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Observation on the Efficacy of Traditional Chinese Medicine Acupoint Application Combined with Nursing Intervention in the Hemodialysis Room on Constipation in Hemodialysis Patients

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Abstract: *Objective:* This paper focuses on the common constipation problem in hemodialysis patients and deeply explores the application value of traditional Chinese medicine acupoint application combined with nursing intervention in the hemodialysis room. *Methods:* 60 hemodialysis constipation patients admitted to our hospital from February 2024 to January 2025 were selected and divided into groups by lottery, with 30 patients in each group. The experimental group used routine nursing + traditional Chinese medicine acupoint application combined with hemodialysis room nursing intervention, while the control group used routine nursing, and the data differences between the groups were compared. *Results:* Compared with the control group, the total effective rate of constipation improvement in the experimental group was significantly higher after intervention, the main constipation symptom scores were significantly lower after intervention, the SAS and SDS scores were significantly lower after intervention, the PAC-QOL score was significantly lower after intervention, and the constipation score was significantly lower after intervention. The defecation time was significantly shorter, and the number of defecation times was significantly more after the intervention, $P < 0.05$; there was no difference in the main constipation symptom scores, SAS and SDS scores, PAC-QOL scores, defecation time, and defecation frequency between the two groups before the intervention, $P > 0.05$. *Conclusion:* Traditional Chinese medicine acupoint application combined with hemodialysis room nursing intervention for hemodialysis patients during constipation can effectively improve constipation symptoms, help reduce patients' psychological burden, improve patients' quality of life, facilitate patient recovery, and has good clinical application prospects.

Keywords: Chinese medicine acupoint application; Hemodialysis room nursing intervention; Hemodialysis; Constipation; Efficacy

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1. Introduction

Patients with end-stage renal disease are common in clinical practice. Hemodialysis is an important renal replacement therapy to maintain life. Extracorporeal circulation is used to remove metabolic waste and excess water from the patient's body, thereby prolonging the patient's survival. However, due to long-term hemodialysis, which has multiple effects such as dietary restrictions, reduced activity, intestinal nerve dysfunction, drug side effects, and psychological

factors, patients are prone to constipation and their quality of life is seriously affected. Constipation can cause patients to experience abdominal distension, abdominal pain, and other discomforts. It may also lead to adverse cardiovascular and cerebrovascular events due to increased abdominal pressure and worsen negative emotions such as anxiety and depression, forming a vicious cycle [1]. At present, routine nursing intervention is mainly carried out in clinical practice for hemodialysis patients with constipation, but the effect is limited, and it is difficult to meet the needs of patients. Clinical research on acupoint application of traditional Chinese medicine, combined with TCM syndrome differentiation and treatment theory and medicine [2], can stimulate specific acupoints of patients, regulate the function of the patient's internal organs, improve intestinal peristalsis, and cooperate with comprehensive nursing measures, which can play a synergistic effect [3]. This study aims to explore the effect of traditional Chinese medicine acupoint application combined with the hemodialysis room nursing program on constipation in hemodialysis patients. The study is as follows.

2. Materials and methods

2.1. General information

This study will start in February 2024 and end in January 2025. 60 hemodialysis patients with constipation will be selected and divided into groups, with 30 patients in each group. The experimental group consisted of 18/12 men and women, aged 22–69 (48.25 ± 4.25) years old, and the control group consisted of 19/11 men and women, aged 21–68 (48.21 ± 4.24) years old. Comparing the two sets of data, $P > 0.05$ is obtained, and research can be carried out.

Inclusion criteria: (1) Receive regular hemodialysis treatment for ≥ 6 months; (2) No acute infectious diseases; (3) Informed consent for this study.

Exclusion criteria: (1) Severe heart, liver, lung and other organ failure; (2) Mental disorder; (3) Cognitive dysfunction and inability to cooperate with the research.

2.2. Method

The control group used routine care. After hemodialysis was completed, health education was carried out for the patients, including dietary guidance, oral chewing training, and exercise guidance. The patients were told to combine thick and thin foods and eat foods that are helpful for defecation. They used chewing gum to stimulate the gastroesophageal swallowing reflex and promote gastric emptying. The patients were instructed to use jogging, walking, health exercises, etc. to relax their body and mind and stimulate gastrointestinal motility. The experimental group used routine nursing + traditional Chinese medicine acupoint application combined with hemodialysis room nursing intervention, specifically including:

2.2.1. Traditional Chinese medicine acupoint application

Select an appropriate amount of medicinal powder with the function of replenishing qi, nourishing yin and moisturizing the intestines, and prepare the powder with rice vinegar into a paste. Use conventional disinfectant alcohol to disinfect and clean the patient's Shenque acupoints. Then, the paste prepared into a paste is applied to the acupoints, such as Shenque, once a day, for 8 hours at a time, and the treatment needs to be continued for 5 days. During the application process, the patient needs to be asked in time whether there is any discomfort. If symptoms such as skin itching and pain occur, they need to be treated in time.

