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Research Article

Investigation on the Present Situation of Exercise Fear in Patients with Coronary Heart Disease

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Abstract

Objective To investigate the current situation of exercise fear in patients with coronary heart disease and explore how to improve their psychological nursing. Level, promote its recovery and better adapt to society, improve the quality of life, and provide for the care and treatment of medical staff. Reference basis. Methods Using convenient sampling method, 200 patients with coronary heart disease were selected from the Department of Cardiology, a third-class first-class hospital in Guangzhou as the research object, and the patients with coronary heart disease were investigated and analyzed by TSK-SV. The data were statistically analyzed by SPSS22.0. Results The TSK- SV score of the patients was (43.76 7.01), in which the risk perception score was (12.52 0.85), the exercise avoidance score was (10.54 1.44), the exercise fear score was (10.78 3.32), and the dysfunction score was (9.92). Patients with coronary heart disease with different ages, educational level, professional status, monthly per capita income, exercise or not, cardiac function and course of disease have different sports fear scores, and the differences are statistically significant (P < 0.01). Conclusion The exercise fear of patients with coronary heart disease in this survey is at a high level, and medical staff can intervene in time according to the characteristics of exercise fear of different groups, so as to strengthen the healthy exercise management of patients.

Keywords: Coronary Heart Disease, Sports Fear, Psychological Nursing

1. Introduction

Coronary atherosclerotic heart disease is one of the common cardiovascular diseases, and its etiology is related to unhealthy diet, smoking and lack of physical activity. Studies have shown that rehabilitation exercise can improve people's cardiopulmonary function, increase people's intake of blood oxygen, and at the same time improve the vasoconstriction function. The consensus of experts in our country points out that all patients with stable heart disease whose cardiac function is below Grade III should consider rehabilitation exercise [1]. but many patients are afraid that excessive exercise will lead to repeated illness and exercise fear [2,3]. Exercise fear is a special psychological phenomenon that causes excessive and irrational fear of exercise, also known as agoraphobia [4]. At first, it was used for patients with pain, but with the rising incidence of cardiovascular diseases, patients often worry about the insecurity of exercise, which leads to avoidance attitude towards exercise. Although the research on exercise phobia abroad started earlier, most of them focused on the fields related to chronic pain, and the incidence of exercise phobia among different diseases was also different [5]. At present, the research on exercise fear of patients with coronary heart disease in China is still in the primary stage, so this paper investigates the current situation of exercise fear of patients with coronary heart disease, aiming at attracting clinical medical workers to pay attention to the phenomenon of exercise fear of patients with coronary heart disease, and to identify and take intervention measures as soon as possible, so as to improve the prognosis of patients with heart disease and improve their quality of life.

2. Objects and Methods

2.1. Research Object

From May to October, 2024, 200 patients with coronary heart disease were selected from the Department of Cardiology, a 3A hospital in Guangzhou.

2.2. Inclusion Criteria

- Age over 18.
- Conscious, barrier-free in verbal communication, and able to fill in the questionnaire by himself.
- Agree to participate in the research and investigation.
- Patients diagnosed with coronary heart disease, with cardiac function grade ≤ III.

2.3. Exclusion Criteria

• Patients with language communication disorder and cognitive dysfunction.
• Hemorrhagic cerebrovascular disease, acute myocardial infarction or unstable angina occurred one month before admission.
• Patients with other serious diseases or critical illness.
• After explanation, they still refused to participate in the patients.

3. Research Methods

3.1. Questionnaire Survey Method

A total of 204 questionnaires were distributed and 200 were recovered by questionnaire survey, with a recovery rate of 98%. The questionnaire consists of two parts.
• The general situation questionnaire is self-compiled on the basis of consulting relevant literature. The content is mainly about the demographic data of patients with coronary heart disease, including gender, age, education level, professional status, cardiac function classification, family monthly income, whether to exercise, course of disease and other related issues.
• The Exercise Fear Scale for Heart Disease Patients (TSK-SV Heart) was adapted by foreign Dr. Bäck and was translated into Chinese by Lei Mengjie and others in 2019, and the scale was verified with patients with coronary heart disease as the research object [3,6].

