A CROSS-SECTIONAL RESEARCH TO ASSESS THE PRIMARY RISK FACTORS WHICH LEAD TO AN ONSET OF CARDIOVASCULAR DISEASES (CVD)

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Abstract:

Objectives: This research study aims to point out the main aspect that leads to the heart disease. To assess the effectiveness of these factors related to disease and occurrence of these factor was the objective of this study.

Methods: The study was cross-sectional and time duration was from September 2016 to March 2017 at Cardiology Department of Sir Ganga Ram Hospital, Lahore. The patients suffering from heart diseases were included in the study. A scheduled interview was taken through a questionnaire. Through this interview, different risk factor contributing to heart disease were observed and information was assembled. Contextual risk factor modifiable and non-modifiable risk factors were mentioned in the questionnaire.

Results: Total people selected for this research study were 582 in total. In these patients, different aspects that were remarkably connected with heart disease were marital status, blood sugar, blood sugar, sleep, stress, education and number of people in the family. Other factors that showed no connection with heart disease were socioeconomic status, diet, sex, residence and smoking. Out of 582 people, 226 were negative for heart disease while 356 were positive. Out of 356 positive male and female were 206 and 150 respectively.

Conclusion: Significant factors that lead to heart-related diseases are contextual risk factor and stress.

Keywords: *Cardiovascular Disease, Risk Factors, Chi-Square, Logistic Regression.*

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INTRODUCTION:

All around the world, the main disease that leads to death is cardiovascular disease. Due to heart and related disorder, round about 17 million people are subjected to death. According to the prediction made for 2020 southeast Asia will be the main suffers from CUD [1]. About one million people are subjected to death on a yearly basis which included both males and females [2]. Annually about 50,000 people are died in New Zealand and Australia because of heart diseases. The occurrence of CVD is high in South Asia, which makes one-fourth of the developing world [3]. In Pakistan, the incidence of CVD is very high. The incidence of CVD is very high. The loud of CVD in Pakistan is supposed to be 5.09 million [4]. Obesity, smoking, high blood pressure and high cholesterol are some factors associated with CVD [5]. In Peshawar, public sector hospital provides foods to meet the health requirement of patients.

These patients are not from different areas of Pakistan but also from Northern Punjab and Afghanistan. The standard of living of patients admitted to hospital is low or middle. In this area of Pakistan few research studies have been conducted related to dangerous factors of stroke. And the information available through the research study is insufficient [6, 7]. The research study was also organized in Peshawar. In this research study, different factors associated with CVD in many occupational groups are assessed. As compared to the information of occupational groups are assessed. As compared to the information on occupational groups from developed countries, our data is almost similar [7]. A cardiovascular disease is a group of related disorders that effect that effect vessels of heart and blood. CVD is a disorder of continuous accumulation of facts in attires. Due to this accumulation, clumps of blood forms. A part of the heart dies when blood vessels can't reach the heart and blocked by this clumps. It leads to heart attacks. Similarly, the stoke of the brain occurs when blood vessels associated with the brain is blocked by clot [8].

Two groups are made for dangerous factors of CVD. These include modifiable factor and non-modifiable factors. Another addition to the risk factor of CVD is contextual factors [8]. Some non-modifiable factors associated with CVD are family history, age, sex and race. The valuable risk factor associated with CVD is age. The incidence of CVD is increased as the age increase. The chances of death for South Asian and Black American is high. As compared to females the risk of CVD in males is high. But as compared to Thai men the chances of CVD in Thai females is high [9]. It indicates that age, gender and family history are significant non-modifiable factors. Other modifiable factors for cardiovascular disorder include exercise, smoking, overweight, high sugar level unhealthy diet, blood pressure and unusual blood lipids. According to evidence, heart and related disorder can be improved through exercise [10]. Anxiety, stress, lipoprotein, use of alcohol and medicines are same other modifiable factors contributing to CVD [11].

The rate of blood pressure is increased due to stress and consequently, lead to heart disorder [12]. The cardiovascular disorder is also enhanced by the contextual risk factors. Different factors like socioeconomic status, number of people in the family, living place, health attention, health belief and education are included in Contextual risk factors [13]. Disorder of a person can be estimated through socio-economic status [14]. This research study aims to point out the main aspect that leads to heart disease. To assess the effectiveness of these factors related to disease and the occurrence of these factors included in the objective of this study. Through this research study, people are also made aware of healthy life and its advantages.

