Nanotechnology Perceptions
ISSN 1660-6795
www.nano-ntp.com

"A Study To Assess The Effectiveness Of Educational Programme On Knowledge Regarding Lifestyle Modification In Myocardial Infarction Among Patients At Cardiac OPD Of Selected Hospital, Bareilly, U.P."

Alka Pandey, Mrs. Renuka Pally Dass

Department of Nursing, Bareilly International University, Uttar Pradesh-243006, INDIA E-mail: alka84445@gmail.com

Living a healthier life can not only extend your life, it can also improve the quality. Feeling physically better and having control over your own life can greatly increase your mental health as well. Although there are some aspects of physical and mental health that are beyond an individual's control, there are many things that people can do to improve their quality of life.

The world health organization has defined Ischemic heart disease as myocardial function impairment due to imbalance between coronary blood flow and myocardial requirement the most common cause being atherosclerosis.

Essentially a pump, the heart is a muscle made up of four chambers separated by valves and divided into two valves. Each half contains one chamber and first half is called an atrium and the other half is called a ventricle. The atria collect blood, and the ventricles contract to push blood out of the heart. There are many Disease coming under the cardiovascular disorder.

An acute myocardial infarction or heart attack occurs when a portion of the cardiac muscle is deprived of an adequate supply of arterial blood (ischemia) with its oxygen and nutrients, long enough so that tissue in that area dies (undergoes necrosis).

Myocardial infarction may be "silent," and go undetected, or it could be a catastrophic event leading to hemodynamic deterioration and sudden death. Prolonged deprivation of oxygen supply to the myocardium can lead to myocardial cell death and necrosis.

The blockage is caused by a buildup of plaque in the arteries (atherosclerosis). Plaque is made up of deposits, cholesterol and other substances. When a plaque breaks (ruptures), a blood clot quickly forms. The blood clot is the actual cause of the heart attack.

Slow blood flow in a coronary artery can happen when the heart is beating very fast or the person has low blood pressure. Without a blood clot forming, a heart attack can occur when the demand for oxygen exceeds the supply. This cause of a heart attack is also more common in those who have atherosclerosis.

OBJECTIVES

1. To assess the level of knowledge regarding lifestyle modification in myocardial infarction among patients.
2. To assess the effectiveness of educational programme on knowledge regarding lifestyle modification in myocardial infarction among patients.
3. To find the association between the knowledge score of patients regarding lifestyle modification in myocardial infarction with their selected demographic variables.

DESIGN: Quasi Experimental one group pretest post-test design

SETTING: Rohilkhand Hospital/Gangasheel Hospital, Bareilly, U.P.

PARTICIPANTS: 60 Patients in Cardiac OPD in Rohilkhand Hospital Bareilly, U.P.
SAMPLING TECHNIQUE: Purposive sampling technique.
INTERVENTION: Planned Teaching Programme.

Data-collection:
Administrative permission was obtained from Principal of Rohilkhand College of Nursing, Bareilly, U.P. and from medical and nursing superintendent of selected hospital, Bareilly, U.P.Ethical permission was taken from ethical committee, BIU. Purpose of study was explained to participant and informed written consent was taken from them.Pretest was taken by using structure knowledge questionnaire. Educational programme on lifestyle modification in myocardial infarction was given to participants. Posttest was taken by using structure knowledge questionnaire.

CRITERIA MEASURES
All of the tool's components were analyzed using graphs, percentage distributions, frequency distributions, and the Chi-square test.

RESULT.

- Half of the patients 30(50%) were 40-60 years of age.
- Majority of the patients 52(86.7%) were male.
- Maximum of the patients 22(36.7%) had secondary education.
- Maximum of the patients 18(30%) had other occupational status
- Majority of the patients 62(40%) were Hindu.
- Majority of the patients 38(63.3%) were from urban area.
- Most of the patients 45(75%) had habit of smoking, tobacco & alcohol.
- Majority of the patients 38(63.3%) had personal experience as a source of information regarding myocardial infarction.

