

Investigation on the Status of Self-management of Chronic Diseases and its Prospects

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Abstract: The quality of self-management of patients with chronic diseases has an important impact on the final treatment effect. Based on the research of relevant literatures at home and abroad, this paper designs and implements a questionnaire survey on the self-management status of chronic diseases. The survey found that patients with chronic diseases generally lack professional knowledge learning ways, self-management awareness and ability, as well as effective way to communicate with doctors. Finally, this paper analyzes and forecasts the help and possible path of mobile Internet technology to improve the self-management ability of patients with chronic diseases.

1 Introduction

With the advent of an aging society, the incidence and mortality of chronic diseases have increased year by year. According to the World Health Statistics 2017 report by World Health Organization (WHO) [1], the number of deaths worldwide in 2015 was 56 million, of which 40 million died due to chronic diseases, accounting for 71.4%. For China, many elderly people suffer from chronic diseases such as hypertension, diabetes, respiratory diseases, cardiovascular and cerebrovascular diseases. Many elderly people also suffer from a variety of chronic diseases. Chronic diseases have long been the most horrible killer threatening the lives of residents. According to the "Report on Nutrition and Chronic Diseases of Chinese Residents (2015)" [2], the mortality rate of chronic diseases among residents in 2012 was 533 in 100,000, accounting for 86.6% of the total deaths. Central cerebrovascular disease, cancer and chronic respiratory diseases are the leading causes of death, accounting for 79.4% of total deaths.

Generally, the treatment cycle for chronic diseases is very long, and most of the patient's health care activities are done in the community or in family. However, in the traditional medical service model, patients can only obtain corresponding medical services in hospitals, and they are disconnected from hospitals once discharged. This requires patients to have good self-health management awareness, ability, effective ways to communicate with doctors, and also access to professional health counseling. A large number of domestic and foreign studies [3-6] show that self-management of chronic diseases can promote the healthy behavior of patients with chronic diseases, improve their emotional control, their health and the quality of life.

This paper designs and implements a questionnaire survey on the self-management status of chronic diseases, and conducts related discussions and prospects based on the results. It provides reference for exploring effective and feasible self-management mode of chronic diseases suitable for China's national conditions.

2. The concept of chronic disease self-management

The “self-management” method is derived from the field of psychological behavioral therapy. Psychology defines self-management as the process by which individuals actively apply cognitive and behavioral strategies to manage their own thoughts, emotions, behaviors, and the surrounding environment. In the 1970s, Thomas Creer and his colleagues used the term self-management for the first time in a study on health education for children with asthma [7]. Since then, the term self-management has been widely used, especially with regard to chronic diseases. In the research of patient education projects, the concept has been continuously supplemented and improved. With the deepening of self-management, experts in various fields have done a lot of research on how to manage self-management, and defined the definition of self-management from different angles. Kenneth et al. define self-management as an individual taking on preventive or curative health care activities with the assistance of health care professionals. This definition reflects that patients will be transformed from consumers of health care services to providers [8]. Gruman and Yon Ko believe that self-management is to maintain and improve their health through the behavior of patients, monitor and manage the symptoms and signals of the disease, manage the impact of the disease on the body, mood and interpersonal relationships, and follow the treatment [9]. Barlow et al. define self-management as a management symptom, treatment, physiology, and psychosocial change that develops in response to chronic diseases and the ability to make lifestyle changes [10]. Among them, the more commonly used is the definition of Kenneth.

3 Questionnaire

3.1 Basic situation

Based on the preliminary research of relevant literatures in the previous period, this questionnaire was developed in conjunction with the actual situation of the survey and consultation with doctors and professional teachers in related fields. The questionnaire is divided into four modules: basic information of patients, information about chronic diseases, self-treatment status, and use of internet software. There are 23 questions in total. The survey targets patients with chronic diseases in a prefecture-level city and surrounding counties, and conducted surveys on areas where chronic diseases such as communities and hospitals were relatively concentrated, using a random sampling method. A total of 441 valid questionnaires were collected. The distribution of basic information such as gender, age, household registration, and social security was evenly distributed.

