

Short Communication

Hypercholesterolemia Detection of Public Health Camp to Prevent Cardiovascular Risk – An Experience in Iraq

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Abstract

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Hypercholesterolemia is a major risk factors for the cardiovascular disease leading to morbidity and mortality. In last 30 years, Middle East has seen dramatic and significant changes in terms of economic development and their diet and life style, which leads to disarrangements in lipid profile. Lipid profile consists of group of biochemical tests (total cholesterol, triglycerides, high density lipoprotein and low density lipoprotein) often used in predicting and treating lipid related disorders specially atherosclerosis. Due to lack of awareness in people, high cholesterol becomes a major risk factor for the cardiovascular death. Public awareness is one of the successful tools to prevent such premature death. Total 20 cholesterol camps held in different hospitals and doctor's clinics which includes 12 in Baghdad, 3 in Najaf, and 2 in Erbil, Karbala and Hilaa and 1 in Diwania. Volunteers included both patients and their attendants present in the hospital premises for different reasons. Total 577 individual participated in cholesterol detection camps. Out of which 424 males and 153 females. 12% volunteers had total cholesterol level under 149 mg/dl, 24% had in between 150 and 179 mg/dl, 31% volunteers had in between 180 and 199 mg/dl, 25% volunteers had in between 200 and 249 mg/dl and 8% had above 250 mg /dl. So, out of total 577 patients, 33% patient had cholesterol level more than 200 mg/dl. 5% prescription of atorvastatin (ATORFIT) prescribed by Physician where cholesterol level in between 180 to 199. 8% prescription of atorvastatin (ATORFIT) prescribed by Physician where cholesterol level in between 200 to 249. 8% prescription of atorvastatin (ATORFIT) prescribed by Physician where cholesterol level above 250mg/dl.

Keywords: Hypercholesterolemia, cardiovascular disease, Morbidity, Mortality

INTRODUCTION

The Middle East (ME) and North Africa has witnessed a dramatic transformation over the last 30 years caused by rapid urbanization, modernization and significant changes to diet and lifestyle. Studies such as the Gulf Registry of Acute Coronary Events (Gulf RACE) and the international case-control analysis of risk factors for a first myocardial infarction (INTERHEART) have found that patients in the ME who present with heart attacks were 10 to 12 years younger than those in western countries (Khalid Al Rasadi, 2016) The increase in the cardiovascular disease

(CVD)-associated mortality rate in the middle east (ME) is among the highest in the world (Mahmoud. Traina, 2017)

Dyslipidaemia is a recognized major risk factor leading to atherosclerotic CVD and its treatment has been shown to reduce the incidence of CVD morbidity and mortality. There are few studies available regarding prevalence of dyslipidaemia in the ME (N.Aljefree, 2015).

Looking at the situation, Ajanta pharmaceutical, medical services department did some hypercholesterolemia detection camps at various part of Iraq. It is

Table 1. Demographics of Volunteers

Total patient	Male	Female
577	424	153
Age group (years)	Number of volunteers	Percentage
25-30	34	6%
31-40	85	15%
41-50	136	24%
51-60	153	27%
60 above	169	29%
Risk factors	Number of volunteers	Percentage
Smoking	182	32%
Diabetes	152	26%
Hypertension	101	18%
Obesity	101	18%
Family history of CVD	51	9%

Table 2. Cholesterol Test

Total cholesterol (mg/dl)	No of volunteers	Percentage
100-149	68	12%
150-179	137	24%
180-199	176	31%
200-249	145	25%
250 and above	49	8%

Table 3. Prescriptions

Total cholesterol (mg/dl)	Statin prescription	Percentage of statin
100-149	0	0%
150-179	0	0%
180-199	29	5%
200-249	49	8%
250 and above	49	8%

known that a single measurement may not accurately classify individuals but total cholesterol measurement in mass public camp help in reducing cardiovascular risk by giving primary prevention medication like statin.