The study result shows that in pretest score majority of patients 36(60%) had average knowledge, 19(31.7%) had poor level of knowledge and only 05(8.3%) had good level of knowledge regarding lifestyle modification in myocardial infarction. In posttest score, majority of the patients 45(75%) had good knowledge and 15(25%) had average level of knowledge regarding lifestyle modification in myocardial infarction.

The study result shows that the mean knowledge score and SD was 13.25 ± 4.225 in pretest whereas 23.05 ± 2.777 in posttest. The obtained t & p value was t = 23.932, p =0.0001. The t-test revealed that there was significant difference within pretest and posttest scores.

The study findings shows that there was no significant association between age (χ^2 =8.444; p=0.071), Gender (χ^2=3.004; p=0.274), educational status (χ^2 =9.138; p=0.162), occupational status (χ^2 =4.293; p=0.936), religion (χ^2 =0.548; p=1.000), area of living (χ^2 =0.312; p=0.918), habit of smoking, tobacco & alcohol (χ^2 =5.538; p=0.060) and sources of information regarding myocardial infarction (χ^2 =10.900; p=0.204). Thus it interpret that demographic variables did not have any influence on knowledge of patients regarding lifestyle modification in myocardial infarction.

Result- Table No. 1- shows frequency and percentage distribution of demographic variables of study participants & it depicts that age shows half of the patients 30(50%) were 40-60 years of age. Majority of the patients 52(86.7%) were male whereas maximum of the patients 22(36.7%) had secondary education. Maximum of the patients 18(30%) had other occupational status whereas majority of the patients 62(40%) were hindu. Majority of the patients 38(63.3%) were from urban area whereas most of the patients 45(75%) had habit of smoking, tobacco & alcohol. Majority of the patients 38(63.3%) had personal experience as a source of information regarding myocardial infarction.

Table no. 1: Frequency and percentage distribution of demographic variables of study participants.

N= 60

S. No.	Demographic variables	Frequency	Percentage (%)
1.	**Age**		
	a) Below 40 years	03	05
	b) 40-60 years	30	50
	c) Above 60 years	27	45
2.	**Gender**		
	a) Male	52	86.7
	b) Female	08	13.3
3.	**Educational status**		
	a) No formal education	08	13.3
	b) Primary education	15	25
	c) Secondary education	22	36.7
	d) Graduation & above	15	25
4.	**Occupational status**		
	a) Business	08	13.3
	b) Private job	05	8.3
	c) Government job	14	23.4
	d) Farmer	15	25
	e) Others	18	30
5.	**Religion**		
	a) Hindu	24	40

	b) Muslim	18	30
	c) Christian	08	13.3
	d) Other	10	16.7
6.	**Area of living**		
	a) Urban area	38	63.3
	b) Rural area	22	36.7
7.	**Habit of smoking, tobacco & alcohol**	45	75
	a) Yes	15	25
	b) No		
8.	**Sources of information regarding myocardial infarction**		
	a) Friend & family members	01	1.7
	b) Mass media & printed media	03	05
	c) Personal experience	38	63.3
	d) Educational programme	02	3.3
	e) Others	16	26.7

Table no. 2: Frequency & percentage distribution of pre-test& posttest level of knowledge regarding lifestyle modification in myocardial infarction among patients.

N=60

Level of Knowledge	**Scores**	**Pretest**		**Posttest**	
		Frequency	**%**	**Frequency**	**%**
Good	21 & above	05	8.3	45	75
Average	11 to 20	36	60	15	25
Poor	10 & below	19	31.7	00	00

Maximum score=30

Table no. 2 shows frequency & percentage distribution of pre-test & posttest level of knowledge regarding lifestyle modification in myocardial infarction among patients & it depicts that in pretest score majority of patients 36(60%) had average knowledge, 19(31.7%) had poor level of knowledge and only 05(8.3%) had good level of knowledge regarding lifestyle modification in myocardial infarction. In posttest score, majority of the patients 45(75%) had good knowledge and 15(25%) had average level of knowledge regarding lifestyle modification in myocardial infarction.