The scale is divided into four dimensions, including danger perception, exercise avoidance, exercise fear and dysfunction, in which danger perception includes items 3, 8, 11 and 16, exercise avoidance includes items 2, 4, 12, 14 and 17, exercise fear includes items 1, 7, 9 and 13, and dysfunction includes items 5, 6, 10 and 15, with a total of 17 items. Cronbach'sα of the total table is 0.859, and Cronbach'sα of each dimension is between 0.743 and 0.824, with good reliability and validity. Likert's 4-level scoring method is adopted in the scale, with scores of 1-4 respectively, with a total score of 17-68 from "very different", "disagree", "agree" and "very agree" (items 4, 8, 12 and 16 are reverse scores). If the average score is exceeded, it is considered that sports fear is at a high level, and the higher the score, the higher the degree of sports fear [7].

3.2. Statistical Methods

Using SPSS22.0 statistical software to process and analyze the data, the measurement data is expressed by mean standard deviation, and the counting data is expressed by frequency (percentage); Independent sample T-test/ANOVA was used to analyze the difference of general data.

4. Results

4.1. Score of Exercise Fear in Patients with Coronary Heart Disease

The exercise fear of patients with coronary heart disease is shown in Table 1. The results show that the total average score of exercise fear of 200 patients with coronary heart disease is (43.76 7.01). From the results of four dimensions, we can see that the score of danger perception is the highest, followed by exercise fear, exercise avoidance score is slightly lower than exercise fear, and dysfunction score is the lowest.

Project	Number of Entries	Score	Average Entry
Aggregate Score	17	43.76±7.01	2.57±0.41
Danger perception	four	12.52±0.85	3.13±0.21
Sports Fear	four	10.78±3.32	2.70±0.83
Motion Avoidance	five	10.54±1.44	2.11±0.29
Dysfunction	four	9.92±3.04	2.48±0.76

Table 1: Score of Exercise Fear in Patients with Coronary Heart Disease (N = 200, X S) $\overline{X}$

4.2. Exercise Fear of Patients with Coronary Heart Disease with Different Characteristics

The results showed that the age of 200 patients with coronary heart disease was (69.68 12.41) years. Among them, 112 were male (56%) and 88 were female (44%). There are 130 people with junior high school education or below (65%), 44 people with senior high school education (22%) and 26 people with university education or above (13%); 41 people were employed (20.5%), 136 people were retired (68%), and 23 people were unemployed or laid off (11.5%). Among them, gender is not statistically significant (P > 0.05), but the variables such as age, education level, professional status, family monthly per capita income, whether to exercise, duration of disease, and cardiac function classification are statistically significant (P < 0.05).

Project	Category	*n* (%)	Sports Fear Score	F/t	P
Gender				-1.710	0.090
	man	112 (56.0)	43.09±7.43		
	woman	88 (44.0)	44.77±6.19		
Age (Years)				24.804	< 0.001
	≤45	7 (3.5)	35.00±1.63		
	46~60	42 (21.0)	37.02±1.73		
	61~76	87 (43.5)	41.45±3.74		
	≥77	64 (32.0)	52.50±2.71		
Degree of Education				56.729	< 0.001
	Junior high school and below	131 (65.5)	46.83±6.21		
	senior high school	44 (22.0)	38.98±4.82		
	University or above	25 (12.5)	36.64±1.87		
Professional Status				41.028	< 0.001
	work	41 (20.5)	36.84±1.99		
	retire	136 (68.0)	45.05±6.72		
	Unemployed or laid off	23 (11.5)	49.04±4.90		
Monthly Per Capita Income of Family (Yuan)				39.426	< 0.001
	≤4000	4 (2.0)	53.00±2.58		
	4001~5000	29 (15.0)	48.03±6.03		
	5001~6000	73 (48.2)	47.37±6.42		
	> 6000	94 (42.7)	39.39±4.62		
Whether to Exercise or Not				3.195	< 0.001
	be	93 (46.5)	38.37±3.20		
	no	107 (53.5)	48.60±5.72		
Course of Disease (Year)				80.327	< 0.001
	≤1	73 (36.5)	38.51±3.73		
	2~5	28 (14.0)	40.25±3.81		
	6~10	12 (6.0)	43.00±6.42		
	> 10	87 (44.5)	49.56±5.35		
Cardiac Function				60.068	< 0.001
	Grade I	106 (53.0)	40.92±6.07		
	Grade II	58 (29.0)	44.13±5.72		
	Grade iii	36 (18.0)	52.60±2.78		