3.2 Patient's understanding of chronic diseases

From the data analysis of our survey results, most of the respondents did not have a comprehensive understanding of chronic diseases, lacking sufficient attention and reasonable preventive measures. Most of the respondents are familiar with the “three highs” in chronic diseases of high blood fat, high blood pressure and high blood sugar. However, only a few patients have heard of chronic diseases such as gout, osteoporosis and mental illness. Figure 1 shows the statistical results of patients with chronic diseases who are aware of common chronic diseases. Taking gout as an example, the disease is caused by the fact that the patients often drink fructose drinks, beer, or eat too much internal organs of seafood animals. When the gout attacks, the patient's pain is unbearable, and it is impossible to walk normally, which has a great impact on the patient's work and life. The western medicines such as colchicine and allopurinol used to treat gout can cause damage to the human kidney. If the patients usually understand the relevant knowledge, pay attention to diet, moderate drinking, reasonable exercise, gout is completely possible to avoid.

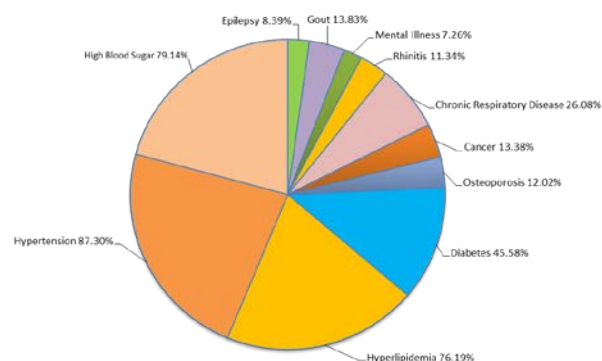


Figure 1. Statistical analysis of patients with common chronic diseases

As for the access to chronic disease consultation, according to the comprehensive investigation to publicity channels of the major hospitals, the main ways for patients with chronic diseases to understand chronic diseases include the popularization of medical staff in hospitals, out-of-hospital publicity, out-of-hospital visits, and online publicity. In-hospital aspects of the popularization and promotion of chronic disease knowledge are only for the hospitalized and inspected part of the population, the majority of patients with chronic diseases are not popularized. Meanwhile, there are so many inpatients in the hospital that both the frequency and duration of communication between medical staff and patients are seriously insufficient, as a result, patient's self-management experience cannot be improved. Many elderly patients with chronic diseases suffer from one or even several chronic diseases, because of the lack of understanding of chronic diseases, they consider chronic diseases as "incurable diseases", and thus reject any treatment of chronic diseases, which in turn leads to further deterioration of the disease and finally a vicious circle. In recent years, some hospitals in the survey have conducted activities such as out-of-hospital publicity and visits, such as "Healthy China–Chronic Disease Rehabilitation System Project" and "Chronic Disease Management Community Bank". The activities have been deeply visited on the ground and visited by the people, and indeed have achieved certain results. But due to the large population base, large number of patients with chronic diseases, and a wide geographical range, relying on the staged publicity visits of major hospitals, the coverage and publicity effects are very limited.

3.3 Treatment status of patients with chronic diseases

According to the survey statistics, more than half of the patients have two or more chronic diseases at the same time. From the overall hospital treatment situation, the number of hospitalizations for chronic diseases accounted for 1-3 times, about 54%, the number of zero hospitalizations was about 41.7%, only a small number of hospitalizations were more than 3 times, close to half of the people were not hospitalized. Nearly 56% of patients are currently in a state of out-of-hospital rehabilitation, and 62% of hospitalized patients report that the symptoms of chronic disease have been alleviated, and only about 2% of patients recover completely through hospitalization. These data once again confirm that the treatment period of chronic diseases is quite long, and the process of out-of-hospital rehabilitation plays an very important role. The self-management ability of patients largely determines the final treatment effect. In the exercise relief, 65% of patients choose to exercise at least once a week, and 44% of them exercise every day. This data indicates that patients with chronic diseases have a strong willingness to recover from the body and are willing to spend time and energy for physical rehabilitation. In terms of follow-up, 68% of patients said they were not followed up by a doctor. Most of the patients who had followed up were only receiving occasional follow-up calls from the hospital, asking about the recovery status, and could not provide real-time rehabilitation guidance based on physical condition.