Table no. 3: Comparison of mean and SD of pre and post-test knowledge score of patients regarding lifestyle modification in myocardial infarction.

N=60

Level of Knowledge	**Mean**	**SD**	**Df**	**Paired 't' value**	**p-value**
Pretest	13.25	4.225			
Post test	23.05	2.777	59	23.932	**0.0001**

Dependent t- test

t_{59}= 1.671 at p<0.05 level of significance, *significant

Table no. 3 shows comparison of pre and post-test knowledge score of patients regarding lifestyle modification in myocardial infarction& it depicts that the mean knowledge score and SD was 13.25 ± 4.225 in pretest whereas 23.05 ± 2.777 in posttest.

Dependent't'-test was performed to compare the knowledge score withinpretest and posttest. The obtained t & p value was t = 23.932, p =0.0001. The t-test revealed that there was significant difference within pretest and posttest scores.

Table 4: Association between pre-test level of knowledge and demographic variables among patients regarding lifestyle modification in myocardial infarction.

N= 60

S. No	**Demographic variables**	**Level of knowledge**			**Chi-square**	**df**	**p-value**
		Good	**Average**	**Poor**			
1.	**Age**						
	a) Below 40 years	00	01	02	8.444	4	0.071
	b) 40-60 years	01	16	13			
	c) Above 60 years	04	19	04			
2.	**Gender**						
	a) Male	05	29	18	3.004	2	0.274
	b) Female	00	07	01			
3.	**Educational status**						
	a) No formal education	02	05	01			
	b) Primary education	00	12	03	9.138	6	0.162
	c) Secondary education	01	11	10			
	d) Graduation & above	02	08	05			
4.	**Occupational status**						
	a) Business	00	05	03			
	b) Private job	01	03	01	4.293	8	0.859
	c) Government job	02	06	06			
	d) Farmer	01	10	04			
	e) Others	01	12	05			
5.	**Religion**						
	a) Hindu	02	14	08			

	b) Muslim c) Christian d) Other	01 01 01	11 05 06	06 02 03	0.548	6	1.000
6.	**Area of living** a) Urban area b) Rural area	 03 02	 22 14	 13 06	0.312	2	0.918
7.	**Habit of smoking, tobacco & alcohol** a) Yes b) No	 02 03	 26 10	 17 02	5.538	2	0.060
8.	**Sources of information regarding myocardial infarction** a) Friend & family members b) Mass media & printed media c) Personal experience d) Educational programme e) Others	 00 01 01 01 02	 01 02 23 01 09	 00 00 14 00 05	10.900	8	0.204

df_2=5.99, df_4 =9.48, df_6 =12.59, df_8 =15.50 at p<0.05 level of significance

Table no. 4 depicts the description about association between pre-test level of knowledge and demographic variables among patients regarding lifestyle modification in myocardial infarction.Chi square test was performed to find the association on knowledge of patients regarding lifestyle modification in myocardial infarction with their selected demographic variables. And it shows that there was no significant association between age (χ^2 =8.444; p=0.071), Gender (χ^2 =3.004; p=0.274), educational status (χ^2 =9.138; p=0.162), occupational status (χ^2 =4.293; p=0.936), religion (χ^2 =0.548; p=1.000), area of living (χ^2 =0.312; p=0.918), habit of smoking, tobacco &alcohol (χ^2 =5.538; p=0.060) and sources of information regarding myocardial infarction (χ^2 =10.900; p=0.204).

Hence the null hypothesis was rejected and research hypothesis was accepted. Thus it interpret that demographic variables did not have any influence on knowledge of patients regarding lifestyle modification in myocardial infarction.

DISCUSSION

The main aim of the study was to assess the effectiveness of educational programme on knowledge regarding lifestyle modification in myocardial infarction among patients at cardiac OPD of selected hospital, Bareilly, U.P."

