalence of hypertension in Indonesia obtained through measurements of blood pressure at age $\geq$ 18 years of age amounted to 25.8% of the population of Indonesia and continue rising to 34,1% (Indonesia, 2018).

Hypertension is defined as a medical condition in which the blood pressure in the arteries

is elevated exceeding 140 over 90 mmHg (Leconte & Ismael, 2012).Various risk factors have been associated with hypertension including age , dietary sex, race, decrease physical activity, smoking, obesity and hormonal changes (Wang & Vasan, 2005). Study was revealed that general knowledge about hypertension was inadequate. Patients lack of understanding some points of risk factors, manifestation and lifestyle modifications of hypertension. Also there was high poor level of perceptions about lifestyle behaviors modifications among hypertensive patients (SA & Mezayen, 2015). A new study found that grocery store based nutrition counseling was effective in changing dietary habits of patients being treated for hypertension (Watowicz et al., 2019).

Most hypertensive people are not aware of their condition or have a low level of health literacy. Having an inadequate level of knowledge about the health issues has been reported for the hypertensive patients in different countries all over the world such as the United States, Pakistan, Turkey, and Namibia (Rashidi et al., 2018). So educational program that can enhance patients' awareness regarding hypertension disease are urgently needed among hypertensive patients to change the perceptions about lifestyle behavior. Aim of the study is to know the effect of nutrition education by Cakram media to increase knowledge and attitude of about hypertension dan obesity.

II. LITERATURE REVIEW

A. Hypertention

Chronic disease due to excessive blood insistence and almost not constant on arteries known as hypertension. The power of the heart when pumping blood to generate pressure. The increasing pressure on systemic arterial diastolic or systolic, neither, or both are constantly associated with hypertension (Susanto, 2015).According to the guidelines of Thee Seventh Report of the Joint National Committee (JNC-7) in the year 2003, Hypertension is a situation where a person's blood pressure is ≥ 140 mmHg (systolic pressure) and or ≥ 90 mmHg (diastlik pressure) (Chobanian et al., 2003).Causative factors of hypertension are diverse. The cause is divided into causes that cannot be control like family history, gender, age and ethnicity, as well as factors that can be controlled such a diet containing sodium, fat, smoking, lack of physical activity and obesity (Anggraini, Waren, Situmorang, Asputra, & Siahaan, 2009).

B. Obesity

One of the factors of the risk of the occurrence of degenerative diseases such as diabetes mellitus, coronary heart disease, and hypertension is obesity. Eating patterns can be associated with obesity, especially when eating foods that contain high calories, high salt, low and sert. In addition, there are other factors influencing factors such as Demographics, socioculture, biological and behavioral factors. Obesity can also be caused by genetic or hereditary (Moehji, 2003).

An imbalance between energy that goes with the energy that comes out is one of the causes of obesity (Soekirman & Wahjoe, 2006). Metabolism began declining began the age of 30, when physical activity is also reduced then flab being overweight.

According to Pingkan, many of the risks of health problems that can happen when a person is obese as having a problem with the heart and blood vessels (cardiovaskuler), namely hyprtension and dislipidemia (abnormalities in cholesterol) (Pingkan, 2010).

C. Knowledge

Knowledge is a domain that is very important in shaping an attitude, action and behavior as well as knowledge holds an important role in determine an attitude because of the pentothal that is owned by someone will effect against actions that will improve the degree of health (Notoatmodjo, 2005).Knowledge is a variety of things that are obtained through the five senses. Knowledge comes when someone using sensory to unearth specific events or objects that have never been seen or felt before (Wijayanti, 2009).According to Sukmadinata factors that affect the knowledge owned by someone influenced by internal factors (physical and spiritual) and external (level of education, exposure to mass media, family, economic, and social relations experience) (Sukmadinata, 2007).

D. Attitude

According to Fishbein, attitude was conceptualized as "learned predispositions to respond to an object or class of objects in a favorable or unfavorable way" (Fishbein, 1976).

