Original Article

Investigation Of Medical Services In Patients With Diabetes, Cardio-Vascular And Rheumatology Disease In ICU

Abbas Gholami[1], Maryam Mohammadi[2], Aram Farhoudian[3], Sara Hassani[4], Amirhossein Maleki[5*]

1. Department of Rheumatology, Hazrat Rasool-e-Akram Hospital, School of Medicine, Iran university of medical sciences, Tehran, Iran.
Email:gholami.ab@iums.ac.ir
2. cardiovascular Research center, Institute of Basic and clinical physiology sciences, kerman university of medical sciences, kerman, Iran.
Email:Maryam.mohammadi2720@gmail.com
3. MD, Urmia university of medical sciences, Urmia, Iran
Email:aramfarhoud@yahoo.com
4. Post Doctoral Research Fellowship Diagnostic Radiologist, Pennsylvania university, Perelman school of medicine,Philadelphia, Pennsylvania
Email:sara.hassani@pennmedicine.upenn.edu
5.Graduate of General Medicine, Shiraz university of Medical Sciences, Shiraz, Iran
Email: Amirhossein.maleki7472@gmail.com
Corresponding Author: Amirhossein Maleki[5*]
Corresponding Email: Amirhossein.maleki7472@gmail.com
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Abstract

This study investigated the medical services of diabetic, cardiovascular and rheumatology patients in the intensive care unit. The most important cause of cardiovascular diseases is arteriosclerosis. Arteriosclerosis causes the various arteries that supply blood to different parts of the body to gradually become hard and narrow and their ability to transport oxygen and nutrients to the body's cells decreases. To prevent the occurrence of cardiovascular diseases and death and disability caused by them, you must know these risk factors and pay attention to medical recommendations. Risk factors for cardiovascular diseases include: old age, male gender, family history of premature heart disease, high blood pressure, diabetes mellitus, smoking, obesity, inactivity and blood coagulation disorders. Considering that diabetes is one of the risk factors for cardiovascular diseases and people with diabetes should be more careful about their cardiovascular health than others. The results of this study have shown that cardiovascular risk factors are more common in type 2 diabetes patients. Arteriosclerosis as well as the appearance of clots in the coronary arteries cause the blood supply to the heart muscle cells to decrease. As a result of the lack of oxygen in the heart muscle, a pain occurs which is known as heart pain or angina pectoris, which means that the heart cells related to the area of that artery will die, which is called a heart infarction.

Keywords: Diabetic Patients, Cardiovascular, Rheumatology, Artery, Cardiovascular Health.

Introduction

Today, the medical world is facing the growth of chronic diseases [1-3]. In 1995, about 99 million people in the United States had chronic diseases. It is predicted that this figure will reach 167 million people by 2050. Chronic diseases are seen in all countries of the world, both developed and developing, in all social and economic groups and in all ages [4]. In addition, with the increase in the incidence of chronic diseases, the costs associated with these diseases, such

as the cost of hospitals, devices and equipment, medicines and services also increase. The long course of chronic diseases makes it difficult for sufferers to control them due to disability, and some of them as a crisis cause many changes in the life process (1 and 2). Chronic diseases affect routine and daily life activities [5]. Chronic disease causes tension in the patient and family. Because it causes life-long changes in the roles or way of life and with repeated hospitalizations, it causes economic problems and a decrease in social interactions [6-8]. Rheumatoid arthritis is one of the types of chronic diseases and the spread of this disease can cause joint destruction and disability in adulthood [9]. Rheumatoid arthritis is a progressive chronic autoimmune inflammatory disease with variable clinical symptoms. Rheumatoid arthritis has a negative impact on the life dimensions of affected people and is characterized by mild to severe inflammation of the synovial joints, which can lead to pain, dryness, and destruction of the joint along with physical deformities and subsequent disabilities. This disease can be a major cause of disability and mortality. This disease is seen in every region and race with different frequency, it generally affects 1% of the world's population. Its prevalence in Canada and America is approximately 1% and its frequency in women is three to four times higher than the frequency observed in men. Its frequency is reported to be 0.36% in Mediterranean countries (Figure 1).

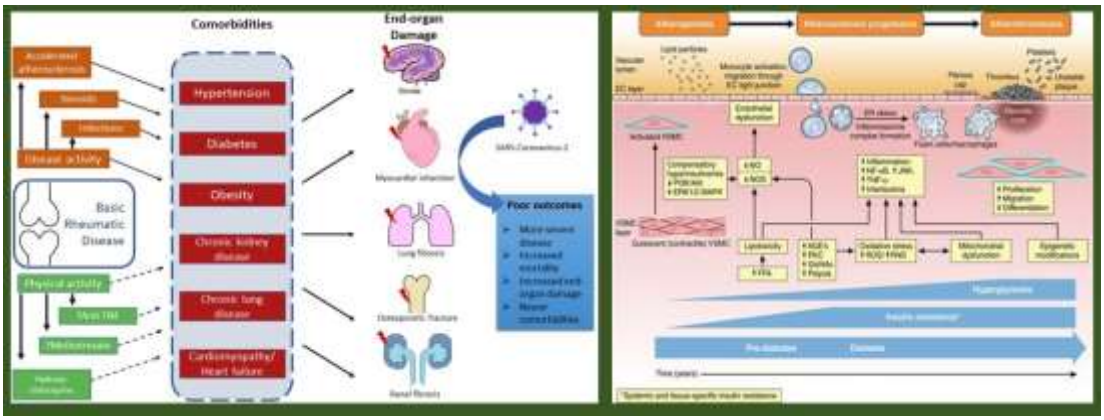

Figure 1. Comorbidities in rheumatic diseases need special consideration

In 1998, the prevalence of this disease was between 2 and 4 people per 100,000 people [10]. The prevalence of this disease has increased significantly in recent years. Statistics showed that in 2008, more than 2 million Americans are suffering from this disease [11]. In Iran, during a population study based on the COPCORD plan in 2008, the prevalence of rheumatoid arthritis was equal to 0.19%. As a chronic debilitating disease, rheumatoid arthritis may lead to a severe decline in functional status and reduced life expectancy. In addition, rheumatoid arthritis can lead to social and communication problems such as impairment in playing social roles, limited ability to participate in social activities, sexual problems and emotional state, physical deformities [12]. Patients with rheumatoid arthritis may suffer from physical dysfunction and disability due to pain, fatigue, and limited movement [13].

According to the definition of the world health organization (WHO), disability is a limitation of a person's abilities such as movement, personal care, communication, and behavior. Some have defined disability as a multifaceted and complex experience that intertwines with a person's life. The severity of disability integration in a person's life is influenced by three factors affecting disability, including the effects of the condition that causes disability, other perceptions of disability, and the level of a person's need to use resources. It is estimated that there are 54 to 60 million people with disabilities in the United States. It is expected that the number of these people will increase due to the increase in the survival rate of patients with chronic diseases, people with disabilities in the first stages of life and people who have suffered severe injuries [14].

Considering the negative effects and complications of rheumatoid arthritis, one should look for a way to control the complications and disability caused by this disease. Studies have shown that self-care is one of the ways to control the complications of chronic diseases such as rheumatoid arthritis and the resulting disability (1 and 11). Also, since chronic disease requires chronic care, in this regard, many believe that in order to organize these patients and facilitate

work, the care should be done by the people themselves [15]. The concept of self-care was first proposed by Orem and published in 1959 [16]. According to Orem's definition, self-care is the learned behavior that a person performs to maintain or promote life, health and well-being, prevention and treatment [17]. Self-care includes dealing with basic human needs and maintaining activities related to health and maintaining life. Self-care is purposeful and contributes to human structural integrity, functioning and development [18-20]. Self-care is an important component of disease control and is a relative process that involves purposeful behaviors and choices and reflects the attitude and knowledge of each person [21]. Self-care in chronic diseases means examining and controlling the symptoms of the disease, accepting a therapeutic diet, maintaining a healthy lifestyle, controlling the impact of the disease on daily functioning, emotions and social relationships (Figure 2).

