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REVIEW

Analysis and Nursing Health Education of Current Status of Maintenance Hemodialysis Patients with Hyperphosphatemia

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ABSTRACT

Concerned about the current situation of hemodialysis patients' awareness of the problems related to dialysis complicated with hyperphosphatemia, further analyze the existing problems and causes, give targeted and individualized health education, improve the compliance of diet, medication and self-management, strengthen nurse-patient communication, establish a good nurse-patient relationship, reduce and control the incidence of hyperphosphatemia, improve patients' quality of life, and improve prognosis.

1. Introduction

Human serum phosphorus concentration is mainly regulated by the kidneys, bones, and intestines. Maintaining normal blood phosphorus is important for normal bone metabolism and cell function. Hyperphosphatemia is one of the major complications of patients with chronic kidney disease (CKD), especially maintenance hemodialysis (HD). A large amount of evidence shows that in addition to hyperparathyroidism, abnormal mineral and bone metabolism, chronic hyperphosphatemia during CKD can also cause metastatic calcification of the heart muscle, heart valves, blood vessels, soft tissues, and these pathophysiological changes not only cause a lot of clinical manifestations of CKD, reduce the quality of life of patients, but also are associated with a high incidence of cardiovascular complications and increased mortality of patients[1]. The incidence of hyperphosphatemia is relatively high, and it is reported to be 40%-50% [2]. In March 2019, our center conducted a questionnaire for patients with hyperphosphatemia on 249 maintenance dialysis patients with independent self-care ability. The results showed that: in terms of disease knowledge, the error rate was 29%;

In terms of diet knowledge, the error rate is 59%; for drug knowledge, the error rate is 38%; for self-management, compliance is poor, which shows that patients with maintenance dialysis have insufficient awareness of hyperphosphatemia. To this end, the health education team of the Department of Nephrology (Blood Purification Center) used patient education activities to specifically strengthen missionary education, which is summarized as follows:

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2. Aspects of Disease Knowledge

Hyperphosphatemia is the main complication of maintenance hemodialysis patients. At present, in addition to causing hyperparathyroidism, abnormal mineral and bone metabolism, it can also cause metastatic calcification of the heart muscle, heart valves, blood vessels, soft tissues, etc., clinical symptoms include skin itching, bone pain, convulsions, fractures, etc., which affects the quality of life of dialysis patients. For clinical dialysis patients, the latest guidelines indicate that the blood phosphorus test value should be kept below 1.78mmol / L. Due to the influence of disease, hemodialysis patients mainly adopt the "3D" principle in the treatment of hyperphosphatemia: regular hemodialysis (dialysis), low-phosphorus diet (diet), treatment with phosphorus binders (drugs). Introduce the causes, symptoms and signs, hazards and related blood biochemical indicators of hyperphosphatemia to patients and their families, and list real cases to strengthen the degree of attention.

3. Aspects of Dietary Knowledge

For patients, diet control is one of the most difficult changes, while for HD patients, phosphorus control is the most difficult[3]. After consulting a large number of documents, it is found that the dietary treatment of patients with HD and hyperphosphatemia is mainly through dietary education and intervention. Domestic food education is generally carried out by nurses, while abroad is implemented by nutritionists, nurses and pharmacists individually or jointly. Educating patients about diet should be based on the principle of balanced diet, low protein, low fat, and low phosphorus. Phosphorus mainly comes from food and is absorbed into the human body through the small intestine. Studies have shown that hyperphosphatemia may be related to eating habits[4]. Factors affecting diet education include: gender, age, education level, occupation, body mass index, application of phosphorus binders, lack of communication between patients and medical staff, inadequate understanding of the consequences of poor blood phosphorus control, lack of understanding of the specific content of a low-phosphate diet, low compliance, complicated implementation of a low-phosphate diet, and concerns about increased risk of malnutrition.

(1) The style of dietary education mainly includes individualized education, such as the food exchange method[5], intensive low-phosphorus diet management [6], etc.; group education[7,8]; behavior theory education, such as motivational interviews[9], social cognitive theory[10], etc.

(2) The place and content of diet education: it can include dialysis interval and concentration time education. Our center mainly uses the quarterly Sunday or weekday morning time to concentrate on teaching, about 1 hour each time, high or low phosphorus content foods and techniques for reducing phosphorus intake, and issuing food phosphorus content inquiry cards, and keep a diet diary in a targeted manner. Use interactive education, in the process of guiding education, answer questions raised by patients in a timely manner. After each health education, he also asked questions on key issues, strengthened interactive links to check the acceptance of knowledge, and strengthened education on weak links.

4. Aspects of Drug Knowledge

Inform patients of the importance of taking medications, explain the names, therapeutic effects, dosage, methods of use, precautions and adverse reactions of commonly used phosphorus binders, instruct patients to take drugs on time and in amounts, and urge family members to supervise to improve patient compliance. Communicate with the doctor in charge in a timely manner and test in time to facilitate the adjustment of the medicine.

5. Aspects of Self-Management

Compliance status of maintenance hemodialysis patients: Kugler et al. found that[11], many HD patients have poor self-management ability, and 80% of patients have poor diet and medication compliance. Although more and more patients are aware of the content of phosphorus in food, some research results have shown that[12]: Many patients have difficulties in restricting phosphorus diet. The study of Morey et al.[9] believes that this lifestyle change of phosphorus-restricted diet is very difficult and difficult to persist for a long time. The author even further pointed out that long-term dietary restrictions can easily lead to mild depression in patients. A questionnaire survey was conducted by medical staff in different countries on the observation of the dietary status of patients[13]. It was found that patients' awareness of phosphorus gradually increased, but compliance was poor, and it was difficult to limit phosphorus. There are many reasons for the poor compliance of HD hyperphosphatemia patients, such as dependence on medical staff, lack of social support, uncertainty of disease, side effects of treatment, long-term treatment, complicated diet therapy and uncomplicated complications. Chan et al.[14] believe that the factors that affect patient compliance are not only the patient's knowledge level, there are also age, dialysis time, education level, economic level, food preference, degree of lifestyle change, complicated diet preparation, forgetting, and side effects of behavior changes. Kuglerml [11], zrinyi M[15] and others found that the compliance of

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female patients was significantly higher than that of male patients. Hollingdale et al.[16] found that dialysis patients believe that it is difficult to implement a diet in the kidney in daily life. Patients should participate in the preparation of their diet plan to help patients overcome obstacles in order to improve compliance.

Nursing instruction is the teaching of disease treatment by professional nursing staff to patients, so that patients with hemodialysis and hyperphosphatemia can correctly understand the disease, know the cause and risk factors, and pay more attention, through face-to-face, multimedia lectures, brochures or diet cards, WeChat public accounts and interactive activities, the patient's cooperation with treatment and the quality of life of the dialysis interval are improved.

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