

Journal of Advances in Medicine Science

2019

Volume 2 Issue 1 · January 2019

ISSN 2591-7609 (print) 2591-7617 (online)



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Journal of Advances in Medicine Science

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Journal of Advances in Medicine Science

Volume 2 Issue 1 • January 2019
International Standard Serial Number: ISSN 2591-7609 (Print)
ISSN 2591-7617 (Online)

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ARTICLE

Study on the Effect of High Quality Nursing on the Compliance of Patients with Chronic Hepatitis B

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ARTICLE INFO

Article history:

Received: 16th August 2018

Revised: 10th October

Accepted: 24th December 2018

Published Online: 2nd January 2019

Keywords:

Quality nursing

Patients with chronic Hepatitis B

Compliance

Influence

ABSTRACT

Objective: to explore the effect of high quality nursing on the compliance of patients with chronic Hepatitis B (CHB), and to use it as a reference for clinical nursing. **Methods:** 42 patients with chronic Hepatitis B (CHB) admitted in our infectious department within one year in 2014 were selected for traditional nursing care, 54 patients were selected for quality nursing, and the two groups were used as control group and study group, respectively. The drug compliance of the two groups was compared. **Conclusion:** for patients with chronic Hepatitis B, the use of quality nursing can improve their compliance to take medicine and arouse their enthusiasm subjectively, which is very important for the improvement of their condition. The effect is satisfactory to most patients and family members.

1. Introduction

Among today's many diseases, chronic Hepatitis B is a high incidence disease, which is characterized by high incidence, recurrent attacks and difficult to cure. Its treatment to control the virus, improve the body's immunity or liver protection as the main principle. According to the survey, most and even half of patients with chronic Hepatitis B have poor compliance be-

cause of their resistance to medication. Chronic Hepatitis B (CHB) has an extremely serious effect on the economy and body of patients. It can also cause negative emotion in human psychologically, and increase the chance of HBV infection in healthy people at the same time.^[1] Because of this, the patient's own awareness and medication Compliance enhancement is of great significance for patient recovery.

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Nurses, as the people most frequently in contact with patients, can play an important role in improving patient and doctor's orders. Patients begin to receive treatment, will be in accordance with the doctor's orders to take medicine, but a few patients because of various reasons, in the course of treatment in the case of withdrawal, causing a rebound, and may even develop into severe Hepatitis life-threatening.^[2] In this very bad situation, high-quality nursing model is very feasible.

2. Data and Methods

2.1 General Information

Chronic Hepatitis B is a kind of infectious disease that endangers human health. Because of its many characteristics, it can make patients have psychological problems such as fear, anxiety, tension, and so on.^[3] There are more Hepatitis B patients in China, the infection rate of Hepatitis B virus is as high as 57.63, more than 120 million people, accounting for 1/3 of the whole world^[4]. Among these data, we should pay more attention to the treatment of chronic Hepatitis B.

In this study, 96 patients with chronic Hepatitis B were selected, 42 of them received traditional nursing and 54 received high quality nursing. These patients were systematically examined without dementia or other visceral cryptopenia or autoimmune disease. At the same time, the two groups were similar in age and gender. The study will begin using data collection for comparative analysis the second week after the grouping. The reason for this grouping is that we believe that the knowledge of health and the understanding of the patient's condition are of great significance to the patient's recovery. Enable people to voluntarily adopt Educational activities that are beneficial to healthy behavior and lifestyle^[5] also play an important role in the prevention and treatment of Hepatitis B.

2.2 Methods

According to the compliance of high quality nursing to the patients with Hepatitis B, the results will be different because of the difference of nursing care. We then analyzed the role of quality care in the light of the resulting results.

2.2.1 Divide into Groups

According to the difference of nursing degree, patients were randomly divided into control group and study group.

(1) Control Group

Routine nursing will be given to the control group, that is to say, according to the traditional nursing mode, the patients in this group will be given daily nursing work, such as medication, psychology, diet and life. But in this nursing care, in order to remove the nurses' comparison

psychology and blind winning mentality, we should add higher quality nursing care than ever before. As a research, we should take the aim of closer to the reality to carry on more reasonable nursing methods.

In the control group, we should first refuse to let the nurses know about the study, which not only ensures their sense of normalcy, increases fairness, but also tends to rationalize the results and ensures rigor.

(2) Study Group

With the improvement of social living standards and the change of health concept, people are more concerned about the quality of life.^[6] Therefore, we should adjust the study group according to this mentality to make it more capable of providing quality care for patients.

So what we're going to do is, on the basis of traditional care, adopt quality care, that is, nurses will put themselves in the patient's perspective. Nurses should be willing and active to encourage and comfort patients according to their needs for health, so that they can master daily nursing skills through educational activities. Develop good healthy behavior and change unhealthy behavior habits in the past^[7]. In addition, nurses should also understand the reasons why patients are resistant to taking medicine. According to the survey, some patients are not used to taking medicine themselves, so they always forget that for such patients, nurses have to record their medication. Hanging on the head of the patient's bed to remind the patient not to take the medicine, or to mobilize the family members of the patient to jointly supervise the patient's medication and strive for the patient's uninterrupted treatment. Another reason for refusing to take the medicine is that it is also the most difficult to restrain. Some patients are worried about the burden of taking drugs on their families because they are not optimistic about their families. For these patients, nurses should be patient to explain the importance of taking medicine to their own liver function recovery, so as not to delay the effect of treatment because of economic, so that they can fully realize the role of medication from the subjective consciousness.

In addition, because the treatment drugs of chronic Hepatitis B have certain side effects, many patients can not bear these side effects and interrupt treatment. Therefore, nurses should carefully observe the patient's condition and, if so, report to the doctor in a timely manner and consult the physician to take reasonable steps to degrade the side effects. Patients' mental problems are also important, so nurses should often encourage patients to be positive and optimistic about treatment. Most importantly, according to the different levels of culture of the patients, nurses should divide the patients into different levels and carry out different cultural levels of acceptable

ways to explain the occurrence, development, prognosis of Hepatitis B; and Outcome to help patients improve their understanding of their disease. During this process, nurses should constantly relate to the need for medication and patiently explain possible drug reactions. Also, talk frequently to remind patients to comb their knowledge to improve their subconscious compliance with medication.

3. Data Statistical Method

3.1 Observation Standards

Firstly, the two groups were recorded before and after treatment as medication status: patients refused to take any drugs, this part of the patients for complete disobedience; patients can accept medication, but occasionally forget or contradict medication, such a state is incomplete compliance; patients taking medication state is very good, fully cooperate with the treatment for complete compliance. Several forms were sorted out to analyze the gap between high quality nursing and general nursing.

Secondly, we will investigate and analyze the satisfaction of the patients and their families. It is proved that high-quality nursing is of great help to the compliance of patients with Hepatitis B. We will compare the two criteria separately.

3.2 Data Arrangement Modes

In the data processing, I used the tabular way, carries on the statistics separately the two groups patient's condition.

We will compare the drug compliance before and after treatment according to the different groups of patients, so that we can clearly observe the difference between the two nursing modes. At the same time, it is necessary to collate and compare the patient's rehabilitation status and the satisfaction of patients and family members.

In addition, a self-designed questionnaire was used to investigate the family members of hospitalized patients.^[8] The questionnaire can not only positively reflect the patients' satisfaction with nursing, but also can show us the problems more intuitively. At the same time, nursing staff should propagate health and correct knowledge, raise people's vigilance against Hepatitis B, and pay attention to the prevention of Hepatitis B in vulnerable groups.^[9] We compared the compliance and satisfaction between the two groups. The patients in the study group were superior to the control group and had statistical significance.^[10]

3.3 Statistical Tables

3.3.1 Patient Status Questionnaire

See Table 1

3.3.2 Family and Patient Satisfaction Survey Results

See Table 2

3.3.3 Therapeutic Effect of Two Different Kinds of Nursing Care

See Table 3

Table 1. Patient status questionnaire

Group types	Example number	Totally disobedient	Incomplete compliance	Complete compliance
Usual care group before treatment	42	17	19	6
Usual care group after treatment	42	15	20	7
High quality nursing group before treatment	54	21	24	9
High quality nursing group after treatment	54	3	24	27

Notes: This table shows data before and two weeks after group care.

Table 2. Family and patient satisfaction survey results

Groups	Satisfactory number of patients	Number of satisfied family members	Specific value
Routine nursing (42 cases)	27	23	54%
Quality nursing (54 cases)	49	51	87%

Notes: this table is a survey of the satisfaction of family members and patients.

Table 3. Therapeutic effect of two different kinds of nursing care

Groups	Relative length of stay	Patient rehabilitation status	Compliance of patients with medication
Usual care	invariant	same as	invariant
High quality nursing	shorten	Most complete recovery	Obvious ascension

4. Discussion

Chronic Hepatitis B is easy to relapse, difficult to cure and the disease is long, more panic is easy to deteriorate and other characteristics, repeated visits to the patient's economic and psychological will bring a very serious negative impact. Patients are depressed for fear of disease worsening or even canceration.^[11] The purpose of this study is to improve the compliance of patients with medication by using high-quality nursing care, so as to realize the hope of patients' recovery to a greater extent. We should improve the patient's cognition and mood through nursing work, so as to improve the patient's compliance, and provide the possibility for the patient's good treatment process.

In the treatment of chronic Hepatitis B, the key is to anti-virus, in order to improve patient compliance is a very important content. Throughout the course of treatment, doctors and nurses must reach consensus through active communication with patients and let them know how important compliance is. Try to strengthen the patient's trust in the doctor and make the patient cooperate with the drug. At the same time, we should also establish strong confidence for patients, in the course of medication, encourage patients to adhere to the dosage of drugs, because the treatment of chronic Hepatitis B requires patients with sufficient patience and perseverance, only persistent efforts, can overcome the disease. The paramedics were in the process Always encourage patients to fight with patients, give them confidence and improve their compliance. It is very important for nurses to carry on the health education of disease knowledge to the family members of the patients, especially to the families of the patients with low education level.