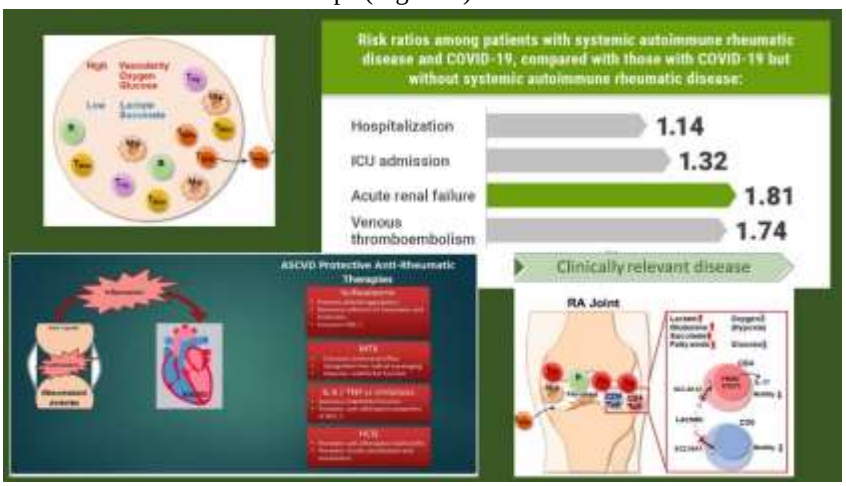

Figure 2. Self-care in chronic diseases means examining and controlling the symptoms of the disease, accepting a therapeutic diet, maintaining a healthy lifestyle, controlling the impact of the disease on daily functioning, emotions and social relationships

The important principle in self-care is participation and acceptance of responsibility on behalf of the patient [22]. The strongest aspect of Orem's nursing theory is to present self-care as a priority for people at different levels of health, and the patient actively participates in self-care [23]. In the definition of vasculitis, it is said that vasculitis is a series of autoimmune and chronic diseases in which due to the inflammation of the vessel walls, patients suffer from symptoms that may occur in any of the body systems such as skin and mucous membranes, joints, eye, ear, nervous system, heart, lung, kidneys, digestive system and finally other systems are caused and cause the patient to go to the doctor, and depending on which of the systems are involved, the patient goes to the specialist of that field. If we accept this definition, all disciplines should be involved in the treatment of vasculitis [24-26].

In the meantime, specialists of a field should be in charge of diagnosis, treatment and follow-up of these diseases, considering that rheumatology is a field that works with autoimmune and multi-system diseases, and vasculitis is an autoimmune and multi-system disease (Figure 3).

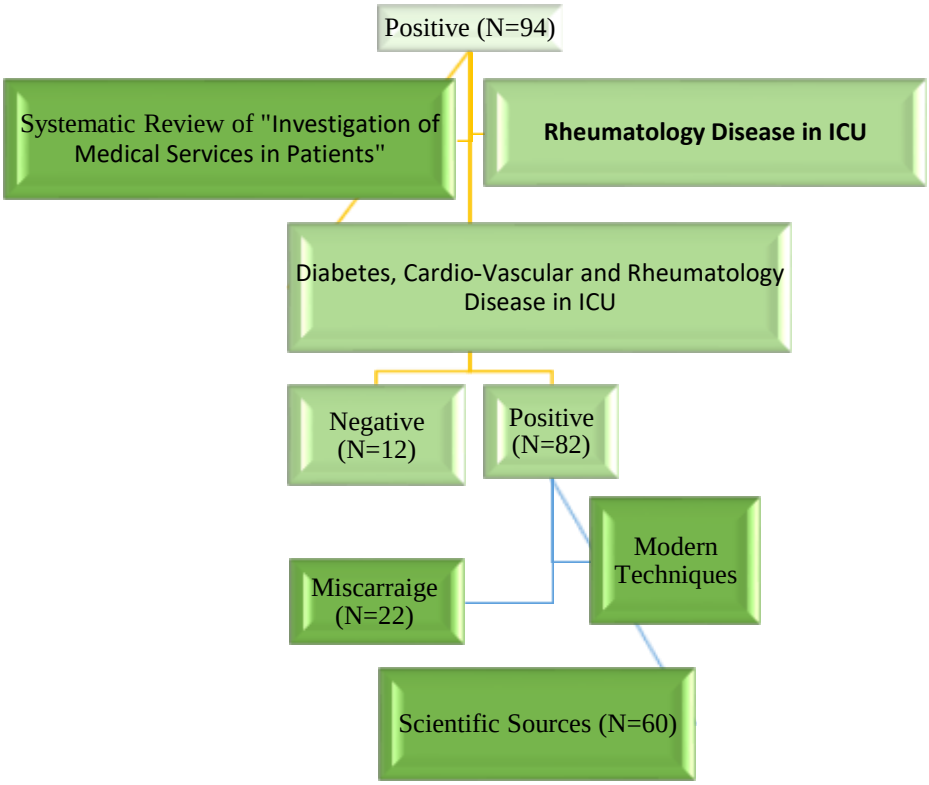

Figure 3. Flow chart of included subjects

Therefore, it is necessary for rheumatologists to be in charge of these patients and consult with specialists from other fields if necessary. When we deal with a patient with vasculitis, considering the chronicity of the disease and the fact that in most cases of vasculitis, most of the patients are women and they are psychologically very vulnerable, the most important action is to be able to deal with them. and those around them, let's establish a good relationship.
It should be explained to the patient and their family according to their social, cultural and educational conditions and to what extent they can deal with the facts rationally and accept the disease. Nowadays, considering that access to a computer is possible for many patients, if the above conditions allow, it is better to guide the patients to the appropriate sites. Vasculitis has many names and different types, but we try to explain their important and common types very briefly.

A) Hypersensitivity or leukocytoclastic vasculitis: it mostly affects the skin and involves the veins and arterioles. Its symptoms are in the form of itchy or non-itchy skin spots, and most of the time it appears on the legs and feet and is aggravated by standing and walking. Sometimes they become sore and it is accompanied by discharge. When dealing with such patients, it is necessary to make sure that there is no primary dangerous disease such as blood, infectious and immunological diseases. In such cases, it is necessary to refer the patient to a rheumatologist and rule out the above primary diseases based on clinical and laboratory evidence. In most cases, the disease is controlled with health recommendations and minor orders, and there is no need for heavy drugs [27].

B) Necrotizing vasculitis (severe): in these cases, small, medium to large vessels are blocked and as a result of the inflammation of the vessel wall, partial to complete blockage of the vessel canal occurs and leads to partial to complete blockage of blood supply to the organs. and depending on which of the members such an event occurs, the clinical

symptoms of that member's trouble will be created. Since blood vessels are present in all organs, symptoms may occur in all tissues and organs. In such cases, the involvement of the nervous system, kidneys, heart, blood vessels, lungs, and hematopoietic system will cause the greatest clinical symptoms and the greatest risk, depending on the severity of the involvement, and heavy treatment is necessary. For example, a patient may come with cerebral palsy or paralysis of a limb [28-30]. He may have very high blood pressure or a heart attack, and he may also cough and expel bloody sputum. It is possible that due to the blockage of the arteries of the intestines, intestinal infarction will occur and the intestines will turn black and lead to perforation of the intestines.
It is possible that he has very severe anemia or a severe decrease in the efficiency of the hematopoietic system. In these cases, depending on the severity of the involvement of the organs, severe treatments such as the administration of large amounts of cortin, immunosuppressive drugs such as cyclophosphamide or azathioprine, plasmapheresis or the administration of immunoglobulin, or the administration of biological drugs are recommended. Among the diseases of this group, we can refer to Wegener's diseases, pan nodular arthritis (PAN), microscopic pan and Charaj Ostrous. Of course, these diseases have differences, but the general basis of the disease and their symptoms and treatment are almost the same [31].

C) Bechet's disease: symptoms of Behcet's disease include recurrent mouth sores, genital sores, eye involvement in the form of inflammation of the eye sockets and fundus, joint pain and swelling, one-sided or two-sided pelvic pain and spine pain, coagulation of the veins of the organs or Internal organs and sometimes vital organs such as lungs, heart, brain, digestive system and nervous system are affected. In the disease, veins, arteries, and small to medium veins are affected, and depending on the severity of the veins and the above symptoms, mild to severe treatments are necessary [32].

