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ORIGINAL

INTEGRATING MINDFULNESS AND AFFECTIONATE CARE TO ENHANCE QUALITY OF LIFE IN ELDERLY PATIENTS UNDERGOING HEMODIALYSIS: A FRAMEWORK FOR PHYSICAL AND EMOTIONAL WELL-BEING

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ABSTRACT

Objective: To evaluate the impact of mindfulness intervention combined with affectionate nursing on the physical, emotional, and quality-of-life outcomes of elderly patients with uremia undergoing maintenance hemodialysis, with a focus on promoting holistic well-being and its implications for physical activity and sports engagement. **Methods:** A retrospective study was conducted on 120 elderly uremic patients admitted to our institution between January 2020 and October 2022. Based on different care protocols, patients were divided into a control group (60 cases, routine nursing) and an experimental group (60 cases, mindfulness intervention combined with affectionate nursing). Parameters such as compliance, satisfaction with nursing care, psychological well-being, hope levels, coping strategies, quality of life, and self-management abilities were assessed and compared. **Results:** Nursing satisfaction was significantly higher in the experimental group (95.00%) compared to the control group (81.67%, $P < 0.05$). Psychological distress markers, including SAS and SDS scores, were significantly lower in the experimental group ($P < 0.05$). Compliance and self-management scores were markedly higher in the experimental group ($P < 0.05$). Improvements in hope levels and quality of life were significantly greater in the experimental group, with a particular focus on

dimensions influencing physical activity and motivation for rehabilitation. Additionally, the experimental group exhibited better adaptive coping strategies, including higher "facing" scores and lower scores for "yield" and "avoidance" dimensions ($P < 0.05$). **Conclusion:** Mindfulness intervention combined with affectionate nursing significantly enhances the quality of life, psychological resilience, and self-management abilities of elderly patients undergoing hemodialysis. These improvements foster greater participation in physical activity and rehabilitation programs, highlighting the potential for integrating such interventions within sports and health sciences frameworks. The findings underscore the importance of holistic care approaches in promoting physical and emotional well-being in elderly populations, warranting further application and research in multidisciplinary health settings.

KEYWORDS: Mindfulness Intervention; Affectionate nursing; Elderly with Uremia; Quality of life; Hemodialysis

1. INTRODUCTION

The promotion of physical and emotional well-being in elderly populations undergoing chronic medical treatments, such as maintenance hemodialysis, is a growing area of interest in health and sports sciences. Uremia, a severe complication of chronic kidney disease, significantly impacts patients' physical health, emotional resilience, and overall quality of life, leading to challenges in engaging in physical activities and maintaining functional independence. These challenges emphasize the need for integrated care approaches that address both physical and psychological dimensions of health. Mindfulness-based interventions have emerged as effective strategies to enhance psychological well-being by reducing stress, anxiety, and depression. When combined with affectionate nursing—a patient-centered approach emphasizing emotional support and compassionate care—these interventions have shown potential to improve compliance, self-management abilities, and overall quality of life. However, their broader implications for fostering physical activity and rehabilitation in elderly patients with uremia remain underexplored. From a sports science perspective, improving quality of life and psychological resilience can directly influence patients' ability and motivation to participate in tailored physical activity and rehabilitation programs, which are critical for maintaining muscle strength, cardiovascular health, and mobility. Exploring how mindfulness and affectionate nursing interventions can bridge the gap between medical care and physical activity engagement is particularly relevant in multidisciplinary health care and sports science settings. This study aims to evaluate the effects of mindfulness intervention combined with affectionate nursing on the quality of life, psychological health, and coping mechanisms of elderly patients with uremia undergoing hemodialysis. By focusing on outcomes that directly influence patients' readiness and ability to engage in physical activity, this research provides valuable insights into integrated care models that

align with the goals of sports and health sciences. (Aigner et al., 2022). (Karakaya, Duyu, & Koksal Atis, 2022). Clinical research has pointed out that more than 90% of hemodialysis patients are accompanied by self-perceived burden (SPB). Therefore, how to give active and effective nursing guidance to such patients is of great significance (Rondeau et al., 2022). Mindfulness intervention refers to the guidance focusing thinking and attention on the current behavior. Affectionate nursing refers to the nursing measures that help patients feel family care, give corresponding health education, and meet the individual needs of patients. In this study, a total of 120 senior uremia patients were examined, and the nursing guidance was given according to different groups in order to comprehensively analyze its application effects. The details are described as follows.

