Clinico-Epidemiological Characteristics Of Chronic Heart Failure Morbidity In The Population Of Andijan City

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Annotation. This article analyzes the clinical and epidemiological characteristics of chronic heart failure (CHF) morbidity in the population of Andijan city. The study examines prevalence rates across different age and gender groups, identifies key risk factors and explores the clinical manifestations of the disease. The findings provide valuable insights into the epidemiological situation of chronic heart failure, serving as a scientific basis for improving preventive strategies in public health and enhancing the quality of diagnosis and treatment in clinical practice.
Key words: Andijan city, chronic heart failure, clinical characteristics, epidemiology, risk factors, morbidity.

In recent years, cardiovascular diseases have remained the leading cause of mortality worldwide. Among them, chronic heart failure (CHF) is recognized as one of the most serious clinical syndromes, posing a significant threat to public health. According to the World Health Organization, the prevalence of heart failure is steadily increasing, accompanied by a high rate of disability, reduced working capacity, and premature mortality.

In Uzbekistan, cardiovascular disorders are also widespread, and a detailed analysis of their epidemiological characteristics represents a crucial priority for the healthcare system. Studying the population of Andijan city provides an opportunity to assess the impact of regional demographic factors, lifestyle patterns, environmental influences and socio-economic conditions on the development and progression of chronic heart failure.

Chronic heart failure (CHF) is a clinical syndrome characterized by the inability of the heart to adequately supply oxygen to meet the body's metabolic demands, resulting from impaired myocardial function. It often develops as a complication of other cardiovascular diseases such as coronary artery disease, hypertension, myocardial infarction and rheumatic heart defects.

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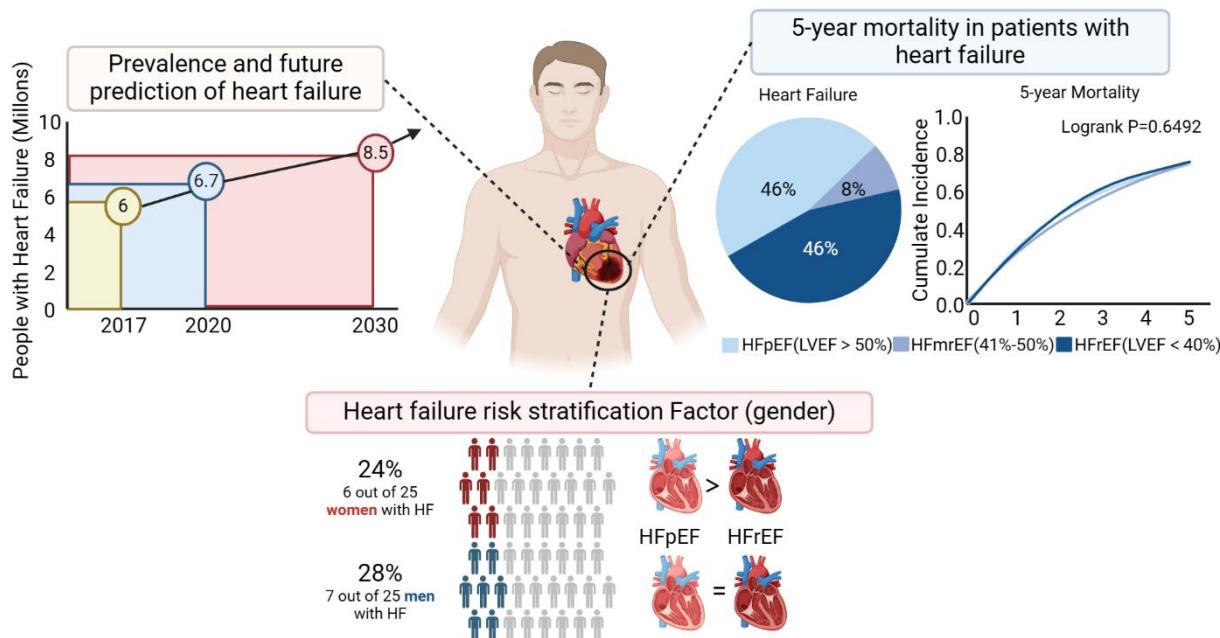
Fig 1. Diagram related to the epidemiology and risk factors of heart failure

The high prevalence of CHF among the population imposes a considerable socio-economic burden on the healthcare system. Patients often require long-term treatment, frequent hospitalizations and continuous medical monitoring, leading to increased disability rates and reduced productivity. These aspects make CHF not only a medical but also a public health challenge.