2.2.2. Nursing intervention in the hemodialysis room

(1) Dietary care: The nurse in the hemodialysis room formulates a personalized diet plan for the patient based on the patient's condition and nutritional status. On the premise of ensuring the safety of patients' dialysis treatment, patients should be guided to increase their dietary fiber intake, such as choosing vegetables (such as winter melon, loofah, etc.) and fruits (such as apples, pears, etc.) with low potassium content. Patients are also encouraged to consume moderate amounts of whole grains, such as oats, corn, etc. In addition, patients should be guided to

drink water rationally to avoid excessive restriction of water intake, which may cause intestinal dryness and affect defecation. Hemodialysis room nurses also educate patients about the nutritional content of different foods and help them choose foods that are more conducive to digestion and defecation, such as foods rich in prebiotics and probiotics to promote intestinal health.

(2) Exercise guidance: Encourage patients to engage in appropriate exercise during interdialysis periods, such as walking, Tai Chi, etc. Exercise can promote gastrointestinal motility, strengthen abdominal and pelvic floor muscles, and help improve bowel movements. Hemodialysis room nurses develop personalized exercise plans for patients based on their physical condition and exercise ability, and guide patients to exercise correctly to avoid sports injuries. At the same time, during the dialysis process, patients are also guided to perform simple physical activities, such as flexing and extending fingers and toes, to promote blood circulation and reduce limb fatigue. In addition, nurses will also teach patients some breathing and relaxation techniques to help them better control their breathing during exercise, reduce fatigue, and improve the effects.

(3) Psychological care: Long-term dialysis patients are prone to negative emotions such as anxiety and depression. Nursing staff need to strengthen communication with patients and provide psychological support and guidance. Encourage patients' family members to spend more time with them and help patients build confidence in overcoming the disease. At the same time, it organizes communication among patients to share treatment experience and life insights, relieve patients' psychological pressure, improve their mental state, thereby indirectly promoting the recovery of gastrointestinal function. Nurses in the hemodialysis room will also provide some relaxation therapies, such as music therapy, art therapy, etc., to help patients relax, reduce their psychological burden, and further promote physical and mental health.

(4) Defecation habit development: Instruct patients to develop good defecation habits, such as regular defecation, try to defecate at a fixed time every day, and sit on the toilet for a few minutes even if they have no intention to defecate to establish a defecation reflex. At the same time, patients should be informed that they should concentrate when defecating and avoid distracting behaviors such as playing with mobile phones or reading books for a long time to improve defecation efficiency. Nurses in the hemodialysis room will also teach patients some abdominal massage techniques to help them relax their abdominal muscles during defecation and promote intestinal peristalsis, thereby completing the defecation process more smoothly.

2.3. Observation indicators

(1) Compare the improvement of constipation between the two groups. Efficacy evaluation was carried out 7 days after the nursing intervention. Markedly effective: the interval between defecation times is ≥ 24 hours, and the difficulty level is 0–1 points; improvement: the interval between defecation times is 24–48 hours, and the difficulty level is 2 points; general: the above conditions are not met.

(2) Compare the main constipation symptom scores of the two groups. It includes stool characteristics, defecation effort, defecation time, feeling of incomplete bloating, frequency of defecation, and abdominal distension. Each item is scored from 0 to 3 points. The higher the score, the higher the score, the more serious the constipation is.

(3) Compare the psychological states of the two groups. Use the SAS self-rating scale for anxiety and the SDS self-rating scale for depression. High scores indicate poor mood.

(4) Compare the PAC-QOL scores of the two groups. Use the Constipation Patient Self-Assessment Life Scale PAC-QOL to measure, and high scores indicate poor quality.

(5) Compare the defecation time and frequency of defecation between the two groups.

2.4. Statistical analysis

During the research process, the data related to the two groups of patients were processed with the help of SPSS 28.0.

The measurement data were expressed according to mean ± standard deviation (SD), t test was used, and the count data were compared using χ^2 test, (n, %) was expressed, and the difference with $P < 0.05$ was statistically significant.