D) Henoch Schoenlein's disease: in this disease, the arteries and veins are usually affected. The disease is mostly in children, but adults can also be affected. The disease with skin symptoms is in the form of small red spots that appear on the legs and thighs, but it may appear anywhere. Another symptom is joint pain and swelling, which is most often in the ankles and feet, but it may be in other joints as well. Another important symptom of this disease is abdominal pain. Most of the time, the pain is mild to moderate, but it may manifest as acute abdominal pain and show itself with a surgical abdomen. Garlic disease is usually benign and does not require intensive treatment, but sometimes it can affect the kidneys and other organs and requires intensive and long-term treatments [33-35].

E) Vasculitis of large vessels: in this group of vasculitis, large vessels such as cranial veins and veins that supply blood to the brain and the aorta and its branches are involved, and since they are large vessels and their ducts are closed due to inflammation It happens, the blood supply to a large area of the body is disturbed. Among the diseases of this group, we can mention temporal vasculitis and Takayasu vasculitis [36]. In temporal vasculitis, the patient usually presents with bad general condition, fever, extreme weight loss, general pain, severe headache, sometimes loss of vision, and depending on the blockage of the vein in some organs, he presents with digestive, renal, pulmonary, cardiac or brain disorders. In Takayasu's vasculitis, the aorta and its branches are affected, and depending on the degree of involvement and the location of the affected artery, the patient is referred with its symptoms. The most common artery that is affected is the axillary artery, which causes loss of pulse and is called pulseless disease. Sometimes the absence of a pulse is determined by chance and during blood pressure measurement [37].

Treatment of necrotizing vasculitis

The general principles of treating necrotizing vasculitis are almost the same and include:

1- Infections: due to the fact that there is an immune disorder in vasculitis due to the disease itself and the prescribed drugs, it is necessary to pay close attention to infections at each visit, and especially in the case of long-term fevers, if necessary, measures should be taken [38-40]. It must be implemented. Patients should be advised, if they have a prolonged cough, if they have sputum discharge, especially if it is bloody, to see them immediately. In these diseases,

special attention should be paid to opportunistic infections, especially tuberculosis, fungi, and other opportunistic infections [41].

2- Use of medicines: If the vital organs such as kidney, nervous system, heart, lung and hematopoietic system are not affected, antimalarial compounds are used as background medicine. Currently, in Iran, hydroxychloroquine is available in the form of 200 mg tablets, and 400 mg can be prescribed for an adult patient. Also, chloroquine phosphate 250 mg or chloroquine 150 mg tablets are available, in which case one tablet per day can be used. If the minor system is severely affected or if they are resistant to these drugs, it may be necessary to use heavier background drugs such as chemotherapy drugs [42].

3- Background drugs: In terms of drug treatment, it is necessary to start one or more background drugs for a patient with vasculitis, and depending on which system is affected, the drug prescription is different [43].

4- Correcting bad habits and encouraging good habits: Patients are advised not to smoke, not drink alcohol, and if they are obese, avoid consuming fats, starches, and sugary substances. Do light sports according to the severity of the disease and the involvement of different systems and use different recreational items. In order for these cases to be explained well to the patients, it is better to encourage them to participate in the classes held by the medical authorities or the classes held by respected academic colleagues [44].

General measures

1- Regular follow-up of the patient: According to the above, the patient has been taught that with his own help and the guidance of the doctor, he can lead a happy and peaceful life, and depending on how severe the disease is, how often it is necessary to see his doctor do depending on the severity of the disease, the patient's visit intervals range from a few days to a few months, and even sometimes when vital organs such as the nervous system and kidneys are involved, every two weeks to a month. Sometimes it is necessary to urgently admit a patient with dangerous vasculitis. When the disease subsides and goes away, the visit can be done every one to three months, and there is no general rule for determining the intervals of the patient's visit. The purpose of the follow-ups is to:

- ✓ Let's see how active vasculitis is?
- ✓ Are there drug side effects or not?
- ✓ Are there other accompanying diseases or not?

A general principle should be kept in mind in necrotizing vasculitis. It is necessary to advise the patient that if he has a problem, he should go to the rheumatologist immediately, and if he cannot reach the rheumatologist, he can go to the internal specialist or the general practitioner, and by showing the summary of his case to the medical colleagues, they can get their thoughts and guidance. They took advantage. If you have more questions, please contact through the site [45].

2- Diet: Depending on whether the kidney is involved, blood pressure, diabetes, high fat and cholesterol, and overweight, the diet is different. The diet of patients does not have the same order and it is decided according to the case, but in general, the diet should be such that the patient does not gain excess weight, and if he has diabetes and high blood fat, and if the kidney is affected or not, the necessary orders observe.

3- Exercise: Inactivity, which usually occurs in severe cases of the disease, causes a severe decrease in muscle mass and osteoporosis, and patients often feel very tired. In such cases, it is necessary for the patients to have appropriate exercise programs with the help of a medical physic specialist and specially to support them physically and psychologically [46].

4- Calcium and Vitamin D: Since most vasculitis is an inflammatory disease and a large number of patients are being treated with corticosteroids and immunosuppressive drugs, it is necessary, if there is no contraindication, for all patients being treated with 1000 1500 mg of calcium and 400 to 800 units of vitamin D per day.

5- Vitamins: In some cases where the patient has severe anorexia or has been under heavy treatments for a long time, it may be necessary to use different vitamins depending on the case.

6- Treatment of blood pressure and atherosclerosis: it is necessary to take the patient's blood pressure at each visit and treat as needed. Sometimes patients with vasculitis of medium and large vessels suffer from high blood pressure, and one of the factors that worsens the prognosis of the disease is high blood pressure. Therefore, it is necessary for patients to be seriously monitored and treated for blood pressure. Also, in those who have been treated and followed up for a long time, it is necessary to follow up in terms of atherosclerosis.

7- Metabolic disease treatment: If the patient has high blood fat, high cholesterol, diabetes, high uric acid and other metabolic diseases, it should be treated.

Corona virus and its symptoms

Corona is considered a spectrum disease, but what is meant by spectrum disease? Corona includes a wide range of symptoms from very mild shortness of breath to severe lung infection and death. These symptoms vary from person to person. At the beginning of the epidemic, there were reports about the occurrence of cardiovascular problems and symptoms of Corona. A report from the early days of the pandemic described the extent of heart damage among 41 patients hospitalized with Covid-19 in Wuhan, China [47-49]. Five people or 12% showed signs of cardiovascular damage. These patients had both cardiac troponin levels and abnormalities in ECG and cardiac ultrasound. Other reports have since confirmed that heart damage could be part of the damage caused by the coronavirus. In addition, some reports detail clinical scenarios in which patients' initial symptoms were cardiovascular rather than respiratory in nature. In recent years, scientists have shown that influenza, respiratory viruses and bacterial pneumonia can affect cardiovascular health and increase the severity of the disease. In fact, researchers explain that in most influenza epidemics, more patients die from cardiovascular problems than from pneumonia and influenza. As our understanding of COVID-19 is still evolving, experts point to previous research on similar coronavirus outbreaks, including studies examining severe acute respiratory syndrome and Middle East respiratory syndrome.

Corona cardiovascular symptoms

People with poor cardiovascular health appear to experience more severe symptoms of Covid-19. For example, in a study involving 44,672 people with coronavirus in China, 4.2% had cardiovascular disease. However, these individuals account for 22.7% of all deaths. In a smaller trial of 100 patients, researchers found that 40 percent of patients had pre-existing vascular problems. You should also know that this disease also affects the severity of death. This means that these people have much more severe symptoms and the risk of death increases significantly.

The effect of corona on heart health

You probably think of the coronavirus as a respiratory disease, but it has been shown to infect the heart and blood vessels. Also, research shows how much it can damage these organs. Patients with Covid-19 may experience the following:

- Myocarditis (heart muscle inflammation).
- Acute myocardial infarction (heart attack).
- Heart failure.
- Arrhythmia (irregular heartbeat).
- Myocardial damage (damaged heart).
- Venous thromboembolic events (blood clotting).

According to the Mayo Clinic, there are certain warning signs, some of which begin with blood clots.

Heart rate and corona

If you experience heart palpitations after contracting Corona, you should contact your doctor. A temporary increase in heart rate can be caused by various factors, including dehydration. Make sure you drink enough fluids during this time, especially if you have a fever. Symptoms of a fast or irregular heartbeat can include:

- ✓ Feeling of a fast or irregular heartbeat in the chest (palpitations).
- ✓ Feeling lightheaded or dizzy, especially when standing.
- ✓ Chest discomfort.

