

# Cardio-Vascular Diseases in Vlora Hospital during 2009-2011, Screening and Prevention

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**Abstract:** Cardio-vascular diseases are the main cause for the mortality in Europe. Nevertheless, these diseases are totally preventable. WHO estimates that a modest reduction in the blood pressure numbers, obesity, cholesterol values and smoking in all the populations, can reduce these diseases by half. **Aim:** To recognize the risk factors and the prevalence of these diseases in the population of Vlore district in order to implement preventive measurements in the primary health care services of the community. **Results:** This descriptive study is conducted based on the data from the main registers of the hospital medical records office and describes the number of patients hospitalized with CVD, distributing them by age group, gender and place of living. The diseases of the circulatory system are distributed: 7.9% of the yearly hospitalizations are in 2009, 9.3% in 2010, 9.7% in 2011. The most frequent diseases are: HTA, chronic MI- ischemic, cardiomyopathies, and CVA. According to the demographic distribution the cases with CVD are seen mostly in the city. Their frequency increases with age, males suffer more than females. According to the age group 45-54 year olds are 16%, 55-64 are 23%, and over 65 are 55% of all the cases with CVD. **Conclusions:** Screening and monitoring the patients that come in the primary health care services and urging them toward the healthy life style, elimination the risk factors and their awareness would bring a considerable reduction in CVD. **Recommendation:** Screening and evaluation of the individual risk factors by using the SCORE system in primary health care services.

**Keywords:** prevalence, cardio-vascular diseases, risk factors, prevention, risk evaluation.

## 1. Introduction

According to WHO, cardio-vascular diseases have caused 17.1 million deaths for the year 2004 or 29% of all deaths globally [1] From these deaths 7.2 million are as a result of the coronary heart diseases and 5.7 million are from CVA. Cardio-vascular disease is the first cause of death in men and women in Europe. This is almost 1/2 of the overall number of deaths, and every year there are over 4.35 million in 52 states in the European region of WHO, where more than 1.9 million have happened in the European Union (EU) but cardio-vascular diseases are preventable. WHO estimates that all together the modest decrease of the numbers of blood pressure, obesity, cholesterol levels, and smoking in all the population can reduce by half the incidence of cardiac diseases.

In most of the Northern, Western and Southern European countries, the mortality from CVD and the incidence are getting lower. The main factors of this reduction are reported to be: lifestyle changes, diets with more fruits and vegetables and less animal fats, smoking reduction, the improvement of the system of health care services, on time screening and the appropriate treatment of the risk factors, as HTA, better treatment of emergency situations and surgery treatment in coronary arteries. All the health experts in the world believe that the cardio vascular diseases are preventable, by avoiding a high number of deaths. The bigger and long term impact related to the prevention give the means for healthy life style by avoiding the risk factors. The preventive treatment of the risk factors plays a major role in lowering and keeping in norms the cases with CVD.

### Facts about CVD in Albania [2]

In Albania the deaths from CVD are getting higher and higher: around 290 deaths for 100,000 inhabitants for 2008

(only 200 in 1991) result from problems related to circulatory system around 1/3 have coronary vessel problems. In 2009 the 1st place from deaths belongs to CVD with 58% of all deaths, and tumoral diseases are only 17% of the deaths.

## 2. Aim

To recognize the risk factors and the prevalence of these diseases in the population of Vlore district in order to implement preventive measurements in the primary health care services of the community.

**Main objective:** To get familiar with the screening methods and the prevention of the CVD to keep under control the morbidity and mortality from these diseases.

### 2.1 Specific Objectives

- To evaluate the prevalence of the patients with CVD in the regional hospital of Vlore
- To identify the risk factors of CVD as the main cause for their prevention (cause-result)
- To offer the best advice practices in the primary health care services for the prevention, risk evaluation and management of the CVD
- To recognize the healthy behaviors in order to reduce CVD

### 2.2 WHO vision for the future<sup>4</sup> of Chronic diseases:

- Implementation of the epidemiology with the management and screening
- Focus and empowerment of prevention
- Harmonizing the chronic disease programs with the reforms of the health care system in general.

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### 2.3 Risk factors for CVD [3,1,4]

During the last decades CVD are studied intensively and we already know their causes. There are a lot of them or multifactorial and have many social and biological characteristics, which increase the probability to have a problem with the coronary or cerebral arteries. These characteristics are presented in the following table where they are divided into three main categories.

