

Effectiveness of Information Pamphlet on Knowledge Regarding Myocardial Infarction among Adults

Vaibhav Sonawane¹, Dr. Anita Nawale²

M.Sc. Nursing

Community Health Nursing

Bharati Vidyapeeth (Deemed to be University) College of Nursing, Pune-411043

PhD (Nursing)

Community Health Nursing

Bharati Vidyapeeth (Deemed to be University) College of Nursing, Pune-411043

“A Study To Assess The Effectiveness Of Information Pamphlet On Knowledge Regarding Myocardial Infarction Among Adults In Selected Areas Of Pune City.”

Abstract

Introduction: -cardiovascular disease is the number one cause of death globally. Myocardial Infarction is recognised as the one of the leading causes of death in India.

Aim of study: -To assess the effectiveness of information pamphlet on knowledge regarding myocardial infarction among adults from selected areas of Pune city.

Material and methods: - The quantitative research approach and Quazi experimental with pre-test, post-test control group design was used. 120 samples were selected by non-probability purposive sampling technique. 60 samples in experimental group and 60 samples in control group. Data collected through structured questionnaire. Experimental group received information pamphlet regarding Myocardial Infarction.

Results: - Majority of adults (33.33%) experimental group and (73.33%) control group were from 18 to 25 years of age group. Maximum adults (53.33%) experimental group, (55%) control group were female. Among all majority (35%) experimental group (50%) control group complete higher secondary education. Majority of sample (50%) experimental group and (70%) control group were working. Maximum (76.67%) experimental group and (98.33%) control group did not have any family history of heart ailment/disease/illness. Majority of adult samples (36.67%) experimental group and (70%) control group did not aware about Myocardial Infarction. Effectiveness of information pamphlets on knowledge regarding Myocardial Infarction among adults in experimental group is analysed by paired t-test the value of t calculated is 20.68. The p value is <0.0001. So, result is significant at p<0.05 level of significance. Hence, Information pamphlet are effective in improving the knowledge level regarding Myocardial Infarction. There was no association between knowledge before administration of information pamphlet and selected demographic variables. **Conclusion:** -The study concluded that there is improvement in level of knowledge regarding Myocardial Infarction among adults and information pamphlet is effective in terms of gaining knowledge.

Keywords: -Adults, Effectiveness, Information Pamphlet, Myocardial Infarction, Knowledge.

Introduction

Heart attack is one of the most serious cardiovascular diseases. It requires immediate medical attention for preventing further complication. It is a disease condition in which there is decreased oxygen and nutrient supply to the heart due to disruption of blood supply to heart. Patients may suffer from chest pain, shortness of breath, indigestion nausea and anxiety. Chest pain suddenly occurs and continues which may be relieved by medication. Many of the patients has previous history of coronary artery disease. Increased heart rate and respiration, skin become cool, pale and moist. These sign and symptoms caused due to changes in the sympathetic nervous system, it happens for short period of time. In many cases it's difficult to differentiate this sign and symptoms between unstable angina and myocardial infarction, for this reason they develop acute coronary syndrome. Cardiovascular diseases are non-communicable disease which cause approximately 1/5 deaths worldwide. These diseases include IHD, coronary artery disease, myocardial infarction etc. In Indian 4.77 million deaths occur due to cardiovascular diseases. Prevalence rate of coronary heart diseases rises from 1.6% to 7.4% in rural population and from 1% to 13.2% in urban population. About 272 per 1,00,000 population deaths occurs due to cardiovascular diseases which is higher than rate of global death that is 235 per 1,00,00 population. Incidence of myocardial infarction is more common in male than female. The percentage of occurring before the age of 60 was 60.6% in men and 33% in female. But currently there is no specific age for myocardial infarction. Mostly the younger age group above 30 yrs. are suffering from myocardial infarction

Need of study

Cardio vascular Disease are main cause of death universally in 2019, approximately 17.9 million people died due to cardio vascular disease. About 32% of all global death among these about 85% of death occurred due to myocardial infarction and stroke and these deaths happened in low and middle-income countries. This disease can be avoided by stopping the use of alcohol, tobacco chewing, unhealthy diet. It is essential to diagnose the cardio vascular disease as early as possible so we can provide best possible management to the client by medicine and counselling.