The treatment of chronic Hepatitis B is urgent and needs the efforts of patients and medical staff. Only by adjusting the psychological state and action of patients to the best degree can the patients get better treatment. It is not difficult to find out through the experimental results of this comparative nursing that the patients' physical and mental needs are satisfied and the hospitalization time is shortened^[12] through the system of the whole process of high quality nursing. It can be seen that quality nursing can make patients accept and cooperate with treatment, and improve their compliance. When a patient believes in a health care worker and is willing to receive treatment, the whole treatment process becomes practical. It provides a greater guarantee for the patient's recovery.

Although Hepatitis B surface antigen carriers are not equal to Hepatitis B patients, due to the lack of understanding of the disease, and there is no cure for special effects, there is no doubt that patients will have a heavy

psychological pressure.^[13] Therefore, all kinds of health care workers and patients need to cooperate with each other so that patients can receive better treatment. Moreover, due to the intractable nature of Hepatitis B, patients need to persist in treatment for a long time before they can be cured. Once the patient is treated without compliance, the probability of cure is almost zero. Therefore, during medication, nurses should constantly encourage patients to persevere and follow the doctor's advice Comprehensive nursing intervention in the process of final complete recovery.

5. Conclusion

In the course of treatment of Hepatitis B, nurses should pay attention to patients' compliance and the influence of psychological and social factors on compliance, so as to systematize nursing intervention measures.^[14] We can also clearly see from the results of the study that quality nursing is a catalyst for patients to recover. Therefore, high quality nursing has a stable role in promoting the compliance of patients with Hepatitis B.

Chronic Hepatitis B, due to its worrisome characteristics, has increased the demand for Hepatitis B treatment. In order for patients to receive higher standards of treatment, quality care is needed to consolidate the effectiveness of treatment. In addition, it is still an important subject of current research to promote the awareness of knowledge about Hepatitis B and the treatment compliance of patients, and to effectively control the development of the disease.^[15] in order to improve the awareness of Hepatitis B related knowledge and the treatment compliance of patients, it is still an important topic in current research.^[15] Greater efforts should also be made in nursing to create an excellent nursing team that is more conducive to patient recovery.

References

- [1] Xuemei Su. Effects of nursing intervention on treatment Compliance of patients with chronic Hepatitis B[J]. Nursing practice and Research, 2008,08. (in Chinese)
- [2] Nursing observation of patients with chronic Hepatitis B treated with adefovir dipivoxil[J]. Contemporary Nurses (Early Issue), 2013,12. (in Chinese)
- [3] Jiequn Sun, Cuiqiong Chen, Shaoxia Wen. Investigation and nursing of health education needs of patients with viral Hepatitis B[J]. International Journal of Medicine and Health, 2005,17. (in Chinese)
- [4] Hui Feng, Guoping He. Treatment compliance of patients with chronic Hepatitis B and its influencing factors[J]. Chinese Journal of Nursing, 2005,12. (in Chinese)
- [5] Bei Zong. An evaluation of the effect of health education on prevention of Hepatitis B for freshmen in a universi-

- ty[J]. *Contemporary Nurses (Chinese Journal)*, 2012,11. (in Chinese)
- [6] Zhenlu Zhang, Xueying Luo, Xinmei Ye, Bining Liang, Jinyun He. Relationship between quality of Life and Nursing-with 524 questionnaires[J]. *New Medicine*, 2000,12. (in Chinese)
- [7] Hongying Chen, Shengfeng Xu, Shiyan Wan, Yan Li, Communication skills of Nurses in patient Health Education[J]. *Chinese Journal of Nursing*, 2001,10. (in Chinese)
- [8] Wang he, Miao Jingya, investigation on disease health knowledge of family members of patients with chronic Hepatitis B [J]. *Journal of Nursing of PLA*. 2004 04. (in Chinese)
- [9] Yong Ren, Yumei Wang. Investigation on the status of Hepatitis B Vaccine inoculation in families of patients with Hepatitis B and its intervention measures[J]. *Modern Nursing*, 2006,22. (in Chinese)
- [10] Min Zhang, Mingxia Yan, Youliang Li. Effect of individual nursing intervention on compliance of inpatients with chronic Hepatitis B[J]. *Chinese Journal of Experimental and Clinical Infectious Diseases (Electronic Edition)*, 2012,06. (in Chinese)
- [11] Youjuan Tan. The effect of health education on the knowledge of disease prevention in family members of patients with chronic Hepatitis B[J]. *Journal of Nursing of PLA*, 2005,02. (in Chinese)
- [12] Chunxi Shen. The effect of quality nursing service on the treatment of patients with chronic Hepatitis B[J]. *Journal of Bengbu Medical College*, 2012,03. (in Chinese)
- [13] Caijun Li. Investigation and analysis of psychological status of 134 Hepatitis B virus Carriers[J]. *Medical Theory and Practice*, 2006,08. (in Chinese)
- [14] Xiangyun Liu. The effect of nursing intervention on depression in patients with chronic Hepatitis B[J]. *Journal of Anhui Vocational and Technical College of Health*, 2009,03. (in Chinese)
- [15] Yuzhen Wu. Nursing intervention on the treatment Compliance of patients with chronic Hepatitis B[J]. *Applied Preventive Medicine*, 2010,03. (in Chinese)

ARTICLE

Effects of Exercise on the Pharmacokinetics of Icariin II in Rats

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ARTICLE INFO

Article history:

Received: 25th October 2018

Revised: 15th November 2018

Accepted: 24th December 2018

Published Online: 2nd January 2019

Keywords:

Icariin II

Exercise state

High performance liquid chromatography

ABSTRACT

High performance liquid chromatography (HPLC) was established to determine the concentration of Icariin II in rats. The time-dependent changes in rats after taking Icariin II were studied, and the main pharmacokinetic parameters were obtained. The main pharmacokinetic parameters of taking the medicine in a quiet state, taking the medicine after half an hour of exercise and taking the medicine after long-term exercise were compared to verify whether the absorption and utilization of the Icariin II were more favorable in the exercise state; The paper has important guiding significance for guiding athletes to safe medication and further development of this drug.

1. Introduction

Epimedium is a perennial medicinal plant of Epimedium. It is a nourishing traditional Chinese medicine and is one of the most widely used and longest-established traditional Chinese medicines in China.^[1] There are 43 species of Epimedium in China, which is the modern geographical distribution center of this genus. There are five species of Epimedium collected by the Chinese Pharmacopoeia, which are widely cultivated in China.^[2] It is mainly distributed in the provinces of Shaanxi, Shanxi, southern Gansu, Henan, Gansu, and Qin-

ghai, Sichuan, Ningxia and other provinces. It grows in shrubs at 650~2100m above sea level or in the backlit wet areas.^[3] Icariin (ICA) is a flavonoid contained in it and is also the main active ingredient of Epimedium.^[4] Epimedium is a commonly used traditional Chinese medicine for improving exercise capacity. It has the effects of tonifying kidney, strengthening bones and strengthening rheumatism. In recent years, the special effects of using Chinese herbal medicine in competitive sports at home and abroad have been reported and applied in improving athletes' performance, promoting athletes' recovery, and healing and

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Fund Project:

Key Laboratory Construction Project of the "Twelfth Five-Year Plan" of Shandong Province: Construction Project of Key Laboratory of Physical Fitness Monitoring and Regulation in Qufu Normal University.

rehabilitation of sports injuries.^[5]

In the practice of sports and exercise, Herba Epimedii is a representative aphrodisiac traditional Chinese medicine to achieve good pharmacological effects against athletes' sports fatigue, but there is no pharmacokinetic study of Epimedium aqueous extract. This paper aims to study the pharmacokinetics of Icariin II, the main active ingredient of Epimedium, and find out its mechanism of action, revealing its absorption and metabolism in the body, according to its differences in pharmacokinetic parameters in the exercise state and resting state, to guide the reasonable dosage regimen of athletes under normal and exercise conditions. It also provides theoretical and practical basis for the use of such Chinese medicine in the science of sports and exercise.

2. Experimental Instruments and Materials

2.1 Experimental Instruments

Japan Shimadzu liquid chromatograph, rapid homogenizer (SK-1 type, Jiangsu Jintan Zhengji Instrument Co., Ltd.), high-speed refrigerated centrifuge (GL-20G-II type, made in Shanghai), CNC ultrasonic cleaner (KH-500DB type, Kunshan Hechuang Ultrasonic Instrument Co., Ltd.), vacuum dryer, high speed centrifuge tubes, beakers, pipettes.

2.2 Experimental Reagents

Rhizoma curculiginis aqueous extract solution (home-made, 0.9g/ml), orcinol glucoside standard substance (purity: 99%, purchased from Shanghai Abbott Technology Co., Ltd.), mobile phase methanol (chromatographically pure, made in Tianjin), experimental water (double distilled water) and filter membranes.

2.3 Experimental Animals

Male Wistar rats, weighed 220-240g (Jining Lukang Group Pharmaceutical Co., Ltd.).

3. Experimental Methods

3.1 Determination of the Concentration of Icariin II in Rat Plasma by HPLC

3.1.1 Chromatographic Condition

The mobile phase was acetonitrile: 0.1% formic acid (70:30, v/v), which was filtered through a 0.22 µm microporous filter. On-line degassing; flow rate 1ml/min; column temperature 30 °C; injection volume 20 µl, detection wavelength is 270 nm, external standard method for the concentration of Icariin II.

