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Study on the risk of hypertension in the elderly patients with exercise prescription

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ABSTRACT

Objective: To investigate the risk of implementation of exercise prescription in elderly hypertensive patients after. Methods: select 80 cases of elderly hypertensive patients, randomly divided into the experiment group and control group, 40 cases in each group, the implementation of exercise prescription for patients in the experimental group, the control group of patients with the implementation of routine exercise prescription. Results: the experimental group after exercise, the average heart rate for $(110.25 + 2.98)$, the experimental group after exercise, diastolic blood pressure $(112.33 + 11.22)$ mmHg, the experimental group after exercise, systolic blood pressure $(160.33 + 11.22)$ mmHg, were significantly lower than the control group. The groups were statistically significant ($P < 0.05$). Patients in the experimental group after exercise nitrogen microalbuminuria $(19.86 + 5.1)$ mmol.L-1, blood uric acid $(275.6 + 100.2)$ mg.L-1, serum potassium $(3.39 + 1)$ changes of Umol.L-1 index improved obviously, and the effect is significantly better than the control group, $P < 0.05$, the experimental group after exercise, in patients with EF, E/A, Ccr significantly, but the LVMI, MAU were decreased, the patients in the experimental group after exercise appear giddy percentage is 3.33%, patients in the experimental group after exercise heart palpitations percentage is 3.33%, the percentage of dyspnea appeared in patients in the experimental group after exercise was 6.67%, significantly lower than the control group. The groups were statistically significant ($P < 0.05$). Conclusion: in elderly patients with hypertension in the implementation of exercise prescription after fitness, can obviously reduce the cardiovascular and cerebrovascular accidents, is conducive to the recovery of function in patients with.

KEYWORDS

Elderly hypertension; Exercise prescription; Risk.



The data shows, China senile hypertension will be fully high, with people's understanding of disease is deepened gradually, in the progress of^[1] through a variety of means to actively prevent and slow the hypertension hypertension. Sports and fitness as the most efficient, the most convenient way, has been widely applied. However, in the process of fitness movement, not exercise the right way, but will make the patients with elevated blood pressure, easy to cause the failure of^[2]. The exercise prescription is a method of high efficiency, safety, convenient for the individual circumstances of the patient's design.

MATERIALS AND METHODS

General data

We selected 80 cases of elderly hypertensive patients, randomly divided into control group and experimental group, each group had 40 cases, the average age of the patients in the experimental group (54.25 + 2.65) years old, the average age of the patients in control group (53.79 + 5.17) years old. Patients in each group were compared in gender, age, disease duration and interest etc., no significant difference ($P > 0.05$).

Method

Access to relevant information, according to the patients in the experimental group design exercise prescription as follows, Monday, Friday and Wednesday, jogging, table tennis, Sunday for Taijiquan plus aerobics. The experimental group to implement the exercise prescription, the control implementation of motion scheme of conventional group patients. Two set in motion before the warm-up of 20 minutes, each exercise time for 1h. The two groups of patients with systolic blood pressure, heart rate, blood glucose were measured before and after exercise in fitness, statistics of two groups of patients with dizziness after exercise, the number of cases of palpitations and other symptoms and percentage.

The inclusion and exclusion criteria

In this study, two groups of patients only with hypertension, not suffering from other diseases, and can carry on the sports training.

Statistical processing

Using SPSS15.0 for statistical analysis of the results, the measurement data with (+ s) said the count data expressed as a percentage, t test, the difference was statistically significant ($P < 0.05$).

RESULTS

Physiological parameters before and after exercise

The average heart rate in the experimental group after exercise for (110.25 + 2.98), the experimental group after exercise, diastolic blood pressure (112.33 + 11.22) mmHg, the experimental group after exercise, systolic blood pressure (160.33 + 11.22) mmHg, were significantly lower than the control group. The groups were statistically significant ($P < 0.05$). (see TABLE 1).

TABLE 1: The two groups of patients after exercise heart rate, systolic pressure and diastolic pressure

		Heart rate (time)	systolic blood pressure (mmHg)	Diastolic blood pressure (mmHg)
The control group	Before exercise	86.33±1.25	135.65±12.23	105.65±12.23
	After exercise	131.25±2.31	192.31±23.45	135.31±23.45
Experience group	Before exercise	80.53±4.14	133.56±34.55	103.56±34.55
	After exercise	110.25±2.98	160.33±11.22	112.33±11.22
T		6.717	12.354	12.354
P		<0.05	<0.05	<0.05

Patients with motor changes of urinary protein index statistics

Patients in the experimental group after exercise nitrogen microalbuminuria (19.86 + 5.1) mmol.L-1, blood uric acid (275.6 + 100.2) mg.L-1, serum potassium (3.39 + 1) changes of Umol.L-1 index improved obviously, and the effect is significantly better than the control group, $P < 0.05$, see TABLE 2.

