

A Study to Assess the Effectiveness of Structured Teaching Program on Improving Knowledge and Attitude Regarding Modifiable Risk Factors for Cardiac Arrest Among Adults (40–60 Years) in a Selected Village of Aragonda, Chittoor, Andhra Pradesh

T.Sudha¹, T.Manisha², U.Jyothsna³, V.Naga Pavani⁴,
Yaganti Naga Raju⁵, V.Yuvarani⁶, Mrs.Reddy Priya⁷,
Mrs.Anthony Mariya Rani.S⁸

B.sc Nursing Students, Department of B.Sc Nursing , Aragonda Apollo College of Nursing
M.sc(N), Lecturer, Department of Community Health Nursing, Aragonda Apollo College Of
Nursing.Aragonda.

M.sc(N), Assistant Professor, Department of Mental Health Nursing, Aragonda Apollo College Of
Nursing.Aragonda.

ABSTRACT

BACKGROUND: Cardiac arrest is a major public health problem and one of the leading causes of mortality worldwide. Several modifiable risk factors such as hypertension, diabetes mellitus, smoking, obesity, unhealthy dietary habits, physical inactivity, stress, and alcohol consumption contribute significantly to the occurrence of cardiac arrest. Adults aged 40–60 years are particularly vulnerable due to age-related physiological changes and lifestyle factors. Lack of awareness regarding these risk factors limits the adoption of preventive behaviours. Structured teaching programmes can enhance knowledge and promote positive attitudes toward prevention. Therefore, the present study was undertaken to assess the effectiveness of a structured teaching programme on knowledge and attitude regarding modifiable risk factors for cardiac arrest among adults.

METHODOLOGY: A quantitative research approach with a quasi-experimental pre-test and post-test design was adopted. The study was conducted among 60 adults aged 40–60 years residing in Thodathara and Cherlopalli villages of Aragonda, Thavanampalle Mandal, Chittoor District. Participants were selected using a non-probability convenient sampling technique. Data were collected using a self-structured knowledge questionnaire and attitude scale. After administering the pre-test, a structured teaching programme was conducted, followed by a post-test. The data were analysed using descriptive and inferential statistics.

RESULTS: The findings revealed that in the pre-test, 48.3% of participants had inadequate knowledge, 35.0% had moderate knowledge, and 16.7% had adequate knowledge. In the post-test, 48.3% of

participants demonstrated adequate knowledge. Regarding attitude, 28.3% had low negative attitude during the pre-test, whereas 51.7% showed a highly positive attitude in the post-test. The mean knowledge score increased from 9.58 to 13.9, while the mean attitude score improved from 42.27 to 59.25. The obtained t-values showed statistically significant improvement in both knowledge and attitude at $p < 0.001$.

CONCLUSION: The study concluded that the structured teaching programme was effective in improving knowledge and developing positive attitudes regarding modifiable risk factors for cardiac arrest among adults. Community-based educational interventions should be strengthened to promote healthy lifestyles and reduce the burden of cardiovascular diseases.

KEYWORDS: Cardiac Arrest, Modifiable Risk Factors, Structured Teaching Programme, Knowledge, Attitude, Adults, Prevention.

INTRODUCTION

BACKGROUND OF THE STUDY:

Cardiac arrest is a sudden cessation of effective cardiac activity resulting in the loss of circulation, breathing, and consciousness. If prompt intervention is not initiated, death occurs within a few minutes. It is considered one of the major causes of mortality worldwide and poses a significant burden on healthcare systems.

Cardiovascular diseases account for a substantial proportion of global deaths, with cardiac arrest representing one of the most serious outcomes. The incidence of cardiac arrest has increased steadily due to changes in lifestyle patterns and the growing prevalence of chronic diseases.

Many risk factors associated with cardiac arrest are modifiable. Hypertension, diabetes mellitus, obesity, tobacco use, alcohol consumption, unhealthy dietary practices, physical inactivity, and psychological stress have been identified as major contributors. Since these factors can be prevented or controlled, early awareness and behavioural modification are essential.