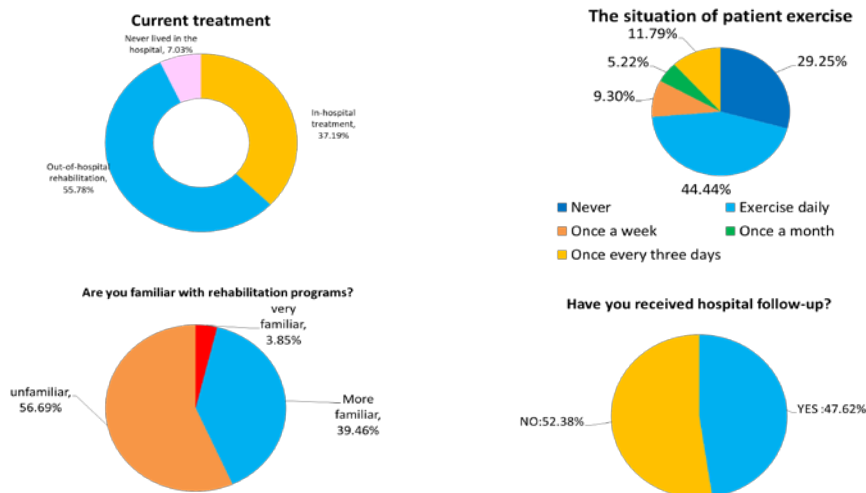


Figure 2. Statistical results of patient treatment status

3.4 Internet software usage of patients with chronic diseases

With the rapid development of network and mobile internet, the use of mobile phones has covered all aspects of life. The use of mobile phone software for chronic disease management has gradually become a trend. The questionnaire set up some problems on whether smart terminal equipment help giving users on medical, health and life assistance. The survey results show that 68.4% of the survey respondent use smart phones, only 26.7% use the old machines, very few have no mobile phones. Through preliminary research, there are a large number of APPs and WeChat public numbers on chronic diseases, such as family doctors and Chun Yu doctors, which have indeed facilitated some chronic patient groups. However, according to the survey, the vast majority of people do not have the habits of using any APP or WeChat public number related to chronic diseases, and in terms of the frequency of use among those who use these APPs and the WeChat public numbers, 60.7% of them choose to use rarely. For the problems of these APPs and the WeChat public numbers, the respondents give various reasons and there is no unified conclusion. These results suggest that there is still a long way to go before the combination between mobile Internet and chronic disease management.

4. Summary and outlook

Judging from the results and analysis of the questionnaire, there are many problems in the self-management of patients with chronic diseases, which leads to poor patient treatment. On the one hand, due to the lack of medical resources and medical expenses, the treatment process of patients is unlikely to be in the hospital, on the other hand, patients lack effective self-management awareness and ability outside the hospital, resulting in unsatisfactory treatment results.

Firstly, the patient lacks relevant expertise and an effective way for accessing professional knowledge. At present, most patients can only acquire knowledge during hospitalization due to their own diseases. The lack of understanding of non-self-affected diseases can easily lead to other chronic diseases. In the process of self-management outside the hospital, there is no scientific guidance on the measurement of body parameters, food choice diet control, as a result, the hospital treatment effect is easily destroyed by unreasonable self- management outside the hospital, the patients have to be admitted again, forming a vicious circle. Secondly, there is no effective communication way between patients and hospitals, especially during out-of-hospital rehabilitation. Some patients receive follow-up information, which is only a one-time follow-up of simple telephone. It is impossible to track the disease and guide it in real time. In addition, although there are already well-functioning software on the market to solve the above problems, due to the lack of industry standard guidance and also the lack of support by government or hospital, these software lack universality, and many

functions are flashy and cannot solve practical problems, in addition, insufficient marketing caused many software stopping at the starting line thus cannot effectively help chronic patients improve the quality of self-management.

As the prevalence of chronic diseases increases year by year, medical resource gap will become larger and larger. While using traditional methods to improve the level of hospital admission treatment and enhance the effect of rehabilitation outside the hospital, it is imperative to improve the self-management ability and quality of patients with chronic diseases. With the continuous upgrading of mobile Internet technology and the popularity of intelligent terminals, combining cloud computing, big data and other technologies to build a bridge of information management becomes easier. Based on chronic disease management business model and mobile Internet technology, it is possible to build a smart platform for chronic disease social, chronic disease question and answer, chronic disease consultation and also other functions. The platform will provide patients with continuous chronic disease management services and improve the quality of chronic disease self-management.

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