The population of Andijan city has specific demographic characteristics, lifestyle habits, dietary patterns, psychosocial stress factors and environmental conditions that may significantly influence the development and progression of chronic heart failure. Therefore, conducting a comprehensive clinico-epidemiological study in this region is essential not only for improving clinical practice but also for shaping regional healthcare policies and preventive strategies.

Chronic heart failure (CHF) is one of the most common cardiovascular disorders and remains a significant public health challenge worldwide. It is defined as the inability of the heart to maintain adequate cardiac output to meet the body's metabolic needs, resulting in impaired organ perfusion and systemic congestion.

The primary etiological factors contributing to CHF include arterial hypertension, coronary artery disease, myocardial infarction, rheumatic heart disease and cardiomyopathies. As a chronic condition, CHF is characterized by progressive deterioration, recurrent exacerbations, and frequent hospitalizations.

According to global statistics, CHF affects approximately 5–10% of the population aged over 65 years. In Uzbekistan, cardiovascular diseases are among the leading causes of morbidity and mortality, contributing substantially to disability and economic burden. The increasing prevalence of CHF necessitates focused clinical and epidemiological research to design effective preventive and therapeutic strategies.

The study of CHF morbidity in the population of Andijan city is of particular importance. Regional factors such as demographic characteristics, environmental conditions, lifestyle habits and socio-economic determinants significantly influence the development and progression of CHF. Population-specific data, including age structure, stress factors, dietary patterns and the prevalence of comorbid conditions, are critical for understanding the dynamics of CHF in this region.

From a clinical perspective, symptoms such as dyspnea, edema, fatigue, and arrhythmias considerably reduce patients' quality of life. Therefore, clinico-epidemiological research conducted in Andijan city is essential not only for developing evidence-based recommendations for regional healthcare but also for contributing to the national strategy of cardiovascular disease prevention and management.

Research methodology (short overview)
- Study population: residents of Andijan city (age, gender, demographic characteristics).
- Study period: e.g., 2022–2024.
- Data sources: hospital records, outpatient monitoring, health statistics departments.
- Statistical tools: percentage distribution, dynamic analysis, mean values, chi-square test, etc.

Prevalence rates
- **Table 1.** Prevalence of chronic heart failure by age groups (%)
- **Figure 1.** Age-related dynamics of CHF morbidity (bar chart).

Gender differences
- **Table 2.** Comparison of CHF prevalence between males and females.
- Discussion of lifestyle and risk factor differences.

Risk factors
- Hypertension, diabetes mellitus, obesity, smoking, stress.
- **Figure 2.** Contribution of risk factors to CHF morbidity (pie chart).

Clinical manifestations
- Most common symptoms: dyspnea, edema, fatigue.
- **Table 3.** Frequency of clinical symptoms (%)

Prognosis and outcomes
- Hospital readmission rates.
- Disability and mortality rates.
- Implications of clinical and epidemiological results for public health strategies.

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Table 1. Prevalence of CHF by age groups (%)

Age group	Prevalence (%)
18–29	2
30–44	8
45–59	18
60–74	32
75+	40

Table 2. Prevalence of CHF by gender (%)

Gender	Prevalence (%)
Male	22
Female	28

Table 3. Frequency of clinical symptoms (%)

Clinical symptom	Frequency (%)
Dyspnea	70
Leg edema	55
Fatigue	65
Arrhythmia	40

The conducted study demonstrated that chronic heart failure (CHF) is highly prevalent among the population of Andijan city, with the highest morbidity rates observed in individuals over 60 years of age. Gender-based analysis revealed that females showed a slightly higher prevalence compared to males, which may be attributed to demographic factors, hormonal changes and lifestyle differences.