Biological factors	Life style factors.	Main characteristics	
		Not changeable	Changeable
High blood pressure	Smoking	Age	Financial avenues
High cholesterol High triglycerides, high LDL, low HDL	Bad diet, full of calories and fats	Gender	Education
Hyperglycemia / diabetes	High alcohol consumption	Family history	Life conditions
overweight / obesity	Lack of physical activity	Ethnicity	Work conditions

### 2.4 The evaluation of the risk factors of CVD according to the WHO:

*The prevention of CVD is a coordinated actions in individual or population level, in order to eliminate the impact of CVD and their inabilities.[4]*

The diagram of SCORE according to the proposed mode of WHO present the risk to have CVD in 10 years (fatal or not) based on risk factors categories as age, gender, systolic pressure, smoking, cholesterol level and having or not diabetes[5]

#### 2.4.1 Three actions that need to be done:

- Data gathering and clinical judgement
- Evaluation of the CVD risk by using the SCORE with the collected data
- Vendoset mbi nivelin e menaxhimit të rriskut.

#### 2.4.2 The categories of the 10 year risk [1]

<b>1- High risk !!</b> <ul style="list-style-type: none"> <li>• full blown CVD.</li> <li>• Diabetes + risk factors other factors, damaged organs, RCD</li> <li>• SCORE estimated <math>\geq 10\%</math></li> </ul>	<b>2- High risk !</b> <ul style="list-style-type: none"> <li>• there is 1 increased risk factor (HTA, dislipidemia)</li> <li>• Diabetes, no risk factors and no organ damages</li> <li>• moderate RCD</li> <li>• SCORE is 5-10%</li> </ul>
<b>3- Moderate risk .</b> <ul style="list-style-type: none"> <li>• SCORE is estimated 1-5%</li> <li>• third age patients.</li> </ul>	<b>4- Low risk</b> <ul style="list-style-type: none"> <li>• SCORE estimated <math>&lt; 1\%</math></li> </ul>

### 2.4.3 How can we manage the cardio vascular risk [7,8] ?

#### a) Behavior strategies:

- **Smoking:** active or passive smoking should be avoided and the smokers should be helped to quit smoking by advising and medication.
- **Feeding:** to advise for better diet (fruits and vegetables over 500 g daily), to prevent CVD. It is recommended **weight reduction** on overweight and obese people.
- **Physical activity:** all the adults should have 2,5-5 hours in a week with moderate intensity of physical activity (over 30 minutes in 4-5 days a week ( but every kind of activity is better than nothing)