Adults aged 40–60 years represent a high-risk group because of increasing occupational responsibilities, sedentary lifestyles, poor health-seeking behaviour, and physiological changes associated with aging. Many individuals remain unaware of the impact of these risk factors on cardiac health.

In rural communities, limited access to health information, inadequate educational opportunities, and irregular health check-ups contribute to poor awareness regarding cardiac arrest prevention. Consequently, preventable complications continue to occur.

Health education is recognized as an effective strategy for promoting healthy behaviours. Structured teaching programmes provide organized and scientifically based information that enhances understanding and motivates individuals to adopt healthier lifestyles.

Nurses play an important role in identifying individuals at risk, conducting health education sessions, and empowering communities to prevent cardiovascular diseases. Through educational interventions, nurses can influence attitudes and encourage positive behavioural changes.

Studies have demonstrated that educational programmes significantly improve knowledge and attitudes related to disease prevention. Increased awareness regarding modifiable risk factors can contribute to the reduction of morbidity and mortality associated with cardiac arrest.

Therefore, considering the increasing prevalence of cardiac arrest and the need for preventive education among adults, the investigator felt the necessity to assess the effectiveness of a structured teaching

programme on knowledge and attitude regarding modifiable risk factors for cardiac arrest among adults aged 40–60 years.

NEED FOR THE STUDY:

Cardiac arrest remains a significant public health concern worldwide. The increasing prevalence of cardiovascular diseases has resulted in a rise in mortality and disability among adults. Although advancements in medical care have improved survival rates, prevention continues to be the most effective approach in reducing the burden of disease.

A large proportion of cardiac arrest cases are linked to modifiable risk factors that can be controlled through lifestyle modifications and early interventions. Unfortunately, many adults lack adequate awareness regarding these risk factors and fail to engage in preventive practices.

Adults between 40 and 60 years of age often experience increased stress, reduced physical activity, unhealthy dietary habits, and poor adherence to regular health screening. These factors place them at greater risk of developing cardiovascular complications.

In rural settings, health education opportunities are limited, and misconceptions regarding disease prevention remain common. Inadequate knowledge leads to delayed recognition of risk factors and poor utilization of available healthcare services.

Structured teaching programmes have been found to improve awareness, enhance attitudes, and motivate behavioural change. Assessing their effectiveness among adults provides valuable evidence for planning community health interventions.

Hence, the present study was undertaken to determine the effectiveness of a structured teaching programme in improving knowledge and attitude regarding modifiable risk factors for cardiac arrest among adults aged 40–60 years.

OBJECTIVES:

- To assess the knowledge and attitude regarding modifiable risk factors for Cardiac arrest among adults 40 - 60 years.
- To compare pre and post knowledge and attitude levels for cardiac arrest among adults 40-60 years.

METGODOLOGY:

In view of the problem identified and the objectives formulated, a quantitative research approach with a quasi-experimental pre-test and post-test research design was adopted for the study. The study was conducted among 60 adults aged 40-60 years residing in Thodathara and Cherlopalli villages of Aragonda, Thavanampalle Mandal, Chittoor District, Andhra Pradesh. The participants were selected using a non-probability convenient sampling technique. Adults who were willing to participate and fulfilled the inclusion criteria were included in the study after obtaining informed consent. Data were collected using a semi-structured questionnaire, which consisted of socio-demographic variables, an 18-item self-structured knowledge chi-square test).questionnaire, and a 20-item attitude scale regarding modifiable risk factors for cardiac arrest. A structured teaching programme was administered after the pre-test, followed by a post-test to assess its effectiveness. The collected data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (paired t-test, correlation, and chi-square test)

Table 1: Distribution of Socio demographic variables on knowledge and attitude regarding modifiable risk factors of cardiac arrest among adults (40 to 60 years)

