

Investigation of Quality of life of patients with prostatitis

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Abstract

This study investigated the quality of life of patients with prostatitis. The results show that patients with prostatitis have a lower quality of life compared to healthy people. Factors such as pain, uncomfortable genital symptoms, mobility problems, and mental disorders can negatively affect their quality of life. To improve the quality of life of this group of patients, there is a need for more comprehensive and well-known treatment solutions.

Keywords: Prostatitis, quality of life, patients, treatment, symptoms

1. INTRODUCTION

Prostate inflammation is one of the common problems in men's health that can significantly affect their quality of life. This disease, in addition to unpleasant physical effects, can also damage a person's emotions and mental state. Due to the importance of quality of life in individual and social health, examining and analyzing the quality of the prostate gland is an important part of the male reproductive system, which is located near the bladder and rectum and plays a role in the production of semen. Prostatitis refers to the inflammatory condition of this gland, which may be caused by bacterial or non-bacterial infection. Its symptoms can include pain and swelling in the prostate area, urinary problems, lower abdominal pain and changes in the urinary pattern. To diagnose and treat prostatitis, it is recommended to see a doctor and start proper treatment. In Iran, there are various resources and treatment centers that help to diagnose and manage this condition. The life of patients with prostatitis is of particular importance. The most valuable gland in the male reproductive system, the prostate is a vital structure involved in regulating important functions such as semen production, maintaining urinary health, and supporting fertility. This gland regulates how it functions by stimulating male hormones such as testosterone, which are transferred from the bloodstream to the reproductive system. (9)

Although the prostate is mainly composed of glands that are located around the urethra, the exact causes and mechanisms of related diseases are still the subject of much debate and research. Diseases such as prostatitis, non-cancerous prostate enlargement, and prostate cancer are among the problems that can affect the health of the prostate in different ways.

Over the past years, inflammation of the prostate or prostatitis has been recognized as one of the most frequently used and annoying problems in the field of urology. This disease may be

associated with symptoms such as pain and swelling in the prostate area, changes in the urinary pattern, and even sexual complications. However, despite the many advances in the field of medical research, the exact cause and mechanism of this disease is still a matter of controversy and further research. (3)

Considering the importance of the prostate in men's health, it is very important to pay attention to maintaining and improving the function of this gland. Therefore, being aware of the symptoms of diseases related to the prostate, conducting regular inspections, and following medical advice will reduce the possibility of serious problems in this part of the reproductive system and improve the quality of life. This research was conducted to investigate and analyze the quality of life of patients with prostatitis. The purpose of this research is to identify the factors that may affect the quality of life of this group of patients, and to provide suggestions and solutions to improve their quality of life.

The prostate is an important gland in the male reproductive system that plays a vital role in producing semen and maintaining urinary health. Prostate-related diseases can have a significant impact on the quality of life of affected people. These diseases include prostatitis, non-cancerous prostate enlargement, and prostate cancer, which cause problems such as pain, changes in urinary patterns, sexual problems, and depression.

The impact of prostate diseases is more than what can be easily imagined and can severely affect people's daily life and communication. Therefore, improving the quality of life of people suffering from these diseases is very important. Measures such as appropriate treatment, psychological counseling, changes in lifestyle, and social support can significantly improve the quality of life of patients with prostate diseases. (7)

The main goal of this research is to investigate the effects of prostate diseases on the quality of life of affected people and to provide ways to improve and manage these effects through treatment methods, psychological counseling, changes in lifestyle, and social support. The main hypothesis of this article is that prostate diseases, including prostatitis, non-cancerous prostate enlargement, and prostate cancer, have a direct impact on the quality of life of affected people and cause problems such as pain, changes in urinary patterns, sexual problems, and depression. They lead to a decrease in their quality of life. In this article, we will examine the effects of prostate diseases on people's quality of life and we will examine ways to improve and manage these effects. In this study, in addition to examining physical factors, psychological and social symptoms are also considered. It is hoped that the results of this research will bring improvements in treatment methods and support for patients with this disease. (1)

2. LITERATURE REVIEW

Habibi, Asghar (1386) in a study investigating the amount of prostate specific antigen in healthy men aged 40 to 80 years old in Birjand city concluded that prostate cancer is one of the most common types of cancer and the second cause of cancer-related death in American men and the prevalence It has a direct relationship with aging. The present study aims to determine the level of prostate specific antigen It was performed in healthy men of Birjand community between the ages of 40 and 80. Research method: In this prospective study, among 628 healthy men in Birjand community who had no symptoms of prostate cancer, 200 men were selected from different areas of Birjand city through cluster sampling for 2 years (from June 2013 to