3.1.2 Plasma Sample Treatment

Accurately draw 0.5 ml of plasma, add 1 ml of methanol, vortex and mix, centrifuge at 4800 rpm for 15 min to take

the supernatant, and filter the supernatant through a 0.45 µm micropore filter.

3.1.3 Preparation of Standard Curve

The Icariin II reference methanol solution was diluted with blank rat plasma to obtain standard samples with mass concentrations of 100, 200, 400, 600, 800 and 1000 ng•mL⁻¹, respectively. The concentration of Icariin II in plasma ρ is plotted on the abscissa, and the ratio of reference to internal standard peak height Y is plotted on the ordinate. The regression operation is performed by weighted ($1/c^2$) least square method to calculate the regression equation.

3.2 Plasma Protein Binding Rate

Four rats were administered quietly, taking 4 ml of rat plasma sample for 2 hours, placed in a heparin-coated centrifuge tube, 2 ml was centrifuged at 4800 r/min for 15 min at normal speed, and then 0.5 ml of plasma was taken and stored in a refrigerator at -24 °C to be tested. Then, 2 ml of plasma was centrifuged (16000 r/min) in an ultracentrifuge tube. After 10 minutes, 0.5 ml of plasma was taken and a 0.45 µm micropore filter was used for high-performance liquid phase analysis. The degree of binding of the drug to the plasma protein was calculated using the following equation.

$$\text{Binding Rate\%} = 100 - (100 \times \text{Filtrate Drug Concentration} / \text{Plasma Drug Concentration})$$

3.3 Administration Method

Sixty male Wistar rats were randomly divided into a quiet medication group (40), a half-hour exercise group (10), and a long-term exercise group (10). The dosage was 0.9g/kg, and the water was fasted for 12 hours. The eyeballs were taken at 5, 15, 30, 60, 120, 180, 240, 360, 480, and 600 min, and centrifuged at 4000 rpm for 10 min. The concentration was measured after the treatment.

3.4 Pharmacokinetic Parameter Calculation

The DAS2.0 software package of the Chinese Pharmacological Society was used to fit the chamber model and calculate the pharmacokinetic parameters (Statistical Moment Method).

4. Experimental Results

4.1 Concentrations of Rats in different groups

The area under the curve of the quiet medication group, the exercise half-hour medication group and the long-term exercise medication group were substituted into the standard curve equation $Y=0.0159X-49.769$ ($R^2=0.9972$), and the average blood concentration of the three groups was obtained (Table 1).

Table 1. Mean Plasma Concentration of Icariin II under Different Exercise States

T(min)	Quiet Medication Group		Half-hour Exercise Group		Long-term Exercise Group	
	Mean area $\bar{x}$ ($\mu\text{g/L}\cdot\text{min}$)	Mean concentration $\bar{x}$ (ng/ml)	Mean area $\bar{x}$ ($\mu\text{g/L}\cdot\text{min}$)	Mean concentration $\bar{x}$ (ng/ml)	Mean area ($\mu\text{g/L}\cdot\text{min}$)	$\bar{x}$ Mean concentration (ng/ml)
5	5778.03	316.25	9547.9	102.04	29114.4	413.15
15	7676.23	437.31	13354.5	162.57	34592.4	500.25
30	9380.30	440.63	14257.5	176.93	36129.5	524.69
60	8460.98	487.45	17056.3	221.43	5140.6	767.58
120	15968.7	966.68	34010.9	491.00	56173.5	843.39
180	13242.6	792.76	31151.7	445.54	70185.5	1066.18
240	6063.125	334.55	27551.7	388.30	41720.1	613.58
360	4600.025	240.91	19338.5	257.71	35893.7	520.94
480	4050.675	205.44	13122.6	158.88	14113.8	174.64
600	3798.65	189.32	4988.7	29.55	13579.8	166.15

4.2 Main Pharmacokinetic Parameters of Different Groups of Rats

The one-compartment model was selected as the best compartment model, and the pharmacokinetic parameters of rats in different groups were obtained by the pharmacokinetic software DAS2.0 (Table 2).

5. Analysis and Discussion

5.1 Analysis of Pharmacokinetic Parameters of Icariin II in Different States

Pharmacokinetic parameters are some constants that reflect the dynamic changes of drugs in the body, such as absorption, transport and elimination of transport constants, elimination of half-life, etc., is one of the main bases for the development of rationalized drug delivery programs. Depending on the nature of the pharmacokinetic parameters,

a safe and effective dosing regimen can be designed and developed, including the dosage administered, the time of administration, and the optimal route of administration. In this paper, the pharmacokinetic characteristics and dynamic changes of Icariin II were revealed by the analysis of the pharmacokinetic parameters of Icariin II, to clarify the regularity of the effect of Icariin II, to understand its main action site in vivo and the material basis of toxicity, and the pharmacokinetic parameters of Icariin II are important data evaluation indicators for its preparation quality. The half-life of the three groups of pharmacokinetic parameters was $t_{1/2}=69.315$, indicating that there was no difference in the elimination rate of the three groups of experiments; half-hour exercise medication and long-term exercise medication did not change the elimination rate of Icariin II, and the elimination rate constant k_e was 0.01, confirming that the exercise did not change their

Table 2. Pharmacokinetic parameters of Icariin II under different exercise conditions

	Quiet Medication Group	Half-hour Exercise Group	Long-term Exercise Group
$t_{1/2}$ min	69.32	69.32	69.32
k_e 1/min	0.01	0.01	0.01
V_1/F L/kg	2.49	6.96	2.76
CL/F L/min/kg	0.06	0.07	0.028
$AUC(0-t)$ $\mu\text{g/L}\cdot\text{min}$	207965.16	118424.28	296970.37
K_a 1/min	0.03	0.01	0.01
$t_{1/2K_a}$ min	27.88	69.32	69.32
T_{max} min	120	120	180
C_{max} ng/L	966.00	491.00	10660.18

elimination rate of the drug; the absorption rate constant was quiet in the drug group, $k_a=0.025$, half-hour exercise group, $k_a=0.01$, and long-term exercise group, $k_a=0.01$, indicating that the quiet group took the drug faster than the exercise group; the AUC(0-t) quiet medication group value was 207,965 ug/L*min, the half-hour exercise medication group AUC(0-t)=118424, and the long-term exercise medication group AUC(0-t)= 296970.

From the three sets of data, it can be seen that the area under the curve of their medicine time is:

Long-term exercise group > quiet medication group > half-hour exercise group. This indicates that the long-term exercise group is larger than the quiet medication group; the quiet medication group is larger than the exercise half-hour medication group, and the peak time (Tmax) peak concentration (Cmax):

The peak time of the quiet medication group and the half-hour exercise medication group was 120 min, and the peak time of the long-term exercise medication group was 180 min. Although the long-term exercise peak time was longer, the peak concentration of the long-term exercise medication group was 1066 ug/L, which is larger than 966 ng/L in the quiet medication group and 491 ug /L in the half-hour exercise group. The longer the peak time, the longer the drug stays in the body, which is more conducive to the efficacy of the drug.

5.2 Factors Influencing the Pharmacokinetic Parameters of Icariin II

After exercise, a large amount of lactic acid is produced in the body, which causes the pH of the internal environment to change, thereby affecting the polarity of the drug and affecting the absorption degree of Icariin II; the blood flow of exercise blood is distributed to muscles and other sports organs, and the decrease of visceral blood flow during exercise leads to the decrease of absorption of most drugs after oral administration, which affects the absorption of Icariin II; exercise may affect the binding rate of the drug to the plasma protein, thereby affecting the concentration of the free drug, and ultimately affecting the absorption of the drug; after exercise, the temperature in the body increases, the activity of the enzyme in the body also changes, the decomposition of the drug is accelerated, or the temperature affects the plasma protein binding rate of the drug. All of the above may be factors affecting the degree of absorption of Icariin II. Specifically, a certain factor or the influence of the above-mentioned comprehensive factors still needs to be verified by subsequent research.

6. Conclusion

(1) There were differences in pharmacokinetic parameters

between the quiet medication group, the half-hour exercise group, and the Long-term exercise group.

(2) In the long-term exercise group, the area under the curve (AUC) was larger than that in the quiet medication group, and the area under the curve (AUC) in the quiet medication group was larger than the half-hour exercise group. It indicated that the long-term exercise group absorbed more drugs than the quiet group, and the quiet medication group absorbed more drugs than the half-hour exercise group.

(3) In the long-term exercise group, the plasma concentration peak time (Tmax) was larger than that in the quiet medication group, and the peak time (Tmax) of quiet medication group was the same as the half-hour exercise group.

(4) The peak concentration (Cmax) of the long-term exercise group was larger than that of the quiet medication group, and the peak concentration (Cmax) of the quiet medication group was larger than the half-hour exercise group.