Table 2: Exercise Fear of Patients with Coronary Heart Disease with Different Characteristics

5. Discussion and Analysis

5.1. Analysis of Exercise Fear in Patients with Coronary Heart Disease

From Table 1, it can be seen that the average score of exercise phobia in patients with coronary heart disease (43.76 7.01) is slightly higher than that in Gołba (41.6 5.39), which may be related to the early attention paid to exercise phobia in patients with heart disease abroad and the active intervention [8,9]. Among the four dimensions of sports fear, the highest average score is the risk perception score (12.52 0.85), and the lowest average score is the dysfunction score (9.92 3.04), but the average score of each item (2.57 0.41) is at a high level. This result is consistent with the research results of Cui Guipu and Song Xiaomei.

5.2. Hazard Perception

It can be seen from Table 1 that patients with coronary heart disease have a high general risk perception. Due to the factors of the disease, patients are particularly sensitive to the perception of physical condition and often have anxiety. From the research of Zhang Hongwei et al., we can know that anxiety sensitivity has an important influence on exercise fear [10]. When patients feel uncomfortable during exercise, or once they think that exercise may pose a threat to their health, patients will reduce or avoid exercise, which is an important factor for patients to have exercise fear. For patients with coronary heart disease, their fear of exercise is largely due to a pessimistic premonition of their own diseases [11]. With the formation of this pessimistic perception, patients will take the initiative to take more favorable measures for themselves, thus making a protective prevention for themselves.

5.3. Sports Fear

According to Table 1, the score of patients' fears of exercise is (10.78 3.32), so patients may know little about cardiac rehabilitation activities. According to the research of Zheng Yujuan and others, exercise self-efficacy can adjust the cognitive mechanism of exercise behavior and improve patients' enthusiasm for exercise [11]. Fear of exercise will affect the cardiac rehabilitation of patients with coronary heart disease, and the compliance with rehabilitation exercise will also decline [12]. Reducing the level of exercise fear is of great significance to improve the compliance of patients with rehabilitation training. The research on exercise fear in patients with coronary heart disease in China is relatively late. There are various factors that cause exercise fear in patients with coronary heart disease, and the research is not comprehensive enough. There are few methods to improve exercise fear in patients with coronary heart disease, and there are no good management methods and intervention methods, so the rehabilitation results of patients are poor. Therefore, for the symptoms of exercise fear in patients with coronary heart disease, we can carry out corresponding health education and cognitive behavioral therapy intervention, which will help reduce the level of exercise fear and improve patients' exercise enthusiasm. It is suggested that we should explore the study of exercise fear from other fields, and combine the disease characteristics and psychological characteristics of heart patients to promote the research progress of exercise fear of heart patients.

5.4. Motion Avoidance

From Table 1, we can know that the score of exercise avoidance is (10.54 1.44). Patients with coronary heart disease generally think that physical activity or exercise should be avoided when a person has heart problems. It may be that exercise will aggravate heart problems, and wrong cognition will make patients avoid normal exercise, and patients will also have avoidance psychology for all risk factors that will threaten their physical condition. Scientific cardiac rehabilitation exercise can not only increase the systolic function, but also make patients feel happy and comfortable, so that patients are willing to keep exercising and form a virtuous circle [9]. Help patients to raise awareness, so that patients can actively face rehabilitation exercises and reduce avoidance psychology and behavior.