Sl. No	Demographic variables		Frequency	Percent
1.	Age in years	40-45 years	18	30.00
		46-50 years	17	28.30
		51-55 years	9	15.00
		56-60 years	16	26.70
		Total	60	100.00
2.	Gender	Male	21	35.00
		Female	39	65.00
		Total	60	100.00
3.	Educational Status	Illiterate	25	41.70
		Primary Education	19	31.70
		Secondary Education	5	8.30
		Higher Education	4	6.70
		Graduate and Above	7	11.70
		Total	60	100.00
4.	Occupation	Farmer	25	41.70
		Daily Wage Labourers	12	20.00
		Private Employee	2	3.30
		Government Employee	7	11.70
		Home Maker	12	20.00
		Retired	2	3.30
		Total	60	100.00
5.	Marital Status	Married	58	96.70
		Widowed	2	3.30
		Total	60	100.00
6.	Monthly Income	Less Than Rs.1000	23	38.30
		Rs.1000-15000	17	28.30
		Rs.150001-20000	11	18.30
		Above Rs.20001	9	15.00
		Total	60	100.00

7.	Type of family	Nuclear family	45	75.00
		Joint family	10	16.70
		Extended family	5	8.30
		Total	60	100.00
8.	Dietary habits	Vegetarian	2	3.30
		Non-Vegetarian	3	5.00
		Mixed diet	55	91.70
		Total	60	100.00
9.	Physical activity level	Regular (>30 minute/day)	35	58.30
		Irregular (<3days/week)	16	26.70
		Sedentary (No physical activity)	9	15.00
		Total	60	100.00
10.	Addictive Habits	None	47	78.30
		Smoking	5	8.30
		Alcohol	3	5.00
		Both smoking & alcohol	5	8.30
		Total	60	100.00
11.	Source of health information	TV / RADIO	18	30.00
		Health worker (Asha / ANM)	6	10.00
		Friends / Family	23	38.30
		Social media	13	21.70
		Total	60	100.00
12.	Regular health check up	Yearly	3	5.00
		Occasionally	27	45.00
		None	30	50.00
		Total	60	100.00

Table 1: Out of 60 peoples in relation to among adults 18(30%) are in 40-45 years, 17(28.30%) are in 46-50 years, 9(15%) are in 51-55 years and 16(26.70%) are in 56-60 years. **Gender** reveals that 21(35%) of male and 39(65%) females. **Educational status** reveals 25(41.70%) illiterate, 19(31.70%) are in primary education, 5(8.30%) is in secondary education, 4(6.70%) is in higher education, 7(11.70%) are graduate and above. **Occupation** reveals that 25(41.70%) are farmers, 12(20%) daily wage laborers, 2(3.30%) are in private employees, 7(11.70%) are government employees, 12(20%) homemakers and 2(3.30%) are retired. **Marital status** reveals that 58(96.70%) are married and only 2(3.30%) are widowed. **Monthly income** of the respondents out of the total participants 23(38.30%) earn less than 10000 rupees, 17(28.30%) earn Rs 10001-15000, 11(18.30%) earn Rs 15001-20000 and 9(15%) earn above Rs 20001. **Type of family** reveals that a large majority of respondents 45(75%) in a nuclear family, 10(16.70%) belong to joint family and only 5(8.30%) are extended family. **Dietary habits** reveals that 2(3.30%) are vegetarian, 3(5%) are non-vegetarian and 55(91.70%) are mixed diet. **Physical activity level** reveals that 35(58.30%) are engaged in

regular physical activity more than 30 minutes per day, 16(26.70%) perform physical activity irregularly and 9(15%) are sedentary. **Addictive habits** revealsthat 47(78.30%) having no addictive habits, 5(8.30%) are smokers,3(5%) consume alcohol and 5(8.30%) reported both smoking and alcohol. **Source of health information** revealsthat 18(30%) received health informationthrough TV/Radio,6(10%) health workers (Asha/ANM), 23(38.30%) from friends and family and 13(21.30%) through social media. **Health checkup** reveals that 3(5%) undergo yearly health checkup, 27(45%) have health checkup occasionally and 30(50%) majority reported they do not go regular health checkup.