#### b) Treatment of risk factors:

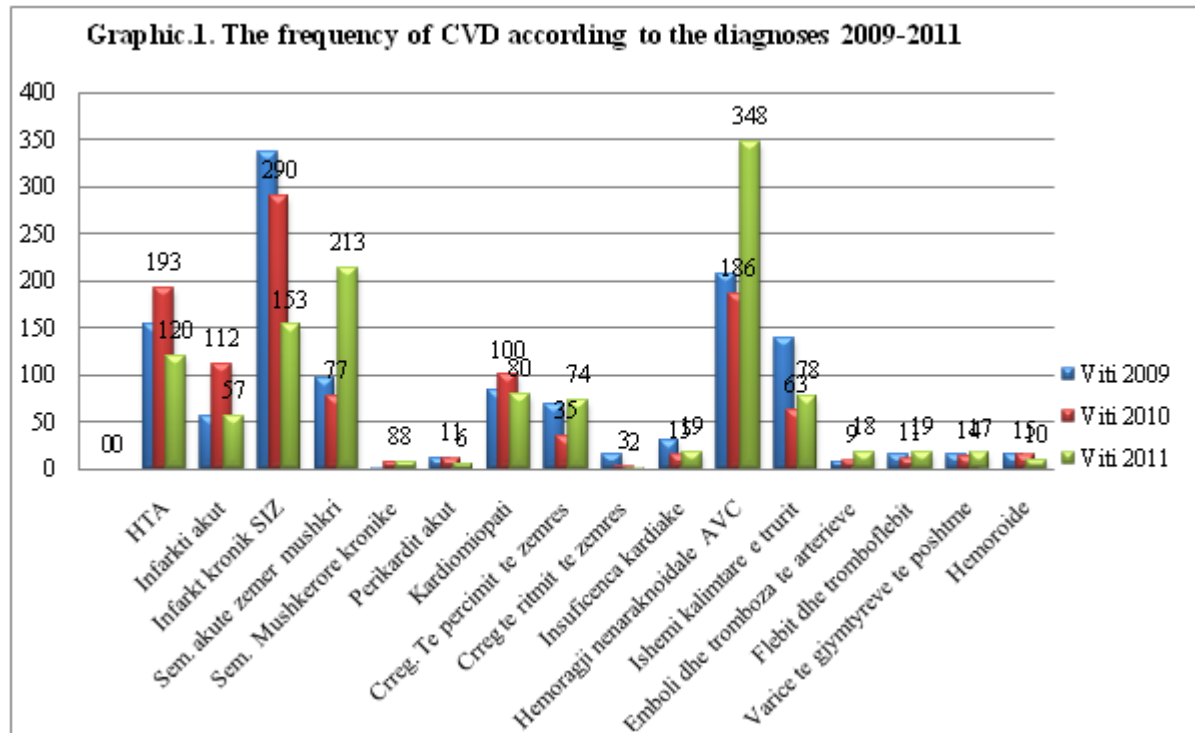
- **Hypertension:** The recommended strategies of behavior in all patients with HTA or with high blood pressure. The level of blood pressure  $< 140$  mmHg (systolic) and  $< 90$  mmHg (diastolic) in all hypertensive patients.
- **Diabetes:** Monitoring HbA1c for the prevention of CVD in diabetes patients in:  $< 7,0\%$  ( $< 53$  mmol/mol). The use of Statins for all diabetes patients to reduce the cardio vascular risk. The blood pressure in diabetes patients should not exceed:  $< 140/80$  mmHg.
- **Lipids:** In patients with very high risk for CVD, the recommended level for LDL cholesterol is  $< 1,8$  mmol/L ( $< 70$  mg/dL) or under  $\geq 50\%$  reduction on the level of LDL when the desired level can't be reached. In patients with high risk for CVD, it is recommended a LDL- cholesterol level  $< 2.5$  mmol/L ( $< 100$  mg / dL)

## 3. Materials and Methods

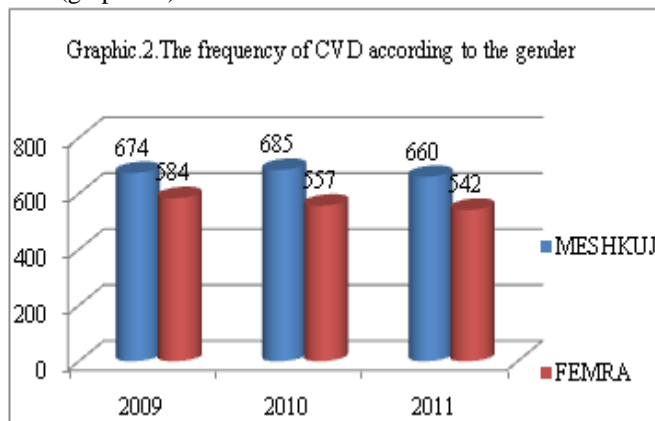
This is a descriptive study bases on data gathering from the base medical records registers to evaluate the number of patients hospitalized with CVD during the time period of 2009-2011. We distributed them by age, place of living, and gender. The study population is all the patients hospitalized in the hospital of Vlore for years 2009-2011 treated for CVD (included 16 diagnoses) in age groups 15 year old to 65+ years old.

## 4. Results and Discussions

CVD are divided as: 7.9% in 2009 of the yearly hospitalization, 9.3% in 2010, and 9.7% in 2011 in the hospital of Vlore. In graphic 1 we see all the classified CVD and their prevalence for the 3 years of the study. We can clearly see that the most frequent diseases are: HTA, chronic infarct-ICD, cardiomyopathies VCA, the others are less frequent.