5.5. Dysfunction

As can be seen from Table 1, the score of dysfunctions is the lowest, and dysfunction refers to the imbalance in physiology, psychology and society [11]. Because coronary heart disease is a chronic disease, patients may not have obvious body dysfunction for a long time, even when patients have physiological or psychological imbalance such as elevated blood pressure, palpitation, anxiety and depression, they can be relieved quickly by taking medicine, adjusting diet or making psychological adjustment [13].

5.6. Analysis of Exercise Fear in Patients with Coronary Heart Disease with Different Characteristics

5.6.1. Analysis of the Differences of Exercise Fear in Patients with Coronary Heart Disease at Different Ages

As can be seen from Table 2, the level of exercise fear of patients with coronary heart disease with different demographic characteristics is different. The score shows that in all age groups, with the improvement of age groups, the level of sports fear is also increasing. The level of sports fear of patients under 45 years old is the lowest among the four groups, and that of patients over 77 years old is the highest. The age of the patient is related to the level of exercise fear, which is consistent with Cui Guipu and others [2]. According to the research of Wu Jiaqi and others, patients with coronary heart disease often have the psychological phenomenon of anxiety and depression [14]. Patients with anxiety and depression have poor enthusiasm for exercise, and the frequency of exercise is obviously reduced, so the level of exercise fear is high. The older the patient, the more obvious this bad psychological phenomenon is. On the other hand, with the growth of age, people's physiological functions gradually weaken, and the weak patients with coronary heart disease have low exercise ability and low participation rate in exercise rehabilitation, so the patients' resistance to exercise is more obvious, so the older they are, the higher their level of exercise fear is. The older patients are, the more sensitive they will be to the occurrence of stress events, and the weakness of physical function will make the elderly feel more tired, so their enthusiasm for sports will decline. Medical staff can formulate individualized exercise programs for elderly patients to improve their health.

5.7. Analysis of The Differences of Exercise Fear in Patients with Coronary Heart Disease with Different Educational Levels

As can be seen from Table 2, with the improvement of education level, the level of exercise fear of patients with coronary heart disease is constantly decreasing, and the level of exercise fear of patients in junior high school and below is significantly higher than that of patients in senior high school and university and below. Ghisi et al. found that patients with low education level had low compliance with cardiac rehabilitation exercise [15]. It may be that patients

with low education level have low awareness of the disease, can't get better information beneficial to the disease, and are prone to make wrong health decisions, and have doubts about the role and effect of cardiac rehabilitation exercise, and then the enthusiasm of cardiac rehabilitation exercise declines, so the level of exercise fear is also higher. Patients with higher education will gain more knowledge about the disease, so they will be more proactive in coping with the disease, thus alleviating the symptoms of exercise fear. For patients with low education level, medical staff should pay attention to health education, so that patients can know more about the disease, and at the same time let them know the relationship between the disease and rehabilitation exercise, explain the importance of exercise to the development of the disease, and carry out corresponding rehabilitation treatment to help them make correct health decisions.

5.8. Analysis of the Differences of Exercise Fear in Patients with Coronary Heart Disease in Different Occupational States

As can be seen from Table 2, the occupational status is divided into three groups. Compared with retired and unemployed or laid-off patients, the level of exercise fear is lower, and the level of exercise fear of unemployed or laid-off patients is the highest. Cui Guipu and others believe that the higher level of exercise fear of retired patients is due to the relatively high age of such patients, and older patients are more likely to have exercise fear [2]. Unemployed or laid-off patients may not be able to contribute to their families because of the lack of social value. Instead, they need their families to spend energy and money to take care of them, so they are more likely to have negative emotions. In order to reduce the threat brought by exercise, patients will reduce exercise, so the level of exercise fear is higher.