Table 2 : Frequency and percentage distribution of structured questionnaires on level of knowledge & attitude regarding modifiable risk factors for cardiac arrest among adults (40 to 60 years).

Sl.no	Demographic variable		Pre Test		Post Test	
			Frequency (F)	(%)	Frequency (F)	(%)
1	Level of Knowledge	Inadequate	29	48.30	5	8.30
		Moderate	21	35.00	26	43.30
		Adequate	10	16.70	29	48.30
		Total	60	100.00	60	100.00
2	Level of Attitude	Low Negative Attitude	17	28.30	0	0.00
		Neutral Attitude	22	36.70	6	10.00
		Moderately Positive Attitude	18	30.00	23	38.30
		Highly Positive Attitude	3	5.00	31	51.70
		Total	60	100.00	60	100.00

Table 2: explains of knowledge level regarding modifiable risk factors for cardiac arrest, pretest knowledge inadequate 29(48.30%), moderate 21(35%) Adequate 10(16.70%) posttest knowledge, inadequate 5(8.30%) moderate 26 (43.30%) Adequate 29(48.30%). Attitude towards regarding modifiable risk factors for cardiac arrest, pretest low negative Attitude are in 17(28.30%) and neutral attitude are in 22(36.70%), moderately positive attitude 18(30%),and highly positive attitude are in 3(5%),posttest attitude low negative Attitude are in 0(0.00%) and neutral attitude are in 6(10%), moderately positive attitude 23(38.30%),and highly positive attitude are in 31(51.70%).

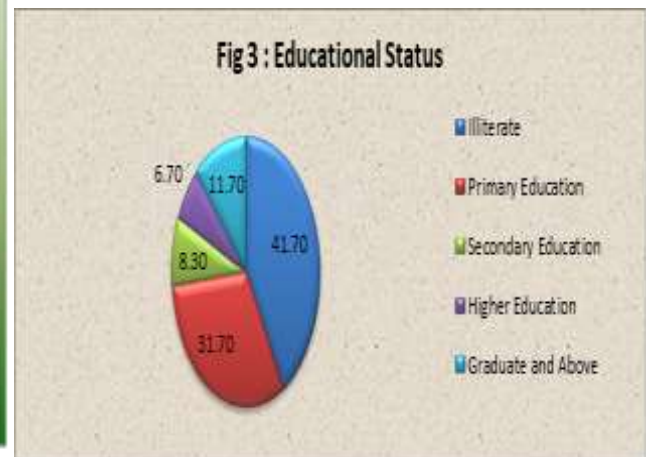
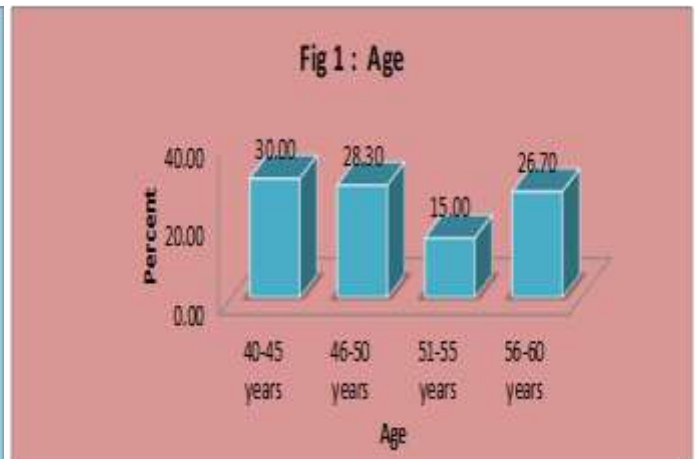
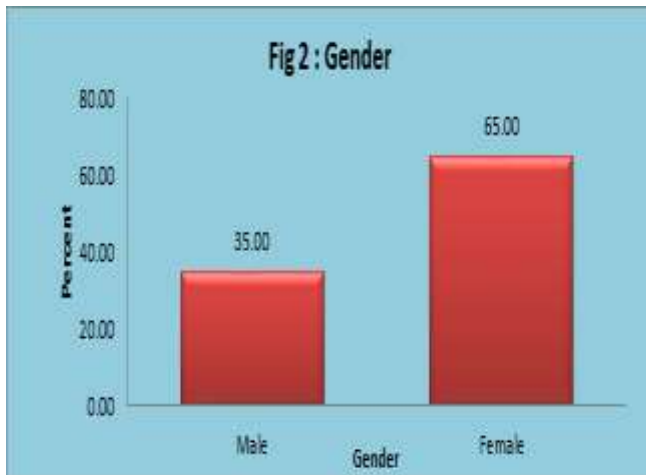