Myocardial infarction can be prevented in most people, healthy lifestyle choices can also help you in minimizing the risk of heart disease, they can also treat the condition and prevent it getting worse. If people are educated and provided information through various mass media about sign and symptoms, risk factors, preventable measures and first aid management on the sight that may be helpful in managing and detection of major health problems or loss.

This study will help to identify knowledge of the community regarding Myocardial Infarction. Previous studies have showed that people have average knowledge about Myocardial Infarction and if any interventions have been provided there has been improvement in their knowledge. The prevalence of Myocardial Infarction in the age group of 30 to 40 years is high due to changes in lipid profile and increased cholesterol levels. The number of incidences can be reduced if appropriate knowledge is given to the community which will help and lead to good health and habitual changes. It will minimize the risk of heart disease in community. The pamphlet given as intervention will help to impart some knowledge in the study subjects and hence people will be aware regarding Myocardial Infarction.

Aim of study

To assess effectiveness of Information Pamphlet on Knowledge regarding Myocardial Infarction among adults residing in selected urban areas of Pune city.

Objective:

1. To assess the knowledge regarding Myocardial Infarction among adults before and after administration of information pamphlet in experimental group; control group.
2. To compare the knowledge regarding Myocardial Infarction among adults in experimental group and control group.
3. To assess effectiveness of administration of information pamphlet on knowledge of adults regarding Myocardial Infarction in experimental group.
4. To find out association between knowledge before administration of information pamphlet and selected demographic variables.

Material and methods

In this study aQuasi Experimental- pre-test post-test control group research designs were applied for the study. The **sample size** which was selected for this study was 120 Adults (Age group 18yrs to 40 yrs.) from selected urban areas of Pune city. (60- Experimental Group, 60-Control Group).**Sampling Technique** non-probability purposive sampling technique was used.**Sampling Criteria****Inclusion Criteria** Adults residing in urban area, Age group of 18 yrs. to 40 yrs. **Exclusion Criteria** Those are from medical or paramedical field. **Variables under study****Dependent Variables:** - Knowledge on Myocardial Infarction. **Independent variables:** - Information pamphlet on Myocardial Infarction. **Research setting** Urban areas of Pune city. **Population** adults residing in urban areas of Pune city. **Sample**Adults (Age group 18yrs to 40 yrs.) From selected urban areas of Pune city.

Description Of The Research Tool

Section I

Demographic data

It consists of 6 questions which represent demographic data like, Age, Gender, Education, Working Status, any of family members having history of heart ailment/disease/illness, do you know about heart attack?

Section II

Self-structured questions were developed to assessment of knowledge on Myocardial infraction among adults.

Validity Report

Tool was submitted to 25 experts for content validity. Validity was received from 21 experts.Content validity done. In that Index Content Validity and Scale Content Validity Index were calculated for each section. For section-I scale Content Validity Index is **0.76**. For section-II Scale Content Validity Index is **0.90**. **Tool is valid**.Corrections were made in the tool after discussion with guide as per the expert suggestions. Final tool was prepared for the study.

Reliability

Total 1/10th sample size were taken for reliability i.e., 12 samples. (06- Experimental Group, 06- Control Group), The tool was given to adults for 15-20 min and ensured that the data will keep confidential.The reliability of assessment knowledge tool was calculated by test-retest method using Karl Pearson formula.The value of reliability of assessment of knowledge regarding Myocardial Infarction among adults is **0.88**.**So, tool was found reliable**.

