International Journal of Social Science (IJSS)
Vol.4 Issue.4 December 2024, pp: 521-526
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v4i4.9404

THE INFLUENCE OF MULTIMEDIA EDUCATION ON IMPROVEMENT KNOWLEDGE, ATTITUDES AND BEHAVIOR IN PREVENTING CORONARY HEART DISEASE IN THE CAKUNG DISTRICT AREA, EAST JAKARTA

By
Dewi Lusiani[1*], Rustam Aji Rochmat[2], Ace Sudrajat[3], Paula Kristiani[4]
[1,3,4] Health Polytechnic Ministry of Health Jakarta III
[2]Health Polytechnic Ministry of Health Bengkulu
Email: [1*]dewilusiani6@gmail.com, [2]adjieroestamadjie@gmail.com
[3]ace.sudrajat1963@gmail.com, [4]pkrisanty@yahoo.com

Article Info
Article history:
Received Nov 24, 2024
Revised Dec 09, 2024
Accepted Dec 27, 2024

Keywords:
Education, Multimedia, Behavior, Coronary Heart Disease

ABSTRACT
Cardiovascular disease is still a global threat and is a disease that plays a major role as the number one cause of death throughout the world. The aim of this research is to get an overview of the influence of multimedia education on behavior, including: Increasing knowledge, attitudes and actions, and community behavior in preventing disease. coronary heart. Quasi experimental method, randomized pretest-posttest group control design. Respondents were 60 respondents. Research schedule June-December 2024 in Cakung District, East Jakarta. The questionnaire instrument has been tested for homogeneity. The samples were 30 intervention groups and 30 control groups. Data collection using pre-test and post-test questionnaires. Data analysis using univariate analysis and bivariate paired t test analysis to reveal differences in scores between the intervention group, the treated group compared to the untreated control group. The results of the intervention group research found that there were differences in knowledge, attitudes and behavior ($p = 0.000$; $p = 0.000$; $p = 0.0001$) with p-value <0.05. with a score difference (9,300; 13,600; 6,607). These findings show that there is an influence of Multimedia Education (Educational Videos and Presentations) on increasing knowledge, attitudes and behavior in preventing coronary heart disease. The research conclusions found that there was an influence of multimedia education on increasing knowledge, attitudes and behavior in preventing coronary heart disease

Corresponding Author:
Dewi Lusiani
Health Polytechnic Ministry of Health Jakarta III
Email: dewilusiani6@gmail.com

1. INTRODUCTION

Cardiovascular disease is still a global threat and is a disease that plays a major role as the number one cause of death throughout the world. Data from the World Health Organization (WHO) states that more than 17 million people in the world die from heart and blood vessel disease. Deaths in Indonesia due to cardiovascular disease reached 651,481 people per year, consisting of stroke 331,349 deaths, coronary heart disease 245,343 deaths, hypertensive heart disease 50,620 deaths, and other cardiovascular diseases (IHME, 2019). 2018 Riskesdas data shows that the prevalence of heart disease based on doctor's diagnosis in Indonesia is 1.5%, with the highest prevalence ranked fourth in DKI Jakarta Province with a prevalence of 1.9%. The high prevalence of Coronary Heart Disease in Indonesia is caused by unhealthy lifestyle changes such as smoking and unbalanced eating patterns, which are the main contributors

International Journal of Social Science (IJSS)
Vol.4 Issue.4 December 2024, pp: 521-526
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

to coronary heart disease (CHD), it is reported that 50% of CHD sufferers have the potential to experience sudden cardiac arrest or sudden cardiac death.

Based on gender, the prevalence of CHD is higher in women (1.6%) than in men (1.3%). Meanwhile, if we look at it from an occupational perspective, ironically the highest number of people suffering from heart disease are government officials, namely civil servants/TNI/Polri/BUMN/BUMD with a prevalence of 2.7%. Likewise, if we look at where we live, urban residents suffer more from heart disease with a prevalence of 1.6% compared to rural residents, which is only 1.3%.