Is it more likely to have a heart attack after contracting Corona?

Heart attack has several different forms. A type 1 heart attack is caused by a blood clot in a vessel and blocking it. This case is rare during and after the corona virus. Type 2 heart attacks are more common with Corona. This heart attack can be caused by increased stress on the heart, such as a fast heartbeat, low blood oxygen levels, or anemia. This has been seen in people with severe coronavirus disease, but is less common in people who have survived the disease [50].

The effect of Corona on the heart

Blood tests have shown that the level of a substance called troponin increases in some people's blood during the corona virus infection. This increase is accompanied by EKG changes and chest pain. An increase in troponin level is a sign of heart tissue damage. Sometimes this condition occurs as a result of a heart attack and is less common after covid-19. During severe coronary disease, elevated troponin levels with abnormal EKG are associated with higher mortality, but not in patients with normal EKG. Cardiovascular diseases can be divided into three main groups:

- ✓ Coronary heart diseases.
- ✓ Cerebrovascular events.
- ✓ Peripheral vascular disease.
- ✓ Coronary heart diseases.

The heart is a muscular pump the size of a clenched human fist that beats an average of 60 to 100 times per minute and circulates blood throughout the body. Blood circulation causes oxygen and nutrients to reach the organs of the body and the waste materials caused by the activity of the cells are also removed. The heart muscle is no exception to this rule and must have proper blood supply to do its vital work properly. Blood supply to the heart muscle is done by veins called coronary arteries. Blood reaching the heart and the activity of the heart muscle are to some extent similar to the situation of supply and demand. The more active the heart is, the more blood it needs. Coronary arteries must be able to provide this increased need, otherwise heart muscle cells will face problems.

Arteriosclerosis as well as the appearance of clots in the coronary arteries cause the blood supply to the heart muscle cells to decrease (Figure 4).

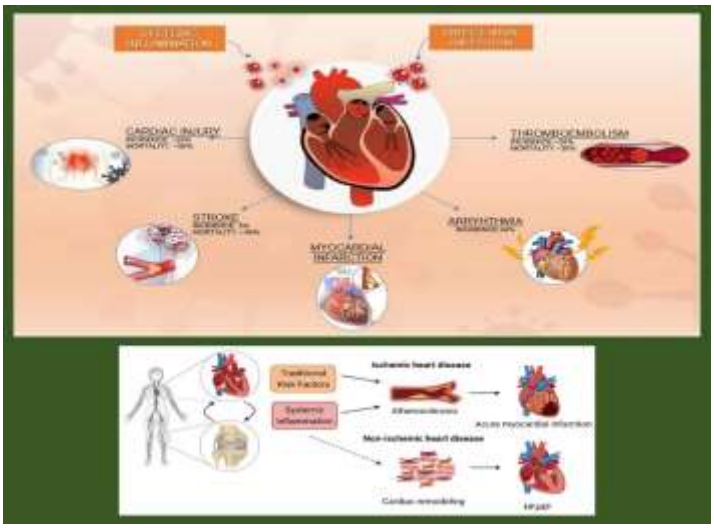

Figure 4. The effect of Corona on the heart

As a result of the lack of oxygen and nutrients and the accumulation of waste materials in the heart muscle, pain occurs, which is known as heart pain or angina pectoris. If the coronary artery is completely blocked by a severe narrowing or blood clot, the heart cells in the area of that artery will die, which is called a heart attack. Sometimes sudden death occurs as a result of a severe and widespread disorder in the functioning of the heart muscle. Many people with heart disease know that they face a greater risk if they get infected with the corona virus and they should follow the infection prevention measures more carefully. Health experts believe that the importance of the corona virus is such that everyone should pay attention to it, and people with heart disease should pay extra attention to it due to their underlying disease. concerns are serious for people with underlying heart problems, with the American college of cardiology issuing a statement this month warning about the possible increased risk in these patients and encouraging them to take extra precautions. According to recent reports, 40% of patients hospitalized due to corona infection have cardiovascular disease or cerebrovascular disease, which refers to the problem of blood flow in the brain, such as stroke [51].

In what ways can the corona virus affect cardiovascular patients?

The lungs are the main target of the coronavirus, but the virus can also affect the heart, especially the heart that has to work harder to transport oxygen throughout the body due to the infection. Corona virus may aggravate the problems of people with heart failure who already have difficulty pumping enough blood in their hearts. On the one hand, a person with underlying heart problems may not have a strong immune system, and on the other hand, the immune system of people weakens due to aging. Therefore, in people with chronic medical problems, the body's immune response is not strong enough in the face of the corona virus. Fever usually occurs less often in older people. Despite this, careful evaluation of other symptoms such as cough or breathing problems is necessary.

Clinical guidelines in times of uncertainty about corona infection

Many effective recommendations to prevent the transmission of viruses that cause respiratory infections such as influenza are also useful in dealing with corona infection. Because both seem to be expanding in essentially the same way. One is through small droplets suspended in the air or on objects during or after an infected person sneezes or coughs, and the other is now we can protect ourselves against the disease by washing our hands, keeping surfaces clean and not traveling to affected areas. Treatment priorities for people with corona infection should be categorized based on the presence of underlying chronic diseases in these people, such as cardiovascular diseases, respiratory diseases, and kidney diseases. It is necessary for people with cardiovascular diseases who are present in areas where

the corona virus is not widespread, to prevent influenza, vaccination and frequent hand washing are important and adhere to the treatments recommended in the guidelines for people with chronic diseases.
Some experts believe that the careful use of drugs that stabilize atherosclerosis plaques based on the recommendations of the guidelines, such as statins, beta blockers, aspirin, can protect cardiovascular patients more during a widespread outbreak. Although these treatments should be considered based on each patient's condition. In patients with high blood pressure, the administration of drugs of the angiotensin receptor blocker family in order to control blood pressure may be able to prevent the spread and severity of the corona infection, because it may prevent the attachment of the corona virus to the host cell [52].
Cardiovascular patients must have received important vaccines such as pneumococcal and influenza vaccines on time. In the case of influenza vaccine, one should be very careful in order to prevent the occurrence of fever as a factor that can lead to misdiagnosis with corona infection. Many people with cardiovascular diseases know that they are at a higher risk if they get infected with corona virus.

An overview of studies

Studying and using the researches related to the subject under investigation will not only be useful in identifying different aspects of the subject under study, but will also clarify the direction of future research activities. Because identifying the level of self-care ability and determining the factors related to it is the most important factor in controlling chronic diseases (39 and 63). For this purpose, in the rest of this chapter, we will review 9 researches conducted on the selected main concepts.
The first report is related to Tekem and his colleagues, which is examined in connection with the main concepts of our research and because of the similarity of the goals and also the tools used. This descriptive-analytical study was conducted with the aim of determining the relationship between disability and self-care ability in patients with rheumatoid arthritis in Turkey on 43 patients with rheumatoid arthritis. Information was checked during interviews and with 3 questionnaires. The first questionnaire included a form of demographic information and related factors, which included 12 questions and was made by researchers, and information related to rheumatoid arthritis and socio-demographic characteristics of patients with rheumatoid arthritis, such as age, gender, marital status, education, job, social security, role in the family, duration of the disease and co-existing chronic diseases were collected.
The second questionnaire to examine disability was the health assessment questionnaire (HAQ), which was created by fries and his colleagues in 1980, and its reliability and validity were confirmed by brass and fries in 2003. In the disability index, there are 20 questions in 8 functional categories such as dressing, grooming, getting up, eating, walking, personal hygiene, lifting, grabbing, and outdoor activities. Scoring is based on a four-point Likert scale from zero to three. Zero score is no problem. Score 1 with a little difficulty, 2 with a lot of difficulty and 3 not doing the activity. A score between zero and one indicates mild to moderate disability, a score of one to two indicates moderate to severe disability, and a score of two to three indicates severe to very severe disability.
The third questionnaire of this study is self-care questionnaire (SCI). This tool is used to estimate self-care ability and cognitive function in physical diseases such as rheumatoid arthritis. This tool was created by Taylor and Geden in 1991 and consists of 40 statements. Scoring is on a 6-point Likert scale from 1 completely agree to 6 completely disagree. The minimum score, which indicates a more favorable situation in self-care ability, is 40, and the highest score, which indicates weak self-care ability, is 240. The distribution of self-care ability score in this study is good 40-58, average 59-89, poor 90-162 and very poor above 162. The data were analyzed by SPSS version 10. ANOVA and t-test statistical tests were used to measure the relationship between self-care ability and disability status. 74% of the samples were female, 39.5% were literate and had primary and higher education. 72.1% were married, 76.7% had insurance and 46.5% were housewives. 55.8 percent of people had a balance between their income and expenses. 46.5% had another chronic disease besides rheumatoid arthritis. The self-care ability of the patients was at an average level. 37.2% had self-care ability at a good level, 32.6% at an average level and 30.2% at a poor level. A positive correlation was found between disability index and self-care ability scores. The findings showed that in people educated up to high school, aged between 20-39 years old, women, people with poor financial status, single people, people without insurance and grandparents had weaker self-care ability than others. The researchers found that in