5.9. Analysis of the Differences of Exercise Fear in Patients with Coronary Heart Disease with Different Family Monthly Per Capita Income

From Table 2, it can be seen that the level of exercise fear of patients whose income is less than or equal to 4,000 yuan is significantly higher than that of patients whose income is more than 4,001-5,000-yuan, 5,001-6,000 yuan, followed by those whose income is more than 6,000 yuan, and the level of exercise fear of patients whose income is more than 6,000 yuan is the lowest. Patients with coronary heart disease with low monthly family income are more afraid of exercise, which may be related to the patient's economic burden. This is consistent with the research results of Song Xiaomei and others, but higher than their research, and the reason may be related to the differences in consumption level and income level in the area where the research object is located [9]. Low-income patients may be afraid of getting worse because of exercise, which will make the family's economic burden heavier.

5.10. Analysis of the Differences of Exercise Fear in Patients with Coronary Heart Disease Under Different Exercise Conditions

As shown in Table 2, the scores of exercise fear of patients who participate in exercise are lower than those of patients who do not participate in exercise. Huang Rong et al., research shows that early exercise intervention can prevent the occurrence of exercise phobia, and Knapik and Song Xiaomei research shows that exercise is negatively correlated with exercise phobia [16-18]. Patients who often participate in exercise know the benefits of exercise for disease rehabilitation, and their heart health is not affected by daily activities. They are more willing to exercise, so their level of exercise fear is lower. Patients who lack exercise and actively avoid exercise make exercise fear more serious, resulting in a vicious circle, which leads to more threats to patients' health. China cardiovascular health and disease report shows that the prevalence of cardiovascular diseases in China is increasing year by year, and cardiac rehabilitation training can improve the long-term prognosis of patients with coronary heart disease and improve their quality of life [19].

5.11. Analysis of the Differences of Exercise Fear in Patients with Coronary Heart Disease with Different Courses (Years)

From Table 2, it can be seen that patients with a course of less than 1 year have the lowest degree of fear of sports, and patients with a course of more than 10 years have a higher level of fear of sports than the other three groups. With the extension of the course of disease, the symptoms of exercise fear in patients with coronary heart disease are more serious. May be due to the extension of the course of the disease, the patient's age is getting older and older, and the patient's psychological factors and physiological factors will change. On the one hand, the treatment of perennial diseases will increase the family's economic burden, and the patient will feel guilty. On the other hand, the patient's heart function and physical strength will decline [20]. These changes affect the patient's way of coping with the disease and also aggravate the symptoms of exercise fear. It is suggested that patients should be paid a return visit actively, and patients of different ages should be guided, and the rehabilitation exercise plan should be adjusted in time for patients of all ages.

5.12. Analysis of the Differences of Exercise Fear in Patients with Coronary Heart Disease with Different Cardiac Function Grades

As can be seen from Table 2, the higher the cardiac function grade, the more serious the symptoms of exercise fear. Consistent with Cui Guipu and Song Xiaomei the higher the classification of cardiac function, the more obvious the limitation of patients' activities [2,9]. When patients get a bad sense of experience in activities, they will aggravate their misunderstanding of sports rehabilitation to some extent, so the more obvious the patients are about exercise avoidance, the higher the level of exercise fear, and the research of Wang Zi 'an et al. also shows that cardiac function is positively related to exercise fear, and the higher the cardiac function, the worse the patients' sense of experience in activities [21]. Patients with normal exercise have obvious discomfort such as palpitation, shortness of breath or fatigue, which is very similar to the symptoms when heart failure recurs.

Patients will think that exercise will lead to disease, and this misconception will further lead to exercise fear [20,21]. It is suggested that exercise rehabilitation should be carried out step by step according to the classification of cardiac function, and at the same time, exercise guidance should be given to patients with higher classification of cardiac function to improve their cognition and understand the occurrence and development of diseases in time.

6. Conclusion

To sum up, the subjects of this study are at a high level of sports fear, especially those who are older, with low education level, low income and poor heart function, which are mainly reflected in their perception of danger. Medical staff should realize the phenomenon of exercise fear in patients with coronary heart disease as soon as possible, give guidance according to the characteristics of different groups, and strengthen the management of patients' healthy exercise. Once patients are found to have obvious exercise fear, they should take timely intervention measures to improve the compliance of patients' rehabilitation exercise.

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