3. Results

3.1. Improvement of constipation

Compared with the control group, the total effective rate of constipation improvement in the experimental group was significantly higher, $P < 0.05$ (**Table 1**).

Table 1. Comparison of constipation improvement between the two groups (%)

Group	Effective	Improve	Average	Always efficient
Experimental group ($n = 30$)	20 (66.67)	8 (26.67)	2 (6.67)	28 (93.33)
Control group ($n = 30$)	10 (33.33)	12 (40.00)	8 (26.67)	22 (73.33)
χ^2	-	-	-	4.3200
P	-	-	-	< 0.05

3.2. Constipation main symptom score

Comparing the main constipation symptom scores of the two groups, there was no difference between the two groups before nursing intervention, $P > 0.05$; after nursing intervention, the main constipation symptom scores of the experimental group were significantly lower than those of the control group, $P < 0.05$ (**Table 2**).

Table 2. Comparison of the main constipation symptom scores of the two groups (mean ± SD)

Group	Feces characteristics		Struggling to defecate		Defecation time	
	Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention
Experimental group ($n = 30$)	2.15 ± 0.31	0.91 ± 0.26	2.27 ± 0.34	0.96 ± 0.22	2.52 ± 0.28	1.01 ± 0.28
Control group ($n = 30$)	2.16 ± 0.33	0.44 ± 0.15	2.28 ± 0.27	0.45 ± 0.16	2.51 ± 0.31	0.51 ± 0.18
t	0.1210	8.5762	0.1262	10.2687	0.1311	8.2274
P	> 0.05	< 0.05	> 0.05	< 0.05	> 0.05	< 0.05
Group	**Feeling of distension without falling**		**Bowel movement frequency**		**Abdominal bloating**	
	Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention
Experimental group ($n = 30$)	2.17 ± 0.42	0.77 ± 0.22	2.41 ± 0.32	0.85 ± 0.23	2.28 ± 0.28	0.86 ± 0.25
Control group ($n = 30$)	2.18 ± 0.45	0.52 ± 0.18	2.40 ± 0.34	0.51 ± 0.15	2.29 ± 0.32	0.46 ± 0.21
t	0.0890	4.8172	0.1173	6.7819	0.1288	6.7103
P	> 0.05	< 0.05	> 0.05	< 0.05	> 0.05	< 0.05

3.3. Two groups of psychological states

Comparing the SAS and SDS scores of the two groups, there was no difference between the two groups before nursing intervention, $P > 0.05$; after nursing intervention, the SAS and SDS scores of the experimental group were significantly lower than those of the control group, $P < 0.05$ (**Table 3**).

Table 3. Comparison of SAS and SDS scores between the two groups (mean ± SD)

Group	SAS		SDS	
	Before intervention	After intervention	Before intervention	After intervention
Experimental group ($n = 30$)	50.32 ± 4.82	39.12 ± 4.06	46.86 ± 5.05	37.23 ± 4.07
Control group ($n = 30$)	50.31 ± 5.05	44.05 ± 4.27	46.28 ± 5.11	42.07 ± 4.32
t	0.0078	4.5829	0.4422	4.4665
P	> 0.05	< 0.05	> 0.05	< 0.05

3.4. PAC-QOL scores of two groups

Comparing the defecation time and frequency of defecation between the two groups, there was no difference between the two groups before nursing intervention, $P > 0.05$; after nursing intervention, the PAC-QOL score of the experimental group was significantly lower than that of the control group, $P < 0.05$ (**Table 4**).

Table 4. Comparison of PAC-QOL scores between the two groups (mean ± SD)

Group	Before intervention	After intervention
Experimental group ($n = 30$)	58.22 ± 8.16	39.22 ± 4.23
Control group ($n = 30$)	58.20 ± 8.25	46.05 ± 5.57
t	0.0094	5.3487
P	> 0.05	< 0.05

3.5. Defecation time and frequency of defecation between the two groups

Comparing the defecation time and frequency of defecation between the two groups, there was no difference between the two groups before nursing intervention, $P > 0.05$; after nursing intervention, the defecation time of the experimental group was significantly shorter, and the number of defecation times increased significantly after intervention, $P < 0.05$ (**Table 5**).