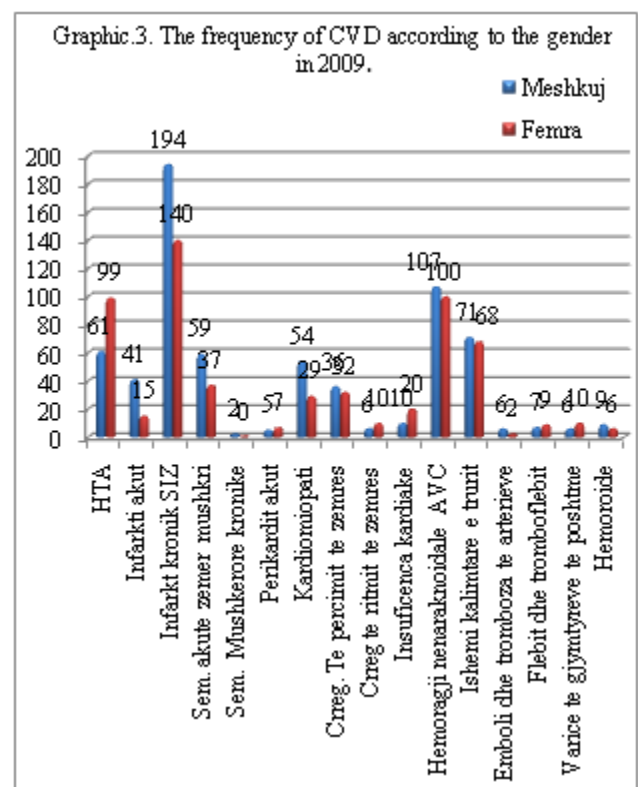


Males are more hospitalized than females in the three years. In 2009 we see 54% males and 46% females. In 2010 55% males and 45 % females and in 2011 males 55% and females 45%.(graphic 2)

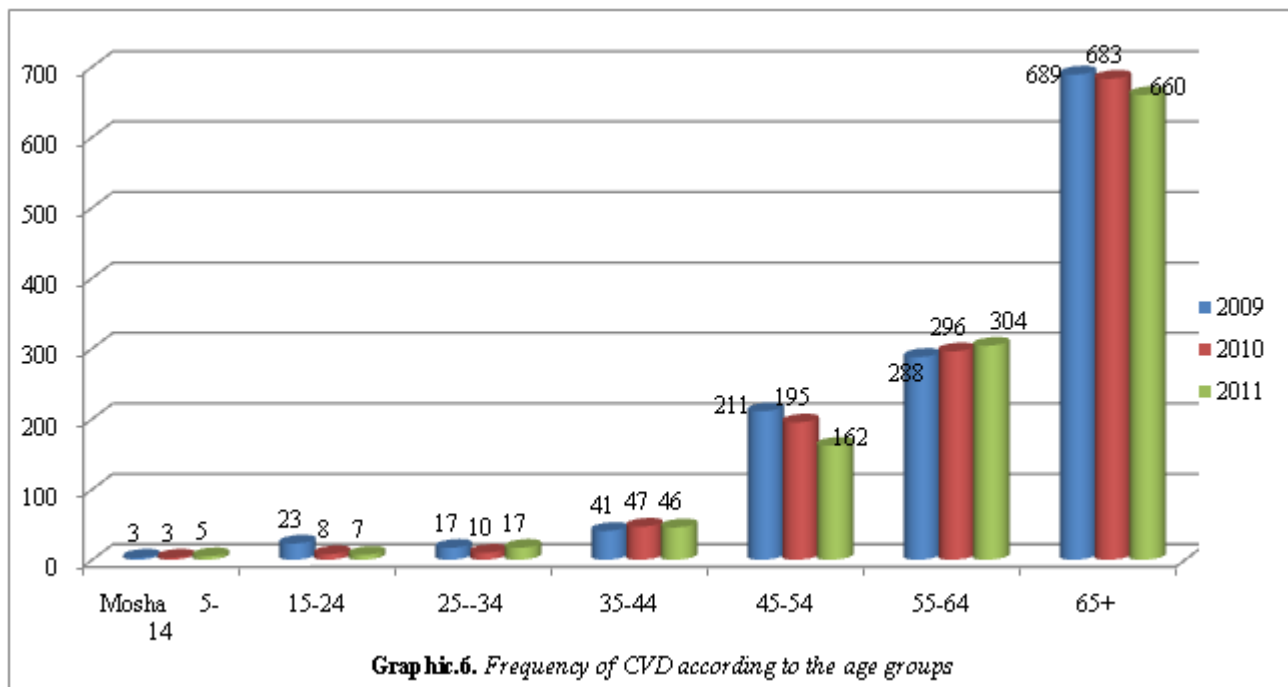
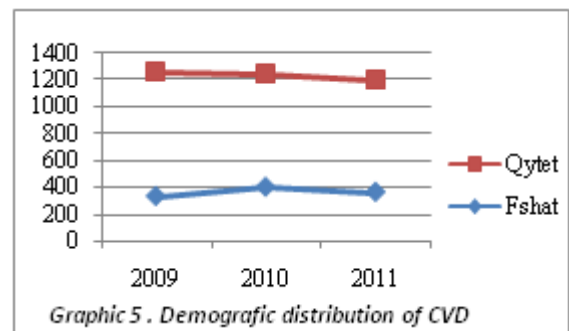
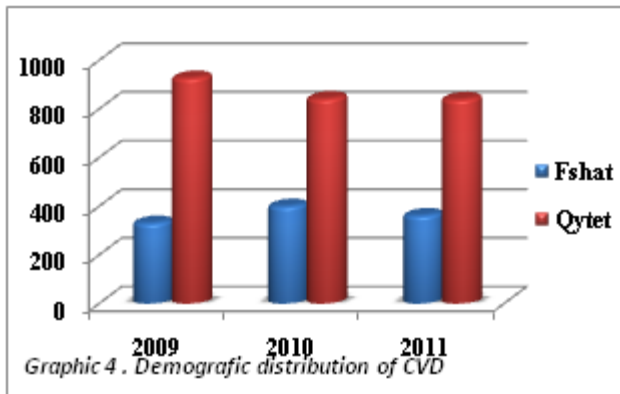