patients with rheumatoid arthritis, the higher the level of disability, the lower the self-care ability. According to the disability researcher, pain and their effect on self-care ability should be focused on the daily care of rheumatoid arthritis patients and should be taken into consideration in the medical treatment and rehabilitation program [53].

In this regard, another descriptive-cross-sectional and analytical study was conducted by Oyulu and his colleagues in Turkey with the aim of determining the relationship between self-care ability and disability levels and factors related to the condition of patients with rheumatoid arthritis. This research was conducted on 467 patients with rheumatoid arthritis who referred to Gazian university department of medicine as outpatients. The data was collected by the researchers using the face-to-face interview method. The demographic data form of three-part questionnaire was used as a data collection tool. The first part of this questionnaire consisted of 11 questions that were considered as influencing the factor of self-care and level of disability. In the second part of the study, the health assessment questionnaire (HAQ) was used to examine disability, the reliability and validity of which was obtained for the Turkish society by Kok Devasi and his colleagues in 2004. Health assessment questionnaire (HAQ) and SCI (Self-as_carer inventory) were used as research tools. Data recording and analysis was done using SPSS software version 13. Descriptive and analytical statistical tests were used to analyze the data. The results showed that 46.5% of patients were between the age group of 35-49, 66.2% were female, 42.4% were illiterate, 80.7% were married, and 65.1% were not employed. 69% did not have any underlying disease other than rheumatoid arthritis. 68.7% had a history of rheumatoid arthritis in their families. The disability levels of patients were 12.2% in mild level, 51.2% in moderate level and 36.6% in severe level. In the age group of 35-49 years, women, illiterate people, married people, people who lived in urban areas, unemployed people, people who did not know about the disease and those who did not have a history of rheumatoid arthritis in the family, disability levels were worse. In other words, the self-care ability of the patients was at a weak level of 90-162. The classification of self-care ability of patients was 13.7% moderate and 86.3% weak. There was no significant relationship between socio-demographic variables and classification of self-care ability. The rating of self-care ability was worse in the age group of 35-49 years old, women, illiterate people, married people, people who lived in the city, unemployed people, those who did not know about the disease, and people who did not have a history of rheumatoid arthritis in the family [52].

A strong positive correlation was observed between self-care ability score and disability level, and a weak positive correlation was observed between self-care ability score and pain score. In other words, when their self-care scores decreased, their disability levels worsened and their pain levels increased even more. No correlation was observed between patients' age and self-care ability score and disability level, while a positive correlation was observed between age and pain score. In this study, the researchers found that the higher the disability and pain level of the patients, the lower the self-care ability score, and they also found that nurses should try to provide these patients with the knowledge, skills, and initiative necessary to actively participate in self-care [53-55]. In order to investigate the level of self-care ability in rheumatoid arthritis patients, Allinger and his colleagues conducted a study with the aim of determining the self-care ability of rheumatoid arthritis patients in America. This study was conducted on 60 patients diagnosed with rheumatoid arthritis. Self-care ability exercise questionnaire (ESCAI) was used as the research tool. This questionnaire was designed in 1979 by Kearney and Flescher and had 43 questions. Each question was answered on a 5-point Likert scale from "always applies to me" (5 points) to "does not apply to me at all" (1 point). The highest possible score was 215, which indicates a high degree of self-care ability. After analyzing the data, the results showed that 79% were women and 21% were men. 14% had less than high school education and 86% had more than high school education. The duration of disease in patients with a history of 0-5 years was 14%, in 6-10 years 26%, in 11-15 years 25%, in 16-20 years 21%, in 20 years and above 14%. The range of patients' self-care ability was between 178 and 130. 20% of patients had a high score (good) in self-care ability, 63% had an average score and 16% had a low score in self-care ability. Overall, the findings indicated a moderate or high level of self-care ability in rheumatoid arthritis patients. Meanwhile, there was no significant relationship between age and self-care ability [56]. Also, there was a significant relationship between education level and self-care ability. There was no significant relationship between physician assessment and self-care ability. There was no significant relationship between performance ability and self-care ability. There was a significant relationship between the duration of the illness and the ability to take care of oneself. Therefore, the variables that had a significant relationship in the field of self-care ability were the level of education and the duration of the disease, which is significant. According to the researcher, careful examination is

necessary to discover the needs of rheumatoid arthritis patients and to implement detailed interventions to support and increase self-care ability [57]. Considering the concept of self-care ability as a dependent variable, this research examines the level of self-care ability and factors related to it in other chronic diseases such as cardiovascular diseases by reviewing other related studies. In this regard, Akiol and his colleagues conducted a descriptive-analytical and cross-sectional study entitled Self-care ability and factors related to this ability in patients with high blood pressure in Turkey. 120 hypertensive patients referred to internal medicine and cardiology clinic participated in this study. The data collection tools were two demographic information questionnaires and the self-care capacity exercise questionnaire (ESCA), which was designed in 1979 by Kearney and Flescher and had 43 questions to measure self-care capacity, the answer to each question based on a 5-point Likert scale "always" It applies to me" (5 points) to "does not apply to me at all" (1 point). In some questions that had a negative direction, scoring was the opposite. The maximum score was 140, which indicates a high level of self-care. Self-care ability was categorized as very good (113-138), good (101-112), average (65-100) and poor (24-64). Descriptive and inferential statistics methods and chi-square test were used in the analysis. Data were analyzed by SPSS 10 program. According to the results, 68% of patients were female and 31.7% were male. 4 cases of patients had higher education and 65 cases had primary education. Most of the patients lived in the city. 64.2% were living with their spouses and 17% were living alone. More than half of the monthly income status was equal to current expenses and 6% of the samples had monthly income more than their current monthly expenses. 16.7% of people were smokers and had been smoking for more than ten years. 95.8% of patients did not use alcohol. Parents of about 27.5% of these patients suffered from high blood pressure. More than half of the patients (60.8%) suffered from high blood pressure. More than half of the patients stated that they had never measured their blood pressure. Among those who used medication to control their blood pressure, most used medication regularly. 79.2% of people said that they did not know how to measure their blood pressure. 83.5% of patients stated that they did not know about information and education about their disease. 12.5% of patients had a low level of self-care ability, 64.2% at an average level, 13.3% at a good level and 10% at a very good level. In the category of age group, 76.9% in the age range of 30 to 39 years are average, 70.6% in the age range of 40 to 49 years are in the average level, 17.6% are in the good level and 11.8% are in the very good level. have been. In the age range of 50 to 59 years, 13.8% was at a poor level, 55.2% at an average level, 17.2% at a good level, and 13.8% at a very good level. In people 60 years and older, self-care ability was 16.4% in poor level, 63.9% in average level, 11.5% in good level and 8.2% in very good level. The statistical difference between these groups was not significant. In evaluating the level of education, self-care ability in illiterate patients was 3.2% at good level, 61.3% at average level and 32.3% at poor level. The ability of self-care in patients with primary education was 3.1% at very good level, 15.4% at good level, 73.8% at average level and 7.7% at poor level [58]. The self-care ability of people who graduated from elementary high school was 33.3% at a very good level, 1.1% at a good level, and 55.6% at an average level [59].

