Gender-Related Differences of Heart Failure Patients in Al-Nasiriya Center to Heart In Thi-Qar Province/Iraq During 2017-2019

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Abstract
Heart failure (HF) When the heart can't pump enough blood to keep up with the body's demands, this condition occurs, this study was carried out to investigate the differences between the genders in heart failure in patients in Al-Nasiriya center to heart in thi-qar during 2017-2019. The results revealed that the rate of heart failure were 68% between male and 32% between female during 2017 while in 2018 the rate of heart failure were 72% between male and 28% between female and the rate of heart failure were 69% between male and 31% between female during 2019. Heart failure affects more men than women. This could be due to high blood pressure, excessive cholesterol, failure to maintain a healthy weight, and failure to reduce obesity; and high eat the meal with salt, and alcohol and not quitting smoking and sugar may be help.
Keywords: gender, heart failure

1. Introduction

Heart failure (HF), When the heart can't pump enough blood to meet the body's demands, it's called a heart attack, it is known as congestive heart failure (CHF) or congestive cardiac failure (CCF) [1][2]. Breathing difficulty, extreme weariness, and swelling in the legs are all common indications and symptoms of HF [3]. Shortness of breath is normally worsened by exercise, but it can also be worsened by lying down, which might cause a person to wake up in the middle of the night [4].In addition to the ability to exercise is limited [5]. Angina is a type of chest pain that does not usually emerge as a result of heart failure [6]. High blood pressure, atrial fibrillation, and a prior myocardial infarction (heart attack), excessive alcohol consumption, infection, and cardiomyopathy of undetermined etiology are all major causes of HF [4]. These factors contribute to heart failure through altering the heart's structure or function [7]. The distinction between heart failure with reduced ejection fraction (HFrEF) and heart failure with maintained ejection fraction (HFmEF) is the ability of the left ventricle to contract or relax (HFpEF) [8]. Despite the fact that There are few prospective studies on gender differences in HFpEF, with a gender ratio of roughly 2:1, A different gender distribution was one of the most constant findings across several HFpEF investigations; precisely, women greatly outnumber males, results in a about 2:1 gender ratio, supporting the theory that gender plays an important role in this increasingly recognized illness. Furthermore, previous investigations failed to test for CAD (coronary artery disease) or cardiac amyloidosis (cardiac amyloidosis). As a result, Nothing is known regarding the effect of gender on the clinical course and outcome in pure HFpEF cohorts without overlapping cardiac diseases like (CAD) or mimicking disorders such (amyloidosis) [9,10]. One of the disadvantages in making any conclusions on gender variations in heart failure etiology is that many notable clinical studies do not include a gender analysis of the components that lead to heart failure development. Only about 21% of those who participate in heart failure intervention trials are female [11]. The intensity of symptoms that worsen with physical exercise is used to determine the severity of HF [12]. Heart failure differs from cardiac arrest (when The flow of blood has completely stopped) or an coronary artery disease (when a section of the heart muscle dies) [13]. Obesity, liver difficulties, kidney failure, thyroid disease, and anemia are all conditions that exhibit symptoms that are similar to HF [14]. The diagnosis of HF is based on a physical examination and a history of symptoms, as well as echocardiography confirmation [15] Blood tests, chest radiography, and electrocardiography may be used to figure out what's causing the problem [16]. Heart failure is a hazy, difficult-to-define ailment that is frequently misdiagnosed and miscoded as other illnesses. It is a chronic condition that is both debilitating and fatal. In the first five years after being diagnosed with heart failure, around half of those diagnosed die [17]. Males without a MI had a one in nine lifetime risk of HF (as opposed to one in every five men), demonstrating the significance of previous MI in men [18]. Treatment varies according Depending on the severity and etiology of the ailment, lifestyle adjustments such as quitting smoking, increasing physical activity, and modifying one's diet may be supplemented with pharmaceuticals [19]. Angiotensin receptor blockers, such as valsartan/sacubitril, and Beta blockers are advised for people who have HF caused by angiotensin-