Fig 8 : Dietary Habits



Fig 7 : Type of family



Fig 10 : Addictive Habits

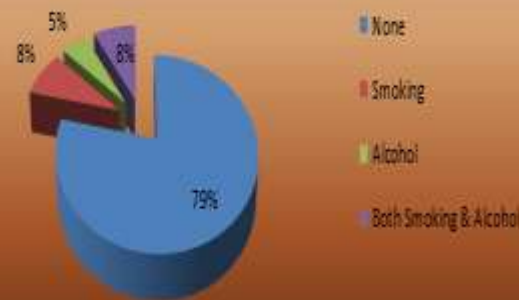


Fig 9 : Physical Activity Level



Fig 14 : Attitude

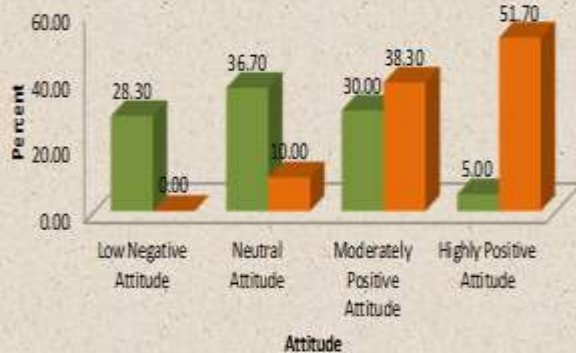


Fig 13 : Knowledge



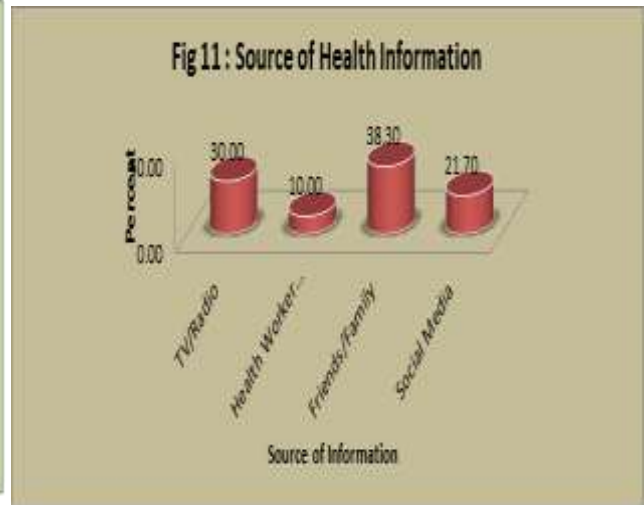
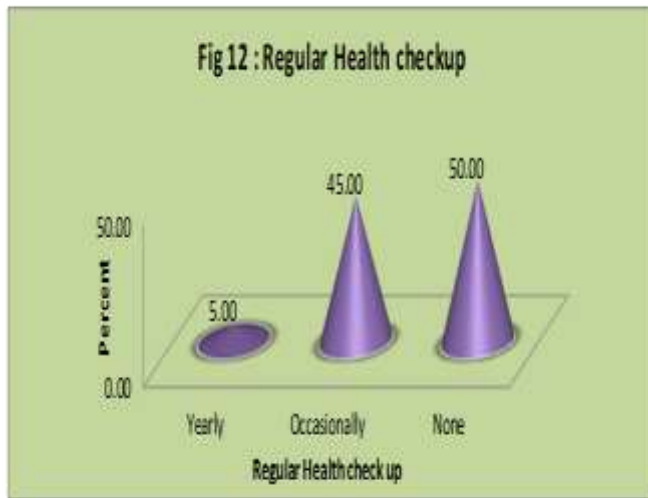