METHODOLOGY:

The study was cross-sectional and time duration was from September 2016 to March 2017 at Cardiology Department of Sir Ganga Ram Hospital, Lahore. The study was conducted after agreement from in charge of the department. A written agreement was taken from all patients before selection about 200 was the average number of patients who visited the area. The time limit of the visit was from 8 am to 1 pm. Those patients were expelled from the study who had a close relation with each other. Cardiovascular risk factors were included in the questionnaire. Cronbach's alpha test that was employed for checking the intimal consistency for data. 0.71 was the internal consistency estimated. The model was chosen in a condition where the dependent variable was double by using logistic reversion. By using SPSS, ultimate selection for the model was made. The procedure was applied step by step. Step by step regression is an interrupted. It is so because they supposed the present model and observe either there is a need for addition or deletion of the term from the model at a particular time [15, 16]. This is a 10 steps procedure. By using Chi-square test, the assessment was made for the risk factors and connection between the dependent and independent variable of CVD was checked.

RESULTS:

Total people agreed for participation in this research study were 582 out of 1200. Different contextual risk aspect that is remarkably connected with heart disease were material status, the number of family

member and education. Blood glucose and blood pressure were valuable factors among modifiable danger factors contributing to CVD. Out of 356 positives, male and female were 206 and 150

respectively. All the coefficient observed with logistic reversion through backward elimination method were very valuable.

Table – I: Chi-square analysis

Risk factors			Frequency	Percent	Chi-square	Degrees freedom	P-value
Contextual risk factors	Education	NO education	336	57.7	35.97	3	0
		Literate	140	24.1			
		Undergraduate	63	10.8			
		Graduate	43	7.4			
	Socioeconomic status	Poor	233	40	0.91	1	0.338
		Satisfactory	394	60			
	Household population	Normal	340	58.4	62.93	1	0
		Overcrowded	242	41.6			
	Marital status	Single	79	13.6	79.936	1	0
		Married	503	86.4			
Modifiable physiological risk factors	Blood pressure	No	293	50.3	16.97	1	0
		Yes	289	49.7			
	Blood glucose	No	431	74.1	22.85	1	0
		Yes	151	25.9			
	Exercise	No	297	51	32.15	1	0
		Yes	285	49			
	Smoking	Ex-smoker	436	74.9	3.64	3	0.303
		Never smoked	49	8.4			
		Current smoker	90	15.5			
		Snuffing	7	1.2			
	Diet	Unhealthy	324	55.7	2.27	1	0.131
		Healthy	258	44.3			
Non modifiable risk factors	Age	0-14	2	0.3	169.17	3	0
		15-34	195	33.5			
		35-54	173	29.7			
		55-above	212	36.4			
	Family history	No	296	50.9	24.44	1	0
		Yes	286	49.1			
	Gender	Female	259	44.5	1.61	1	0.204
		Male	323	55.5			
Modifiable psychological risk factors	Stress	No	196	33.7	16.96	1	0
		Yes	386	66.3			
	Stress	Below average	272	46.7	32.9	2	0
		Average	166	28.5			
		Above average	144	24.7			
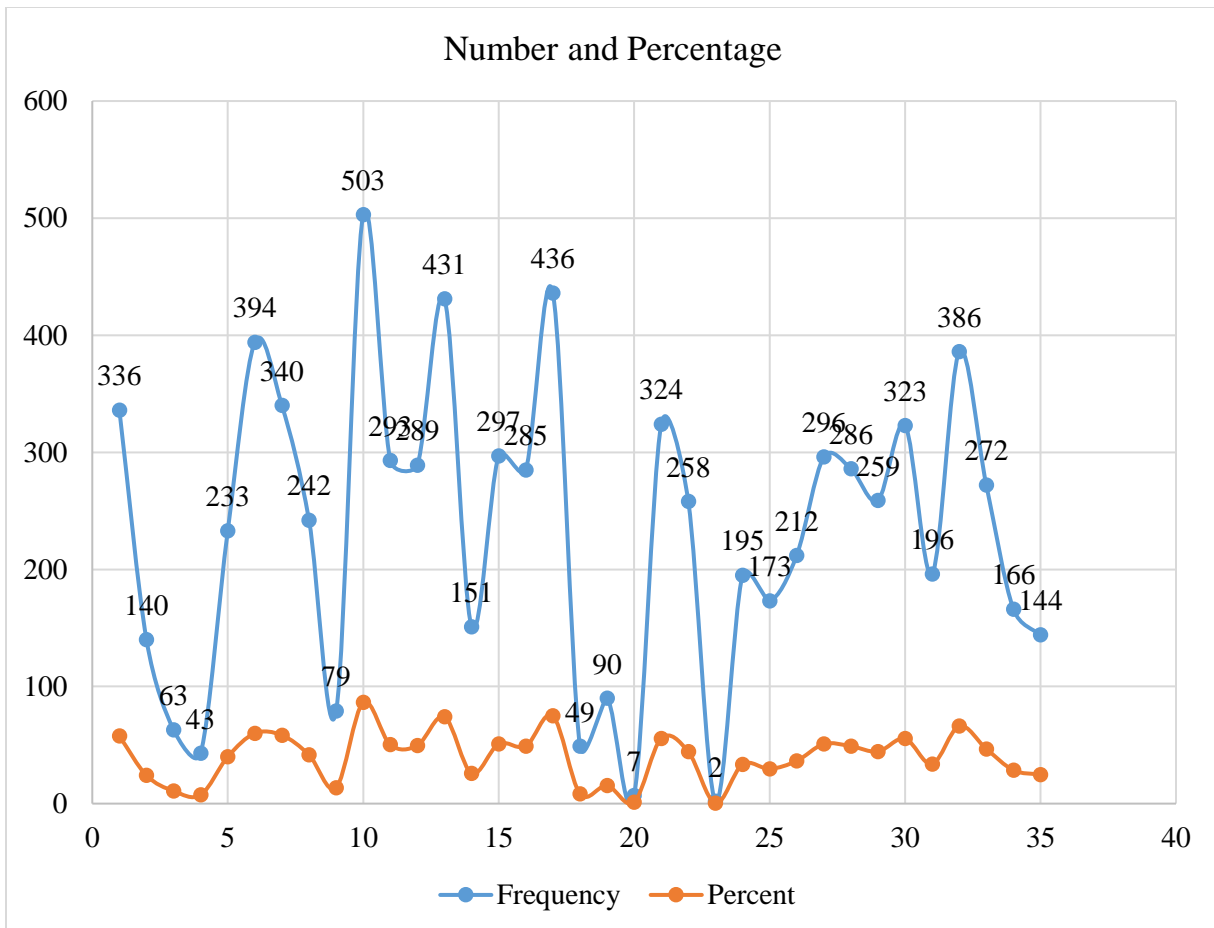
Table – II: Parameter estimates