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converting enzyme inhibitors [20]. It's possible to use aldosterone antagonists or hydralazine with a nitrate to persons with severe HF [21]. Diuretics were useful in avoiding Shortness of breath and fluid retention that comes with it [22]. A pacemaker or an implantable cardiac defibrillator is an implanted device (ICD), may be indicated depending on the cause [23]. Cardiac resynchronization treatment is used to treat certain people with moderate or severe heart failure (CRT) [24] Alternatively, cardiac contractility modulation could be beneficial [25] . If serious disease persists despite all previous treatments, A ventricular assist device (VAD) is a device that helps the heart beat faster (either either the left or right ventricle, or both) or, in rare situations, It's possible that a heart transplant will be recommended [26]. Heart failure (HF) is a prevalent, expensive, and possibly fatal ailment [27]. It impacted around 40 million people each year in 2015 [9]. Adults with HF account for about 2% of the population [28]. In addition to those over the age of 65, this percentage is expected to rise to 6–10 percent; rates are expected to rise [29]. The chance of death in the first year after diagnosis is approximately 35%; Those that make it through the second year have a death rate of fewer than 10%; These fatality risks are equivalent to those associated with a variety of malignancies [4]. One of the constraints in making any conclusions on gender variations in heart failure etiology is that many notable clinical studies do not include a gender analysis of components implicated in the development of heart failure. Between 2017 and 2019, the researchers wanted to see how strong the evidence was for gender differences in heart failure patients at Al-Nasiriya Center for Heart in Thi-qar [1].

2. Materials and Methods

1-The data to the patients in Al-Nasiriya center to heart in thi-qar during 2017-2019 [2].
2- From 2017 to 2019, computer-assisted searches were used to look at gender heart failure has different underlying etiologies.

3. Results and Discussion

The results revealed that the rate of heart failure in patients who visit Al-Nasiriya center to heart in thi-qar during 2017-2019 according the gender were 68% between male and 32% between female during 2017 while in 2018 the rate of heart failure were 72% between male and 28% between female and the rate of heart failure were 69% between male and 31% between female during 2019. Men are more likely to effected with heart failure as in table (1) and figure (1, 2, 3)[3]

Table (1):- Number of male with heart failure and female with heart failure

year	No. of male with heart failure	No. of female with heart failure
2017	644	309
2018	430	170
2019	134	61

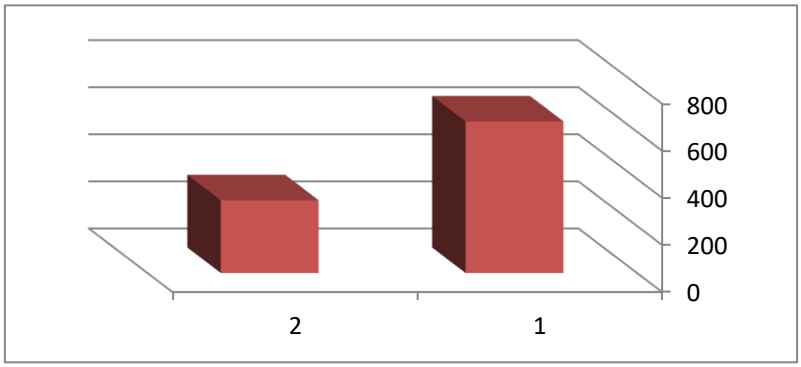

Figure (1): -Number of male with heart failure and female with heart failure in 2017 (1=male, 2=female)

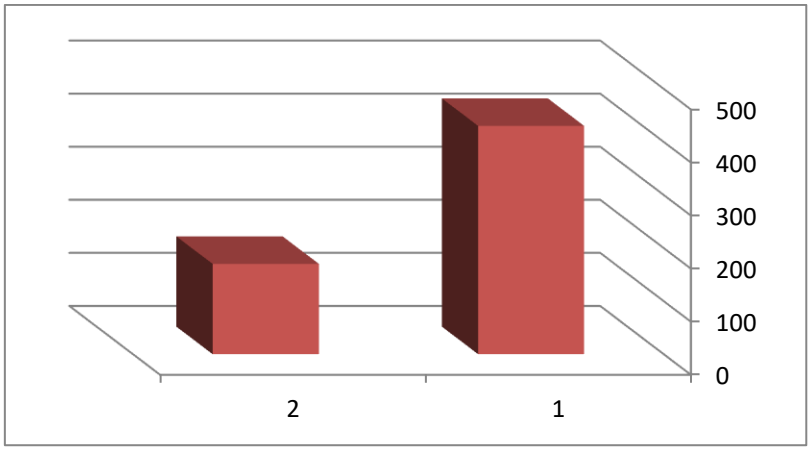

Figure (2):-Number of male with heart failure and female with heart failure in 2018 (1=male , 2=female)

