

Analysis of the Necessity and Feasibility of Applying Bloom's Taxonomies to Chronic Disease Management

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Abstract

Objective: Facing our country's current aging population and the increasingly heavy burden of chronic diseases, analysis of the necessity and feasibility of applying Bloom's Taxonomies to community chronic disease management, to promote the improvement of health education model. **Methods:** Through summarizing the literature, to understand the meaning of key concepts such as chronic disease management and Bloom's taxonomy teaching method. After that, summarized the current situation of chronic disease management in our country and the inadequacies of education methods, and explain the significance of health education too. Finally, analyzes the advantages of Bloom's taxonomy teaching method over current health education methods, and analyzes the feasibility from the perspective of policy feasibility. **Result and Conclusion:** The cognition process of chronic disease education is consistent with that of Bloom's taxonomy, which can be used to guide chronic disease education. Patients with chronic diseases have the need of receiving disease education. We believe that Broome's classification education method has advantages and can meet the educational needs of patients. It is necessary and feasible to apply Broome's classification method to chronic disease education.

Keywords

Bloom's Taxonomy; Health Education Model; Chronic Disease Management; Necessity and Feasibility.

1. Overview of Basic Concepts

1.1. Overview of Chronic Disease Management

Chronic non-communicable diseases, also known as chronic diseases, are a type of disease that is difficult to detect and has a long incubation period. At the same time, the disease course is long and slow, the disease is protracted, and the cause is complex. There is no clear evidence-based basis for biological causes. The general term for diseases with clear indications of recovery"[1]. Chronic disease management refers to the provision of scientific management by professional medical staff for patients with chronic diseases[2]. This management process should be active, complete, comprehensive, and continuous. Its goal is to strive to improve health, slow down the course of disease, reduce mortality, and improve the quality of life while reducing the economic burden. Chronic disease education is the most basic and important link in the process of chronic disease management.

1.2. Overview of Bloom's Taxonomies

In 2001, the newly revised version of Bloom's Taxonomies "A Taxonomy for Teaching, Learning, and Assessment" was officially published [3]. The revised edition divides the knowledge dimension into: factual knowledge, conceptual knowledge, procedural knowledge and metacognitive knowledge. The cognitive process is divided into six different levels: memory, comprehension, application, analysis, evaluation and creation, and each level progresses gradually. Compared with the division of cognitive processes (knowledge, comprehension, application, analysis, synthesis, evaluation) in the 1956 version of Bloom's Taxonomies, the

index of the new version's level division is verbs, and the fifth and sixth levels are transformed into evaluation and creation.

2. Necessity Analysis

2.1. Health Education Urgently Needs to be Improved

2.1.1. The Problem of Population Aging is Serious

According to the 2014 Geriatric Epidemiological Survey, 70% of the elderly in my country suffer from various chronic diseases, 15% of whom suffer from serious diseases and have difficulties in taking care of themselves. According to the 2014 National Economic and Social Development Statistical Bulletin, at the end of 2014, the number of people aged 60 and over in my country was 21.24 million, more than 200 million people, accounting for 15.5% of the total population; the population of 65 and over was 137.55 million, accounting for The proportion of the total population is 10.1%. Internationally, the population over 60 years old accounted for 10% of the total population, or the population over 65 years old accounted for 7% of the total population as the standard for a country to enter an aging society. Compared with the international level, my country has already entered an aging society [4]. The rapid growth of the aging population has brought about many problems, such as greatly increasing the expenditure of the medical insurance fund, reducing the social labor force, and at the same time, occupying more resources, resulting in lower social and economic benefits.

2.1.2. The Chronic Diseases Medical Burden is Huge

Chronic non-communicable diseases have become the main cause of death in my country, and the burden of disease caused by it currently accounts for 70% of the total disease burden in my country. my country has entered a period of high burden of chronic diseases. In 2015, the direct medical expenses for chronic diseases in China exceeded US\$500 billion. According to the World Health Organization, the burden of chronic diseases in China may increase by 40% by 2030 [4]. The main reason is the rapid growth of the aging population. The loss of life and cost growth caused by chronic diseases are still increasing year by year, and the elderly are the key targets of chronic disease management. Therefore, using the health management of chronic diseases as a research platform to find breakthroughs and grasp the main contradictions in the prevention and treatment of chronic diseases is to solve the major livelihood problems of the rapid growth of the burden of chronic diseases, which has important practical significance.

2.2. Problems Existing in Current Chronic Disease Education Methods

2.2.1. Single Education Method

By summarizing the methods of chronic disease health education in the existing literature, it is found that the existing education methods are mostly group teaching and preaching, and the education method is relatively single. Chronic diseases cannot be cured for a long time, and mutual encouragement among patients is of positive significance. However, teaching models such as group mutual assistance that have achieved good results abroad have not been promoted in China. The single teaching method makes the teaching effect mainly depend on the students. For patients who cannot adapt well to group teaching or preaching teaching, long-term acceptance of the same teaching method will not only lead to poor learning results, but also to continue learning. A psychology of rejection is produced, the function of education is weakened, and it is also a waste of educational resources.

