



## **Knowledge, Attitude and Practice of Cardiac Patients Regarding Reversible Risk Factors**

**Faraz Qurban Rajper<sup>1</sup>, Ali Qureshi<sup>2</sup>, Ikram Ahmed Tunio<sup>3</sup>, Sajid Ali Mojai<sup>4</sup>,  
Muhammad Ilyas Siddiqui<sup>5</sup>, Arslan Ahmer<sup>1</sup>, Ayaz Unar<sup>6</sup>, Khalida Unar<sup>7</sup>,  
Tahseen Ahmed<sup>1\*</sup> and Waqar Ahmed Sabzoi<sup>8</sup>**

<sup>1</sup>*Institute of Pharmaceutical Sciences, Peoples University of Medical and Health Sciences, Shaheed Benazirabad Sindh Pakistan.*

<sup>2</sup>*School of Pharmaceutical Sciences, Universiti Sains Malaysia, 11800 USM Penang, Malaysia.*

<sup>3</sup>*Department of Forensic Medicine, Khairpur Medical College (KMC) Khairpur Mirs Sindh, Pakistan.*

<sup>4</sup>*Department of Pharmacy, Shah Abdul Latif University, Khairpur Mirs, Sindh, Pakistan.*

<sup>5</sup>*Department of Community Medicine and Public Health Sciences, Liaquat University of Medical and Health Sciences (LUMHS) Jamshoro, Sindh, Pakistan.*

<sup>6</sup>*Institute of Pharmacy, Shaheed Mohtarma Benazir Bhutto Medical University Larkana, Sindh, Pakistan.*

<sup>7</sup>*Department of Microbiology, Shah Abdul Latif University, Khairpur Mirs, Sindh, Pakistan.*

<sup>8</sup>*Department of Pharmaceutics, Faculty of Pharmacy, University of Sindh, Jamshoro, Sindh, Pakistan.*

### **Authors' contributions**

*This work was carried out in collaboration among all authors. Authors FQR, TA and AQ designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors SAM, MIS and AA managed the analyses of the study. Authors AU, KU and WAS managed the literature searches. All authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/JPRI/2021/v33i30A31615

*Editor(s):*

(1) Dr. Dharmesh Chandra Sharma, G. R. Medical College and J. A. Hospital, India.

*Reviewers:*

(1) Hossameldin Mohamed Mahmoud Ismail, South Valley University, Egypt.

(2) Jayanth Kumar V, Saveetha University, India.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/68723>

**Received 12 March 2021**

**Accepted 19 May 2021**

**Published 29 May 2021**

**Original Research Article**

### **ABSTRACT**

The major aim of this study was to assess the knowledge, attitude and practice of numerous risk factors of cardio vascular disease among the local population of Sukkur district. Embracing of western culture and quick conversion of rural areas into urbanization leads to enhance the cardio

\*Corresponding author: E-mail: [tahseen.channa89@gmail.com](mailto:tahseen.channa89@gmail.com);

vascular burden on the population of modern world. Developing countries has not enough medical facilities to overcome the burden of Cardio vascular Disease (CVD) and it is co-related with education and awareness about the cardiac disease.

Descriptive Crossectional study was carried out at National Institute of Cardio Vascular Disease (NICVD) Sukkur for the period of 06 months from July 2020 to December 2020. Total 186 patients were included in the study and the selection criteria for study subjects was depends on the different factors such as patients, who had admitted in the hospital for more than 03 days with positive Troponin T and disturbed ECG reports. A well designed questionnaire was used for the collection of demographic and clinical data from the patients regarding research.

From the obtained data 123 were male patients and area of residency of mostly patients was rural areas. 39 patients complain about chest pain, 74 about shoulder pain, 44 had severe headache and 29 were presented with cardiac arrest. 109 patients were diagnosed with hypertension, 34 had Diabetes Mellitus, 26 had gastric issues. Trop T test was positive among 91 patients, 109 had disturbed ECG. 64 patients were aware about various risk factors of CVD.