In all the CVD during 2009 we see the morbidity predominates in males in this diseases: acute infarct (AMI), chronic infarct, acute heart-lung diseases, chronic lung diseases, cardiomyopathy, CVA, brain ischemia, embolism and artery thrombosis, hemorrhoids.

Females suffer more from: HTA, acute pericarditis, disorders of cardiac rhythm, cardiac insufficiency, flebitis and thromboflebitis, varices of the lower limbs by evaluation the higher risk of these groups.



The graphic 4 and 5 is presented the demographic distribution of cases in the villages ad the city for the three years, in the city the number is much higher. The ration village/city in 2009 is 74% in the city and 26% in the village. In 2010 is 68% of the cases form the city and 32% from the village. In 2011 the ratio is 70% city 30% village. The frequency in the village is slightly increasing and the one in the city is slightly decreasing.



CVD frequency increases with the age increase. The cases are present in the young ages also, age group 45-54 years old around 16%, 55-64 years old 23%, and 65+ around 55% of all the cases with CVD.

In **2009** age group 5-14 years old 0.5%, 15-24 year old 2%, 25-34 year old 1%, 35-44 year old 3%, 45-54 year old 17%, 55-64 23% and over 65+ ages 54% of the cases.

In **2010** age group 5-14 is 0%, 15-24 year old 0%, 25-34 year old 1%, 35-44 year old 4%, 45-54 year old 16%, 55-64 24% and over 65+ year old 54% of the cases.

In **2011** age group 5-14 is 0%, 15-24 year old 1%, 25-34 year old 1%, 35-44 year old 4%, 45-54 year old 14%, 55-64 23% and over 65+ ages 55% of the cases.

## 5. Conclusions:

By studying the categories that are more in risk, population, the age groups, more frequent diseases, demographic distribution etc., the use of primary health care prevention is a necessity to decrease the mortality and morbidity from the CVD. According to the literature, screening and the SCORE evaluation can assess the risk and take measures to manage these categories according to their factors. Screening and

monitoring the patients that come in the primary health care services and urging them toward the healthy life style, elimination the risk factors and their awareness would bring a considerable reduction in CVD.

## 6. Recommendations

- 1) To implement the educational programs with recommendations for the management of CVD from the primary health care services.
- 2) To assess the risk for CVD in daily practice, in men over 40 years old and women over 50 years old or post menopausal, when one or more factors are present as smoking, under nutrition or obesity, physical inactivity, HTA, dislipidemie, diabetes mellitus.
- 3) Screening in time the cardio-vascular problems and following the advices of the medical team will decrease the number of CVD
- 4) To improve the health care in accordance with the patient needs.
- 5) The changes in the life style are recommended in all individuals.

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## Author Profile



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