CONCLUSION

The present study assessed the effectiveness of educational programme on knowledge regarding lifestyle modification in myocardial infarction among patients. The study concluded that after the administration of educational programme; majority of patients had good knowledge whereas less number of patients had average level of knowledge regarding lifestyle modification in myocardial infarction. The 't' test which was computed between pre-test and post-test knowledge score indicate a true gain knowledge. Hence, it was concluded that adequate level of knowledge in lifestyle modifications of myocardial infarction patients will helps to lead the quality of life and prevents the further cardiac complications and its related consequences in their life. It improves their knowledge level of lifestyle modifications of patients with myocardial infarction and thereby ensuring safety of the patients, minimizing the risk of further complications of myocardial infarction.

SUMMARY

This chapter dealt with the summary of the study, major findings, discussion, nursing implication, limitation, recommendation and conclusion.

REFERENCES

1. Deepak Raj, Dimpal Kumari, Ganga Bharti, Manglam Kumari. Knowledge regarding lifestyle modifications among the cardiac patients. International Journal of Advanced Research in Science, Communication and Technology (IJARSCT). April 2023; 3(2): 231-233.
2. Lakshmi KN.Knowledge Regarding Assessment and Management of Myocardial Infarction among Nursing Staff. JOJ Nurse Health Care. 2018; 8(5):1-6.
3. P. Genesta Mary Gysel, R. Uma, K.Sivaranjiny. Effectiveness of structured teaching programme on prevention of myocardial infarction among young adults. Pondicherry Journal of Nursing. Jan – April 2018; 11(1):4-7.
4. VaishaliPaswan. Effectiveness of Self Instructional Module (SIM) on knowledge regarding life style modification among Myocardial Infarction patients. Asian Journal of Nursing Education and Research. April-june 2018; 8(2):247-267.
5. NiranjanOjha. Myocardial Infarction. National Library of Medicine. August 2023. Available at: https://www.ncbi.nlm.nih.gov/books/NBK537076/#:~:text=Myocardial%20infarction%20(MI)%2C%20colloquially,hemodynamic%20deterioration%20and%20sudden%20death.
6. https://www.hopkinsmedicine.org/health/conditions-and-diseases/heart-attack
7. Howard E. LeWine. Heart Attack. January 2023. Available at: https://www.health.harvard.edu/a_to_z/heart-attack-myocardial-infarction-a-to-z
8. Lei Lu, Min Liu et. al. Myocardial Infacrtion: Symptoms and treaments. Cell BiochemBiophys. 2015; 72(3):865-867. Available at: https://pubmed.ncbi.nlm.nih.gov/25638347/#:~:text=The%20symptoms%20of%20MI%20include,%2C%20depression%2C%20and%20other%20factors.
9. Jigishapatel, Doss K., Jeenathjustin, Suneesh. Effectiveness of Planned teaching program on knowledge regarding selected lifestyle modifications for the prevention of myocardial infarction among adults. International Journal of Nursing Education and Research. 2018; 6(3):239-241.
10. Joshua Chadwick Jayaraj. Epidemiology of Myocardial infarction. 2018. Available at: https://www.intechopen.com/chapters/59778
11. Lamas GA, Escolar E, Faxon DP; Examining treatment of ST-elevation myocardial infarction: the importance of J CardiovascPharmacolTher. 2010 Mar; 15(1):6-16. Epub 2010 Jan 8