In the same way, among the people who were completely graduated from high school, the weak level was not seen among them, but instead, 36.4% had a very good level, 18.2% had a good level, and 45.5% had an average level. For patients at the university graduate level, poor or moderate levels were not found among them, but about 50% had good and very good levels alike. The level of self-care ability in terms of living in the city was 61.9% at the average level, 9.5% at the poor level, and 14.3% at the good and excellent level. In the patients who live in the village, a good or very good level was not observed in terms of self-care ability, but still, 66.7% were at an average level and 33.3% were at a poor level. In general, no statistically significant difference was observed between the groups. The amount of self-care ability in terms of job status in working patients was 20% in good level, 66.7% in average level and 6.7% in very good level and poor level in the same ratio. In unemployed patients, 10.5% were in very good level, 12.4% in good level, 63.8% in average level, 13.3% in poor level. According to the researcher, it can be useful to evaluate the self-care ability of patients with high blood pressure in the same environment where they live. Also, Lukarinen and Hentinen conducted research titled self-care ability and factors related to this self-care in Finnish coronary artery patients in 1997. 250 patients participated in this study. The questionnaire of this study was SCI. This tool is used to estimate self-care ability and cognitive function. This instrument was developed by Gadden and Taylor in 1991 and then completed by Weaver in 1985. This tool consists of 40 statements. The grading is based on a 6-point Likert scale (1-6), from 1 I completely agree to 6 I completely disagree. The minimum score, which indicates a better condition in

self-care ability, is 40, and the highest score, which indicates weak self-care ability, is 240. The distribution of self-care ability score in this study is good 40-58, average 59-89, poor 90-162, and very poor more than 162. Data were analyzed by SPSS software version 6 and Chi-square test was used. The average age of patients participating in all courses was about 59 years (age range between 77 and 35 years). Among 250 patients, 68% were men and 32% were women. Most of the patients were married (75%) and only 7% were single. 12% were divorced and 6% were widows. 71% had primary education. Most of the patients had completed the compulsory education course and only a few of them had a high level of professional education. The proportion of cases that were permanently present at work was about 9%. A little more than half of the patients (53%) were in the age range of pensioners and retirees. Most of the people and patients in question (79%) lived at home with their spouses or children. The proportion of people who lived alone was 15%. Nearly half of these patients, 42%, felt depressed and uncomfortable about their illness and problems, or suffered from unpleasant life experiences or poor economic status. 38% had sexual problems that were reported to be related to coronary artery disease or medications. 15% of patients reported their financial status to show their poverty level. More than half of the cases, 61%, used alcohol on average. The proportion of smokers was unexpectedly low at 12% across all periods (Figure 5).

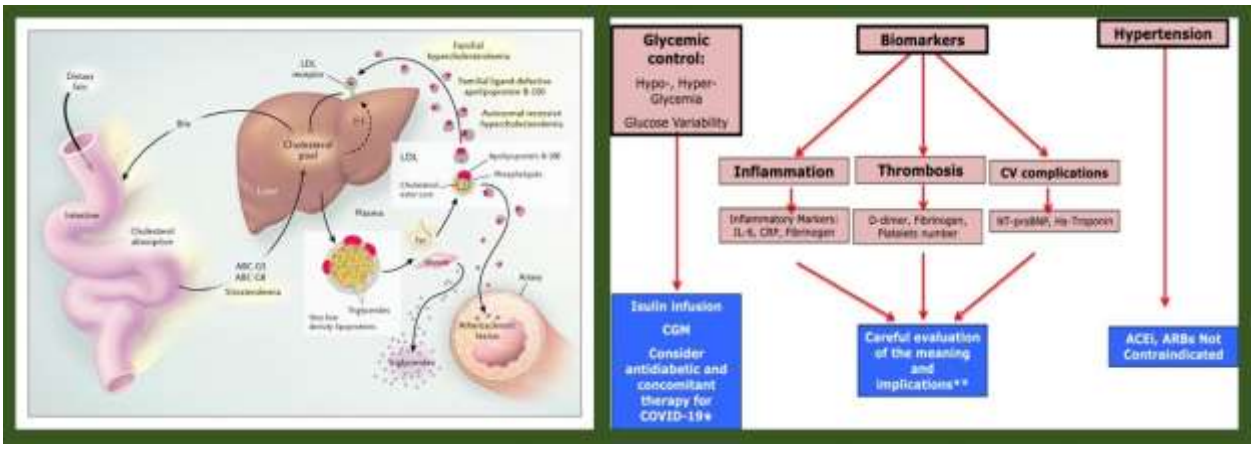

Figure 5. The proportion of smokers was unexpectedly low at 12% across all periods

More than half of the patients, 65%, had grade 3 or 4, which means having pain in the chest during light exercises for grade 3, and pain at rest for grade 4. Nearly half of the patients, 44%, had blockages in three or more of their coronary arteries. 26% of the samples had good self-care ability, 47% average and 25% poor. Men have the lowest self-care power score compared to women, but statistically there is no significant difference between them. In the context of the relationship between the main background factors and self-care ability, the age factor is significantly related to the score or the amount of self-care. The main score in self-care shows that elderly patients have better self-care ability than younger ones. In people who are in the age group of 30 to 40 years, it has been shown that they had a low self-care score. Very old patients (66 to 79 years old) have the lowest score in self-care decisions. Background variable factors are a motivation and driving reason in the topic of self-care. The age factor has a lot to do with effective judgment and efficient decisions for self-care. Financial status and alcohol consumption are also increasingly related to self-care scores. In patients who reported alcohol consumption, they had a lower self-care score. Self-care scores among employers have been better than directors and farmers. Patients who used alcohol or were smokers showed less enthusiasm for self-care. The oldest patients (between 66 and 79) had the highest level of motivation in obtaining a high level of self-care compared to younger people. Patients who were not satisfied with their sex life showed less motivation in self-care than others. Because most of them were people with low literacy level and low socio-economic status. Age, marriage, employment status, number of children, depression and being a smoker had a very high relationship with the self-care status of people. The patients who were examined in this research were critically ill. Nearly half of these people had blockages in three or more of their veins, and half of them had graded severity of 3 or 4, and the level of self-care ability in the patients was average, and their economic status was It was weak. This issue

indicates that poor economic and social ability is one of the risk factors in coronary heart disease patients. This research further discusses the multiple factors discussed above and their association with poor self-care, including low education level, low economic and social status, financial status, alcohol consumption, tobacco use and smoking, depression, sex, life situation and age. As it seems, the issue of prevention in health care is facing new challenges. The group that is at risk, using medical help to control and control the symptoms of the disease, of course, until the results of the tests end up with good results. People who have a high economic and social position have more resources and facilities to maintain their health status and medical information, as well as the most influential factors of these components. There are evidences that show that living in a favorable economic and social situation reduces mortality due to cardiovascular problems. In the present study, according to the documents presented, it is possible to distinguish between people who have a lack of self-care, according to their age, sex, education, social conditions, lifestyle, and type of sexual life. It will be very useful to evaluate the self-care ability of cardiac patients in the environment in which they live. Preventive health care should be expanded according to the background knowledge of people's lives, environmental conditions of life, lifestyle and social and economic status and giving the possibility to know their surroundings. Health and self-care are related due to economic, social and physical factors. Humans have always been members of a community, and this means that the components and criteria of self-care ability should also be implemented for family and close friends. Health education is the most effective way to access the real-life situation of people in changing their behavior in order to improve self-care ability (89).

In this regard, Mohammad Hasani and his colleagues also conducted descriptive-analytical research entitled Self-care ability based on Orem theory in people with coronary artery disease on hospitalized patients with coronary artery disease in one of Tehran's specialized heart hospitals. 307 patients were selected by purpose-based sampling method. The data collection tools were two questionnaires for patient demographic information and self-care ability, which were designed in 1979 by Kearney and Flescher, and the self-care ability practice questionnaire (ESCI) had 43 questions. Each question was answered on a 5-point Likert scale from "always applies to me" (5 points) to "does not apply to me at all" (1 point). In some questions that had a negative direction, scoring was the opposite. Data were analyzed by SPSS version 14 software. Descriptive and inferential statistical methods were used in the analysis. ANOVA test was used to find the relationship of self-care with the variables of age, education level, employment status, and income, and independent t-test was used to determine its relationship with the gender variable. 41.4% of the samples had another chronic disease.