References

- [1] Zuozhou Li, Yanqin Xu, Ying Wang, etc. Research status and prospects of Epimedium medicinal plants[J].Chinese Herbal Medicine, 2005, 36 (2). (in Chinese)
- [2] Xin Ji. Research progress on immunomodulatory effects of Icariin[J].Hebei Medical Journal, 2016 (5): 753-756. (in Chinese)
- [3] GUO B L XIAO PG. Comment on main species of Herb Epimedium[J]. China Journal of Chinese Materia Medica, 2003, 28(4). (in Chinese)
- [4] Jinxiao Shi, Cheng Dian. Study on leaf anatomical structure of Epimedium sagittatum in different populations[J]. Life Science Research, 2005, 9 (4). (in Chinese)
- [5] Hongming Nie, Rong Wang, et al. Experimental study on liver-protecting and choleretic treatment of Epimedium decoction and Icariin II[J].Journal of Practical Chinese Medicine, 2006, 20(4). (in Chinese)
- [6] Erxin Shang, Xinsheng Fan, Yuping Tang, et al. Study on the variation of prescription and dosage of "Golden Chamber"[J].Journal of Nanjing University of Traditional Chinese Medicine,2009,25(1). (in Chinese)
- [7] Yifan Zhou, Changjiang Hu, et al. Pharmacokinetics of Epimedium in rats before and after processing[J].Chinese Patent Medicine, 2013, 12. (in Chinese)
- [8] Xiwei Zhang, Yingping Chen,et al. LC-MS/MS method for the detection of plasma Icariin in healthy humans and its pharmacokinetic study[J].Liaoning Journal of Traditional Chinese Medicine, 2014, 1. (in Chinese)
- [9] P Xue, X Wu, L Zhou, H Ma. IGF1 promotes osteogenic differentiation of mesenchymal stem cells derived from rat bone marrow by increasing TAZ expression[J]. Biochemical & Biophysical Research Communications, 2013, 433 (2): 226-231. (in Chinese)

ARTICLE

Effects of Xuezhikang (Red Yeast Rice) on Blood lipids, Hemorheology and the Expression of P65 and Tissue Factor in Atherosclerotic Rats

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ARTICLE INFO

Article history:

Received: 15th November 2018

Revised: 10th December 2018

Accepted: 24th December 2018

Published Online: 2nd January 2019

Keywords:

Xuezhikang

Atherosclerosis

Blood lipids

Blood rheology

Tissue factor

P65

ABSTRACT

Objective: To observe the effects of Xuezhikang (red yeast rice) on blood lipids, blood rheology, and expression of P65 and tissue factor, and to explore the anti-atherosclerosis effect and related mechanisms of Xuezhikang (red yeast rice). **Methods:** 32 Wistar rats were randomly divided into normal control group, Xuezhikang treatment group, lovastatin treatment group and atherosclerosis model group (8 in each group). Blood lipids, blood rheology, malondialdehyde (MDA), total antioxidant capacity (T-AOC), and expression of aortic tissue factor (TF) and P65 were measured in each group. **Results:** (1) Both Xuezhikang and lovastatin could reduce blood lipid levels, but there was no significant difference between the two groups; (2) Both Xuezhikang and lovastatin can improve the hemorheology of atherosclerotic rats, but the difference between the two groups is not significant; (3) Compared with lovastatin, Xuezhikang inhibited the expression of TF and P65 in aorta of rats with atherosclerosis; (4) Compared with lovastatin, the Xuezhikang group had lower MDA levels and higher T-AOC. **Conclusion:** Xuezhikang can improve blood lipid levels and hemorheology in rats with atherosclerosis. Compared with lovastatin, Xuezhikang has stronger effects on inhibiting oxidative stress and down-regulating the expression of tissue factor and P65.

1. Introduction

Xuezhikang is a kind of special red yeast rice containing lovastatin and its homologues. It is also rich in various biologically active substances

such as unsaturated fatty acids, flavonoids, ergosterol and alkaloids.^[1] Large-scale clinical trial China coronary secondary prevention study (CCSPS) confirmed that, Xuezhikang can significantly reduce the incidence of non-fatal

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Fund Project:

This research was funded by China Health and Medical Development Foundation.

myocardial infarction and coronary heart disease death in patients with coronary heart disease, reduce the need for PCI and / or CABG, and reduce tumor death and total death from various causes.^[2] Compared with foreign secondary coronary heart disease prevention tests such as 4S, CARE and LIPID, although CCSPS has a smaller reduction in TC and LDL-C, however, there is a clear advantage in reducing the overall mortality rate, the incidence of coronary heart disease events and reducing the need for PCI and CABG, suggesting that Xuezhikang has cardiovascular protection independent of lipid-lowering.^[2] A large number of studies have shown that Xuezhikang also has cardiovascular protection effects such as anti-inflammatory, anti-oxidation, protection of endothelial function and improvement of plaque stability. However, whether Xuezhikang has an effect on blood rheology and tissue factor expression and its mechanism is still unclear.

2. Materials and Methods

2.1 Main Drugs and Reagents

Xuezhikang original drug solution is provided by Peking University Weixin Pharmaceutical Co., Ltd.; Lovastatin by Beijing Wansheng Pharmaceutical Co., Ltd.; High-fat feed is produced by Beijing Keao Xieli Feed Co., Ltd.; Vitamin D3 injection (Shanghai General Pharmaceutical Co., Ltd., Batch No.: 081006); Malondialdehyde (MDA) kit (Nanjing Institute of Bioengineering, Batch No.: 20091222); Total Antioxidant Capacity (T-AOC) Kit (Nanjing Institute of Bioengineering Batch No.: 20091222); TF Rabbit Polyclonal Antibody (Santa Cruz, American); P65 abbit Polyclonal Antibody (Santa Cruz, American); β -actin Mouse Monoclonal Antibody (Santa Cruz, American).

2.2 Animal Model Constructing Methods and Grouping

Thirty-two male SPF-grade Wistar rats weighing 200 ± 20 g were provided by the Animal Center of the Chinese Academy of Military Medical Sciences. After two weeks of adaptive feeding in a standard environment, they were randomly divided into control group, Xuezhikang treatment, lovastatin treatment and model group. Rats were induced atherosclerosis using a high-fat diet combined with vitamin D.^[3] The high fat diet formula is: 3% cholesterol, 0.5% sodium cholate, 5% refined sugar, 10% lard and 0.2% propylthiouracil. On the first day of high-fat diet feeding, rats in the model group, Xuezhikang treatment group and lovastatin treatment group were given intraperitoneal injection of vitamin D3 (6×10^5 u/kg body weight). The control group was given normal feed and intraperitoneal injection of equal dose of normal saline. Among them, 8 rats in the control group were given normal saline for

6 weeks, and given normal saline (300 mg/Kg/day) for 6 weeks. 8 rats in the model group were fed with high-fat diet for 6 weeks, and then given normal saline (300 mg/Kg/day) for 6 weeks. 8 rats in Xuezhikang treatment group, 6 weeks after high-fat feeding, were given Xuezhikang (300mg/Kg/day) for 6 weeks; 8 rats in the lovastatin treatment group were given lovastatin (2.5 mg/Kg/day) for 6 weeks after 6 weeks of high-fat diet. Animals in each group were fasted overnight, anesthetized with intraperitoneal injection of pentobarbital sodium, the abdominal aorta was isolated, and arterial blood was punctured below the bifurcation of the abdominal aorta. 5 ml of whole blood was added with heparin (20 U/ml) for anticoagulation, and 1 ml of whole blood was anticoagulated with 3.28% sodium citrate (the volume ratio of sodium citrate to whole blood was 1:9).

2.3 Blood Lipid Determination

Heparin anticoagulated whole blood was centrifuged at 3000 rpm for 10 min to take plasma. Plasma triglyceride (TG), total cholesterol (TC), low density lipoprotein cholesterol (LDL-C) and high density lipoprotein cholesterol (HDL-C) were detected enzymatically using a Hitachi 7600-110 automatic biochemical analyzer.

2.4 Blood Rheology Determination

Heparin anticoagulation was performed, and both the whole blood high-cut viscosity and low-cut viscosity were measured by LBY2N6A self-cleaning rotary viscometer (Beijing Plyson Co., Ltd.); Whole blood was centrifuged at 3000 rpm for 10 min, plasma was taken, and plasma viscosity was measured. The deformation index (DI) of red blood cells in whole blood was measured in the range of $50-1000 \text{ s}^{-1}$ by using LBY2-BX2 laser diffractometer (Beijing Plyson Co., Ltd.); Hematocrit (HCT) was measured using a micro-pressure tube.

2.5 MDA and T-AOC Detection

Rat plasma MDA and T-AOC levels were measured according to the kit instructions. Plasma MDA levels were measured by TBA. Plasma T-AOC is reflected by detecting the level at which Fe^{3+} is reduced to Fe^{2+} .

2.6 The Expression of Aortic Tissue Factor (TF) and P65

Take 100 mg of aortic tissue, 1 ml of tissue lysate, homogenize, centrifuge at 13°g for 20 min at 4°C , detect the protein concentration by Bradford method, and add an equal volume of 2 $\times$ SDS gel loading buffer to 100 μg of protein/lane. Mix and boil for 5-10 min to denature the protein, centrifuge at 12000 rpm for 5 min, then load in the order. 80V laminated glue, 120V separation gel,

electrophoresis separation of protein, 200mA2h transfer film, 5% skim milk powder was blocked for 4 h, primary antibody was added, and the membrane was washed 3 times for 15 min at 4 °C for 8 h. The horseradish peroxidase-labeled secondary antibody was added for 1 h, and the membrane was washed 3 times with PBST for 15 min. And after electrochemiluminescence with enhanced chemiluminescence (ECL), the strip was placed in an Alpha ImagerTM 2200 image analysis processing system. Using Alpha Ease 40 analysis software, the computer directly scans and determines the integrated optical density value of the developed strip. The integrated optical density value (IDV) of the strip indicates the expression level of the protein, and the relative expression of the target protein in each sample is calculated (TF/ β -actin and P65/ β -actin).

3. Statistical Processing

Using SPSS13.0 software, the measurement data were expressed as mean $\pm$ standard deviation ($\bar{x} \pm s$). The mean difference between groups was tested by one-way ANOVA. $P < 0.05$ was used to indicate the difference between the groups.

4. Results

4.1 Changes in Blood Lipids

Compared with the control group, TC, LDL-C and HDL-C were significantly increased in the atherosclerosis model group ($P < 0.05$), but there was no difference in TG between the two groups. Compared with the model group, the plasma levels of TG, TC and LDL-C in the Xuezhikang and lovastatin-treated rats were significantly

lower than those in the model group ($P < 0.01$, 0.05, 0.05), but there was no significant change in HDL-C. Compared with the lovastatin group, the mean values of TG, TC and LDL-C in the Xuezhikang group were lower, but the difference was not statistically significant. The results are shown in Table 1.

