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Commentary

Effect and Prediction of Physical Exercise and Diet on Blood Pressure Control in Patients with Hypertension

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DESCRIPTION

Hypertension is the leading cause of cardiovascular disease and premature death worldwide [1]. In the past forty years, the global average Blood Pressure (BP) has remained the same or decreased slightly. However, the prevalence of hypertension is on the rise worldwide, especially in China. According to the results of the 12th Five-year plan hypertension sample survey [2], in China, the crude prevalence of hypertension among residents aged 18 years and above is 27.9%, with a standardized prevalence of 23.2%, and the number of patients has increased from less than 30 million in 1958 to more than 300 million [3].

Currently, the control rate of hypertension has been improved, but the overall control rate is still at a low level, mainly due to the generally poor compliance of patients with hypertension [4]. On the one hand, most patients with hypertension have systolic hypertension [5] (usually characterized by normal diastolic BP and higher than normal systolic BP) without concurrent symptoms. Consequently, these patients often do not pay enough attention to hypertension, do not have obvious control over diet, exercise, etc., and do not take medicine or receive early treatment as recommended by doctors [6]. On the other hand, most general practitioners adopt a unified treatment model for the management of hypertension patients and do not give specific drug treatment and life prescriptions according to the specific situation of patients, resulting in a rough follow-up management process of hypertension, poor patient compliance, and difficult to guarantee the treatment effect [7-9]. To explore the relevant factors affecting blood pressure control of patients, scholar Wang, et al. investigates the influencing factors of blood pressure control in hypertensive patients in Anhui province using a a questionnaire survey [10].

Univariate analysis showed that age, gender, Body Mass Index (BMI), family history of hypertension, marital status, living alone or not, smoking amount, drinking amount, and drinking frequency were the influencing factors of hypertension control. Compared with the well-controlled group, the untargeted-control group had a higher proportion of family history of hypertension, married and living with a spouse, while a lower proportion of never smoking and never drinking. Relevant research literature shows that the harmful substances in tobacco will damage the human vascular endothelium and tissues, and have a great impact on the blood pressure of patients with hypertension, because the by-product carbon monoxide produced in the process of smoking will increase the degree of hypoxia of body tissues [11,12].

Multivariate Logistic regression analysis showed that BMI, family history of hypertension, and marital status were associated with blood pressure control. Hypertension patients with high BMI and a family history of hypertension were risk factors for hypertension control, which was similar to the results of previous studies. Costa Filho et al., showed that obesity is an independent predictor of BP control in Brazilian hypertensive patients [13]. BMI is a measure of obesity that can be improved through exercise and diet. Therefore, for patients with poor blood pressure control, lifestyle prescriptions should be considered to achieve a normal BMI. In addition, the results of this study suggest that married status is a protective factor for effective blood pressure control, which is a relatively new finding compared to previous studies.

In summary, BMI, family history of hypertension, and marital status are independent predictors of blood pressure control in patients with hypertension. We recommend additional management for hypertensive patients with a high BMI and a family history of hypertension. This is the blood of patients with high blood pressure control can be of great practical importance.

There are limitations in the design and information collection of this study, which may lead to certain deviations in the causal relationship between hypertension control and related influencing factors.

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REFERENCES

1. Poulter NR, Prabhakaran D, Caulfield M. Hypertension. Lancet. 2015;386:801-812.
2. Jin RR, Zhang J, Li JL, Li JJ, Ma S, Bian F, et al. Current status on prevalence, treatment and management of hypertension among chinese adults in the national demonstration areas for comprehensive prevention and control of non-communicable diseases. Zhonghua Liu Xing Bing Xue Za Zhi. 2018;39(4):401-406.
3. Yin R, Yin L, Li L, Silva-Nash J, Tan J, Pan Z, et al. Hypertension in China: Burdens, guidelines and policy responses: A state-of-the-art review. J Hum Hypertens. 2022;36(2):126-134.
4. Wang JG. Chinese Hypertension Guidelines. Pulse (Basel). 2015;3:14-20.
5. Park JB, Kario K, Wang JG. Systolic hypertension: An increasing clinical challenge in Asia. Hypertens Res. 2015;38:227-236.
6. Himmelfarb CR, Commodore-Mensah Y, Hill MN. Expanding the role of nurses to improve hypertension care and control globally. Ann Glob Health. 2016;82:243-253.
7. Elnaem MH, Mosaad M, Abdelaziz DH, Mansour NO, Usman A, Elrggal ME, et al. Disparities in prevalence and barriers to hypertension control: A systematic review. Int J Environ Res Public Health. 2022;19:14571.
8. Kayima J, Wanyenze RK, Katamba A, Leontsini E, Nuwaha F. Hypertension awareness, treatment and control in Africa: A systematic review. BMC Cardiovasc Disord. 2013;13:54.
9. Wofford MR, Minor DS. Hypertension: Issues in control and resistance. Curr Hypertens Rep. 2009;11:323-328.
10. Ma Q, Cheng C, Chen Y, Wang Q, Li B, Wang P. Effect and prediction of physical exercise and diet on blood pressure control in patients with hypertension. Medicine. 2023;102(50):36612.
11. Landini L, Leone A. Smoking and hypertension: Effects on clinical, biochemical and pathological variables due to isolated or combined action on cardiovascular system. Curr Pharm Des. 2011;17:2987-3001.
12. Leone A. Smoking and hypertension: Independent or additive effects to determining vascular damage?. Curr Vasc Pharmacol. 2011;9:585-593.
13. Costa Filho FF, Timerman A, Saraiva JF, Magalhaes CC, Pinto IM, Oliveira GB, et al. Independent predictors of effective blood pressure control in patients with hypertension on drug treatment in Brazil. J Clin Hypertens (Greenwich). 2018;20:125-132.