III. METHODOLOGY

This study used quasi-experimental design with two group pre and post-test design sampling was carried out with a Cluster Random sampling. The population of this study were all employees of Sriwijaya University in Indralaya with consist of 110 employees from five faculty.There were 57 sample on experimental group and 53 sample on control group.

This research was conducted in September-Desember 2018. The intervention group was given education methods by Cakram Media whereas the control group given nutritional education with leaflet media. Nutritional education was carried out for 2 weeks with the intervention frequency of once a week. This activity takes 30 minutes starting from the pre-test, intervention and post-test. Nutrition and health education material covers 4 topics such as knowledge of hypertension, Factor affecting hypertention, related obesity and hypertension and balanced nutrition.

Research data used in the research is the primary data include child characteristics, knowledge and attitudes about hypertension and obesity. The data consists of a pre-test (before intervention) and post-test (after the intervention). Data pre-test and post-test knowledge and attitudes were collected using a questionnaire. A validated questionnaire was used to assess knowledge at pre and post intervention. Ethical issues have been completely observed by the authors. Mean difference before and after intervention was analyzed using Wilcoxon Signed Rank Test and mean difference between experimental and control group was analyzed using Mann-Whitney Test .

IV. RESULTS AND FINDINGS

A. Attitude

Description frequency distribution of respondents based on the attitude variables (pretest and posttest) are as follows:

Table 1: Frequency Distribution Based on The Attitude Variable of eksperimental Group (Pre Test and Post Test)

Category	Intervention Group			
	Before	%	After	%
Negative	24	42,1	7	12,3
Positive	33	57,9	50	87,7
Total	57	100	57	100

Table 1. shows that the score before the intervention was 57,9 % and the score after intervention became 87,7 %. Increased attitude scores in the intervention group were equal to 29,8 %.

Table 2: Frequency Distribution Based on the Attitude Variable of Control Group (Pre Test and Post Test)

Category	Control Group (Leaflet)			
	Before	%	After	%
Negative	10	18,9	7	13,2
Positive	43	81,1	46	86,8
Total	53	100	53	100

Table 2. shows that the score before was 81,1 % and the score after became 86,8 %. Increased attitude score in the control group is equal to 5,7 %.

B. Knowledge

Description of respondents' frequency distribution based on the knowledge variables (pre test and post test) are as follows:

Table 3: Frequency Distribution Based on The Knowledge Variable of Experimental Group (Pre Test and Post Test)

Category	Intervention Group			
	Before	%	After	%
Less	31	54,4	13	22,8
Well	26	45,6	44	77,2
Total	57	100	57	100

Table 3. shows that the score before intervention is 45,6 % and the score after intervention becomes 77,2 %. Increasing the knowledge score in the intervention group was equal to 31,6 %.

Table 4: Frequency Distribution Based on The Knowledge Variable of Control group (Pre Test and Post Test)

Category	Control Group (Leaflet)			
	Before	%	After	%
Less	16	30,2	4	7,5
Well	37	69,8	49	92,5
Total	53	100	55	100

Table 4. shows that the previous initial score was 69,8 % and the score after that was 92,5 %. Increased knowledge score in the control group by 22,7 %.

C. Difference in Average of The Attitude and Knowledge Variables

1) Data Normality Test

The following are the results of the numerical data normality test of attitude scores and knowledge scores before and after the intervention.

Table 5: Normality Test of Attitude and Knowledge Variables

Variable	p-value
Prior Attitude Score	<0,0001
Attitude Score After	<0,0001
Prior Knowledge Score	<0,0001
Knowledge Score After	<0,0001

From the results of the normality test data in table 5, states that the value of p-value of all variables is smaller than alpha value (0,05), it can be concluded that the data on attitude score variables and knowledge scores are not normally distributed. Then, the statistical test used to determine the average difference between the two variables the pre-test and post-test in bivariate analysis were Wilcoxon test.