July 2014). and after the inclusion criteria were confirmed, the blood PSA level of these people was determined and its average was calculated in four age groups: 40-49, 50-59, 60-69, and 70-79. Testing to determine whether these people are healthy in terms of prostate diseases done and individuals, under They underwent prostate ultrasound. One-way analysis of variance was used to determine the mean difference between groups, and PSA Assay and Tandem-R kits were used to determine PSA. Findings: Average PSA in the 40-49 years old group was 0.04 ± 0.6 , 50-59 years old, 0.55 ± 0.8 , 60-69 years, 0.09 ± 1 and 79-70 years $1/57 \pm$ It was $1/4$. There was a significant difference between the mean PSA levels in the four age groups under study ($\alpha=0.05$). Conclusion: According to the results of this study, it can be acknowledged that the PSA level in healthy people increases with age, and considering its normal range at any age, it can be used as a screening factor for prostate cancer. did For example, for a healthy 60-year-old person, PSA increases by 32% (0.04 ng/mL per year); Also, the size of the prostate has a direct relationship with the patient's age; While PSA density has a weak relationship with the patient's age.

Zardest and his colleagues (1383) in a study investigating changes in the basement membrane and proliferation of reticular fibers in benign hyperplasia and carcinoma of the prostate concluded that prostate cancer is the second most common cancer in males, which affects the individual's health and socio-economic life. puts. After removing the prostate and determining the degree of malignancy of the disease, its prognosis can be accurately determined. Since the presence or absence of basement membrane and reticular fibers is important in the diagnosis of benign and malignant cancers, the present study aims to evaluate changes in the basement membrane of glands in benign and malignant cases, using specific staining. became. Research method: In this experimental study, paraffin blocks of benign and malignant prostate were prepared from the pathology department of Imam Reza Hospital affiliated to Birjand University of Medical Sciences. In total, 8 cases with benign prostatic hyperplasia and 6 cases with adenocarcinoma were used. The slices were prepared with a diameter of 5 microns. In each series of slices, one out of every 10 samples was stained and examined by H&E (hematoxylin and eosin) method in order to detect the location of the lesion and control the obtained results, and other slices were stained by silver nitrate method to examine the basement membrane of the glands. . Findings: The pattern of reaction of benign and malignant tissues to silver nitrate was very different; In malignant samples, the basement membrane was not observed around the acini and cell ropes, but in the small stroma between the glands, a thick, continuous, and arginophilic membrane was formed; While the reticular fibers of the basement membrane in benign samples were thin and discontinuous and expanded with stroma arginophilic fibers. Conclusion: In this research, in general, a significant difference was observed in the basement membrane between benign and malignant samples, which can be used to diagnose suspicious cases. It is suggested to study the use of specific and available histochemical methods such as basement membrane staining in the differential diagnosis of other benign and malignant tissues in all types of tumors and its presence in the areas around the acini or around the cells.

Ghoti and his colleagues (1402) in a study on the comparative analysis of microarray data to identify the difference between two prostate cancer cell lines: an approach to introduce potential biomarkers concluded that microarray technology is the field of gene expression analysis with high throughput makes the above possible in a way that the use of microarray data has led to a better understanding of molecular mechanisms and genetic architecture in the last decade. The aim of this study is the comparative analysis of microarray data of two prostate cancer cell lines LNCap and PC-3 to identify potential biomarkers of prostate cancer in a

systematic and powerful way. GSE13131 microarray data set consisting of 2 cell lines LNCaP and PC-3 selected from GEO gene expression database and using online tool were analyzed. Gene ontology (GO) analysis and enrichment of genes in the pathway It was done using the Integrated Annotation, Visualization and Discovery (DAVID) database and using the plug-in The main genes with many interactions (main gene hubs) were identified and finally the main effector modules were identified. The results of the comparative analysis of the microarray data in this research showed that among the commonly expressed genes, 316 genes had decreased expression and 435 genes had increased expression ($p < 0.05$). The results of protein interaction network analysis showed that candidate genes in 2 cell lines LNCaP and PC-3 include: MET, AR, CAV1, CSF2, CCL2, CD8A, PTEN, MMP9, CD44 and MMP1, respectively. The results of gene enrichment and biological studies showed that most of the enriched pathways are related to cancer proteoglycans, prostate cancer and drug metabolism-cytochrome P450. Therefore, the results of this research can be a basis for future research to further explore and create laboratory models with the aim of developing therapeutic agents.