There was no statistically significant relationship between self-care ability and the variables of age, gender, education level, employment status and income status. Finally, the researcher emphasizes that strengthening self-care ability in people with coronary artery disease can play a very effective role in controlling the disease, preventing possible complications and reducing hospitalization and treatment costs, improving people's quality of life.

Abutalebi and colleagues conducted another study in this direction with the aim of determining the self-care ability of heart failure patients in Ardabil. 72 patients were included in the study by available sampling method. The tool of this research included a two-part questionnaire form. The first part included 25 questions that examined individual characteristics, disease information and treatment of patients as independent factors affecting self-care ability. In the second part, the European Self-Care questionnaire of heart failure patients (EHFSCB) was used. This questionnaire was designed in 2003 by Jarasma et al., which contains 12 questions about self-care behaviors of heart failure patients, including weight control, fluid restriction, fluid therapy, physical activities, amount of rest, visiting medical centers when gaining weight, shortness of breath, swelling of the legs, feeling very tired and also annual injection of influenza vaccine. Each item has a rating of 1-5 based on the Likert scale, the answer of each question is from the option "completely so" with a score of 1 to the option "completely not so" "with a score of five, it is changing. In this research, the self-care ability of patients was divided into three levels: good (0-20), average (21-40), and poor (41-60) based on the average score. Data analysis was done using SPSS version 17 statistical software and descriptive and analytical statistical methods. In examining the individual characteristics of the studied units, 47.2% of the units have heart failure class 3, 52.8% are male, 51.4% live in the village, 52.8% are married, 51.4% are literate, and 40.4% are unemployed. Or a housewife, 51.4% had income less than the expenses and 19.4% lived alone. In the examination of patient characteristics and treatment of the research units, 43.1% of the units had a history of smoking, 62.5% had another chronic disease in addition to heart disease, and 29.2% had diabetes. 62.5% had a family

history of heart disease and 40.3% had a history of education about heart disease. The average duration of the disease was 5.5 years. 7% had good self-care ability, 61.1% of research units had average self-care ability, 31.9% had poor self-care ability. Statistical tests showed a significant relationship between the factors of heart failure class, age, marriage, education, educational background, monthly income, suffering from another chronic disease, and occupation with self-care ability, and there was a significant relationship between the factors of residence and gender with self-care ability. was not observed. The results of the study showed that the self-care ability of the research units is affected by the basic influencing factors, including the health level of the affected people. Therefore, it is necessary for nurses to identify their self-care needs by examining the self-care behaviors of patients while performing nursing interventions and formulate and implement planned trainings to improve the self-care behaviors of patients [60].

Farahani et al also conducted a descriptive study with the aim of determining the self-care ability of hypertensive patients referred to selected hospitals in Ardabil. 820 patients with blood pressure were selected by census method. The method of data collection in the research was interview. The tool of this research included a two-part questionnaire form. The first part included 29 questions that examined basic situational factors as independent factors affecting self-care ability. In the second part, the ESCA self-care exercise questionnaire was used.

This questionnaire was designed by Kearney and Fleisher in 1979 and it contains 43 items, each item is rated 0-4 based on the Likert scale. The highest possible score that can be obtained in this tool is 172, which is a sign of the highest level of self-care ability. This tool was previously used by Akiol to check the ability of self-care in patients with high blood pressure in Turkey. Its validity and reliability were investigated in 1993 and 2004 by Nashira for use in Turkish society. In this research, in order to determine the level of self-care ability of the research units, the raw scores were first calculated based on 100. Then, according to the obtained scores, the self-care ability of the research units was divided into three levels: good (scores 76-100), average (51-75) and weak (≥ 50). Analysis was done using spss software. The highest percentage of research units, 25.6% in the age range of 50-59 years old, 66% female, 74% living in the city, 28% married, 68% illiterate and 28% university educated, 53.5% unemployed, 44.8% The income is less than the Kurdish expenditure and 11.6% of the income is equal to the Kurdish expenditure. In the examination of the disease characteristics and treatment of the research units, 22.3% of the units had a history of smoking, 58% had a family history of high blood pressure, 52% had regular blood pressure measurement, and 66% had regular medication use. In examining the self-care ability of the research units, 6.7% had good self-care ability, 69.6% had average self-care ability, and 23.7% had poor self-care ability (Figure 6).

Figure 6. Forest plot showed Investigation of Medical Services in Patients with Diabetes in ICU

Factors such as gender, place of residence, marriage, age, level of education and employment had a significant relationship with the self-care ability of the research units. The results of the research showed that the self-care ability and health of people are affected by the basic situational factors. In other chronic diseases such as diabetes, the level of self-care ability has also been investigated.

Vathoqi et al. conducted a cross-sectional descriptive study with the aim of investigating the self-care ability of people with diabetes in Imam Khomeini Hospital, Ardabil. 92 patients with diabetes were included in the study by the census method among patients hospitalized in the internal department of Imam Khomeini Hospital. The tool of this research included a two-part questionnaire form. The first part consisted of 21 questions that investigated the personal characteristics and information about the disease and treatment of the patients as independent factors related to the self-care ability of the patients, and the second part of the questionnaire was the questionnaire related to the self-care ability of diabetic patients (SDSCA). This questionnaire was designed by Tolbert and his colleagues in 2000 and included 15 items, each item is graded from 0 to 7 based on the Likert scale. In this tool, if the patient performs the desired self-care behavior on all days of the week, a full score of 7 is given, and if he does not perform the desired behavior, a score of zero is considered for that behavior. The highest possible score that can be obtained in this tool is 105, which indicates the highest level of self-care ability. Data were analyzed using SPSS version 17 software and descriptive statistics methods, independent t-tests and one-way analysis of variance. In the study of individual characteristics of the research units, out of 92 patients studied, 85.9% had type 2 diabetes and 14.1% had type 1 diabetes. 65.2% were female and 34.8% were male. The age of 39.1% was more than 60 years. 62% were illiterate and 38% were literate, and 52.2% lived in the village and 47.8% lived in the city. 97.8% were married and 78.3% were unemployed. 46.7% had income equal to Kurdish expenses and 95.7% had health insurance. 17.4% had a history of smoking. 17.4% measured their blood sugar according to the doctor's order. In examining the duration of diabetes, 39.1% had a history of diabetes for 5-10 years. Also, 82.6% had another chronic disease in addition to diabetes. In this research, 2.2% of self-care ability was "good", 29.3% was "average" and 68.5% was "weak". In the study of self-

care ability according to age, the research units with the age of less than 40 years with an average of 61.46±13.35 had a higher self-care ability than other age groups, and the one-way analysis of variance test showed a significant statistical difference between the research units with Age less than 40 years showed with other units. The distribution of self-care ability according to education showed that research units with secondary education had a better self-care ability than other educational levels with an average of 14.10±68, and one-way variance analysis showed a significant difference between research units with elementary education and illiterate units. gave the units with training experience had a better self-care ability than the units without training experience with an average of 49.98±20.31 and the independent t-test showed a significant statistical difference between the research units with and without training experience. The research units with more income than the cost had a better self-care ability than other research units with an average of 61.75±11.50, but the one-way analysis of variance test did not show a significant statistical difference between the research units. At the end, the researcher mentions that nurses, when performing therapeutic interventions, identify their care needs by examining the self-care status of patients and, with the cooperation of other members of the treatment group, prepare and implement planned trainings in order to improve the self-care behaviors of patients (92). Oksel, quoting Jirvok and Casno, believes that people's jobs have a direct relationship with their self-care ability level. Because a better job situation means higher levels of education and earned income. In the results of Oksel et al.'s study, which was conducted with the aim of analyzing the self-care behavior of patients with chronic heart failure in Turkey, it showed that the employee and retired research units had better self-care ability than other researched units and there was a significant relationship between the ability Self-care and job were reported. The results of Aboutaleb et al.'s study with the aim of determining self-care ability in patients with high blood pressure based on the Orem theory in Ardabil and the study of Kato et al. and have reported a significant relationship between the job and self-care ability of the researched units. In addition, it seems that in the present study, unemployed people have gained a high level of self-care due to having enough time and follow-up of treatment and implementation of sports and physical therapy activities. In this study, the research units with an income of more than 600 thousand Tomans per month with an average of 55±21.74 had better self-care ability than other research units, and there was a statistically significant difference between income and self-care ability. Cowell states that economic factors reflect the resources available to individuals and families to provide self-care or dependent care. In their research with the aim of determining the self-care behaviors of poor people with heart failure in San Francisco, America, with the SCHFI tool, Connell and colleagues reported a significant relationship between income and the level of self-care ability. In Garcia's study with the aim of determining the self-care ability of people with high blood pressure in Colombia, a significant relationship between self-care ability and income level was reported. According to the researcher, income can have a positive effect on meeting needs and efforts to improve self-care and increase self-care ability by increasing the self-confidence and independence of the patient and having the ability to obtain more facilities and resources. In the present study, in the field of comorbidities, patients who did not have any chronic disease other than rheumatoid arthritis had better self-care ability, and a significant relationship between the presence of comorbidities and self-care ability was observed.