D. Difference in Average of The Attitude and Knowledge Variables in Experimental group

On analysis bivariate about difference score attitude before and after intervention based on calculation statistics obtained as the following:

Table 6: Difference in Average of The Attitude Variables Before and After in Experimental group

Variable	N	Mean Rank	P-Value
Negative Ranks	1	7,50	
Positive Ranks	55	28,88	<0,0001
Ties	1		

Statistical test results stating that the p-value (<0,0001) is smaller than the alpha value (0,05), there is strong evidence to reject Ho. This can be interpreted that there are differences in attitude scores before and after cakram media intervention. The results of the difference in average can be said that attitude scores after the intervention with positive results increased 28,88 compared attitude scores before intervention.

Table 7: Difference in Average of The Knowledge Variables Before and After in Experimental group

Variable	N	Mean Rank	P-Value
Negative Ranks	0	0,00	
Positive Ranks	57	29,00	<0,0001
Ties	0		

Statistical test results stating that the p-value (<0,0001) is smaller than the alpha value (0,05), there is strong evidence to reject Ho. This can be interpreted that there are differences in knowledge scores before and after cakram media intervention. The result of the difference in average can be said that the knowledge score after the intervention with good results increased by 29,00 compared to knowledge scores before intervention.

E. Difference in Average of The Attitude and Knowledge in Control group

On analysis bivariate about difference score attitude before and after intervention based on calculation statistics obtained as the following:

Table 8: Difference in Average of The Attitude Variables Before and After in Control group

Variable	N	Mean Rank	P-Value
Negative Ranks	0	0,00	
Positive Ranks	51	26,00	<0,0001
Ties	2		

Statistical test results stating that the p-value (<0,0001) is smaller than the alpha value (0,05), there is strong evidence to reject Ho. This can be interpreted that there are differences in attitude scores before and after leaflet media intervention. The result of the difference in average can be said that the attitude score after the intervention with positive results increased by 26,00 compared attitude scores before intervention.

Table 9: Difference in Average of The Knowledge Variables Before and After in Control group

Variable	N	Mean Rank	P-Value
Negative Ranks	0	0,00	
Positive Ranks	53	27,00	<0,0001
Ties	0		

Statistical test results stating that the p-value (<0,0001) is smaller than the alpha value (0,05), there is strong evidence to reject Ho. This can be interpreted that there are differences in knowledge scores before and after in control group. The result of the difference in average can be said that the knowledge score after the intervention with leaflet media has good results increased by 27,00 compared to knowledge scores before intervention.

F. Difference in Average of The Knowledge and Attitude in Experimental group dan control group

On analysis bivariate about difference the average knowledge and attitude in intervention group and control group based on calculation statistics obtained as the following:

Table 10: Difference in Average of Knowledge and Attitude

Group	N	Mean	SD	Z	P-value
Experimental Knowledge	57	49,54	0,884	2,153	0,031
Control	53	61,91	0,919		
Intervention Attitude	57	55,30	1,135	0,073	0,942
Control	53	55,72	1,225		

Based on the results of the Mann Whitney test, knowledge was obtained from the difference in mean after intervention between intervention group and control group, in the average group of score in intervention group that were $49,54 \pm 0,884$ and the average score of t group was $61,91 \pm 0,919$. The results of the hypothesis concluded that there was influence intervention of cakram and leaflets on employee knowledge (p = 0,031). Judging from the effectiveness of each media, the cakram group intervention increased by 77,2%, while the leaflet group intervention experienced an increase in knowledge of 92,5%, it can be concluded to increase knowledge more effectively using leaflet media.

Based on the results of the Mann Whitney test, attitudes were obtained from differences in mean after intervention between cakram group intervention and leaflet groups, in the skor cakram group the average was $55,30 \pm 1,135$ and the average score of the group leaflets was $55,72 \pm 1,225$. The hypothesis test results concluded that there was no influence between cakram media and leaflets on employee attitudes (p = 0,942). Judging from the effectiveness of each media, the disc group experienced an increase in attitude by 87,7%, while the leaflet group experienced an increase in attitude of 86,8%, it can be concluded to increase attitudes more effectively using media cakram.