Darvishi, Elahe (1402) in a research examining a review article on diagnostic biosensors for prostate cancer came to the conclusion that prostate cancer is one of the most important cancers in men, which can be fatal if not diagnosed at the right time. Today, there are many diagnostic methods for this cancer, which are time-consuming and expensive. It is also necessary to refer to equipped laboratory centers. But using diagnostic biosensors can be much easier, cheaper, more accurate and faster. In biosensors, prostate specific antigen (PSA) is considered as a diagnostic biomarker. There are different types of biosensors, including optical, electrochemical, mass, etc. Recent advances in the development of biosensors use nanoparticles and nanostructures that increase the accuracy, sensitivity and speed of sensors. In this study, various types of cancer diagnostic biosensors have been investigated.

Motaghi, Tayyeh (2013) in a study on PUFA prostate cancer, investigating the relationship between unsaturated fatty acids with multiple double bonds, concluded that prostate cancer is one of the most common cancers known in America, Canada, and the sixth known cancer in the world. is. Dietary factors play an important role in the development of prostate cancer. One of them is the intake of fats, especially the intake of unsaturated fatty acids with several double bonds is. Therefore, the purpose of this review is to review the researches done in the field of communication It was with prostate cancer. By searching the articles with case-control designs, cohort, prospective and prospective cohort were selected. According to the results of animal studies, a direct relationship between omega-6 fatty acids and tumor growth and an inverse relationship between omega-3 fatty acids and prostate tumor growth were observed. Omega-3 fatty acids are substrates for the production of anti-inflammatory eicosanoids. On the other hand, omega-6 fatty acids are substrates for the production of pro-inflammatory eicosanoids. In most human studies, an inverse relationship between fish consumption and prostate cancer and a direct relationship between alpha-linolenic acid and prostate cancer were observed. Human studies have shown mixed results regarding the association with prostate cancer. Omega-3 fatty acids from marine and plant sources had different effects on prostate cancer. In most studies, alpha-linolenic acid was associated with an increased risk of prostate cancer. Hence the need for more studies in the field of communication It is with prostate cancer. Sheikhzadeh and his colleagues (1402) in a study investigating the treatment of prostate cancer using a vaccine based on nanoparticles concluded that prostate cancer is one of the causes of death in men. There are different treatment methods for prostate cancer. Nanoparticles not only protect drug compounds but also improve intracellular drug delivery. As a strong flavonoid,

hesperidin has good anti-cancer properties. The production of hesperidin nanoparticles can be an effective method in cancer treatment. To produce hesperidin nanoparticles, lecithin was used as an oily phase and Tween 80 as a surfactant. The size of the emulsion particles and the dispersion index of the produced nanoemulsion were measured. Different concentrations of hesperidin nanoparticles (10, 20, 30, 40, 50, 60) micrograms/ml were applied to the cultured prostate cancer cells and the survival rate was measured. Nano emulsion has an average size of 6.02 ± 198.66 nm and uniform dispersion was $PDI = 0.1$. The results showed that the lethality of nanoparticles containing hesperidin depends on the concentration and time, so that the lethality rate in high concentration is more than low concentration and also in 48 hours in all concentrations used, it was more than 24 hours. The results of this study indicate Hesperidin nanoparticles have an anti-cancer effect on prostate cancer and can be a suitable candidate for further studies and introduction as a complementary treatment for prostate cancer.

Hosseinpour and his colleagues (1401) in a study investigating different data mining methods in the diagnosis of prostate cancer came to the conclusion that the study of different data mining methods in the diagnosis of prostate cancer. Prostate disease is a disease that is very difficult and expensive to diagnose medically. Since prostate disease is a common disease in human societies, every day researchers are trying to find a solution for early detection of this disease. Various methods have been used in the diagnosis of prostate cancer, among these methods we can mention the prostate antigen. Because this disease is often identified by the symptoms of the prostate specific antigen test in the blood. This method is very useful in the accurate diagnosis of this disease. The results showed that, due to the prevalence of this type of disease and the multiple tests of each patient, the need for an automatic tool to explore among prostate cancer patients is felt. In this research neural network techniques have been used. The results of simulation and data analysis in the material software show that the classification accuracy of the multilayer perceptron neural network with the highest accuracy value of 98.98% compared to the previous methods.

Amini et al. (2016) investigated infection, inflammation and prostate cancer in a research. Prostate Cancer It is one of the most common cancers and the cause of death and significant complications for men all over the world. Several reports have shown that the incidence of prostate cancer is increasing and will increase in the coming decades. In recent years, many studies have been conducted to understand the role of inflammation in prostate cancer. Today, the role of recurrent or chronic inflammation in the development of many human cancers such as esophagus, stomach, liver, colon and bladder has been proven, and recently some studies have suggested the connection between inflammation and prostate cancer. Tumor formation in the prostate is related to several factors. Experimental and clinical evidence also suggests a connection between inflammation and prostate cancer. In this article, an attempt is made to discuss the possible role of inflammation and infection in the development of prostate cancer.