In our research it was concluded that people of interior Sindh were unaware of modifiable risk factor for cardiovascular disease when presented with heart problem, most of the population even couldn't identify the obesity, physical exercise, heavy diets and smoking as major reversible risk factors for CVD. Mass counseling and seminar should be conducted from time to time in order to overcome the raising issues of cardio vascular disease and its risk factors.

*Keywords: NICVD; electro-cardio gram; cardio vascular disease; Troponin T.*

## 1. INTRODUCTION

Embracing of western culture and quick conversion of rural areas into urbanization leads to enhance the cardio vascular burden on the population of modern world. [1,2] Developing countries has not enough medical facilities to overcome the burden of Cardio vascular Disease (CVD) and it is co-related with education and awareness about the cardiac disease. Awareness is more important as patients should know that how to deal in the worsening condition of disease. [3,4] Literacy and awareness of the disease can be replicated with enhance mortality and rise in the admission of patients of cardio vascular disease in young age that ultimately enhance the hindrances to live the normal and healthy life. [5,6] Cardio vascular disease is considered as major risk factor for the people of south Asian countries and internationally, it accelerate the cardio vascular disease epidemic especially in Pakistan and India. [7,8,9] Among the developing countries, the best way to fight against the cardio vascular disease is prevention, as there is totally shortage of medical resources. Prevention is considered as basic tool to fight against CVD. [10] Information about variable risk factors including Smoking, Obesity, lack of exercise, heavy diets are commonly recognized as primary factors for physiological alteration and these can be managed to control the cardiac diseases [11,12,13]. Knowledge is not enough to control the epidemic as implementation is the key component to overcome these problems [14,15].

Level of knowledge regarding modifiable risk factors of Cardio Vascular Diseases among the local population can help to detect out the public health programs [16,17]. From the recent research, it was concluded that health education programs are beneficial to improve the health and behavior of patients with cardiac diseases [18,19]. The knowledge regarding various variables related to cardio vascular disease are quite change in different populations. According to research conducted in United States, capacity of knowledge was quite different according to their ethnicity [20,21]. People of developing countries were unaware to reduce the cholesterol level with exercise and dietary control. Qualification is considered as major tool to improve the healthy life style. The knowledge and awareness regarding CVD matter for survival and reduction of mortality rates [22,23]. The joint families mostly faced the problems for understanding the risk factors as compared to the nuclear family or isolated families regarding health benefits [24,25]. A research conducted on the risk factors for CVD has revealed that smoking cigarette, fats and fatty acids intake, enhances fasting glycemic level, high level of cholesterol, family history of cardio vascular disease, low family income and less qualification were major factors for inducing cardiac diseases in Pakistan [26,27,28]. Similar type of study was conducted on the poor knowledge of local population regarding modifiable risk factors of cardio vascular disease in Karachi. The main objective of the current research was to examine

the knowledge, attitude and practice regarding variable risk factors of cardio vascular disorders among the local population of Sukkur, Sindh, Pakistan.

July 2020 to December 2020. NICVD is type of tertiary care hospital that covers the southern Sindh and fulfills the medical requirement of cardiac patients and gave them proper management. Total 186 patients were included in the study and the selection criteria for study subjects was depends on the different factors such as patients, who had admitted in the hospital for more than 03 days with positive Troponin T and disturbed ECG reports. A well designed questionnaire was used for the

## 2. METHODOLOGY

Descriptive Crossectional study was carried out at National Institute of Cardio Vascular Disease (NICVD) Sukkur for the period of 06 months from collection of demographic and clinical data from the patients regarding research and SPSS 21.00 version was used for statistical analysis of research data.