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Fig 2. **Clinical, laboratory and imaging tests to diagnose heart failure**
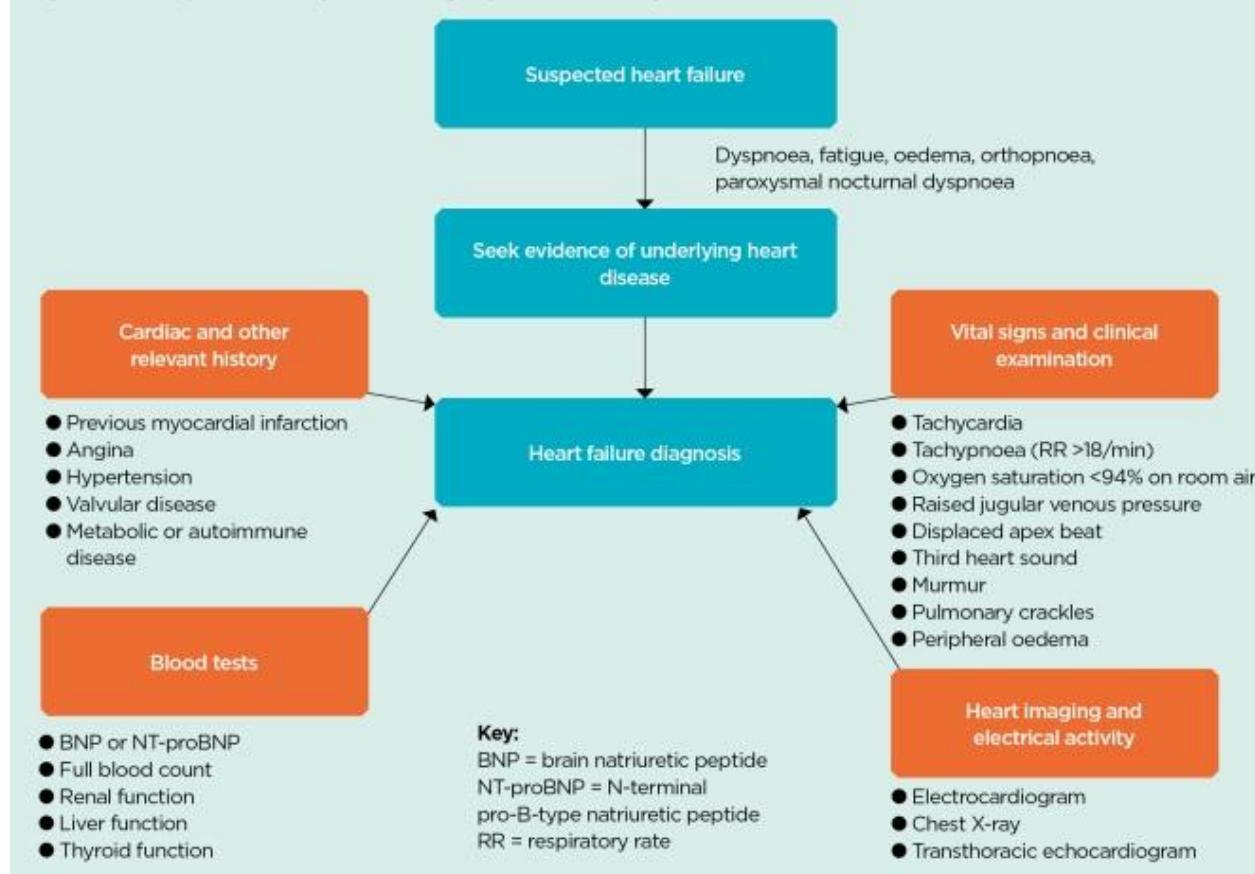
Major risk factors identified include arterial hypertension, diabetes mellitus, obesity, smoking and stress, all of which have a significant impact on the progression of CHF. From a clinical perspective, the most common symptoms were dyspnea, leg edema and fatigue, which substantially impair patients' quality of life.

These findings emphasize the necessity of strengthening preventive and therapeutic measures in the healthcare system, particularly for high-risk groups. Early diagnosis, promotion of a healthy lifestyle, rational pharmacological management and regular medical monitoring should be prioritized in order to reduce the burden of CHF.

In conclusion, the clinico-epidemiological analysis carried out in Andijan city provides not only valuable insights for regional healthcare policy but also contributes to the nationwide strategy for combating cardiovascular diseases.

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