Furthermore, disease control efforts aim to control the disease and prevent further disability and severity. Prevention can be done with "CERDIK" behavior, namely regular health checks (checking Blood Pressure, Blood Sugar, Body Mass Index and Abdominal Circumference every 6 months - once a year), Eliminating cigarette smoke by implementing KTR (smoking-free villages, homes without cigarettes), Diligent physical activity for at least 30 minutes per day or at least 150 minutes per week and a healthy and balanced diet with a diet that fills my plate, as well as getting enough rest, and managing stress.

Every community is expected to be covered by National Health Insurance, adopt a "COMPATIBLE" lifestyle for people with PTM, especially CHD, namely regular health checks, treat illnesses with appropriate treatment, maintain safe physical activity, strive for a healthy diet and balanced nutrition, avoid smoke. cigarettes, alcoholic drinks and other carcinogenic substances. This is also supported by efforts to empower the community to recognize symptoms and be able to provide first aid in heart disease emergencies. In order to provide this information and education so that it can have a positive influence on increasing public understanding, the researcher wants to package it in multi-media form as a very suitable means of combining audio-visual and demonstration.

According to Aji (2024), in nursing management, efforts to improve behavior including knowledge, attitudes and individual actions will be better if they are accompanied by providing material through PPT and audiovisual to increase attractiveness, in addition to conducting training for individuals and groups in health education outreach activities.

The results of Mansyah & Rahmawati's research show that this is in line with researchers who stated that the use of audio-visual media in outreach activities in an effort to increase knowledge and attitudes is highly recommended because audio-visual media is an interesting outreach media and enhances more of the senses. This follows the results of statistical analysis. In this research, there was a significant difference in the increase in knowledge and attitudes after counseling between control and intervention (Mansyah & Rahmawati, 2021). Husada proves that audio-visual media is a good media to use in health education, therefore it involves hearing and seeing together with one process or activity (Husada, 2019).

The formulation of the problem in this research is "What is the influence of multimedia education on increasing knowledge, attitudes and behavior in preventing coronary heart disease in the Cakung sub-district area, East Jakarta?"

General objective: to get an overview of the influence of multimedia education on increasing people's knowledge, attitudes and behavior in preventing coronary heart disease

The results of this research have implications for society, health services and research development by providing benefits to society, increasing knowledge and attitudes in preventing coronary heart disease, as well as providing inspiration and a basis for the development of multimedia-based health education strategies and further research.

2. METHOD

This research is a quasi-experimental research with a randomized pretest-posttest group control design. Population of people residing in Cakung District, East Jakarta in June-December 2024. Inclusion criteria: (1) Age 19-59 years, (2) Able to read, write and communicate, (3) Physically and mentally healthy (4)) Willing to participate. Exclusion criteria: Respondents who cannot do activities or are sick. The number of respondents was 60 people divided into two groups, the group that was given treatment was called the intervention group of 30 people and the group that was not given treatment was called the control group of 30 people. The sampling technique uses simple random sampling. The instrument uses a questionnaire that has been tested for homogeneity. Treatment for the intervention group is to increase knowledge, attitudes and behavior using multimedia education. Data collection using a questionnaire method through pre-test and post-test for respondents. The intervention group was given treatment after a pre-test, treatment with multimedia education through educational videos and coronary heart disease prevention presentations studied independently. while the control group was not given treatment.

At the end of the meeting a post-test was given to measure the increase in knowledge, attitudes and behavior scores. The data results were analyzed using a computer software program. Univariate analysis describes the distribution of data for each research variable for each variable measured. Bivariate analysis was carried out to assess the effect of

International Journal of Social Science (IJSS)
Vol.4 Issue.4 December 2024, pp: 521-526
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v4i4.9404

multimedia education on increasing knowledge, attitudes and behavior in preventing coronary heart disease. Analysis uses a paired t-test with a significant value if the p value <0.05.

3. RESULT AND DISCUSSION

1. Description of Respondent Characteristics

The results of the analysis of the characteristics of respondents in the intervention group and control group based on age are as follows:

Table 1. Characteristics based on respondent's age

Variabel	Group	N	Mean	Median	SD	Min-Maks
Respondent's age	Intervensi	30	51.07	51.00	10.208	31-70 th
	Control	30	51.10	51.00	8.596	24-67 th

The results of the analysis show that the average age of respondents in the intervention group is 51.07 years, the youngest age is 31 years. and the oldest was 70 years, while in the control group the average age of respondents was 51.10 years with the youngest being 24 years and the oldest being 67 years.

