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Nutritional status profiles of cardiovascular diseases with special reference to biochemical Vitamins C

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Abstract
Diet plays on important role in the well-being of the people. People suffer with several health related diseases due to alterations in their regular diet consumption. Studies have related diseases due to alterations in their regular diet consumption. Studies have revealed that cardiovascular diseases (CVD) problem is one of the major health risk diseases faced by majority of population. CVD has became the leading cause of mortality and morbidity in many countries, especially in India various levels of CVD risk factors are raising with rapid nutritional and epidemiology transition. The present study was conducted to visited the 30 government and private hospitals. To assess the biochemical vitamin c composition to study sample were 80 subjects. The major purpose of the investigation was to focus on the relation between vitamin c status among the subjects suffering from CVD. Results revealed that hospitalized subjects are high compare to non- hospitalized subjects.

Keywords: Cardiovascular diseases, biochemical Vitamins C

1. Introduction
A cardiovascular disease is a collective term which includes all the diseases affecting the heart and blood vessels. Cardio vascular diseases (CVD) are considered as multi-factorial diseases and many factors are involved in etiology. CVD is consider as an acquired problem of the industrialized western world. The improvement in the socioeconomic industrial base in developing countries has brought this problem to the door step of the third world countries. (WHO 2005,) [5] Epidemiologic studies have shown that changes in life style and dietary pattern have led to a gradual rise in the prevalence of cardiovascular diseases (Evens *et al*., 2002) [2].
Eating a diet rich in vegetables and fruits is widely known to lower risk of chronic diseases like cancer and heart disease. People who eat seven or more servings of vegetables daily, for instance, enjoy a 31 percent lower risk of heart disease. Vitamins C is a bio market of fruit and vegetables consumption which have many nutrients which may be biologically active and protective of stroke. Studies on CVD risk factors indicated that vitamin C may moderately decrease total serum cholesterol levels, increase HDL levels, and exert a hypotensive effect. There is good evidence from animal studies that vitamin C can slow the progression of experimental risk of cardio vascular problem. High fruit and vegetable consumption has been reported in previous studies to be protective for stroke, measuring plasma vitamin c levels may identity those who will most benefit from established risk factor management such as "blood pressure control ". (Charles, 2008) [1]. Vitamin C has been shown to be an effective therapeutic for reducing total serum cholesterol, but epidemiologic studies have determined that low-density lipoprotein (LDL) cholesterol and high-density lipoprotein (HDL) cholesterol are actually better predictive measures of coronary heart disease risk. How ever, these findings are particularly intriguing and should be pursued vigorously in basic research studies to elucidate biological mechanisms.
The association between nutrient and risk of diseases including age, sex, body mass index, systolic blood pressure, cholesterol, physical activity, prevalent diabetes and myocardial infraction, social class, alcohol consumption, has been established by earlier researches, but still further research and role of vitamin C and risk of CVD need to explored susanjeffrey *et al*.; 2006 Vitamin c serum levels were significantly and positively in association with HDL2-Cholesterol, predictive for lowering coronary, disease (Hali Fish *et al*., 2007) Study conducted

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by Asian reported that 1,605 men with low vitamin c levels led to acute myocardial infarction. The protective serum levels of vitamin c is 40mg/ day relative risk in 2.7 fold higher in dietary vitamin c deficiency (Nyssonen *et al*.; 2006) [4].

Therefore, the present study was to conducted to assess how far supplementation of vitamin C is beneficior would be beneficial, to the relation of vitamin C intake to total cardiovascular disease (CVD) was analyzesd with the following objectives

2.1 Objectives
- To examine the serum vitamins C status among CVD subjects who visit hospitals
- To Study the association between vitamin C status and the risk of CVD

2. Methodology
The sample of the study were 80 patients (40 Hospitalized CVD Subjects and 40 Non- Hospitalized CVD Subjects)Who have CVD risk and who have visited local hospitals who were selected purposively.

The subjects while giving blood for testing at registered labs reported to test for estimate the vitamin c (Procedure by a simple colorimetric method for ascorbic acid determination in blood plasma serum)

3. Results & discussion
3.1 Mean serum items is vitamin c levels of CVD subjects

serum vitamin c levels					
Particular group	Number	Mean	Standard deviation	t-Calculated value	T value
Hospitalized CVD Subjects	40	0.876	0.588	2.4755	1.96
Non-Hospitalized CVD Subjects	40	0.547	0.586		

The average levels values of biochemical vitamin c among hospitalized and non – hospitalized CVD subjects are, 0.876, 0.547 respectively.

In order the verify the significance difference between average levels of bio chemical vitamin c among the two groups via hospitalized CVD subjects are t-calculated value 2.4755 and t value 1.96 respectively.

The standard values of serum vitamin c is 0.4 to 2mg /100 ml. The values registered is hospitalized CVD non-hospitalized (0.547mg) Vitamin c status & that low levels of serum vitamin c are directly related to incidence of CVD vitamin c acts in many ways to prevent occurrence of CVD, by regulating cholesterol metabolism increasing HDL-C etc. Therefore, there is a need to campaign the beneficial effect of intake of fresh fruits and vegetables which provide along with other essential nutrients vitamin which is a protective factor against CVD risk factors Vitamin c is an antioxidant in habits the oxidation of low density lipoprotein peroxidation starts only after all ascorbate has been prevent the initiation of lipid peroxidation.

Further examination of the relationship between vitamin C and cardiovascular disease is warranted.

4. Conclusion
Supplementation with at least 500 mg/d of vitamin C, for a minimum of 4 weeks, can result in a significant decrease in serum LDL cholesterol and triglyceride concentrations. However, there was a nonsignificant elevation of serum HDL cholesterol.

5. References
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