4.2 Blood Rheology

Compared with the control group, the plasma viscosity and whole blood high-cut and low-cut viscosity of the model group were significantly increased, and the red blood cell deformation index was significantly decreased ($P < 0.05$). Xuezhikang and lovastatin can reduce the plasma viscosity and whole blood viscosity of rats with atherosclerosis and increase the deformability of red blood cells, the difference is significant ($P < 0.05$). There were no significant differences in plasma viscosity, whole blood viscosity and erythrocyte deformability between Xuezhikang group and lovastatin group. There was no significant difference in hematocrit between the groups. The results are shown in Table 2.

4.3 Plasma T-AOC and MDA

The plasma MDA levels of the rats in each group after 6 weeks of drug intervention are shown in Figure 1. Compared with the control group, the MDA level in the plasma of the model group was significantly increased ($P < 0.05$). Both Xuezhikang and lovastatin reduced plasma MDA levels in atherosclerotic rats ($P < 0.05$). Plasma MDA levels in the Xuezhikang group were significantly lower than those in the lovastatin group ($P < 0.05$). The plasma T-AOC levels of the rats in each group after 6 weeks of drug

Table 1. Plasma levels of TC, TG, HDL-C and LDL-C in each group ($\pm$ SD, mmol/L)

Groups	TG	TC	LDL-C	HDL-C
Control Group	0.64 $\pm$ 0.06	1.82 $\pm$ 0.18	0.17 $\pm$.003	0.64 $\pm$ 0.06
Model Group	0.67 $\pm$ 0.19	12.75 $\pm$ 1.61 ^a	5.36 $\pm$ 1.02 ^a	1.12 $\pm$ 0.32 ^a
Lovastatin Group	0.31 $\pm$ 0.11 ^b	8.79 $\pm$ 1.75 ^b	3.80 $\pm$ 1.08 ^b	0.96 $\pm$ 0.33
Xuezhikang Group	0.29 $\pm$ 0.16 ^b	7.68 $\pm$ 1.02 ^b	3.42 $\pm$ 0.56 ^b	0.94 $\pm$ 0.31

Notes: a $P < 0.05$ compared with the control group; b $P < 0.05$ compared with the model group; c $P < 0.05$ compared with the lovastatin group.

Table 2. Blood flow characteristics of each group of rats ($\pm$ SD)

Groups	Plasma viscosity (mPa·s)	whole blood viscosity (mPa·s)			Red blood cell deformability	Hematocrit
		Shear rate=50/S ⁻¹	Shear rate=100/S ⁻¹	Shear rate=150/S ⁻¹		
Control Group	1.56 $\pm$ 0.15	4.72 $\pm$ 0.68	4.34 $\pm$ 0.64	3.99 $\pm$ 0.48	0.36 $\pm$ 0.01	0.42 $\pm$ 0.01
Model Group	1.81 $\pm$ 0.16 ^a	5.47 $\pm$ 0.41 ^a	4.91 $\pm$ 0.39 ^a	4.58 $\pm$ 0.33 ^a	0.31 $\pm$ 0.02a	0.41 $\pm$ 0.01
Lovastatin Group	1.68 $\pm$ 0.16 ^b	4.66 $\pm$ 0.59 ^b	4.17 $\pm$ 0.45 ^b	3.97 $\pm$ 0.39 ^b	0.35 $\pm$ 0.01b	0.41 $\pm$ 0.01
Xuezhikang Group	1.54 $\pm$ 0.20 ^b	4.50 $\pm$ 0.26 ^b	4.04 $\pm$ 0.19 ^b	3.87 $\pm$ 0.20 ^b	0.35 $\pm$ 0.01b	0.41 $\pm$ 0.02

Notes: a $P < 0.05$ compared with the control group; b $P < 0.05$ compared with the model group; c $P < 0.05$ compared with the lovastatin group.

intervention are shown in Figure 2. Plasma T-AOC was significantly lower in the model group compared with the control group ($P < 0.05$). Both Xuezhikang and lovastatin increased plasma T-AOC in atherosclerotic rats ($P < 0.05$). The plasma T-AOC of Xuezhikang group was higher than that of lovastatin group ($P < 0.05$).

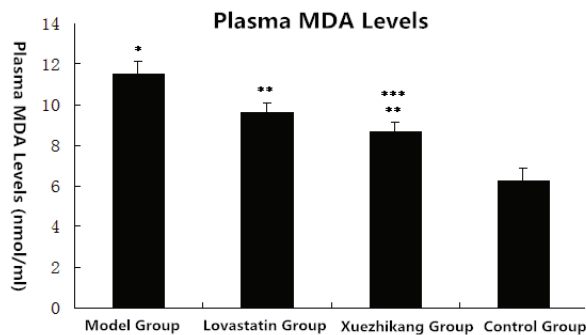


Figure 1. Plasma MDA Levels of rats in each group

Notes: * $P < 0.05$ compared with the control group; ** $P < 0.05$ compared with the model group; *** $P < 0.05$ compared with the lovastatin group.

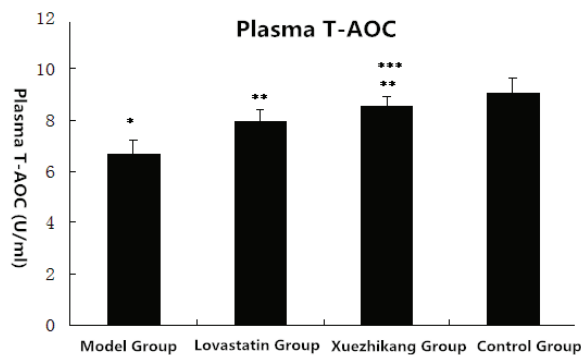


Figure 2. Total plasma antioxidant capacity (T-AOC) of rats in each group

Notes: * $P < 0.05$ compared with the control group; ** $P < 0.05$ compared with the model group; *** $P < 0.05$ compared with the lovastatin group.

3.4 The Expression of Aortic Tissue Factor (TF) and P65

The expression of aortic TF in each group of rats is shown in Figure 3. Compared with the control group, the expression of aortic TF in the model group was significantly increased ($P < 0.05$). Compared with the model group, the expression of aortic TF in the Xuezhikang group and the lovastatin group was significantly lower ($P < 0.05$). Compared with lovastatin, Xuezhikang inhibited the expression of TF in rat aorta ($P < 0.05$). The expression of P65 in the aorta of each group was shown in Figure 4. Compared with the control group, the expression of P65 in the aorta

of the model group was significantly increased ($P < 0.05$). Compared with the model group, the expression of P65 in the aorta of the Xuezhikang group and the lovastatin group was significantly lower ($P < 0.05$). Compared with lovastatin, Xuezhikang inhibited the expression of P65 in rat aorta ($P < 0.05$).

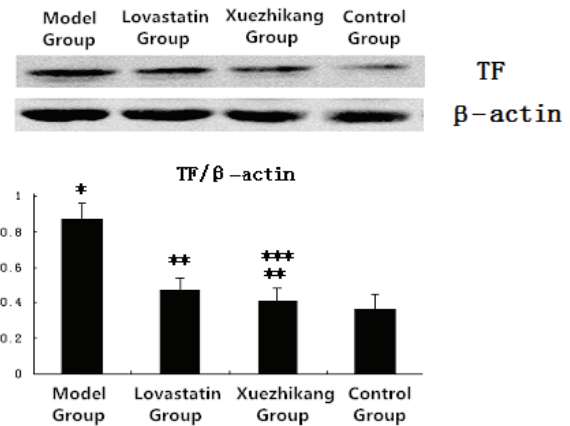


Figure 3. Expression of aortic TF in rats of each group after 6 weeks of drug intervention

Notes: * $P < 0.05$ compared with the control group; ** $P < 0.05$ compared with the model group; *** $P < 0.05$ compared with the lovastatin group.

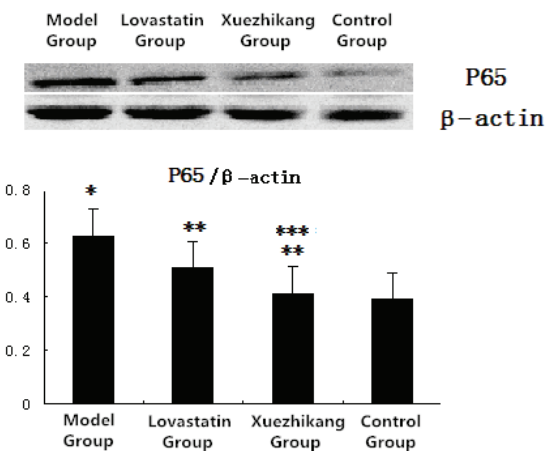


Figure 4. Expression of aortic P65 in rats of each group after 6 weeks of drug intervention

Notes: * $P < 0.05$ compared with the control group; ** $P < 0.05$ compared with the model group; *** $P < 0.05$ compared with the lovastatin group.

5. Discussion

The main component of Xuezhikang is lovastatin and its homologues, which reduces the synthesis of cholesterol and accelerates the clearance of LDL by increasing the activity of low-density lipoprotein (LDL) receptors on the

surface of hepatocytes through feedback regulation, thereby achieving a blood lipid regulation effect that lowers serum cholesterol.^[4] In addition to statin lipid-lowering drugs, Xuezhikang also contains various components such as unsaturated fatty acids and sterols, which have synergistic effects, which makes it have better lipid-lowering effect than the same dose of lovastatin.^[4] This research confirmed that Xuezhikang can reduce plasma TG, TC and LDL-C levels. In this research, Xuezhikang's lipid-lowering effect was similar to that of lovastatin, suggesting that lovastatin is the main effective lipid-lowering component of Xuezhikang.