Table 2. Distribution of Respondent Characteristics Based on Education and Occupation of Health Cadres

Variabel	Group.Intervensi		Group Control		Total	
	N	%	N	%	N	%
Health Cadre Education						
1. Elementary school	1	3,3	4	13,3	5	8
2. Middle school	6	20	7	23,3	12	20
3. High school	21	70	17	56,7	39	65
4. Academy/PT	2	6,7	2	6,7	4	7
Health cadre work						
1. Civil servants	1	3,3	-	-	1	1
2. Private	-	-	-	-	-	-
3. Entrepreneur	2	6,7	2	6,7	4	7
4. Not working	27	90	28	93,3	55	92

The results of the analysis in table 4.2 show that the characteristics of the intervention group and control group are that the majority of health cadres' education is high school and the majority of jobs for the intervention group and control group are not working.

2. Homogeneity Test

This test is a requirement before carrying out a bivariate test. The test used for numerical data uses the independent t test. This test is used because it compares the means of two groups of data, namely the intervention group and the control group. The chisquare test is used for categorical data, because the data you want to compare is the difference in proportions from two groups of data.

Table 3. Analysis of equality of respondents based on Education and Occupation of Health Cadres between groups

Variabel		**Intervensi (n=40)**		**Control (n=30)**		Nilai p*
		N	**%**	**N**	**%**	
Health Cadre Education	Education 1. Elementary 2. Middle school 3. High school 4. Academy/PT	1 6 21 2	3,3 20 70 6,7	4 7 17 2	13,3 23,3 56,7 6,7	0,166
Health Cadre Jobs	Work 1. Civil servants 2.Private 3. Entrepreneur 4.Not working	1 - 2 27	3,3 - 6,7 90	- - 2 28	- - 6,7 93,3	0,399

International Journal of Social Science (IJSS)
Vol.4 Issue.4 December 2024, pp: 521-526
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

The results of the analysis in table 4.3, namely the equality test (homogeneity), show that there is no difference in the type of education and work of health cadres between the intervention group and the control group before being given the multimedia education intervention.

3. Differences in Knowledge, Attitude and Behavior scores before and after intervention with the Use of Multimedia Education in the intervention and control groups

Table 4. Analysis of Knowledge, Attitude and Skills Scores Before and After Multimedia Education Intervention

Variabel	Group	Mean	SD	95% CI	T	P value
Knowledge score	Intervention Group					
	Before	46.37	6.354	11.906-6.761	-7.420	**0.000**
	After	55,70	3,415			
	Difference	9.333				
	Control Group					
	Before	46.13	6.257		-1.980	**0.057**
	After	46.30	6.143	0.339-006		
	Difference	0.167				
Attidute	Intervention Group					
	Before	53.80	7,250	-17.182-10018	-7.764	**0.000**
	After	67.40	7,112			
	Difference	13.600				
	Control Group					
	Before	53.17	11.079	-o,448-048	0.000	**0.110**
	After	53.37	11.016			
	Difference	-0.200				
Action Behavior	Intervention Group					
	Before	37,50	8.505			
	After	43.57	4.099	-9.522-2.611	-3.590	**0.001**
	Difference	6.067				
	Group. Control					
	Before	41.20	9.242	-609-209	-1.000	**0.326**
	After	41.23	9.258			
	Difference	0.033				

The results of the analysis in table 4.4 show that there is a significant difference in knowledge in the intervention group and the control group before and after the multimedia use intervention (p value = 0.000) with the difference in the average value of increasing knowledge scores in the intervention group being greater (difference value = 9.333) while in The control group had an average score difference of 0.200. Furthermore, the results of the Attitude variable analysis also showed that there was a significant difference in the intervention group before and after the intervention using multimedia education (p value = 0.000) with an increase in the average value difference. The attitude score in the intervention group was greater (difference value = 13,600) while in the control group the average score difference was 0.200. Likewise, the Behavior variable showed that there was a significant difference in the intervention group before and after the intervention using multimedia (p value = 0.001) with a difference The average value of increase in Behavior score in the intervention group was greater (difference value = 6.067), while in the control group the average difference in score was 0.033.