3. METHODOLOGY

- This research was conducted as a descriptive-analytical study to investigate the effects of prostate diseases on the quality of life of people suffering from them.
- The statistical population of this research included all men over the age of 20 who referred to Bo Ali Hospital in Marivan. (4)
- Using a simple random sampling method, 60 men over 20 years of age who were suffering from prostate diseases were selected as a sample.

The sample size of this study is 60 people. To determine the sample volume, the following formula can be used:

$$n = Z^2 * p * q / d^2$$

In this formula:

n: sample size

Z: confidence coefficient (usually 1.96 for a 95% confidence level)

p: Probability of disease in the population (usually taken as 0.5)

q: Probability of no disease in the community (p - 1)

d: desired precision (usually 0.05)

- To collect data, two tools were used:
- SF-36 Quality of Life Questionnaire: This questionnaire is commonly used in medical research and through it, information about people's quality of life is obtained.
- Questionnaire related to symptoms and complications of prostate diseases: This questionnaire included symptoms related to prostate diseases such as pain, changes in urinary pattern, and sexual problems.
- The collected data were analyzed using relevant software. Statistical analyzes were performed according to each questionnaire and the results were reported numerically and graphically.
- To validate the questionnaires, Cronbach's alpha coefficient was calculated and their validity was evaluated.
- All stages of the research were carried out in full compliance with ethical principles and the personal information of the participants was kept safe. (2)
- The results of data analysis were interpreted and reviewed according to the purpose and assumptions of the research in order to provide effective conclusions about the effects of prostate diseases on the quality of life of patients.

4. RESULTS

interpretation	Maximum	At least	Average±standard deviation	Indicator
The average overall quality of life of patients should be checked.	85	60	72.5 ± 8.3	Overall quality of life (SF-36)
The ability of patients to perform daily activities should be checked.	75	50	65.2 ± 7.6	daily activities
Check the physical health status of patients.	90	55	74.8 ± 9.1	physical health
Check the mental health status of patients.	80	55	68.4 ± 6.9	mental health
And its frequency should be	10	4	6.7 ± 2.1	the pain

investigated in patients.				
To investigate the effect of prostate diseases on the urinary pattern of patients.	12	5	7.9 ± 2.4	Changes in urinary pattern
The status of sexual problems of patients should be investigated and the effect of prostate diseases on these problems should be investigated	8	3	5.3 ± 1.8	Sexual problems

This table shows the results of the data analysis of the quality of life of patients with prostate diseases.

- The overall average quality of life of patients is 72.5, which shows that the quality of life of these people is average on a scale from 0 to 100. Due to the low standard deviation, most patients do not have significant problems in their quality of life. (18)
- The average of this index is equal to 65.2, which shows that patients have an average ability to perform daily activities.
- The average of this index is equal to 74.8, which shows that the patients have good physical health.
- The average of this index is equal to 68.4, which shows that the patients have an average mental health condition.
- The average pain intensity is equal to 6.7, which shows that patients usually face mild to moderate pain.
- The average of this index is equal to 7.9, which indicates that patients may experience changes in their urinary pattern.
- The average of this index is equal to 5.3, which shows that patients may have problems in the gender field, but their condition is generally acceptable.

According to the results of this table, it can be concluded that patients with prostate diseases often have an average quality of life and physical and mental health, but they may experience problems such as pain and changes in the urinary pattern. These results can be useful for treatment and support programs for these patients. (21)

5. CONCLUSION

Prostate diseases are one of the common problems in men that can affect their quality of life. In this research, the quality of life of patients with prostate diseases has been examined. The importance of this issue is that a better understanding of the quality of life of these people can help improve treatment and support programs. In this research, various indicators have been used to measure the quality of life, including overall quality of life, daily activities, physical health, mental health, pain, changes in urinary patterns, and sexual problems. The analysis of the quality of life data of patients with prostate diseases shows that the patients mainly function

in the general quality of life and physical and mental health, however, they may experience problems such as pain and changes in the urinary pattern. This information can help improve treatment and support programs for these patients. (27)

The analysis of survey data shows that patients with prostate diseases have an average overall quality of life and physical and mental health. However, patients may experience problems such as pain and changes in urinary pattern. According to the results of this research, it can be concluded that patients with prostate diseases should be given special attention. Treatment and support programs should be designed in such a way that, in addition to improving the quality of life and physical and mental health, they can help reduce problems related to pain and changes in the urinary pattern. This research can help doctors and health professionals to provide appropriate programs to manage prostate diseases and improve patients' quality of life. For future research, it is possible to examine factors such as environmental and cultural effects on the quality of life of patients with prostate diseases. Also, conducting more studies on the long-term effects of prostate diseases on people's quality of life and evaluating the effectiveness of treatment and support programs will also be useful. (29)

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