12. Wenger NK.Management of acute myocardial infarction in patients presenting with persistant ST-segment elevation, European Society of Cardiology.November 2008;100-114
13. Priya, Aditya Sharma. Effectiveness of structured teaching programme on knowledge regarding lifestyle modifications for prevention of modifiable risk factors for myocardial infarction. International Journal of Science and Research. 2022; 11(2):757-759.
14. Amanda Barrell. What causes the heart to skip a beat. Medical News Today October 2023. Available at: https://www.medicalnewstoday.com/articles/321793#what-is-a-heart-palpitation
15. SudheerPareek. Effectiveness of structured teaching programme on lifestyle modifications of patients with myocardial infarction. JETIR. July 2022; 9(7):804-810. Available at: www.jetir.org
16. https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)
17. VinayRao. Risk factors for acute myocardial infarction in coastal region of India: A case-control study. Heart India. 2014; 2(3):70-75. Available at: https://www.heartindia.net/article.asp?issn=2321-449x;year=2014;volume=2;issue=3;spage=70;epage=75;aulast=Rao#:~:text=The%20incidence%20of%20MI%20in,known%20to%20cause%20endothelial%20dysfunction.
18. https://www.onmanorama.com/lifestyle/health/2022/09/29/heart-diseases-rise-among-youngsters-kerala.html
19. Uttar Pradesh: Heart Attack And Brain Stroke.June13, 2023. Available at: https://www.outlookindia.com/national/uttar-pradesh-heart-attack-and-brain-stroke-kill-25-in-kanpur-doctors-blame-cold-wave-for-blood-clotting-news-251280
20. Ghada A. Soliman. Dietary Cholesterol and the Lack of Evidence in Cardiovascular Disease. Nutrients. 2018; 10 (6):780. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6024687/
21. SuryakantSatpute, Dr. PravinDani. Effect of planned teaching program on knowledge among patients with myocardial infarction regarding secondary prevention strategies. Journal of Critical Reviews. 2020; 7(15):4385-4389.
22. ErrolMoras,ShreyasYakkali. ComplicationsinAcuteMyocardialInfarction. Heart. 2024; 5:122-141.
23. Nader Salari, FatemehMorddarvanjoghiet. al. The global prevalence of myocardial infarction. BMC. 2023; 23(206):1-6. Available at: https://doi.org/10.1186/s12872-023-03231-w
24. ManduriSathvik.A Study on Acute Myocardial Infarction and Its Prognostic Predictors. Cureus. 2023; 15(2):1-6.
25. Naveen Kumar Kodali, Lekha D. Bhat, NeenaElezebeth Phillip. Prevalence and associated factors of cardiovascular diseases among men and women aged 45 years and above. Indian Heart Journal. 2023; 75: 31-35. Available at: https://doi.org/10.1016/j.ihj.2022.12.003
26. Helen LamesginEndalew, BikisLiyew, ZewduBaye, GebrekidanEwunetuTarekegn. Hindawi health-related quality of life and associated factors among myocardial infarction patients. BioMed Research International. 2021; 1-6. Available at: https://doi.org/10.1155/2021/6675267
27. Bin Yu, Igor Akushevich. Epidemiology of Geographic Disparities of Myocardial Infarction Among Older Adults in the United States. Frontiers in cardiovascular medicine. Sep 2021; 8(707102):1-9.
28. KapilaRaina, Neelima Verma, A.S Bhatia, ShamimaKhanum, H. N Verma. Prevalence of conventional risk factor in acute myocardial infarction among Jammu division population. International Journal of Clinical Biochemistry and Research. 2020; 7(1):91–97.
29. Steven M. Bradley. Incidence, risk factors and outcome associated within hospital acute myocardial infarction. JAMA Network Open. Jan 2019; 2(1):1-13.