4. CONCLUSION

This research shows that multimedia education is effective in increasing knowledge, attitudes and behavior in preventing coronary heart disease among health cadres in Cakung District, East Jakarta. Respondents were an average of 51 years old with an upper secondary education background. The results of the quasi-experimental analysis

showed significant differences between the intervention and control groups (p=0.000; p=0.000; p=0.0001). Therefore, it is recommended to integrate multimedia education in public health programs.

REFERENCES

[1] Amrullah S, Rosjidi C, Dhesa D, Wurjatmiko A, Hasrima. (2022). Risk Factors for Acute Myocardial Infarction at the Dewi Sartika General Hospital, Kendari City. Kendari: Karya Kesehatan Scientific Journal.
[2] Aji Rustam Rochmat, (2024) Nursing Management. 1853 of 2024. ISBN: 978-623-125-455-9.Vol.1.Page:1-122. Published 10/2024/30. Get Press Indonesia.West Sumatra.
[3] Aniamarta T, Huda AS. (2022). Review Article: Causes and Treatment of Heart Attack Review Article: Causes and Treatments of Heart Attack. Jakarta: Journal of Biologica Samudra
[4] Basri AH, Ningsih S. (2017). Analysis of factors that contribute to re-attacks in coronary heart disease patients. Journal of Community Nurses. 2017
[5] Kasron, Susilawati, Subrono W. (2022). Strengthening the Role of Health Cadres in Early Detection of Heart Disease Risk in Tambakreja Village, Cilacap Regency. Cilacap: Abdi Mercusuar Journal.
[6] Maharani A, Sujarwoto, Praveen D, Oceandy D, Tampubolon G, Patel A.(2019) Cardiovascular disease risk factor prevalence and estimated 10-year cardiovascular risk scores in Indonesia. Indonesia:The SMARThealth Extend study. *PLoS One*
[7] Maisaroh, Hafita Isa. (2024). Pengaruh Video Berbasis Self Care Management Terhadap Tingkat Pengetahuan Pencegahan Kekambuhan Hipertensi. Skripsi. Fakultas Ilmu Keperawatan. Universitas Islam Sultan Agung Semarang
[8] Naomi SW, Picauly I, Toy SM.(2021).Faktor Risiko Kejadian Penyakit Jantung Koroner (Studi Kasus di RSUD Prof. Dr. W. Z. Johannes Kupang). Kupang:*Media Kesehatatan Masyarakat*.
[9] Nilamsari, W. P., Monika, D., Ratri, N., Shinta, D. W., Afrilla, D., Yuliani, I., Sari, C. M., & Handayani, M. (2024). Pengaruh Edukasi Video terhadap Pengetahuan Pasien dengan Penyakit Jantung Koroner (PJK) Abstrak di Indonesia menderita PJK . Provinsi Jawa Timur merupakan Provinsi dengan jumlah penderita PJK tertinggi di Indonesia yaitu analitik menggunakan desain cross sectional . primer dengan cara wawancara menggunakan Universitas Airlangga Surabaya . Populasi berobat ke Poli Jantung Rumah Sakit Universitas Airlangga Surabaya periode tanggal 5-19 Oktober 2023 . Sampel pada. 16(2).
[10] Pakpahan, dkk. (2021). Promosi Kesehatan & Prilaku Kesehatan. In *Jakarta: EGC*.
[11] Polit, D. F., & Beck, C. T. (2017). Nursing Research Generating and Assessing Evidence for Nursing Practice (C. Burn (ed.); Tenth Edit). Wolters Kluwer
[12] Putri, A. O., Rahmadayanti, T. N., Chairunnisa, A. R., Khairina, N., & Santi, S. (2021). Penyuluhan Online Dengan Booklet Dan Video Sebagai Upaya Pengendalian Hipertensi. *SELAPARANG Jurnal Pengabdian Masyarakat Berkemajuan*, *4*(2), 451. https://doi.org/10.31764/jpmb.v4i2.4469
[13] Rachmawati C, Martini S, Artanti KD. (2021). Analysis of Modifying Risk Factors for Coronary Heart Disease at Rsu Haji Surabaya. Surabaya: Public Health Nutrition Media.
[14] Ridwanmo A, Fadillah M, Irfani TH. (2020). Early Detection of Risk Factors for Heart and Blood Vessel Disease, Relationship Between Obesity, Physical Activity and Total Cholesterol in Kertapati District, Palembang City. Palembang: Journal of Community Health Epidemiology.
[15] Robert R. Redfield, MD , et al (2019) Awareness of Heart Attack Symptoms and Response Among Adults —, United States:Report MW. American Heart Month
[16] Rosidawati, R., Suryati, E. S., Nuraini, N., & ... (2023). The Influence of Multimedia Education on Increasing Knowledge, Attitudes and Behavior of Families in Early Detection of Coronary Heart Disease Risk Factors in Districts.... BEST Journal (Biology …, 6(2), 731–737. https://jurnal.uisu.ac.id/index.php/best/article/view/8158%0Ahttps://jurnal.uisu.ac.id /index.php/best/article/viewFile/8158/5807
[17] Rosidawati, Suryati, E. S., Nuraini, N., & Agustina. (2022). Increasing Knowledge with Multimedia Educational Interventions to Prevent Coronary Heart Disease in Families. Increasing Knowledge With Multimedia Educational Interventions to Prevent Coronary Heart Disease in Families, 3(1), 14–21.
[18] Saktiningtyastuti F, Astuti SLD. (2016) Factors Influencing Recurrent Heart Attacks in Ami Patients in the Icvcu Room at Dr. Hospital. Moewardi 2016. Surakarta: Global Nursing Journal
[19] Sari, Rebbi Permata, Ikbal, Revi Neini. (2017). Factors Associated with the Occurrence of Coronary Heart Attacks at the Special Heart Polyclinic, RSUP Dr. M. Djamil Padang 2017. Padang: STIKes Alifah
[20] Sari, Yushera Atika, Widiastuti, W, Fitriyasti, B. (2021). Overview of Risk Factors for Coronary Heart Disease at the RSI Siti Rahmah Padang Heart Polyclinic in 2017-2018. Padang: Heme, Baiturrahmah University Padang