## 3. RESULTS

After collection of proper data from the study subjects, data was assembled and the results were prepared. Total 186 patients had

**Table 1. Respondents and diagnosis ratio**

Gender	Number	Percentage
Male	123	66.12%
Female	63	33.87%
Area of residency		
Urban	49	26.34%
Rural	137	73.65%
Symptoms		
Chest Pain	39	20.96%
Shoulder Pain	74	39.78%
Severe Headache	44	23.65%
Cardiac Arrest	29	15.59%
Diagnosis		
Hypertension	109	58.60%
Diabetes Mellitus	34	18.27%
Gastric Problem	26	13.9%
Other	17	9.13%
Troponin T test		
Positive	91	48.92%
Negative	95	51.07%
Disturbed electro cardio gram		
Yes	109	58.60%
NO	77	41.39%
Knowledge about variable risk factors of CVD		
Yes	64	34.40%
No	122	65.59%
Don't Know		
Knowledge about obesity as risk factor		
Yes	49	26.34%
No	137	73.65%
Knowledge about smoking as risk factor		
Yes	32	17.20%
No	154	82.79%
Knowledge about alcohol consumption as risk factor		
Yes	29	15.59%
No	157	84.40%
Knowledge about exercise as risk factor		
Yes	99	53.22%

Gender	Number	Percentage
No	87	46.77%
Knowledge about diet control as risk factor		
Yes	94	50.53%
No	92	49.46%

Participated in the study from them 63 were females whereas rests of the participants were males as described in Table in 1.

#### 4. DISCUSSION

Determination of various reversible risk factors of cardio vascular disease among the local population of interior Sindh province was conducted. Information regarding numerous risk factors such as smoking, obesity, alcohol consumption, less of exercise and highly lipid diets was evaluated among the patients who were admitted into the National Institute of Cardio Vascular Disease with the complain of chest pain or any heart problem [29,30]. People with joint family had good knowledge about the risk factors of heart diseases [31]. Current study determine that the 90% of study subjects identity at least one modifiable risk factor for the occurrence of cardiac issues and only 18% had enough knowledge about all highly risk factors. Smoking and highly lipid diet was mostly observed among all participants whereas they were unaware of that the lack of physical workout and obesity can be route cause for cardiac disease [32,33]. Results were resembles with Jafery et al., knowledge of cardiovascular disease was evaluated among the local population of Pakistan [34]. According to survey, it was observed that people with joint family system were more prone to cardiac disease as compare to isolated family because they follow old traditional practices and facing nutritional issue due to limited economy to support. Shah Q et al., elaborated that people with joint family system were illiterate, poor and inclined towards depression and anxiety due to low socio-economic value [35,36]. It elaborates the factor of knowledge that is considered as risk factor for heart problem. Ford ES & Assiri AS et al., concluded in their research that non smoker had more information of modifiable risk factors of cardiac disease than the smokers. Farooqi A et al., stated that knowledge also depends upon the ethnicity as people of interior Sindh had enough knowledge than any other part about the modifiable risk factors but in current study ethnicity matters as people of interior Sindh haven't enough information about the obesity, smoking and physical workout as the reversible

risk factors for cardio vascular disease [37]. Mostly cardiologist suggest for the exercise to the patients who had faced any cardiac arrest or heart attack that is also elaborated in the research carried by Fletcher G Fet al., as majority of population didn't have proper idea about the relationship of physical workout with cardiac disease and practice of exercise was observed among very few people in the current study.

#### 5. CONCLUSION

In our research it was concluded that people of interior Sindh were unaware of modifiable risk factor for cardiovascular disease when presented with heart problem, most of the population even couldn't identify the obesity, physical exercise, heavy diets and smoking as major reversible risk factors for CVD. Consequences obtained from the results concluded that population with low literacy rate, joint family members, and chain smokers needs to provide the proper counseling and training about the modifiable and non-modifiable risk factors of cardio vascular disease. Mass counseling and seminar should be conducted from time to time in order to overcome the raising issues of cardio vascular disease and its risk factors.

#### CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

#### ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. Reddy KS, Yusuf S. Emerging epidemic of cardiovascular disease in developing countries. *Circulation*. 1998;97(6):596-601.

2. World Health Organization. Disease Statistics World Health Report. Mortality by sex, cause and WHO Regions, Estimates for 1998;1999.
3. Pais P, Pogue J, Gerstein H, Zachariah E, Savitha D, Jayprakash S, Nayak PR, Yusuf S, Risk factors for acute myocardial infarction in Indians: a case-control study. *Lancet*. 1996;348(9024):358-363.
4. National Health Survey of Pakistan 1990–1994. Pakistan Medical Research Council ;1998.
5. Aladin A, Prevention and control of cardiovascular diseases. EMRO technical publication World Health Organization Eastern Meiterranean series 22;1995.
6. Virk A, Khan A, Ischemic Heart Disease in the young population (35 years).A clinical profile. *Pakistan Journal of Cardiology*. 1995; 6(4):64-66.
7. Saulat S, Ijaz B, Coronary Risk Profile study. *Pakistan Journal of Medical Research*. 1992;31(2):94-100.
8. Murray CJ, Lopez AD, Regional patterns of disability-free life expectancy and disability-adjusted life expectancy: global Burden of Disease Study. *Lancet*. 1997;349(9062):1347-1352.
9. Potvin L, Richard L, Edwards AC. Knowledge of cardiovascular disease risk factors among the Canadian population: relationships with indicators of socioeconomic status. *CMAJ*. 2000;162(9 Suppl):S5-11.
10. Bani IA, Hashim TJ. Knowledge of nutrition and coronary heart disease in Riyadh, Saudi Arabia. *J Community Health*. 1999;24(6):467-473.
11. Ford ES, Jones DH. Cardiovascular health knowledge in the United States: findings from the National Health Interview Survey, 1985. *Prev Med*. 1991; 20(6):725-736.
12. Becker MH, Maiman LA, Kirscht JP, Haefner DP, Drachman RH. The Health Belief Model and prediction of dietary compliance: a field experiment. *J Health Soc Behav*. 1977;18(4):348-366.
13. Huang LH, Chen SW, Yu YP, Chen PR, Lin YC. The effectiveness of health promotion education programs for community elderly. *J Nurs Res*. 2002;10(4):261-270.
14. Kirk-Gardner R, Steven D. Hearts for Life: A community program on heart health promotion. *Can J Cardiovasc Nurs*. 2003;13(1):5-10.
15. Lip GY, Luscombe C, McCarry M, Malik I, Beevers G. Ethnic differences in public health awareness, health perceptions and physical exercise: Implications for heart disease prevention. *Ethn Health*. 1996;1(1):47-53.
16. Rankin J, Bhopal R. Understanding of heart disease and diabetes in a South Asian community: cross-sectional study testing the 'snowball' sample method. *Public Health*. 2001;115(4):253-260.
17. Ismail J, Jafar TH, Jafary FH, White F, Faruqui AM, Chaturvedi N. Risk factors for non-fatal myocardial infarction in young South Asian adults. *Heart*. 2004;90(3):259-263.
18. Jafary FH, Aslam F, Mahmud H, Waheed A, Shakir M, Afzal A, Qayyum MA, Akram J, Khan IS, Haque IU. Cardiovascular health knowledge and behavior in patient attendants at four tertiary care hospitals in Pakistan – a cause for concern. *BMC Public Health*. 2005;5:124.
19. Meier MA, Al-Badr WH, Cooper JV, Kline-Rogers EM, Smith DE, Eagle KA, Mehta RH. The new definition of myocardial infarction: diagnostic and prognostic implications in patients with acute coronary syndromes. *Arch Intern Med*. 2002;162(14):1585-1589.
20. French JK, White HD. Clinical implications of the new definition of myocardial infarction. *Heart*. 2004;90(1):99-106.
21. Assiri AS. Knowledge about coronary artery disease among patients admitted to Aseer Central Hospital with acute coronary syndrome. *West Afr J Med*. 2003;22(4):314-317.
22. Woodward M, Bolton-Smith C, Tunstall-Pedoe H. Deficient health knowledge, diet, and other lifestyles in smokers: is a multifactorial approach required?. *Prev Med*. 1994;23(3):354-361.
23. Chaturvedi N, Rai H, Ben-Shlomo Y. Lay diagnosis and healthcare-seeking behaviour for chest pain in south Asians and Europeans. *Lancet*. 1997; 350(9091):1578-1583.
24. Jafar TH, Levey AS, Jafary FH, White F, Gul A, Rahbar MH, Khan AQ, Hattersley A, Schmid CH, Chaturvedi N. Ethnic subgroup differences in hypertension in Pakistan. *J Hypertens*. 2003;21(5):905-912