Result

Analysis of data related to knowledge regarding Myocardial Infarction among adult's pamphlet in experimental group

Table no: 1Assessment of Pre-test and post-test knowledge score regarding Myocardial Infarction among adults in experimental group.

n= (60,60)

Sr. no.	Level of knowledge	Pre-test experimental group		Post-test experimental group	
		Frequency	%	frequency	%
1.	Poor	17	28.33	0	0
2.	Average	27	45	0	0

3.	Good	16	26.67	14	23.33
4.	excellent	0	0	46	76.67
Total		60	100	60	60
Mean		8.15		16.3	
SD		3.43		1.69	

Table no: 1: Above table shows that pre-test and post-test knowledge score of experimental groups regarding myocardial infarction. In pre-test experimental group 45% of samples had average, 28.33% had Poor, 26.67% had good knowledge and in post-test majority 76.67% samples had excellent, 23.33% Good knowledge. Also, pre-test mean value (8.15) which has increases to post-test mean value (16.3) it indicates that there is improvement in level of knowledge regarding Myocardial infarction.

Table no: 2 Assessment of Pre-test and post-test knowledge score regarding Myocardial Infarction among adults in control group

n= (60,60)

Sr. no.	Level of knowledge	Pre-test control group		Post-test control group	
		Frequency	%	frequency	%
1.	Poor	6	10	7	11.66
2.	Average	32	53.34	32	53.34
3.	Good	19	31.66	18	30
4.	Excellent	3	5	3	5
Total		60	100	60	100
Mean		9.8		9.55	
SD		3.19		3.34	

Table no: 2: shows that pre-test and post-test knowledge score of control groups regarding myocardial infarction. In pre-test control group 53.34% of samples had average, 31.66% had good, 10% had ppr and 5% had poor knowledge and in post-test 53.34% had average, 30% had good, 11.66% had poor and only 5% had excellent knowledge. Also, pre-test mean value (9.8) it has reduce slightly post-test mean value (9.55), it indicates that there no any intervention, so there is huge need to provide knowledge regarding Myocardial infarction among adults in Control Group.

Table no: 3 Comparison of post-test knowledge regarding Myocardial Infarction among adults in experimental group and control group.

(n= 60,60)

Sr. no.	Level of knowledge	Post-test experimental group		Post-test control group	
		Frequency	%	Frequency	%
1.	Poor	0	0	7	11.66
2.	Average	0	0	32	53.34
3.	Good	14	23.33	18	30
4.	Excellent	46	76.67	3	5
Total		60	100	60	100
Mean		16.3		9.55	
SD		1.69		3.34	

Table no: 3: shows that comparison of post-test knowledge score of experimental group and control group. In Experimental group post-test Majority 76.67% had excellent, 23.33% had poor knowledge level and in control

group majority 53.34% had average, 30% had good, 11.66% had poor and only 5% had excellent knowledge in post-test. Also, experimental group post-test mean value (16.3) > (9.55) post-test mean value of control group, it indicates that there is effectiveness of information pamphlet on knowledge regarding Myocardial infarction among adults in experimental group.

Table no: 4 Effectiveness of administration of information pamphlet on knowledge of adults regarding Myocardial Infarction in experimental group. (Paired t-test)

(n= 60,60)

Sr. no.	Variable	Mean	SD	T calculates value	T table value	d.f.	P value	Remark
1	Pre-test experimental group	8.15	3.43	20.68	1.69	59	0.0001	Significant
2	Post-test experimental group	16.3	1.69					

Table no: 4 shows that paired t-test between pre-test and post-test of experimental group as calculated “t” value 20.68 is more than T-table value 1.69. it indicates that there is difference in knowledge level of experimental group before and after administration of information pamphlet regarding Myocardial Infarction at 0.05 level of significance, so reject the null hypothesis. There is improvement in level of knowledge regarding Myocardial infarction among adults.

Table no: 5 Effectiveness of administration of information pamphlet on knowledge of adults regarding Myocardial Infarction in experimental group. (Unpaired t-test)

(n= 60,60)

Sr. no.	Variable	Mean	SD	T calculates value	T table value	d.f.	P value	Remark
1	Post-test experimental group	16.3	1.69	13.96	1.96	118	0.0001	Significant
2	Post-test control group	9.55	3.34					

Table no: 5 shows that unpaired t-test between experimental group post-test and control group post-test as calculated “t” value is 13.96 more than T-table value 1.96 it indicates that reject the null hypothesis. There is improvement in level of knowledge regarding Myocardial infarction among adults in experimental group at 0.05 level of significance. so, there is effectiveness of an information pamphlet.