W. M. Monique Verschuren et al has showed the relationship between serum total cholesterol and long-term mortality from coronary heart disease (CHD) in different cultures out of seven countries five were European countries and rest two were the United States, and Japan. In twenty five years of follow up, authors found that 0.50-mmol/L (20-mg/dL) increase in total cholesterol corresponded to an increase in CHD mortality risk by 17%, (W.M Monique Verschuen, 1995).

METHODS

Total twenty camps held in different premises of hospital and doctor's clinics where Twelve in Baghdad, three in Najaf, Two in Erbil, Karbala, Hilaa, one in Diwania. The Volunteers were mostly patients and their relatives present in the hospital premises. Objective of the camp

was described and got consent before doing pin prick. Since it was a health camp, so collection of sample done irrespective of fasting and non-fasting state. Cholesterol detections were done by using Multicare- in (Biochemical system internationals).

Cholesterol detection camp was absolutely free and basic data collected from participant keep confidential. Basic data include their name, age and any associated cardiac risk factors like diabetes, hypertension, family history of heart disease and smoking.

Their cholesterol result was well informed. All volunteers wanted doctor's advice with report card which was arranged. Patient got counselling about life style modification, atorvastatin (ATORFIT) dosing and administration depending on the total cholesterol value.

RESULTS

Table 1: Total 577 individual participated in cholesterol detection camps. Out of which 424 males and 153 females. All Volunteers were above age of 25 yrs. 80% of

volunteers above 40 yrs. of age. Volunteers had lot of risk factors, were some volunteers had a multiple risk factors too. 32 % were smoker, 26% having Diabetes, 18% had hypertension, 18 % had obesity and 9% had family history of CVD.

Table 2: 12% volunteers had total cholesterol level under 149 mg/dl, 24% had in between 150 and 179 mg/dl, 31% volunteers had in between 180 and 199 mg/dl, 25% volunteers had in between 200 and 249 mg/dl and 8% had above 250 mg /dl. So out of total 577 patients 33% patient had cholesterol level more than 200.

Table 3: 5% prescription of atorvastatin (ATORFIT) prescribed by physician were cholesterol level in between 180 to 199 mg/dl. 8% prescription of atorvastatin (ATORFIT) prescribed by physician were cholesterol level were found in between 200 to 249 mg/dl. 8% prescription of atorvastatin (ATORFIT) prescribed by physician were cholesterol level above 250mg/dl. No prescription was given to patient having total cholesterol level less than 180 mg/dl. So total 21% volunteer received statin against 33% volunteer having high total cholesterol.

DISCUSSION AND CONCLUSION

Cardiovascular disease is increasing in Gulf countries as well as in Iraq. Systematic review conducted by Aljefree and colleagues on the CVD risk factors in adult population in the Gulf countries from 1990 to 2014 found that the overall prevalence of hypercholesterolemia (defined as Total cholesterol > 5.1 mmol/L [200 mg/dL]) ranged from 17% to 54.9% in males and 9% to 53.2% in females (N. Aljefree 2015). From our health camp data, prevalence of dyslipidaemia in Iraq was found to be 33%. The most effective method combating dyslipidaemia and reducing morbidity and mortality outcomes is by implementing strong preventive programs for physicians and educational programs for patients. There are lot of challenges for physician to detect dyslipidaemia in early stage. Such free cholesterol detection camps help physician and patients a lot. We also recognized the importance of optimizing the treatment by using moderate to high potency doses of statin and familiarising the treating physicians with the new diagnostic modalities like cardiovascular risk score based on Framingham study.

Since 2013, the following 5 organizations have published major guidelines or statements on statins for primary prevention of atherosclerotic cardiovascular disease (ASCVD): the American College of Cardiology/American Heart Association (ACC/AHA) in 2013 ; the United Kingdom's National Institute for Health and Care Excellence (NICE) in 2014 ; and in 2016, the Canadian Cardiovascular Society (CCS) (3), the U.S. Preventive Services Task Force (USPSTF) and the European Society of Cardiology/ European Atherosclerosis Society (ESC/EAS). All guidelines are speaking about prevention of cholesterol with statin and recommended statin therapy in asymptomatic patient having high cholesterol. Cholesterol detection camp needs to be incorporate in national health policy, so that early detection is possible.

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