25. Greenland S. Modeling and variable selection in epidemiologic analysis. *Am J Public Health*. 1989;79(3):340-349.
26. Maldonado G, Greenland S. Simulation study of confounderselection strategies. *Am J Epidemiol*. 1993;138(11):923-936.
27. Folsom AR, Sprafka JM, Luepker RV, Jacobs DR Jr. Beliefs among black and white adults about causes and prevention of cardiovascular disease: the Minnesota Heart Survey. *Am J Prev Med*. 1988; 4(3):121-127.
28. Davis SK, Winkleby MA, Farquhar JW. Increasing disparity in knowledge of cardiovascular disease risk factors and risks education strategies by socioeconomic status: implications for policymakers. *Am J Prev Med* 1995;11(5):318-323.
29. Taha AZ, Bella H. Heart disease risk factors: Prevalence and knowledge in a primary care setting, Saudi Arabia. 1998;4(2293-300)  
Available:  
<http://www.wemrowhoint/publications/EMHJ/0402/12htm>. Online accessed on 9 August 2003
30. Shea S, Stein AD, Basch CE, Lantigua R, Maylahn C, Strogatz DS, Novick L. Independent associations of educational attainment and ethnicity with behavioral risk factors for cardiovascular disease. *Am J Epidemiol*. 1991;134(6):567-582.
31. Masmus TN, Jensen H, Da Silva D, Hoj L, Sandstrom A, Aaby P. The social situation of motherless children in rural and urban areas of Guinea-Bissau. *SocSci Med*. 2004;59(6):1231-1239.
32. Shah Q, Sonuga-Barke E. Family structure and the mental health of Pakistani Muslim mothers and their children living in Britain. *Br J ClinPsychol*. 1995;34(Pt 1):79-81.
33. Farooqi A, Nagra D, Edgar T, Khunti K. Attitudes to lifestyle risk factors for coronary heart disease amongst South Asians in Leicester: a focus group study. *Fam Pract*. 2000;17(4):293-297.
34. Banuazizi A. The State, Religion, and Ethnic Politics: Afghanistan, Iran, and Pakistan. Syracuse University Press; 1986.
35. Fletcher GF, Blair SN, Blumenthal J, Caspersen C, Chaitman B, Epstein S, Falls H, Froelicher ES, Froelicher VF, Pina IL. Statement on exercise. Benefits and recommendations for physical activity programs for all Americans. A statement for health professionals by the Committee on Exercise and Cardiac Rehabilitation of the Council on Clinical Cardiology, American Heart Association. *Circulation*. 1992;86(1):340-344.
36. Zerwic JJ, King KB, Wlasowicz GS. Perceptions of patients with cardiovascular disease about the causes of coronary artery disease. *Heart Lung* 1997;26(2):92-98.
37. Dhawan J, Bray CL. Asian Indians, coronary artery disease, and physical exercise. *Heart*. 1997;78(6):550-554.

© 2021 Rajper et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*  
*The peer review history for this paper can be accessed here:*  
<http://www.sdiarticle4.com/review-history/68723>