Table 3 Mean and Standard Ddeviation on knowledge andattitude regarding modifiable risk factors for Cardiac arrest among adults (40 to 60 years). Paired Samples Statistics: Pretest Vs Posttest Significant Difference

S.NO	SIGNIFICANT DIFFERENCE		MEAN	N	STD. DEVIATION	STD. ERROR MEAN	T-VALUE	P VALUE	SIG
Pair 1		Pretest Knowledge	9.58	60	3.391	0.438	15.778	0.000	**
		POST test Knowledge	13.9	60	2.809	0.363			
Pair 2		Pretest Attitude	42.27	60	12.662	1.635	19.379	0.000	**
		POST test Attitude	59.25	60	11.094	1.432			

Table :3 Paired Samples Statistics: Pretest Vs Posttest Significant Difference

Table 4: Co Relation between knowledge and attitude regarding modifiable risk factor for cardiac arrest among adults.

S.NO	KNOWLEDGE ATTITUDE	N	CORRELATION	P VALUE	SIG
Pair 1	Pretest Knowledge & POST test Knowledge	60	0.782	0.000	**
Pair 2	Pretest Attitude & POST test Attitude	60	0.845	0.000	**

Note: ** = Significant at 0.01 level

Table 4 show that relationship between knowledge and attitude regarding modifiable risk factors for cardiac arrest among adults (40 to 60 years)

** Significant at 0.01 level.

CONCLUSION:

The study findings indicate that the structured teaching program was effective in improving both knowledge and attitude regarding modifiable risk factors of cardiac arrest among adults. Significant association were observed between pre and post test knowledge and attitude scores. The improvement in post test scores demonstrates that structured teaching programs play a crucial role in enhancing awareness and shaping positive attitudes towards preventive health behaviours. Therefore, such educational interventions should be encouraged and integrated into community health programs to promote early prevention of cardiac arrest.

RECOMMENDATIONS:

- A similar study can be conducted on a larger sample to improve the generalizability of the findings.
- Comparative studies can be undertaken between rural and urban populations regarding knowledge and attitude towards modifiable risk factors for cardiac arrest.
- Similar educational interventions can be implemented among different age groups to assess their effectiveness.
- Longitudinal studies may be conducted to evaluate the long-term retention of knowledge and maintenance of positive attitudes after educational programmes.
- Community-based awareness programmes should be organized regularly by healthcare professionals to promote cardiovascular health and preventive practices.
- The effectiveness of various teaching methods such as audiovisual aids, pamphlets, and digital education modules can be compared in future studies.
- Further research can be conducted to assess the relationship between knowledge, attitude, and actual lifestyle practices related to cardiac arrest prevention.
- Health education regarding modifiable risk factors for cardiac arrest should be incorporated into routine community health nursing activities.
- Regular screening camps for hypertension, diabetes, obesity, and other cardiovascular risk factors should be encouraged at the community level.
- Nurse educators should emphasize preventive cardiology education among adults to improve community health outcomes

REFERENCES:

1. Rao, M., Rao, K. D., Kumar, A. K. S., Chatterjee, M., & Sundararaman, T. (2014). Epidemiology of sudden cardiac death in rural South India: Insights from the Andhra Pradesh Rural Health Initiative (APRHI). *Indian Heart Journal* 66(1), 51–56. <https://doi.org/10.1016/j.ihj.2013.12.020>
2. Patel, V., Chatterji, S., Chisholm, D., Ebrahim, S., Gopalakrishna, G., Mathers, C., & Reddy, K. S. (2011). Chronic diseases and injuries in India. *The Lancet*, 377(9763), 413–428. [https://doi.org/10.1016/S0140-6736\(10\)61188-9](https://doi.org/10.1016/S0140-6736(10)61188-9)
3. World Health Organization. (2021). Cardiovascular diseases (CVDs): Key facts. Retrieved from [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))
4. Indian Heart Association. (2022). Cardiovascular disease in India – A growing epidemic. Retrieved from <https://indianheartassociation.org>
5. Institute for Health Metrics and Evaluation (IHME). (2019). India State-Level Disease Burden Initiative – Andhra Pradesh fact sheet. Retrieved from <http://www.healthdata.org>

6. CADI Research Foundation. (2020). CADI India – coronary artery disease in Andhra Pradesh. Retrieved from <https://www.cadiresearch.org>
7. Reddy, K. S., & Yusuf, S. (1998). Emerging epidemic of cardiovascular disease in developing countries. *Circulation*, 97(6), 596–601. <https://doi.org/10.1161/01.CIR.97.6.596>
8. Gupta, R., Mohan, I., & Narula, J. (2016). Trends in coronary heart disease epidemiology in India. *Annals of Global Health*, 82(2), 307–315. <https://doi.org/10.1016/j.aogh.2016.04.002>
9. Joshi, S. R., & Parikh, R. M. (2007). India – Diabetes capital of the world: Now heading towards hypertension. *Journal of Association of Physicians of India*, 55, 323–324.
10. Bansal, M. (2018). Cardiac arrest: Awareness and attitude of general public in India. *International Journal of Community Medicine and Public Health*, 5(12), 5362–5366. <https://doi.org/10.18203/2394-6040.ijcmph20184742>
11. Sharma, M., & Majumdar, P. K. (2009). Occupational lifestyle diseases: An emerging issue. *Indian Journal of Occupational and Environmental Medicine*, 13(3), 109–112. <https://doi.org/10.4103/0019-5278.58912>
12. George, A., & Ravindran, T. K. S. (2015). Health inequities in India: A synthesis of recent evidence. *International Journal for Equity in Health*, 14(1), 36. <https://doi.org/10.1186/s12939-015-0161-7>
13. Ministry of Health and Family Welfare (MoHFW), Government of India. (2020). National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS). Retrieved from <https://main.mohfw.gov.in>
14. Prabhakaran, D., Jeemon, P., & Roy, A. (2016). Cardiovascular diseases in India: Current epidemiology and future directions. *Circulation*, 133(16), 1605–1620. <https://doi.org/10.1161/CIRCULATIONAHA.114.008729>
15. Kumar, G. A., Dilip, T. R., & Dandona, L. (2020). Burden of cardiovascular risk factors in India: Evidence from national surveys. *Journal of the American College of Cardiology*, 75(9), 1080–1090. <https://doi.org/10.1016/j.jacc.2019.12.041>
16. American Heart Association (AHA). (2021). Cardiac arrest: What you should know. Retrieved from <https://www.heart.org/en/health-topics/cardiac-arrest>
17. Thakur, J. S., Jeet, G., & Nangia, R. (2019). Role of health education in prevention of non-communicable diseases in India. *Indian Journal of Community Health*, 31(2), 249–253.
18. WHO-India. (2019). India: Steps towards prevention and control of non-communicable diseases. Retrieved from <https://www.who.int/india>
19. GBD 2019 India Collaborators. (2020). Global Burden of Disease Study 2019: India Fact Sheet. Institute for Health Metrics and Evaluation. Retrieved from <http://www.healthdata.org>
20. Ministry of Statistics and Programme Implementation (MOSPI). (2021). National health profile of India. Government of India. Retrieved from <https://www.mospi.gov.in>
21. American Heart Association (AHA)- Gold Standard Berg KM, et al.