Table 5. Comparison of defecation time and frequency of defecation between the two groups (mean ± SD)

Group	Defecation time (min)		Number of bowel movements (times/week)	
	Before intervention	After intervention	Before intervention	After intervention
Experimental group ($n = 30$)	25.45 ± 5.52	12.31 ± 2.74	1.33 ± 0.15	3.55 ± 0.37
Control group ($n = 30$)	25.48 ± 5.46	17.22 ± 3.36	1.31 ± 0.11	2.22 ± 0.25
t	0.0212	6.2029	0.5889	16.3136
P	> 0.05	< 0.05	> 0.05	< 0.05

4. Discussion

Patients with end-stage renal disease are prone to constipation during long-term hemodialysis. The pathogenesis is complex and has great harm. Safe and effective intervention methods need to be found [4]. Hemodialysis is a key treatment to maintain the life of patients with end-stage renal disease, but long-term treatment may cause complications such as constipation and affect the quality of life. Therefore, it is of clinical significance to find effective ways to improve constipation problems.

From the perspective of traditional Chinese medicine, the pathogenesis of constipation in hemodialysis patients is a deficiency of the spleen and kidneys, insufficient Qi and blood, loss of intestinal moisture, and loss of conduction. The patient is treated with acupoint application of traditional Chinese medicine based on syndrome differentiation. The effect of *Cistanche deserticola* is warm and tonic. Kidney yang, moisturizing the intestines and a laxative. The function of astragalus is to nourish qi, raise yang, strengthen the spleen and replenish Qi [5]. The monarch medicine can fundamentally improve the patient's spleen and kidney deficiency. The function of raw rhubarb is to relieve heat and act as a laxative, cleansing the stomach. The function of citrus aurantium is to break the stomach. It can eliminate Qi accumulation, resolve phlegm, and disperse pimples. The ministerial medicine can enhance the effect of clearing the viscera and guiding stagnation in patients [6]. In order to relieve the core symptoms of constipation in patients, the function of angelica is to nourish blood, activate blood circulation, moisturize the intestines, and relieve constipation. It can take care of the patient's problem of insufficient Qi and blood.

Question: The functions of cloves and cinnamon are to warm the body, dispel cold, warm the meridians, and assist the monarch and minister drugs. They can warm and unblock the internal organs of the patient, promote the circulation of Qi and blood, and the synergy of all prescriptions can help the patient warm and nourish the spleen and kidneys, nourish Qi and blood, and moisturize the intestines and relieve constipation. A reasonable selection of acupoints can further improve the efficacy of the application. Applying drugs to the Shenque point can have a direct effect on the patient's organs and regulate intestinal function. Application on Geshu point can activate blood circulation and remove blood stasis, regulate Qi and blood, and improve intestinal blood circulation [7]. Pishu point, Shenshu point application can enhance the transportation and warming functions of the spleen and kidneys, fundamentally correct the patient's intestinal conduction disorder, penetrate and absorb drugs through acupoints, stimulate acupoints, and regulate meridians. Therefore, the main symptom scores of constipation in the experimental group after intervention were significantly lower than those in the control group. Targeted nursing intervention in the hemodialysis room can complement acupoint application with traditional Chinese medicine, further improving the overall effect. During the targeted nursing intervention in the hemodialysis room for hemodialysis patients with constipation, we first conduct a comprehensive assessment, and then provide patients with psychological intervention, strengthen communication, and share successful cases. Therefore, the SAS and SDS scores of the experimental group are significantly lower than those of the control group. Close monitoring of dehydration during dialysis management of patients [8] can prevent patients from aggravating constipation. Abdominal massage for patients can promote colon contraction and the downward movement of intestinal contents. The experimental group significantly shortens defecation time and increases the frequency of defecation. In addition, the total effective rate for improving constipation in the experimental group was 93.33%, which was significantly higher than that of the control group, confirming that the combined intervention is highly effective. This program is simple to operate, highly safe, has no obvious side effects, is consistent with the long-term care needs of hemodialysis patients, and has good prospects for clinical promotion. However, this study has limitations, such as a small sample size and short observation time, which will affect the generalizability of the results of this study. In subsequent studies, the sample size can be expanded, the observation period can be extended, the long-term efficacy of the combined intervention program can be further verified, the Chinese medicine formula and acupoint selection can be optimized, and the degree of individualized intervention can be improved.

5. Conclusion

In summary, in the treatment of constipation in maintenance hemodialysis patients, the application of traditional Chinese medicine acupoint application combined with hemodialysis room nursing intervention can not only effectively improve the patient's constipation symptoms, but also improve the patient's psychological state, improve the patient's quality of life, and promote their recovery, which is worthy of promotion.

About the author

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Disclosure statement

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