There was also a significant statistical relationship between self-care ability and co-morbidities score based on the Charlson index, so that the average score of self-care ability was lower in patients who scored zero, and in other words, they had better self-care ability. In Tekem's study, a statistically significant relationship between co-existing chronic diseases and self-care ability was seen. In the study of Abutalebi and Shojaei in Tehran, there was also a significant relationship between comorbidities and self-care ability. In Chris's study, with the aim of determining successful predictors in managing self-care behaviors after three months of hospitalization, a significant relationship between self-care behaviors and simultaneous suffering from other chronic diseases was reported. Kato believes that the existence of other chronic diseases at the same time as the current disease causes the components of self-care behaviors to become more and more complex, which will affect the self-care ability.

According to the researcher, it is possible that suffering from other chronic diseases at the same time will complicate the treatment regimen and self-care in patients, and they will need more skill and time to perform these behaviors, which will affect the self-care behavior [61]. It seems that the existence of concomitant diseases and Charlson's index can also be related to the ability of self-care by affecting the severity of the disease and its symptoms in a person. According to the researcher, if a patient with rheumatoid arthritis has co-morbidities or another chronic disease, the

self-care ability undergoes more changes by changing the way and lifestyle and this can affect the amount of self-care ability. Also, a patient who suffers from another disease in addition to rheumatoid arthritis, has more limitations in physical performance and fulfilling their roles. In addition, these diseases can cause more pain and suffering for the patient and reduce the patient's self-care ability.

In this research, the results showed that the patients whose disease duration was less than 5 years had a better self-care ability with a mean and standard deviation of 53.73±1.97, so that with a decrease in duration, Illness, the self-care ability score decreased and the self-care ability increased, and with the increase in the duration of the illness, the self-care ability decreased, and there is a significant statistical relationship between the self-care ability and the duration of the illness [62].

In this regard, the results of Ellinger's study with the aim of determining self-care ability in rheumatoid arthritis patients showed that there is a significant relationship between the duration of the disease and self-care ability. In the results of Shojaei's research, it was also determined that with the increase in the duration of the disease, self-care behaviors became weaker, and our study is consistent with Shojaei's study, but in the study of Bagai et al., although the self-care status based on the duration of the disease showed a statistically significant difference to the disease, but with the increase in the duration of the disease, the amount of good self-care increased. Rakul believes that increasing the duration of the disease and the progress of the disease causes the symptoms to worsen and lack of energy, and patients become unable to perform self-care behaviors. From the researcher's point of view, in this study, since the patient's age has increased in line with the increase in the duration of the disease in rheumatoid arthritis patients, and because the patients have less energy in self-care as they age, the self-care ability has decreased. Therefore, in short, in the present study, gender, age, marital status, education level, occupation, income, duration of illness and co-morbidities, and Charlson's index had a statistically significant relationship with self-care ability. In Allinger's study, with the aim of determining self-care ability in rheumatoid arthritis patients, only the duration of the disease and education were known to be predictors of self-care ability.

In Sorani's study, with the aim of investigating the predictability of self-care behaviors on blood sugar control in patients with type 2 diabetes in Qom, only the level of education was recognized as a strong predictive factor. In Didarlu's study, with the aim of investigating the factors affecting self-care behavior in diabetic women in Khoy city, using the SDSCA tool, knowledge and education level were also recognized as strong predictive factors. From the researcher's point of view, perhaps the reason for the difference in predictors of self-care ability is the difference in some individual-social and disease-related characteristics and ethnic and demographic differences, the difference in the type of self-care ability evaluation tool, and the difference in the type of variables investigated in each study and the method of collection. to gather information. Of course, in addition to the effective factors of age, level of education, level of disability and duration of the disease, there are other unknown factors that can be effective in predicting self-care ability, which due to the complex nature of rheumatoid arthritis and the causality network of this chronic disease. It can be investigated in future studies.

Discussion

The challenging and global spread of the coronavirus has caused health researchers to take quick measures to control its epidemic, and since its outbreak, various studies have also been started. In the present study, which aimed to investigate and compare the prevalence and severity of the disease and the mortality rate among patients with underlying disorders compared to control subjects. The results showed that people with diabetes, high blood pressure and cardiovascular diseases have a higher risk of contracting the new coronavirus than other people in the community, as other studies also confirm this finding. High blood pressure is usually associated with other risk factors such as cardiovascular diseases and diabetes, which increases the risk of contracting Covid-19. Also, diabetes can be considered a risk factor for the severity and progression of the new coronavirus [63]. Past studies have also shown that diabetes and cardiovascular diseases increase the risk of contracting SARS and MERS, which, like the new coronavirus, are a type of acute respiratory syndrome, in such a way that they increase the probability of death due to SARS by 11 and 8 percent, respectively [64]. More than 50% of people with MERS had diabetes and high blood pressure, and more than 30% had cardiovascular disease. Diabetes can increase the risk of immune system disorders,

as many studies have shown, diabetes can interfere with the body's immune system by reducing the function of the immune system through the disruption of chemotaxis of neutrophils and the antibacterial activity of monocytes and phagocytosis. infection, so that 16% of patients classified with the severe spectrum of coronavirus disease in China had underlying diabetes and 24% of these patients had high blood pressure. In this study, it was also shown that 1.24% of people infected with the new coronavirus had a history of high blood pressure, 7.21% had diabetes, and 1.20% had cardiovascular diseases. Initially, symptoms of patients with Covid-19 were reported as fever, muscle pain, cough and fatigue, but with the passage of time and etiology research, symptoms such as shortness of breath, anorexia and impaired sense of taste were also reported [65].

In addition, many patients initially died due to late diagnosis and lack of definite and effective medicine and treatment. Since smoking itself reduces the function of the immune system and increases the risk of cardiovascular disease and high blood pressure (Figure 7), scientists have been convinced since 1989 that smoking reduces the activity of natural killer (NK) cells. and finally increases the risk of infections. Also, in the studies conducted on the new coronavirus patients, it was shown that the probability of contracting the new coronavirus disease is 1.8 times higher in smokers than in other people [66].

Figure 7. Forest plot showed Investigation of Medical Services in Patients with Cardio-Vascular and Rheumatology Disease in ICU

Conclusion

According to the obtained results, the presence of underlying diseases such as high blood pressure, diabetes and cardiovascular disorders can increase the probability of contracting Covid-19, and the mortality rate of this disease also increases in these people. Also, the results of this study showed that the death rate in people who consume cigarettes is higher than in control people. Therefore, it is suggested to be more careful about following the health protocols for people with underlying diseases, and if the vaccine for this disease becomes available, people with the mentioned underlying diseases should be prioritized. A person who has a weak heart or vascular system is more vulnerable to complications such as low blood pressure, low blood oxygen levels, heart rate changes, increased risk of blood clots that may occur when contracting COVID-19, and even a healthy heart must also work very hard to help overcome these complications associated with Covid-19, but for a heart that is already sick and struggling, these complications can easily become severe and fatal. Heart disease is often associated with other health conditions that affect overall body function, such as diabetes and obesity. For example, obesity has been shown to cause excessive inflammation, and diabetes has been shown to increase a person's risk of blood clots, even in the absence of infection. While suffering from Covid-19, these pre-existing conditions are believed to possibly exacerbate the effects that the virus can have on an already stressed heart.

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