TABLE 2 :before and after the urinary protein, blood pressure and other indicators for the treatment of comprehensive comparative analysis

Group	Albumin urinary nitrogen (mmol.L ⁻¹)	The blood uric acid (mg.L ⁻¹)	Serum potassium (Umol.L ⁻¹)
The control group	38.5±5.0	335.3±86.9	4.40±2.2
Experience group	19.86±5.1	275.6±100.2	3.39±1.0
T	6.031	5.898	6.210
P	<0.05	<0.05	<0.05

Comparison of various parameters of the target organ of two group after exercise

The experimental group after exercise, in patients with EF, E/A, Ccr significantly, but LVMI, MAU were decreased, as shown in TABLE 3.

TABLE 3: Comparison of two groups of patients with target organ parameters ($\bar{x} \pm s$)

Time	LVMI (g/m ²)	EF (%)	E/A	MAU (mg/L)	Ccr (mL/min)
The control group	117.8±9.1	52.7±12.7	0.8±0.4	55.2±14.1	68.6±14.5
Experience group	108.5±7.5	63.5±14.6	1.1±0.5	37.6±12.2	86.3±15.7
t	7.053	4.991	4.190	8.442	7.407
P	P<0.05	P<0.05	P<0.05	P<0.05	P<0.05

The symptoms appeared after exercise

Patients in the experimental group after exercise appear giddy percentage is 3.33%, patients in the experimental group after exercise heart palpitations percentage is 3.33%, the percentage of dyspnea appeared in patients in the experimental group after exercise was 6.67%, significantly lower than the control group. Each group had statistical significance (p<0.05) .

TABLE 4 : Tw o groups of patients after the dizziness, palpitation, dyspnea and the percentage of the number of cases (%)

	n	Dizzy	Palpitation	Dyspnea
The control group	30	1 (3.33)	1 (3.33)	2 (6.67)
Experience group	30	6 (20)	7 (23.33)	8 (26.67)
t		8.221	9.335	6.664
p		<0.05	<0.05	<0.05

DISCUSSION

In recent years, with the improvement of living standards, hypertension incidence of a disease is more and more high^[3]. Hypertension is a systemic disease, the pathogenesis is very complex, through exploring the etiology of long time, has not yet been fully explained. At present basically think the comprehensive effects of the following result of a variety of reasons: genetic gene, cardiac output changes, the tension of the blood vessels and the pipe wall remodeling, the renin angiotensin aldosterone system, function abnormal. Hypertension risk factors including diet, body shape, social pressure and psychological status of patients. The prevalence of elderly patients with hypertension have characteristics, blood pressure floating range is big, has the occurrence of postural hypotension is often the cause of sudden death, often associated with other diseases, easy to cause drug interactions between drugs, leading to the occurrence of adverse drug reactions. Intervention of exercise prescription is one of the most efficient means, people pay more and more attention. From medicine to exercise prescription therapy, more and more scholars have made in-depth research on exercise prescription. Exercise prescription is a pointer to the patients health, physical activity and cardiovascular function, use its power equipment, unarmed or patients, set motion in different ways, the development of a set of exercise prescription^[4]. Including the content, the exercise time, activity, activity frequency and matters of attention. To patients with the systemic or local motor function, sensory function restoration movement method. Exercise prescription in patients with functional recovery can play a very good role. In the course of treatment of hypertension in the elderly, exercise prescription plays a very important role on the recovery of the function of patients. The study found that aerobic exercise has obvious curative effect in lowering blood pressure. Some reports indicated that uses the motion intensity of 15RM on 65~ 73 year old

hypertensive patients were 6 months of instrument of resistance training, the subjects blood pressure significantly decreased^[5]. In this study, patients in the experimental group, the heart rate in the implementation of exercise prescription, and blood pressure was significantly lower than that of control group, significantly reduced the incidence of cardiovascular and cerebrovascular accident patients. After exercise in patients in the experimental group appeared different symptoms, the patients in the experimental group were dizziness, palpitations and was lower than that in the control group the incidence of respiratory difficulty.

In summary, function exercise prescription on elderly patients with hypertension has a great influence to restore, different patients interests and personal health, develop the special prescription, can improve the body condition of patients with hypertension, to reduce the incidence of complications in patients with.

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