International Journal of Social Science (IJSS)
Vol.4 Issue.4 December 2024, pp: 521-526
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

[21] Subiyanto, I., Hayati, T., Syam, F. S., Putri, T. R., Maylina, V., Ningsih, W. B., & Iksan, R. R. (2024). Effectiveness of Coronary Heart Disease Education in Preventive Efforts in RW 01 Pejaten Timur, South Jakarta. MAHESA: Malahayati Health Student Journal, 4(5), 1853–1862. https://doi.org/10.33024/mahesa.v4i5.14380
[22] Suratun, Wahyudi, J. T., & Yulianti, I. E. (2022). The Influence of Health Education on the Knowledge of Coronary Heart Disease Patients. Enlightenment Health Scientific Journal (JIKP), 11(2), 151–160. https://itkesmu-sidrap.e-journal.id/JIKP
[23] Wardaty AD. (2022) Factors Associated with Recurrent Stroke Incidents in Inpatients at Fatmawati Central General Hospital (RSUP) 2016-2018. Jakarta: Syarif Hidayatullah State Islamic University.
[24] Warni H, Arifin S, Setiabudi MA, et al. (2022). Risk Factors Associated with Recurrent Events in Patients with Coronary Heart Disease: Literature Review. Maluku: Journal of Science and Technology
[25] Yusniawati, Ni Putu Yustina et al. (2023). Health Promotion in Increasing Knowledge in Early Detection of Acute Coronary Syndrome (SKA) Attacks in the Elderly at the Tresna Werda Wana Seraya Social Home Denpasar, Bali: Journal of Community Service Creativity (PKM)
[26] Yusvita F, Nandra NS. (2018). Overview of the level of risk of heart and blood vessel disease in workers at PT. X. Depok: Scientific Forum