G. Mean Differences in Knowledge Scores Before and After Interventions Using Cakram Media and Leaflets Media

Based on the results of the Mann Whitney test, knowledge was obtained from the difference in mean after intervention between groups of cakram and leaflets, seen from table 13. in the average group of score discs that were $49,54 \pm 0,884$ and the average score of the group of leaflets was $61,91 \pm 0,919$. The results of the hypothesis concluded that there was influence of cakram and leaflets on employee knowledge (p = 0,031). Judging from the effectiveness of each media, the cakram group intervention increased by 77,2%, while the leaflet group experienced an increase in knowledge of 92,5%, it can be concluded to increase knowledge more effectively using leaflet media.

Judging from its effectiveness, leaflet media is more effective in increasing knowledge. This result is in line with Susanto, with the results of education using leaflets those given pharmacists are effective in changing the treatment behavior of hypertensive patients in a better direction (Susanto, 2015). This increase is due to the knowledge gained from the provision of hypertension educational leaflets and their treatment by pharmacists in the form of knowledge about hypertension.

The results of this study are also consistent with research Meidiana, with the result of statistical test of Wilcoxon on the pre-test and post-test knowledge was obtained p-value = 0,000 means there is the influence of education with media leaflets against adolescent knowledge before and after education in junior IT IQRA' of Bengkulu City in 2018 (Meidiana, Simbolon, & Wahyudi, 2018). Leaflet is also very effective for conveying messages systematically, briefly and densely in the form of both writing and drawing (usually more writing). This media is very effective (can be read repeatedly) to deliver a systematic, concise and concise message.

H. Mean Difference in Attitude Score Before and After Intervention Using Media Cakram and Leaflets

Based on the results of the Mann Whitney test, attitudes were obtained from differences in mean after intervention between the disc and leaflet groups, seen from table 13. in the score disc group, the average was $55,30 \pm 1,135$ and the average score of the group leaflets was $55,72 \pm 1,225$. The hypothesis test results concluded that there was no influence between cakram media and leaflets on employee attitudes ($p = 0,942$). Judging from the effectiveness of each media, the cakram group experienced an increase in attitude by 87,7%, while the leaflet group experienced an increase in attitude of 86,8%, it can be concluded to increase attitudes more effectively using cakram media .

Judging from its effectiveness, media cakram are more effective in improving attitudes. The results of this study are also in line with the research of Darsini, with the results of research that discs needing effective fluid intake to be used as an educational medium for the implementation of the AMIR program (Let's Drink Water) (Darsini & Hamidi, 2018). The Movement for Drinking Water is dedicated to preventing non-infectious diseases or degenerative diseases in the future, especially chronic kidney failure, diabetes and hypertension (Indonesia, 2017). One of the reasons underlying the initiation of the AMIR movement was the incidence of obesity experienced by some people in Indonesia. In the 2016 Indonesia Health Profile reported, the prevalence of obesity (Body Mass Index or BMI $\geq$25-27 and BMI $\geq$27) was 33,5%, while obese population with BMI $\geq$27 alone was 20,6%.

This study is also in line with Pertiwi, with the results of the wicoxon statistical test changes before and after nutritional counseling obtained p-value 0,006 ($<$0,05) which means that there is influence of nutritional counseling on the diet quality of diabetic mellitus patients before and after counseling (Pertiwi, Yuliantin, & Wahyudi, 2018). Media cakram are used to facilitate the counseling process, after counseling it is known that there is an increase in diet quality scores. Nutritional counseling can improve patient knowledge, where increased knowledge can change the behavior of patients to consume foods according to recommendations in order to reduce blood sugar levels.

V. Conclusion

There was no difference in mean score of attitudes between the experimental and control groups after being given a nutritional education. There was a difference in mean values of knowledge between the experimental and control groups after being given a nutritional education.

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