Variables	Age	Marital status	Family history	Exercise	Stress	Blood sugar	Constant
Coefficient	1.44	1.47	1.25	-0.84	0.92	0.95	-4.51
Standard error	0.15	0.38	0.23	0.22	0.24	0.27	0.5
Wald statistic	82.65	13.29	27.51	13.4	13.79	12.18	80.61
Degrees of freedom	1	1	1	1	1	1	1
Significance	0	0	0	0	0	0	0
Odds ratio	4.22	4.08	3.5	0.43	2.52	2.6	0
95% C-1 for odds ratio	3.09	1.91	2.19	0.27	1.57	1.52	-
Lower Upper	5.75	8.7	5.6	0.67	4.04	4.44	-
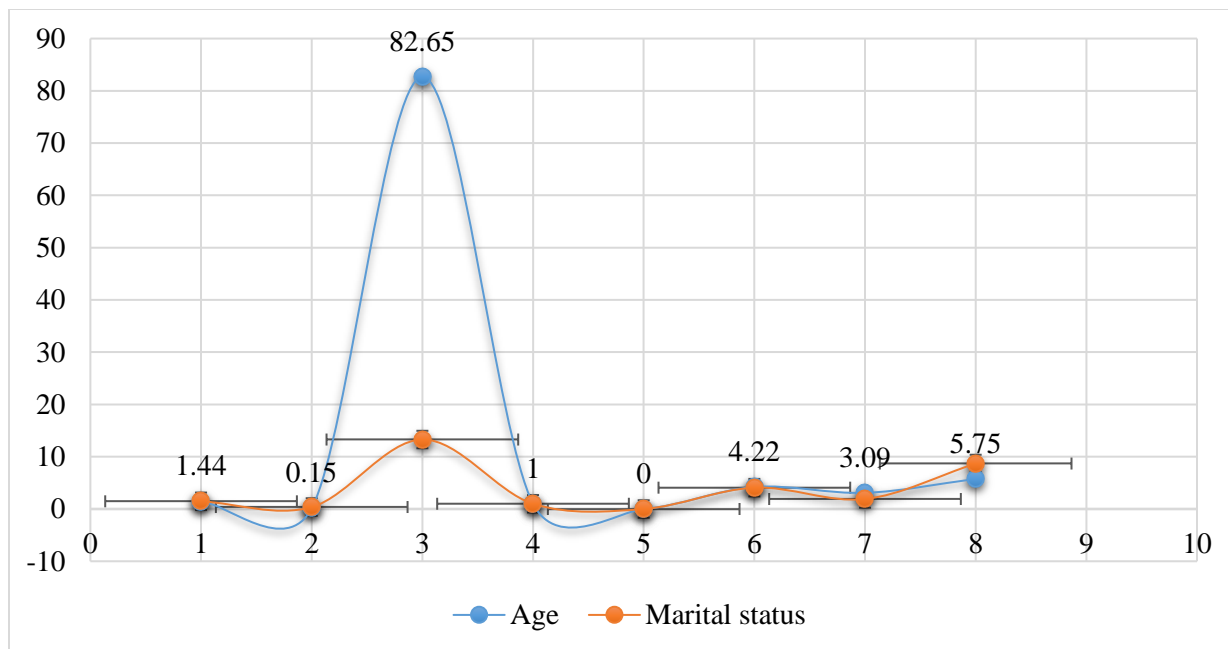
DISCUSSION:

Total 582 people were included in this study. All people were examined. In all patients, the incidence of CVD was related to various risk factors that contribute to CVD. The valuable connection of blood glucose, blood pressure marital status, family history, education, household, population, number of family number and age was found with CVD. The patients who were 356 in total. Blood glucose depression, exercise age, and material status were the valuable factors associated with CVD as illustrated by binomial logistic regression. In this area, the literacy rate in old people is low and the ratio of smoking is also observed low. Marriages in this areas were usually organized earlier. In this study, it was observed that people who were having sleep less than four hours and above 55 are much likely to have CVD. Also, the incidence of CVD in uneducated and married person and males is high as compare to educated unmarried and females, for the confirmation of outcomes, there is a requirement of studies with greater number of people.

CONCLUSION:

Significant factors that because heart-related disorders are contextual risk factors and stress. Moreover, less duration sleep can also lead to CVD.

REFERENCES:

1. Beaglehole R. International trends in coronary heart disease mortality, morbidity and risk factors. Epidemiol Rev. 1990; 12: 1-15.
2. Brehm BA. Stress management increasing your stress resistance. New York: Longman, 1998.
3. Appel SJ, Harrell JS, Deng S. Racial and socioeconomic differences in risk factors for cardiovascular disease among southern rural women. Nurs Res. 2002; 51: 140-7.
4. Kitagawa EM, Houser PM. Differential mortality in the United States: A study in Socioeconomic Epidemiology. Cambridge, Mass: Harvard University Press, 1973.
5. Benedetti JK, Brown M.B. strategies for the selection of log-linear models: Biometrics. 1978; 34: 6806.
6. Goodman IA. The analysis of multinomial contingency tables: stepwise procedures and direct estimation methods for building models for multiple classifications: Techno metrics 1971; 13: 33-61.
7. Hafiz S, Aman W, Hussain H, Zafar A, Khan A. Effect of socioeconomic factors on risk of stroke. Pak Heart J 2012; 45: 180-4.
8. Qureshi SM, Ali, Fawad A, Rafiullah M, Khan MK, Gul MA, et al. Frequency of cardiovascular disease risk factors among the low socioeconomic group. Pak Heart J 2012; 45: 166-73.
9. Sritara P, Cheepudomwit S, Chapman N, Woodward M, Kositchaiwat C, Tunlayadechanont S, et al. Twelve-year changes in vascular risk factors and their associations with mortality in a cohort of 3499 Thais. Int J Epidemiol. 2003; 32: 461-8.
10. Tatsanavivat P, Klungboonkrong V, Chirawtkul A, Bhuripanyo K, Manmontri A, Chitanondh H, et al. Prevalence of coronary heart disease and

major cardiovascular risk factors in Thailand. Int J Epidemiol. 1998; 27: 405-9.

11. OldridgeNB, Guyatt GH, Fischer ME, Rimm AA. Cardiac rehabilitation after myocardial infarction. The combined experience of randomized clinical trials. JAMA. 1988; 260: 945-50.

12. Nishtar S. Prevention of coronary heart disease in South Asia. Lancet 2002; 360: 1015-8.

13. Gillum RF. Epidemiology of hypertension in African American women. Am Heart J. 1996;131: 385-95.

14. Lee J, Heng D, Chia KS, Chew SK, Tan BY, Hughes K. Risk factors and incidence of coronary heart disease in Chinese, Malays and Asian Indian males: The Singapore cardiovascular cohort study. Int J Epidemiol. 2001; 30: 983-8.

15. Habib S. Coronary artery disease in women. Pak heart J2011; 18-26

16. Jafar TH, Jafary FH, Jessani S, Chaturvedi N. Heart disease epidemics in Pakistan: women and men at equal risk. Am Heart J 2005; 150: 221-6.