2.2.2. Lack of Testing of Teaching Outcomes

The inspection of teaching results is one of the key links in the complete teaching process, and the results of theoretical teaching need to be fed back with the help of certain media. If the teaching results cannot get timely feedback, it will have an adverse effect on the patients

receiving education or the medical staff who provide education. If the patient cannot master the knowledge that should be mastered, the health education intervention goal will not be achieved, which will also affect the patient's follow-up learning. For medical staff, if they cannot accurately understand the patient's cognitive level, there is no way to provide personalized teaching, and the effect of health education will inevitably be greatly reduced. The current chronic disease management model has not formed a unified standard for the assessment standards and details of the chronic disease education effect, and it needs to be further improved.

2.2.3. No Difference in Teaching Methods

With the development of economy and the improvement of material life, people pay more and more attention to health issues. However, different patients' curiosity for health knowledge, health education acceptance and financial affordability are not the same. In addition, due to different knowledge attributes and cognitive processes of different health education knowledge, the corresponding teaching goals will be different, and for the same reason, the teaching methods should also be different. Therefore, it is necessary to adopt differentiated educational methods for different attributes of knowledge, knowledge of different cognitive processes, and students of different levels. It is a pity that in the current health education model, it has not been possible to achieve the goal-oriented teaching and to implement differentiated teaching to different patients.

2.3. Significance of Chronic Disease Management

Health management is to mobilize the enthusiasm of each individual through the use of management methods and means to obtain the greatest health benefits at the least cost. Due to the huge economic burden caused by the rapid increase in medical expenses, the American medical insurance agency put forward the concept of health management in 1978 for the purpose of controlling expenses. Facts have proved that health management is of great significance to reducing medical insurance expenditures. Through the development of health education, disease consultation and other services for medical insurance users, the harmful effects of disease risk factors have been controlled, the development of diseases has been significantly delayed, the morbidity and mortality rates have been reduced, and the The cost of treatment effectively improves the quality of life of patients, thereby achieving the purpose of reducing medical insurance expenditures by medical insurance institutions.

Chronic disease health management is a comprehensive and systematic process, and its value is mainly reflected in two aspects. One is that chronic disease management can help patients understand their own health; the other is that they can effectively control the disease, reduce the incidence or reduce complications, improve the health of patients, and improve the quality of life by intervening in a variety of risk factors that affect health. Find a feasible and effective health education model, strengthen the management of chronic diseases, improve the concept and effect of chronic disease education, and have a huge promotion and promotion effect on reducing my country's rapidly rising medical expenses and improving the prevention and treatment of chronic diseases, and promote society Healthy economic development.

3. Feasibility Analysis

3.1. Theoretical Feasibility

3.1.1. Diversified Teaching Methods

Contemporary teaching generally agrees that students should actively participate in the process of imparting knowledge in order to stimulate students' potential. In Bloom's Taxonomies teaching activities, according to different knowledge attributes and different cognitive processes, flexible teaching methods such as independent learning, group

communication, lecture and practice teaching, writing essays or debates can be used respectively. A variety of teaching methods can be combined. It does not adhere to the general procedures of the traditional health education method, and focuses on the patients who participate in the teaching, and focuses on stimulating their potential intelligence, so that the patients can apply what they have learned and cultivate their comprehensive capabilities. It is helpful for patients to clarify the purpose of health education, increase their awareness of active learning, obtain correct and effective learning methods, and better reflect the function of health education to improve the health of patients and raise awareness of health care for the whole people.

3.1.2. Clear Teaching Goal

As a teacher, it is necessary to strengthen, feedback and correct the learning achievements of the learners. This requires medical staff to have a grasp of the patient's cognition level. One way to determine the patient's cognition level is to observe the patient's behavior. The newly revised Bloom's Taxonomies can be used to guide the creation of clear educational goals for patients. Because it divides the level of cognition into verb structure, verb is an indicator of behavior, and it is easier to be accurately observed than nouns. By observing the behavior of the patient, the medical staff can understand to a certain extent which level the patient is in the cognitive process, and can test the learning results of the patient, and can explain in a purposeful and targeted manner to improve teaching effectiveness [5].

3.1.3. Achieve Teaching Differentiation

For patients with chronic diseases, an education model that combines group intervention and differentiated education should be adopted. Bloom's Taxonomies pedagogy believes that "everyone can learn" and believes that everyone has the ability to learn. At the same time, Bloom's classification teaching method also believes that patients' curiosity for health knowledge, health education acceptance, and financial affordability are not the same. If you want to achieve good teaching results, it is not suitable to use non-differentiated teaching. Bloom's Taxonomies teaching method also divides the six levels of cognition into several subcategories, such as dividing the level of understanding into subcategories such as interpretation, classification, and inference. Medical staff can judge the specific level they need to achieve according to the learning ability and learning needs of different patients, and implement differentiated teaching.