Discussion

In this study, for experimental group maximum 33.33% samples are between 18-25 years of age group. Female samples were 53.33%. Majority 35% samples were completed higher secondary education, whereas 50% of sample working and 50% sample were not working. Majority of 76.67% of samples were not had any family history of heart ailment/disease/illness. About 56.67% of sample were not aware about heart attack.

In control group, majority 73.33% of sample are between 18-25 years of age group. Majority 55% of sample were female, maximum 50% of samples completed higher education and 70% of samples were working. Majority 98.33% sample did not have any family history of heart ailment/disease/illness. Whereas 70% of samples were not aware about heart attack.

In this study pre-test experimental group 45% of samples had average knowledge and in post-test majority 76.67% samples had excellent knowledge. Also, pre-test mean value (8.15) < (16.3) post-test mean value it indicates that there is improvement in level of knowledge regarding Myocardial infarction.

In this study pre-test control group 53.34% of samples had average knowledge and in post-test 53.34% had average knowledge. Also, pre-test mean value (9.8) it has reduce slightly post-test mean value (9.55), it indicates that there no any intervention, so there is huge need to provide knowledge regarding Myocardial infarction among adults in Control Group.

In this study Experimental group post-test majority 76.67% had excellent knowledge regarding Myocardial Infarction and in control group majority 53.34% had average knowledge regarding Myocardial Infarction in post-test. Also, experimental group post-test mean value (16.3) > (9.55) post-test mean value of control group, it indicates that there is effectiveness of information pamphlet on knowledge regarding Myocardial infarction among adults in experimental group.

In this study the p-value is more than 0.05 level of significance, so there is no association between knowledge before administration of information pamphlet and selected demographic variables in experimental group and control group at 0.05 level of significance.

Conclusion of research findings

The primary objective of a community health nurse is to provide preventive and promotive information in a community area which will help in developing a positive attitude towards health. After the detailed analysis, this study leads to the following conclusion, The participants do not have adequate knowledge regarding Myocardial Infarction. There was significant improvement in knowledge level of adults after introduction of information pamphlet. To find out the effectiveness of information pamphlet t-test (paired and unpaired) was applied and t value was calculated. Post test score of an experimental group was significantly higher at 0.05 level of significance than pre-test score. Thus, it was concluded that information pamphlet on Myocardial infarction was found effective teaching strategy.

If the health education programme is implemented for all the community peoples for better health status and if preventive and promotive measurement was taken related to Myocardial Infarction then every individual can be protected from the occurrence of Myocardial infarction. Hence based on the study finding and previous research studies it was concluded that there is huge need of different educational interventions to provide awareness and knowledge regarding Myocardial Infarction among general public of community and prepared information material by the investigator in the form of pamphlet helped the adults to improve their knowledge level regarding Myocardial infarction.

Conflict of Interest

The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

Funding Source

There is no funding Source for this study

Acknowledgement

Most sincerely I convey deep sense of gratitude to my research guide and Bharati Vidyapeeth College of Nursing, Pune for Remarkable guidance and academic support during this study. At last, I am grateful about the support and help I got throughout the research study from Principal, Teachers, Participants, Parents and friends who have contributed to accomplishing the research study successfully.