The blood viscosity reflects the inherent resistance of blood flow in the blood vessels. When the blood viscosity increases, the blood flow velocity slows down, and thrombosis is easy to occur and promote the formation of atherosclerotic plaque. Whole blood viscosity is determined by hematocrit, plasma viscosity, erythrocyte aggregation, and erythrocyte deformability, while plasma viscosity is primarily determined by fibrinogen, macromolecular lipoprotein, and blood lipids. The aggregation of red blood cells can be represented by low shear rate whole blood viscosity, which is related to the concentration of bridging proteins in the blood such as fibrinogen and macromolecular lipoprotein.^[5] The increase in plasma viscosity and erythrocyte aggregation in AS rats is caused by an increase in blood lipid, fibrinogen, and lipoprotein concentrations. The deformability of red blood cells is determined by the composition of the erythrocyte membrane and the skeletal protein of red blood cells.^[6] Studies have shown that plasma cholesterol concentration, lipid peroxidation and other factors can affect the composition and structure of red blood cell membrane, change the deformability of erythrocyte membrane, affecting the rheological properties of blood.^[7] Compared with the control group, the plasma viscosity and whole blood viscosity of the AS group increased, and the red blood cell deformability decreased; There was no significant difference in hematocrit between the two groups, suggesting that the increase in whole blood viscosity is mainly related to plasma viscosity, erythrocyte aggregation and erythrocyte deformability. In this research, plasma cholesterol and MDA concentrations were elevated in the AS group, while T-AOC was decreased, which may be the main cause of the decrease in the deformability of red blood cells. The effect of Xuezhikang on blood viscosity is mainly related to its effect on lowering blood lipid levels and fibrinogen concentration, and the effect of increasing red blood cell deformability is mainly related to its effect of lowering plasma cholesterol, reducing lipid peroxidation and increasing T-AOC. The effect of Xuezhikang on the plasma viscosity,

whole blood viscosity and erythrocyte deformability of AS rats was not stronger than that of the same dose of lovastatin, suggesting that the abnormality of hemorheology in AS rats is mainly caused by dyslipidemia.

In this research, compared with the control group, the AS model rats had elevated MDA levels and decreased T-AOC, which was associated with increased expression of P65 in AS rats. Xuezhikang and lovastatin improve oxidative stress in AS rats, lower MDA in plasma and increase T-AOC levels. Compared with lovastatin, the blood lipids in the Xuezhikang group had lower MDA content and higher T-AOC. Oxidative stress causes lipid peroxidation, endothelial dysfunction, smooth muscle migration and proliferation, degradation of extracellular matrix, and promotes the formation and progression of AS.^[8] In addition, oxidative stress can lead to platelet activation, increased expression of tissue factor, decreased red blood cell deformability, increased plasma and whole blood viscosity, and the body is in a hypercoagulable state, promoting the formation of arterial thrombosis.^[9] What's more, Xuezhikang is rich in unsaturated fatty acids, flavonoids, ergosterol, alkaloids and other substances with obvious antioxidant effects, which can improve blood coagulation by inhibiting platelet aggregation, improving blood rheology and inhibiting the expression of tissue factor. This research suggests that Xuezhikang has a stronger antioxidant effect than lovastatin.

Tissue factor is a promoter of the coagulation cascade and is closely related to the occurrence and progression of atherosclerosis. In addition to coagulation function, it also has the effects of promoting inflammation and regulating angiogenesis.^[10] Compared with the control group, the expression of aortic TF in the AS model group was significantly increased. Xuezhikang and lovastatin can inhibit the expression of TF in aortic atherosclerosis rats, and the inhibitory effect of Xuezhikang is stronger than that of lovastatin. The 5' upstream promoter of the tissue factor structural gene includes 2 activated protein-1 (AP-1), 1 κ B, 3 early growth response-1 (Egr-1) and 5 Sp1 binding sites.^[11] Among them, the nuclear transcription factor NF- κ B plays an important regulatory role in the expression of tissue factor in atherosclerotic disease, and c-Rel/P65 is the major NF- κ B subtype that regulates the expression of tissue factor.^[7] Compared with the control group, the expression of P65 in the aorta of the AS group was significantly increased. Xuezhikang inhibited the expression of P65 in aorta of AS rats more than the same dose of lovastatin.

6. Conclusion

Xuezhikang can reduce blood lipid levels in AS rats and

improve blood rheology. Compared with the same dose of lovastatin, Xuezhikang has stronger antioxidant capacity and can better inhibit the expression of aortic TF and P65.

References

- [1] Maoliang Zhang, Zhenwen Duan, Shenmeng Xie. Study on the active constituents of Xuezhikang[J]. Chinese Journal of New Drugs, 1998, 7(8):213-214. (in Chinese)
- [2] Xuezhikang adjusted blood lipids for coronary heart disease secondary prevention research collaboration group. Chinese coronary heart disease secondary prevention research[J]. Chinese Journal of Cardiology, 2005, 33(2):109-115. (in Chinese)
- [3] Juan Zhao. Replication of rat atherosclerosis model[J]. Journal of Practical Medicine, 2008, 24(23):4139-4141. (in Chinese)
- [4] Lijuan Liu, Shiyao Ma, Sichun Liu. Pharmacological action and clinical evaluation of Xuezhikang[J]. Chinese Pharmacy, 2003, 14(3):184-186. (in Chinese)
- [5] Zheng J, Wang X, Li H, et al. Improving abnormal hemorheological parameters in ApoE^{-/-} mice by Ilex kudingcha total saponins[J]. Clin Hemorheol Microcirc. 2009, 42(1):9-36.
- [6] S. Chien and L.A. Sung. Molecular basis of red cell membrane rheology[J]. Biorheology, 1990, 27:589-597.
- [7] Iwona Cicha, Yoji Suzuki, Norihiko Tateishi, et al rheological changes in human red blood cells under oxidative stress[J]. Pathophysiology 1999, 6:103-110.
- [8] Papaharalambus CA, Griendling KK. Basic mechanisms of oxidative stress and reactive oxygen species in cardiovascular injury[J]. Trends Cardiovasc Med, 2007, 17(2):48-54.
- [9] Görlach A. Redox regulation of the coagulation cascade[J]. Antioxid Redox Signal, 2005, 7:1398-1404.
- [10] Thiruvikraman SV, Guha A, Roboz J, et al. In situ localization of tissue factor in human atherosclerotic plaques by binding of digoxigenin-labeled factors VIIa and X[J]. Lab Invest, 1996, 75:451-461.
- [11] Mackman N. Regulation of the tissue factor gene[J]. Thromb Haemost, 1997, 78:747-754.

ARTICLE

Effect of Emergency Care Process Optimization on Rescue Efficiency of Emergency Patients

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ARTICLE INFO

Article history:

Received: 26th November 2018

Revised: 15th December 2018

Accepted: 24th December 2018

Published Online: 2nd January 2019

Keywords:

Emergency care process optimization

Emergency patients

Rescue efficiency

Nursing satisfaction

ABSTRACT

Objective: This paper discusses the impact of emergency care process optimization on the rescue efficiency of emergency patients. **Methods:** 102 cases of emergency patients received from January 2017 to February 2018 in our hospital were selected as research objects. According to the order of treatment, they were divided into control group and observation group. The routine nursing process was given to the control group, and the observation group was given an optimized nursing process to compare the rescue efficiency and nursing satisfaction of the two groups. **Results:** According to the results of the study, the nursing satisfaction of the two groups was compared. Among them, the total satisfaction of the observation group was 49, accounting for 96.07%; the control group was very satisfied with the nursing work, accounting for 82.35%. There was a significant difference in nursing satisfaction between the two groups, which was statistically significant ($P < 0.05$). Comparing the rescue efficiency of the two groups of patients, the observation time, rescue time, infusion time and disease remission time were significantly lower than the control group, the rescue success rate was 94.11%, and the rescue success rate of the control group was 78.43%. The results have statistical significance ($P < 0.05$). **Conclusion:** The optimization of emergency nursing process can greatly improve the rescue efficiency of emergency patients, reduce the disability rate and mortality, improve the quality of nursing, and enhance the satisfaction of nursing. It is worthy of clinical promotion practice.^[1]

1. Introduction

The emergency department is an important part of the hospital department. The patients received have the characteristics of rapid onset and serious illness. Medical staff should understand the patient's condition at the earliest time, do a good job of triage and res-

cue work, and the nursing process is of great significance and can directly affect the patient's life safety. The hospital should regularly organize medical staff to carry out training and study, continuously improve its knowledge level and comprehensive work ability, optimize the emergency care process, put the patient's life safety at the top posi-

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tion, improve rescue efficiency and enhance nursing satisfaction.^[2] In this paper, 102 emergency patients received by our hospital from January to February 2018 in 2017 were selected as research objects. According to the order of treatment, they were divided into control group and observation group, and the routine nursing process was given to the control group, while the observation group was given an optimized nursing process, and the rescue efficiency and nursing satisfaction of the two groups were compared, as reported below.

2. Materials and Methods

2.1 General Information

102 emergency patients received from January 2017 to February 2018 in our hospital were selected as the study subjects. They were divided into control group and observation group according to the order of treatment. The routine nursing process was given to the control group, and the observation group was given the optimal nursing process. Among them, there were 29 male patients in the control group and 22 female patients, aged 30-72 years, with an average age of (49.61 ± 2.24) years old; there were 24 male patients in the observation group and 27 female patients, aged 25-75 years, with an average age of (50.64 ± 2.31) years old; the time from onset to admission is 1-12h. Both groups of patients participated in the experimental research with informed knowledge. There was no significant difference in the general data ($P > 0.05$), and there was comparability. This research was approved by the hospital ethics committee. Exclusion criteria: (1) the patients who died during the rescue or transshipment process; (2) the patients who had severe cardiovascular disease; (3) the patients who were not conscious and unable to communicate. (4) the patients who had severe symptoms of liver and renal insufficiency.