3.2. Policy Feasibility

The Chinese government has always paid special attention to national health management. In 2013, the State Council promulgated the "Several Opinions on Promoting the Development of the Health Service Industry" (Circular 40), which included the promotion of health management and development into the national strategic plan for the first time, and health management has received unprecedented attention. It is proposed to promote the improvement of health management level, vigorously develop diversified health services, improve the community's ability to provide chronic disease management, health education and consultation services for the elderly, and coordinate chronic disease management. With the goal of improving people's health awareness and literacy, we will form a good environment for the whole society to participate in health management. Practicing and developing health education in many places across the country. For example, Shanghai established a health management cloud platform at the end of 2014, further improving the whole-process health management system based on "medicine with prevention".

In 2015, the General Office of the State Council promulgated the "Guiding Opinions on Promoting the Construction of a Hierarchical Diagnosis and Treatment System", which clearly stated that chronic diseases should be used as a breakthrough, focus on the construction of chronic disease prevention and treatment functions of medical institutions at all levels, and

promote the rational allocation of medical resources. Guide residents to sign service agreements with doctors, give full play to the important role of traditional Chinese medicine, ethnic medicine, the Internet, and big data in chronic disease management, and include grassroots chronic disease management institutions into the scope of medical insurance. Patients can enjoy scientific, high-quality, and Convenient chronic disease service.

The "Notice of the General Office of the State Council on Printing and Distributing China's Mid- and Long-Term Plan for Prevention and Treatment of Chronic Diseases (2017-2025)" officially issued by the State Council in January 2017 is to strengthen chronic disease education in the next few years, promote the participation of the whole society in health support, and improve people's health. Programmatic document of health level and literacy. Use chronic disease health science as a means to establish a sound chronic disease management system, and at the same time, develop and promote health support tools, promote healthy lifestyles, and enhance the society's scientific understanding of chronic disease management. Realize the transition from "treatment as the center" to "health management as the center", and improve the health literacy of the whole people.

3.3. Technical Feasibility

High technologies such as the Internet of Things and big data have developed in the field of chronic disease management. For example, Internet of Things medical care is based on highly accurate measurement and analysis to achieve comprehensive interconnection of information. After the medical data is analyzed and processed, and then transmitted at a high speed via the network, medical staff and patients can grasp the health status at any time, and doctors can use this diagnosis basis to improve the timeliness and accuracy of diagnosis.

Mobile terminals, wearable devices, etc. have low input costs and high returns. Compared with traditional health education methods, mobile health education has richer forms, and can effectively combine text, pictures, videos and other methods to facilitate patients to understand and accept disease-related knowledge. Providers of health education services can directly publish chronic disease knowledge on mobile terminals, and can popularize health knowledge through a variety of new forms of media, changing the traditional health education methods that are limited to posters and the inherent mode of collective teaching.

4. Discussion

The research method of this paper is mainly based on literature analysis, and it has not been able to conduct on-site investigations to understand the actual implementation status of each area; in addition, the researcher's own theoretical level is limited and the relevant professional knowledge reserves are insufficient, and the research is only on the basis of summarizing the literature. As a result, this research is not deep enough. This study only focused on the analysis of the theoretical feasibility of Bloom's classification education method applied to chronic disease education, and failed to investigate patients to determine whether they would accept and accept new education methods.

Starting from the realistic and theoretical backgrounds, this research clarifies the urgency of my country's current chronic disease education model, through theoretical analysis of feasible health education methods, combined with the mature experience of Bloom's Taxonomies education method in the field of subject teaching, and mainly adopts literature Research method to demonstrate the subject matter of the article. What cannot be ignored is that the current level of development of chronic disease education in my country, which is based on the community, is temporarily not perfect. This kind of community-based teaching-centered management model cannot fully assume the responsibility of health education for the time being. However, with the evolution and gradual promotion of domestic policies and the

continuous improvement of medical technology in the future, I believe that using health management as a means to promote the transition from disease treatment to health management will surely be achieved, and promote the improvement of health awareness of the whole people. Improve the health of the whole people.

References

- [1] <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>.
- [2] <https://www.healthcare.gov/glossary/chronic-disease-management/>.
- [3] Lorin Anderson: Taxonomy for Learning, Teaching, and Assessing, A: A Revision of Bloom's Taxonomy of Educational Objectives, Abridged Edition (Pearson, America 2000).
- [4] Yu Yao, Gao Ying, Liu Hongfang, et al. Current situation and thinking of community chronic disease management model [J]. World Traditional Chinese Medicine, 2017, (7): 1491-1494.
- [5] Zhou Huiling, Chang Feng, Lu Yun. Progress of application of Bloom's goal teaching method in community health education for chronic diseases [J]. China Health Education, 2019, 35(04): 346-349.