References

- [1] Suresh K Sharma, S. Madhavi, Janice L. Hinkle(Ed), Kerry H. Cheever (Ed), Brunner and Suddarth's Textbook of Medical-Surgical Nursing, South Asian Edition, Volume I, Wolters Kluwer Publication.
- [2] Sandra M. Nettina, Suresh K. Sharma(Ed), Lippincott Manual of Nursing Practice, South Asian Edition, Wolters Kluwer Publication.
- [3] World Health Organization, Cardiovascular Diseases (CVD's), 11 June 2021.[https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)#:~:text=Cardiovascular%20diseases%20\(CVDs\)%20are%20the,%2D%20and%20middle%2Din%20come%20countries.](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)#:~:text=Cardiovascular%20diseases%20(CVDs)%20are%20the,%2D%20and%20middle%2Din%20come%20countries.)
- [4] Khan, M. A., Hashim, M. J., Mustafa, H., Baniyas, M. Y., Al Suwaidi, S., AlKatheeri, R., Alblooshi, F., Almatrooshi, M., Alzaabi, M., Al Darmaki, R. S., & Lootah, S. (2020). Global Epidemiology of Ischemic Heart Disease: Results from the Global Burden of Disease Study. Cureus, 12(7), e9349. <https://doi.org/10.7759/cureus.9349>
- [5] Duncan J. Campbell, why do men and women differ in their risk of myocardial infarction? European Heart Journal (2008) 29, 835-836 <https://academic.oup.com/eurheartj/article/29/7/835/483656>
- [6] Indus Health Report on Heart Disease In Maharashtra. <https://www.indushealthplus.com/heart-diseases-in-maharashtra-on-rise.html>
- [7] Mrs. Sheela Rajeev Tiwari, Dr. C.P. Sharma, A study to assess the effect of information booklet on life style modification for prevention of myocardial infarction among adults of selected areas of Lucknow city, the Genesis Publication, Volume 7, Issue: WS01, June 2020.
- [8] Shivcharan Singh Gandhar, NandiniJadhav, PoojaGhanekarandPriyaDevkar, A study to assess the knowledge regarding early signs of myocardial infarction among the adults in selected urban areas of Pune city, International Journal of Advance Research in Nursing Volume 1; Issue 1; Jan-Jun2018; Page No. 04-06.
- [9] SukhpreetKaur, N V Muninarayanappa, A study to assess the effectiveness of awareness programme in term of knowledge regarding early symptoms of myocardial infarction among Bank Employee of selected Banks at Moradabad, U.P, Indian Journal of Public Research And Development, January-March-2017, Volume 8, No. 1.
- [10] B T Basavanthappa, Nursing Theories, Jaypee Brothers Medical Publishers(P) Ltd.
- [11] Lele Pallavi Pradip, Effectiveness of Planed Teaching on Early Signs and Symptoms and Immediate Treatment of Myocardial Infarction in Among Patients, International Journal of Science and Research, Volume 3 Issue 6, June 2014.
- [12] Vikram V. Bhingardive, T. Sivabalan, Effectiveness of Information Booklet on Knowledge, Attitude and Practice on Cardiac Rehabilitation Among Myocardial Infarction Patients, Indian Journal of Surgical Nursing, Volume 6, Number 1, January-April 2017.
- [13] **M Raghavendran, S Andal**, A study to assess the effectiveness of structured teaching program on knowledge and attitude regarding lifestyle modifications among myocardial infarction patients admitted in selected Hospitals, Kanpur, **RGUHS Journal of Nursing Sciences**, RJNS 2021;11(2):66-69.
- [14] Kaur M, Cheema PK. Effectiveness of planned teaching program on knowledge regarding early sign and symptoms of myocardial infarction among hypertensive patients. Heart India 2016; 4:123-8.
- [15] Ms.packiyalakshmi, a study to assess the effectiveness of structured teaching programme on knowledge of early signs, symptoms and immediate management of myocardial infarction among high-risk patients in selected hospital at Tirupur.<https://www.google.com/search?q=15.+Ms.+packiyalakshmi%2C+a+study+to+assess+the+effectiveness+of+structured+teaching+programme+on+knowledge+of+early+signs%2C+symptoms+and+immediate+management+of+myocardial+infarction+among+high-risk+patients+in+selected+hospital+at+Tirupur.&aq=15.%09Ms.+packiyalakshmi%2C+a+study+to+assess+the+effectiveness+of+structured+teaching+programme+on+knowledge+of+early+signs%2C+symptoms+and+immediate+management+of+myocardial+infarction+among+highrisk+patients+in+selected+hospital+at+Tirupur.&aqs=chrome..69i57j1155j0j15&sourceid=chrome&ie=UTF-8>