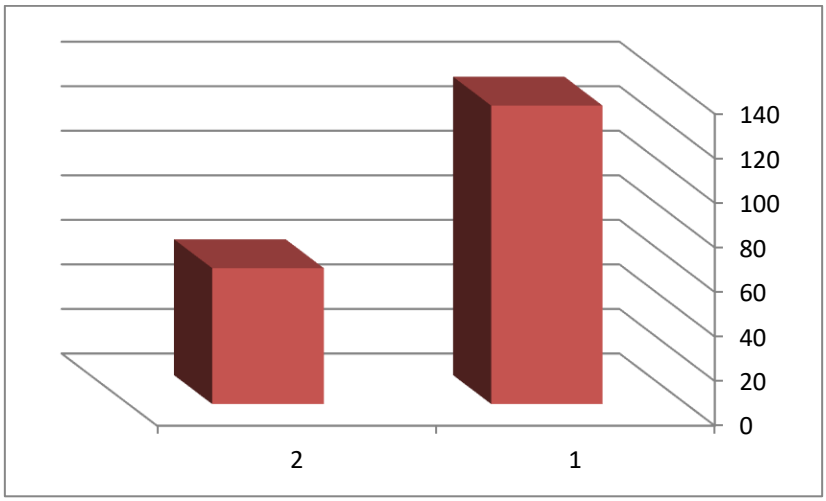

Figure (3):-Number of male with heart failure and female with heart failure in 2019 (1=male , 2=female)

Male and female heart failure patients had significantly different methods of dying (MOD), according to the 2018 paper Gender-related variations in heart failure with intact ejection by Franz Duca and et al. Males died nearly exclusively of RHF (73.3%) and SCD (13.3%), whereas females died of a variety of causes (RHF: 36.7 percent, infection: 23.3 percent, malignancy: 13.3 percent) [30]. This could be as a result of excessive blood pressure or cholesterol. Not maintaining a healthy weight and not reducing obesity can also be beneficial; and eating a high-salt, high-alcohol diet, and not quitting smoking and sugar can also help[4].

While epidemiological studies have revealed significant gender differences in cardiac HF patients' clinical presentation, 1–5 risk factors,6,7, and prognosis8–10, epidemiological studies have also revealed striking gender differences in cardiac HF patients' clinical presentation, 1–5 risk factors,6,7, and prognosis8–10 [31]. Most women suffer heart failure with a maintained ejection fraction, which is one of the most noteworthy sex-related inequalities in HF (HFPEF), an important but poorly understood syndrome. Despite the fact that males have a higher HF incidence, total prevalence rates in both males and females are similar since females live longer once HF begins. Females are older (postmenopause) when they are diagnosed with HF, have a larger likelihood of acquiring diastolic dysfunctions, and have a lower overall quality of life after diagnosis than males. Azad discovered in 2011 that data on gender inequalities in HF outcomes were limited and contradictory. Females appear to increase the chances of survival than males in epidemiological research. Females had a 36 percent one-year death rate compared to 43 percent for males [32]. Any condition that destroys or overloads the heart muscle, diminishing its efficiency, causes heart failure. As a result, a number of ailments, including myocardial infarction (when the heart muscle fails due to a lack of oxygen), hypertension (when the required force of contraction to pump blood is raised), and amyloidosis (when the heart muscle is engorged with protein and dies), can cause heart failure (Misfolded protein deposits in the heart muscle, causing stiffening). Over time, these increased workloads will produce cardiac abnormalities [33]. In people with HF, increased ventricle filling causes increased contraction forces and as a result, cardiac output increases (through the heart's Frank–Starling law); similarly, increased ventricle filling causes increased contraction forces and thus a rise in cardiac output in healthy hearts (courtesy of the heart's Frank–Starling legislation). Because the ventricle is filled with blood in heart failure, this mechanism fails, making heart muscle contractions less effective. Overstretching of the cardiac muscle's capacity actin and myosin filaments are cross-linked causes these. Those who exercised at least 500 MET-minutes per week (the minimum recommended by US guidelines) had a lower risk of heart failure than those who did not exercise in their spare time; however, those who exercised at higher levels than the minimum recommended by US guidelines had a much greater reduction in HF risk [35-38]. High blood pressure, high cholesterol, and diabetes can all contribute to heart failure. Obesity reduction can also be aided by maintaining a healthy weight; and Lowering sodium, alcohol, smoking cessation, and sugar intake may be beneficial [39-42].

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