2.2 Methods

The routine nursing process was given to the control group: the medical staff evaluated and judged the patient's condition, treated according to clinical experience, monitored the patient's vital signs in real time, and did a good job of oxygen therapy.^[3] Give the observation group an optimized care process:

First, the attending doctors, head nurses, and inspectors will establish emergency care process teams, regularly train the team members, explain the characteristics of the emergency department in detail, and continuously improve their knowledge and skills. Different treatment and care programs are developed for different types of emergency patients to make them aware of their responsibilities. After the assessment, the nursing staff will be as-

sessed, and the nursing process will be carried out in strict accordance with the nursing process.

Second, medical staff must carry out shift work in strict accordance with the rules and regulations, ensure that emergency medical staff are on duty 24 hours a day, and timely carry out rescue treatment. After receiving the emergency call, it is necessary to start the car within 5 minutes. On the way of first aid, the nursing staff needs to keep in touch with the patient's family to understand the patient's condition and guide the patient's family by phone for simple first aid. The nursing staff needs to prepare medicines, utensils, etc. for emergency use. On the way back, the caregiver needs to contact the emergency room to inform the patient about the situation and prepare the emergency room for the best treatment.

Third, the medical staff should judge and evaluate the condition according to the patient's consciousness and the body function, learn the basic situation of the patient as quickly as possible, and establish an emergency green channel of "registration, rescue, payment" to enable the patient to rescue as soon as possible. After the nursing staff is notified, the flattened car will be placed at the door to greet the patient, which will help the patient get rescue as soon as possible.^[4]

Fourth, nurses should give full play to their auxiliary functions, give patients oxygen therapy, establish intravenous channels, and check related functions. At the same time, medical personnel should communicate with patients, do a good job in health education, and reduce their psychological stress. Fundamentally improve the nursing process.^[5]

Fifth, the nursing staff needs to regularly check the equipment in the emergency room. If abnormal conditions occur, they need to be repaired immediately, and pay attention to regular cleaning and disinfection. The nursing staff can master the use of various emergency department instruments and understand the precautions of each instrument in detail.

Sixth, nursing staff needs to increase training in psychological care. After the patients enter the hospital, they can calm the anxiety, nervousness and fear of the patients and can explain the basic knowledge of the illness to the patients, use professional knowledge to gain the trust of the patient, increase the patient's confidence in the treatment of the disease, and be able to face the disease more actively. In addition, the caregiver needs to guide the patient to self-care, thereby improving the quality of life of the patient.

2.3 Observation Indicators

The nursing satisfaction and rescue efficiency of the two groups were observed.

2.4 Effect Judgment

The patient care service satisfaction was scored. In this experiment, 156 patients were investigated by questionnaire survey and divided into three criteria: very satisfied: 80-100 points; satisfied 60-80 points; unsatisfactory <60 points.^[6] Satisfaction = (very satisfied + satisfied) / total × 100%. At the same time, the patient's condition relief time was recorded and counted, and the clinical symptoms such as chest tightness and chest pain completely disappeared as the standard.

2.5 Statistical Principles

In this experiment, the spss20.0 professional statistical software was used to carry out x2 test on the data of two groups of nursing satisfaction, and (%), t-test was carried out on the rescue situation, and expressed by (±s), when P<0.05, there is a significant difference in data between groups.

3. Results

3.1 Nursing Satisfaction

According to the results of the study, comparing the satisfaction of the two groups of patients, among them, the observation group's total satisfaction with nursing work was 49, accounting for 96.07%. And among them, 27 patients were very satisfied, accounting for 52.94%, and 22 patients were satisfied, accounting for 43.13%; the control group was very satisfied with the nursing work, accounting for 82.35%, of which 18 patients were very satisfied, accounting for 35.29%, and 24 patients were satisfied, accounting for 47.05%. There was a significant difference in nursing satisfaction between the two groups, which was statistically significant (P<0.05). As shown in Table 1.

3.2 Rescue Efficiency

According to the results of the study, comparing the rescue efficiency of the two groups of patients, the observation time of the observation group was smaller than that of the control group, and the difference between the two groups

was significant (P<0.05). The rescue time of the observation group was smaller than that of the control group, and the difference between the two groups was larger (P<0.05). The infusion time of the observation group was smaller than that of the control group, and the difference between the two groups was significant (P<0.05). The remission time of the observation group was smaller than that of the control group, and the difference between the two groups was significant (P<0.05). The remission time of the observation group was smaller than that of the control group, and the difference between the two groups was significant (P<0.05). The rescue success rate of the observation group was 94.11%, and the success rate of the rescue group was 78.43%. The success rate of rescue in the experimental group was higher than that in the control group, and the two groups were statistically significant (P<0.05). See Table 2.

4. Discussion

The emergency department is one of the more concentrated departments of critically ill patients, and its condition is more complicated, which puts high demands on the treatment and nursing work. At the same time, with the change of people's ideological concepts, the awareness of rights protection has become stronger, and the optimization of emergency care process has become an inevitable trend. Through the optimization and improvement of emergency nursing measures, the development of scientific and rational work processes, and systematic treatment and nursing, not only can greatly improve the success rate of rescue, but also improve the quality of nursing work, make the nursing work more scientific and standardized, ensure the smooth development of rescue related work and enhance patient and family care satisfaction.^[7] The optimization of the emergency room care process can reduce unnecessary work, reduce the work of nursing staff, improve the efficiency of care, and make the nursing work more standardized, programmed and standardized, thereby striving for more rescue time for patients to improve the success rate of rescue. Optimize the emergency room process,

Table 1. Nursing satisfaction of patients from two groups of [n, (%)]

Groups	Cases	Very Satisfied	Satisfied	Unsatisfied	Total Satisfaction
Observation Group	51	27 (52.94)	22 (43.13)	2 (3.92)	49 (96.07)
Control Group	51	18 (35.29)	24 (47.05)	9 (17.64)	42 (82.35)

Table 2. Rescue efficiency of patients from two groups of ($\bar{x} \pm s$)

Groups	Cases	Triage Time (min)	Rescue Time (min)	Transfusion/ Medication Time (min)	Remission Time (min)	Rescue Success Rate
Observation Group	51	0.67±0.87	40.61±5.86	5.12±2.63	42.87±8.69	94.11%
Control Group	51	2.64±1.36	53.75±4.68	9.64±3.57	90.85±9.08	78.43%

put forward higher requirements for nursing staff, need to improve the comprehensive quality of nursing staff, professional skills, clarify the duties of nursing staff, improve the responsibility of nursing staff, and thus improve the quality of care. After the patient is admitted to the hospital, the nursing staff needs to quickly assess the patient's condition and prepare the rescued drugs and instruments to improve the efficiency of the rescue.

In this paper, 102 cases of emergency patients received from January 2017 to February 2018 in our hospital were selected as research objects. According to the order of treatment, they were divided into control group and observation group. The routine nursing process was given to the control group, and the observation group was given an optimized nursing process to compare the rescue efficiency and nursing satisfaction of the two groups. According to the research results, the total satisfaction of the observation group for nursing work was 49, accounting for 96.07%; the control group was very satisfied with the nursing work, accounting for 82.35%. The observation time of the observation group was smaller than that of the control group, and the difference between the two groups was significant ($P < 0.05$).

5. Conclusion

In summary, the optimization of emergency care process can greatly improve the rescue efficiency of emergency patients, reduce the disability rate and mortality, improve the quality of care, and enhance the satisfaction of nursing, which is worthy of clinical promotion practice.

References

[1] Xiujin Wang, Jinghua Yu. Study on the application effect

of emergency nursing process optimization in improving rescue efficiency of emergency patients[J]. Chinese Journal of Practical Medicine, 2017, 12(34): 177-178. (in Chinese)

- [2] Edward C Jauch, Jeffrey L Saver, Harold P Adams et al. Guidelines for the early management of patients with acute ischemic stroke: a guideline for healthcare professionals from the American Heart Association/American Stroke Association[J]. A Journal of Cerebral Circulation, 2013, 44(3): 870-947.
- [3] Yanxiao Tang. Explore the effect of optimizing emergency nursing procedure on the rescue effect of patients with acute myocardial infarction[J]. Journal of Hunan University of Traditional Chinese Medicine, 2016(A02): 1038-1039. (in Chinese)
- [4] Jingjun Wang. Analysis and optimization of the role of emergency care in improving the rescue efficiency of critical emergency patients[J]. Journal of Practical Clinical Nursing, 2017, 2(17). (in Chinese)
- [5] Xiuna Feng, Huijuan Yan. Observation on the application effect of emergency nursing process optimization in emergency patients' rescue[J]. Journal of Clinical Medicine and Archives, 2018(6). (in Chinese)
- [6] Wenfang Deng, Miaolue Wu. Application analysis of optimizing emergency nursing process in preoperative nursing of emergency coronary intervention[J]. Medical Journal: Abstract Version, 2016(8): 00305-00305. (in Chinese)
- [7] Hua Ouyang. Effect of emergency care process optimization on first aid effect and nursing satisfaction of emergency patients[J]. Contemporary Chinese medicine, 2017, 24(31): 194-196. (in Chinese)

REVIEW

Discussion on Health Management Model of Patients with Chronic Diseases

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ARTICLE INFO

Article history:

Received: 24th October 2018

Revised: 11th November 2018

Accepted: 24th December 2018

Published Online: 2nd January 2019

Keywords:

Chronic disease

Health management model

Discussion

ABSTRACT

The new medical reform program puts forward new requirements for the prevention and control of chronic diseases and the construction of community health service system. Through the health management of patients with chronic diseases, the health management experience of chronic disease patients is summarized, including collecting data, establishing health records, assessing health risk factors, adopting health interventions, dietary interventions, exercise interventions, medication interventions, psychological interventions, and health education. It is believed that strengthening the health management of patients with chronic diseases can alleviate the suffering of patients, improve the quality of life of patients, and save medical resources.