- [16] Mr. Martin Daniel. p, a study to assess the effectiveness of a self-instructional module on knowledge regarding life style modification for maintaining healthy heart among cardiac patients in selected hospital at Madurai, https://www.google.com/search?q=Mr.+Martin+Daniel.+p%2C+a+study+to+assess+the+effectiveness+of+a+selfinstructional+module+on+knowledge+regarding+life+style+modification+for+maintaining+healthy+heart+among+cardiac+patients+in+selected+hospital+at+Madurai%2C&sxsrf=AJOqlzXCj_vf9UGvB8JkflhHxrRkJHwug%3A1674910753946&ei=IRzVYG1OeiI3LUPp9qjuA0&ved=0ahUKEwihypPkqOr8AhVoBLcAHSftCNcQ4dUDCA8&uact=5&oq=Mr.+Martin+Daniel.+p%2C+a+study+to+assess+the+effectiveness+of+a+selfinstructional+module+on+knowledge+regarding+life+style+modification+for+maintaining+healthy+heart+among+cardiac+patients+in+selected+hospital+at+Madurai%2C&gs_lcp=Cgxnd3Mtd2l6LXNlcuAQAzIKCCMQrgIQsAMQJ0oECEYYAUoECEYYAFCEBliVCmDQFGgBcAB4AIABAIGBAJIBAJgBAKABAcgBAcABAQ&sclient=gws-wiz-serp.
- [17] Sean Whitaker, Thomas Baldwin, Mohammed Tahir, Omer Choudhry, Andrew Senior and Sheila Greenfield, Public Knowledge of The Symptoms of Myocardial Infarction: A Street Survey in Birmingham, England, Published by Oxford University Press, Family Practice-The International Journal for Research Inn Primary Care, Volume29, Page No. 168-183, Year 2012.
- [18] RadhaAcharyaPandey, IsmitaKhadka, Knowledge Regarding Preventive Measures of Heart Disease Among the Adult Population in Kathmandu, Scientific Research an Academic Publisher Published by Health, Vol.4 No.9, 601-606, 2012.
- [19] Mr. Dhirajkumar Mane¹, Miss. Adheena Mathew², Mr.Mahendra Alate¹, Dr. Satish V. Kakade, A Study to Assess the Knowledge of Risk Factors and Prevention About the Acute Myocardial Infarction Among the Patient Admitted in Rural Tertiary Care Hospital, Karad, International Journal of Research & Review, Vol.6; Issue: 4; April 2019.
- [20] Prof. Dr. Jeyathanga Selvi¹, Prof. Juliana Shanthi Rosy, A Descriptive Study to Assess the Knowledge and Attitude of Coronary Artery Disease Risk Factors Among Adults in Christian Mission Hospital at Madurai, Tamilnadu, International Journal of Nursing Education and Research. 2021; 9(3):262-264.
- [21] Abdo Ahmed AA, Mohammed Al-Shami A, Jamshed S, Fata Nahas AR, Mohamed Ibrahim MI. Public Awareness of and Action towards Heart Attack Symptoms: An Exploratory Study. Int J Environ Res Public Health. 2020 Dec 2;17(23):8982. doi: 10.3390/ijerph17238982. PMID: 33276636; PMCID: PMC7729488.
- [22] Mrs. Vaishali Paswan, to assess the effectiveness of Self-Instructional Module (SIM) on knowledge regarding life style modification among Myocardial Infarction patients admitted in selected hospitals in Vidarbha Region, Asian Journal Nursing Education and Research. 2018; 8(2): 247-267
- [23] Dr. Prof.P.Genesta Mary Gysel, **Prof.Mrs. R. Uma & **Mrs.K.Sivaranjiny, A Study To Assess The Effectiveness Of Structured Teaching Programme On Prevention Of Myocardial Infarction Among Young Adults Residing At Selected Villages In Kirumambakkam Primary Health Centre, Puducherry, Pondicherry Journal of Nursing, Vol 11 Issue 1 Jan – April 201