30. ParvanehAsgari, FatemehBahramnezhad. Effect of two educational methods on the frequency of hospitalization and clinical symptoms of patients after acute myocardial infarction. J Holist Nurs Midwifery. 2018; 28(1):9-17.
31. Elizabeth R C Millett. Sex differences in risk factors for myocardial infarction: cohort study of UK Biobank participants. BMJ. Sep 2018; 363(4247):1-11.
32. Deepak Raj, Dimpal Kumari, Ganga Bharti, Manglam Kumari. Knowledge regarding lifestyle modifications among the cardiac patients. International Journal of Advanced Research in Science, Communication and Technology (IJARSCT). April 2023; 3(2): 231-233.
33. WasfiDhahirAbid Ali, luayabdulwahidshihabet. al. Assessment of nurses' knowledge regarding myocardial infarction in Basrah Teaching Hospitals. World Journal of Advanced Research and Reviews, 2022, 14(02), 593–597. Available at: https://doi.org/10.30574/wjarr.2022.14.2.0416
34. Aparna C. Lakshmy, Jothi Lakshmi S.Effectiveness of educational intervention on early symptoms and management of myocardial infarction among high risk clients. World Journal of Advance Healthcare Research. 2021; 5(6):134-137.
35. NamitaPriyadarsiniParida, Sonia Behera. Effectiveness of structured teaching programme on knowledge regarding prevention of coronary artery disease among the patients with diabetes mellitus. International Journal of Nursing Care. July-December 2021; 9(2):10-15.
36. Dhirajkumar Mane, Adheena Mathew. Knowledge of risk factors and prevention about the acute myocardial infarction among the patient. International Journal of Research & Review. 2019; 6(4):6-12.
37. Lazzat M. Zhamaliyevaet. al. Educational Intervention Effects on Depression and Anxiety in Patients after Myocardial Infarction: A Randomized Controlled Trial. Journal of Cardiovascular Development and Disease. 2023; 10(267):1-14. Available at: https://www.mdpi.com/journal/jcdd
38. DrManjunath Beth, DrPadmakumar S. Knowledge and practice relating to lifestyle modifications among patients with coronary artery disease. Journal of Pharmaceutical Negative Result. 2022; 13(6):1323-1328.
39. M Raghavendran, S Andal. Effectiveness of structured teaching program on the knowledge and attitude regarding lifestyle modifications among myocardial infarction patients. RGUHS Journal of Nursing Sciences. 2021; 11(2): 66-69.
40. RoyaAmini, Maryam Rajabi, HivaAzami, AlirezaSoltanian. Self-management intervention effects on MI patient's lifestyle. Journal of Education and Health Promotion. 2021; 10(145):1-7.
41. Shalini, LavanyaNandan. Effectiveness of structured teaching programme on knowledge regarding modifiable risk factors and modification among coronary artery disease patients. International Journal of Current Advanced Research. March 2020; 9(3B):21498-21501.
42. Princy Francis M., Angela Gnanadurai, Philo Resmi, Bino Benjamin. Effectiveness of Video Assisted Teaching on Knowledge and Practice in Prevention of Recurrence of Myocardial Infarction. International Journal of Nursing Education. January-March 2020; 12(1): 41-45.
43. Matthias Hermann, FabienneWitassek. Impact of cardiac rehabilitation participation on patient-reported lifestyle changes one year after myocardial infarction. European Journal of Preventive Cardiology. 2020; 27(19): 2318–2321.
44. ShwetaSendur. Effectiveness of instructional module regarding modification of coronary risk factors and prevention of further heart attacks on knowledge among coronary artery disease patients. UIJIR. Sep 2020; 1(4):108-113. Available at: http://www.doi-ds.org/doilink/09.2020-17446947/
45. Sindhu Devi, Tasha Jacob.Effectiveness of structured teaching programme regarding lifestyle related risk factors for cardiovascular diseases among young adult male students. International Journal of Research Culture Society. 2019; 3(10):85-98.

46. ManalHamed Mahmoud, Sabah NazehElderiny.Effect of Lifestyle Modification Intervention on Health Status of Coronary Artery Disease Patients. International Journal of Studies in Nursing. 2018; 3(3):127-140.
47. Haradhan Kumar Mohajan. Quantitative Research: A Successful Investigation in Natural and Social Sciences. Journal of Economic Development, Environment and People. Volume 9, Issue 4, 2020, pp. 52-79.
48. Independent variables. Definition. Available at: https://www.iedunote.com/variables#10-independent-variable
49. Dependent variables. Definition. Available at: https://simplypsychology.org/variables.html
50. Sharma K.S, Nursing Research & statistics. 2nd edition. RELX India Private Limited; 2016; p.p. 206-288.
51. Validity. Definition. Available at: https://researchrundowns.com/quantitative-methods/instrument-validity-reliability/#:~:text=Validity%20is%20the%20extent%20to,is%20generally%20measured%20in%20degrees.

Hayam Ahmed Mohamed**.** Effect of Instructional Guidelines on Life Style Modification for Patients after Coronary Angioplasty and Stent. American Journal of Nursing Research. 2017; 5(6):202-208. Available at: http://pubs.sciepub.com/ajnr/5/6/2