1. Introduction

Health management refers to comprehensive monitoring of the health of individuals or groups, identifying risk factors that affect health, and conducting health consultation, guidance, and behavioral behavior interventions on how to avoid or mitigate the risk of health risk factors, in order to achieve less disease.

^[1] Common chronic diseases include hypertension, coronary heart disease, diabetes, hyperlipidemia, cirrhosis, cerebral infarction (cerebral hemorrhage), anemia, chronic renal failure, chronic obstructive pulmonary disease, rheumatoid arthritis, etc. However, the number of patients with chronic diseases is rapidly increasing with the aging of the population, lifestyle changes, living standards, and

improved medical technology. Due to the long course of chronic diseases, many complications, complicated disease control and large consumption of health resources, it has become an important social health problem that threatens the health of our population.

2. Concept

Health management, in short, refers to a process of comprehensive management of individual or population health risk factors. A number of large-scale clinical trials have shown that,^[2] lifestyle improvement measures such as diet control, exercise, and weight loss can delay or prevent the occurrence of chronic diseases, and play a role in preventing disease. Effective measures to prevent disease.

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3. Health Management Process

3.1 Collect Data and Establish Health Management Records

(1) Identify the target population of chronic disease management through various methods such as physical examination screening (including questionnaires and physical examinations) and hospital outpatient visits, including: high-risk groups (including obesity, high blood pressure, and family history) and pre-existing patients (including uncomplicated and comorbid) who have no risk factors for the disease.

(2) Classify the target population according to the three-level prevention requirements and establish health records. The first category is high-risk groups, the second category is those with chronic diseases but no complications, and the third category is those with complications. For these three types of target population, in addition to collecting basic information (including name, gender, age, smoking and drinking history, dietary status, exercise status, psychological, social, cultural, economic, etc.), the second and third groups should also be collected: time of onset, treatment status, whether there are complications and complications, mastery of basic knowledge of chronic diseases, weight, body mass index, waist circumference, systolic blood pressure, diastolic blood pressure, fasting blood glucose and blood lipids are strictly registered, and health records are established by real-name system, so as to conduct regular telephone follow-up and issue health education materials.^[3]

3.2 Assess Health Risk Factors

Health risk factors mainly include environmental factors, biological genetic factors, behavioral and lifestyle factors, and health care services. Through the investigation of patients and their families, a comprehensive assessment of the factors affecting the health of patients is conducted.

3.3 Health Intervention

For the collected data, develop a corresponding health management plan and implement health management interventions. It is reported that in the pathogenesis of chronic diseases, the individual's lifestyle plays a decisive role. Helping patients to establish a healthy lifestyle, develop a chronic disease health education plan, and focus on strengthening the following key points in the management process:

3.3.1 Basic knowledge Education

The contents include the causes of common chronic diseases such as hypertension and diabetes, pathogenesis, typical symptoms, progression of the disease, prevention

and care of causes and complications, and increased understanding and awareness of diseases.

3.3.2 Dietary Guidance Education

For patients with chronic diseases, diet management is an essential measure for prevention and control at any stage of the natural course of chronic diseases. According to the patient's weight, physical activity and blood sugar, blood pressure, blood lipids, etc., design an individualized diet plan, teach them to correctly allocate three meals a day, to achieve a balanced diet and maintain an ideal weight. The overall principle is to control the total calories, master the proportion of the three major thermogenic nutrients (about 60% carbohydrate, 10% protein, 30% fat), in which the ratio of saturated fat, polyunsaturated fat and monounsaturated fat is (1:1:1), mix coarse and fine grain, a small amount of meals, regular quantitative, quit smoking, limit alcohol, eat high-sugar, high-salt, high-fat foods, eat more high-diet fiber foods, ensure adequate vitamins and proper minerals substance.

3.3.3 Exercise Education

Develop a personalized exercise program suitable for the patient, including exercise form, exercise intensity, exercise frequency, exercise duration and so on.

(1) Exercise Forms

The exercise form is aerobic exercise-based jogging, swimming, cycling, aerobics, Tai Chi and other exercises.

(2) Exercise Intensity

The exercise intensity reaches a maximum heart rate of 60 to 90%. For those who do not participate in exercise regularly, it is necessary to perform a low-intensity exercise for a period of time, and then increase the amount of exercise if the body allows.

(3) Exercise Frequency

The exercise frequency is at least 3 to 5 days per week.

(4) Exercise Duration

Prepare activities (5 to 10 minutes) and at least 5 minutes of exercise after each exercise. The exercise time is about 20 to 60 minutes. Encourage patients to exercise, which helps to reduce weight. Drink water before exercise to maintain body fluid balance; carry easy-to-absorb carbohydrates during exercise for hypoglycemia; check for any discomfort after exercise.

3.3.4 Correct Medication Education

The management guides the target population to rationally use the medicine, introduces the types, mechanism of action, side effects, indications, contraindications, intensity and time of the drug, and warns the patient not to change the drug variety and dosage at will, and improve the patient's compliance with drug treatment.

3.3.5 Self-monitoring Education

Instruct patients to regularly monitor blood pressure, blood sugar, urine sugar, body weight, etc., and regularly track changes in indicators. Early detection of complications, early detection of large blood vessels, microvascular diseases and early treatment are extremely important for improving prognosis.

3.3.6 Psychological Guidance

Chronic diseases are lifelong diseases. Patients often have a series of emotional changes, such as fear, depression and depression, anxiety, denial, disappointment, disgusting, poor sleep, etc. Studies have shown that various stress events from home and society can have adverse effects on blood sugar and blood sugar control. Timely and targeted diversion, guiding patients to organize outdoor activities, tourism, music appreciation and other stress reduction; citing positive cases and encouraging patients to communicate with friends and family, seeking understanding and support, eliminating negative emotions, relieving psychological stress, establishing patient compliance with health management and confidence in fighting disease.^[4]

4. Summary

The use of health education and health promotion methods for disease prevention and control and rehabilitation has been widely recognized and respected internationally. The health management process also promotes patients to learn and master the basic knowledge of common chronic diseases such as hypertension and diabetes. Recognize complications, master emergency treatment, improve patient self-management ability, improve metabolic control, and guide patients to follow healthy behavioral lifestyles, so that patients can truly achieve the purpose of knowledge, trust, and behavior in health management. It is the key to effective control of the condition of patients with chronic diseases, prevention, delay or control of related complications and improvement of quality of life.^[5]

5. Discussion

Chronic disease management is a long-term management process that requires the participation of medical institutions, patients, and family members.

(1) Strengthen the basic knowledge education of chronic diseases, especially the training and education of doctors, nurses and nutritionists, so as to improve the understanding of chronic diseases among patients, their families and the whole society.

(2) Formulate practical and feasible management questionnaires, standardize, refine, order, and serialize the main management contents, so as to standardize management evaluation standards.

(3) Strengthen assessments, track and evaluate feedback, assess whether planned plans are accepted by managers, and actively participate in health management.

(4) Subsequent management needs to be personalized, according to the age, social environment and status of the management object, family economic ability, cultural background and customs, etc., the individual's receptive power is evaluated, and communication skills and health education skills are learned so that the management object can understand and accept persistence.

6. Conclusion

Some medical health research centers have proposed a new concept of medical consumption for health management, and have achieved remarkable results in ensuring the physical and mental health of their citizens and reducing the excessively growing medical expenses. China's health management has just started, as a discipline has not yet formed in China.^[6] Therefore, under the new medical reform situation, establishing a health management model suitable for chronic diseases in our country as soon as possible, providing scientific and rational health promotion, medication guidance and humanistic psychological care for patients with chronic diseases has practical significance for preventing chronic diseases, improving patients' quality of life, and controlling medical expenses.

References

- [1] Junqing Liu. Discussion on the health management mode of community confidant[J]. Beijing Chinese Medicine, 2009, 28(8): 661-663. (in Chinese)
- [2] Weihong Ma, Linjun Tang, Jiuxi Jiang, et al. Analysis of disease composition of elderly patients in geriatrics and discussion on health management model of the elderly[J]. Internal Medicine, 2011, 06(3): 199-201. (in Chinese)
DOI: 10.3969/j. Issn.1673-7768.2011.03.002.
- [3] Jihong Sun, Yuanjie Yan, Wei Wang, et al. Discussion on health management model of rickets community based on the theory of "treatment of disease"[J]. Hebei Medicine, 2010, 16(9): 1143-1146. (in Chinese)
DOI: 10.3969/j.issn .1006-6233.2010.09.057.
- [4] Yu Zhong, Lan Li, Luxia Liu et al. Discussion on the operation mode of the family health management service in the whole department[J]. Laboratory Medicine and Clinical Medicine, 2014, (10): 1397-1399. (in Chinese)
DOI: 10.3969/j .issn.1672-9455.2014.10.044.
- [5] Haiyan Ji. Discussion on the training mode of general medical talents in independent colleges[J]. Intelligence, 2012, (16): 238-239. (in Chinese)
- [6] Minfang Zheng, Xin Wang. Discussion on the development model of community home medical care[J]. Chinese Rural Medicine, 2014, (16): 58-59. (in Chinese)

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