2. Data and Methods

2.1. Basic Data

Retrospective analysis was done on 120 elderly uremia patients who were admitted to our hospital during January 2020 and October 2022. Inclusion criteria: ① the disease was clearly diagnosed that the endogenous creatinine clearance rate was less than 10mL/min, and the blood creatinine level was not less than 707 μ Mol/L; ② Age ≥ 65 years; ③ Patients received informed permission for this study, which the hospital ethics committee both authorized and examined; ④ Patients with hemodialysis indication and dialysis time was more than or equal to 3 months. Exclusion criteria: ① Patients with mental and cognitive behavior abnormalities; ② Patients with blood system diseases; ③ Patients with malignancy. Sixty samples of each group were incorporated into the controlling group and the experimental group according to the various modes of care. Controlling group: the proportion of men and women was 32/28, the age was 65-85 years, and the average age was (75.23±2.63) years. The duration of disease was 1-5 years, with a mean time of (2.52±0.48) years, and the duration of dialysis was 1-4 years, with a mean of (2.32±0.35) years; experimental group: the ratio of men to women was 34/26, and the age was 65-85 years, with a mean of (74.98±2.75) years. The duration of the illness was 1-5.5 years, with a mean time of (2.63±0.51) years, and the dialysis period was 1-4.5 years, with a mean of (2.36±0.41) years. There was no obvious discrepancy in the comparison of basic data of both groups, $P>0.05$, which was relatively comparable.

2.2. Methods

The patients in both groups were given hemodialysis treatment, and the appropriate dialysis method was selected according to the actual conditions of the patients. If the patients had no obvious complications and the levels of urea nitrogen and creatinine increased, they were given ordinary hemodialysis

treatment; if the patients had systemic pruritus, hyperphosphatemia, intractable hypertension and other lesions, hemodialysis + hemoperfusion should be given to help the patients remove the toxicants in time; if the patients were accompanied with the active stage of lupus nephritis, systemic lupus erythematosus and other lesions, plasma exchange treatment should be given to help the patients improve clinical symptoms and improve the quality of life. The control group was given routine nursing mode. After admission, their psychological status was evaluated, and the corresponding emotional counseling was given to the patients. The patients were informed of the possible adverse reactions and treatment methods after hemodialysis, and were given simple health education, medication guidance, dietary guidance, etc. The experimental group received a style of compassionate nursing care plus mindfulness intervention, and the following main contents are included: Mindfulness intervention: A 4-week mindfulness intervention was implemented for patients. In the first week, nursing staff were required to introduce themselves, lead patients to familiarize themselves with the hospital environment, explain the basic principles of hemodialysis and related medical devices to maintain a good first impression with patients; the nursing staff explained the process and significance of mindfulness intervention, and provided video explanation and manual for patients to watch and read; the patients were instructed to meditate on the characteristics of something in a quiet state for about 10min each time. The second week: The nursing staff exchanged nursing experience with the patients to guide them to carry out mindfulness walking training in a specific environment and the patients were put in a quiet and comfortable environment to imagine the beautiful things in life, lasting for 10min each time. The third week: The medical personnel gave the patients instructions on how to practice mindfulness breathing. The patients were placed in a quiet room with soft light for training and instructed to adopt meditation mode to relax their body and mind, patiently experience the feeling of inspiration and expiration, and the patients were guided with their thoughts to scan from head to foot to feel their physical and mental state. If there were special feelings such as pain in a certain part in patients, the nursing staff should guide them to self-identity and self-relaxation until the abnormal feeling disappeared. The fourth week: The nursing staff should continue to exchange experiences with patients for about 20min and they should discuss and summarize the previous experience of mindfulness intervention, and continue to strengthen the practice. Affectionate nursing: ① Nursing training: After the affectionate nursing mode is determined, strict training will be carried out for the nursing staff, and a series of lectures such as nursing care theory, speech and behavior norms will be held with the participation of all nurses in the hospital, so as to cultivate the correct service concept and service process of the nursing staff; the demonstration department should be determined, and the nursing plan that conforms to the characteristics of the Department is adopted. The nursing staff of the whole hospital are encouraged to carry out the affectionate nursing

competition and the nursing staff are required to carry out the process demonstration in turn to make them strictly grasp the nursing concept and process. ② Establishment of family nurses: After the patients are admitted to the hospital, the family nurses are arranged uniformly. According to the personal qualifications of the nursing staff, the patients' conditions, dialysis time and other conditions, the nursing staff and the patients are divided into several groups, of which the nursing team leader is responsible for supervising the daily nursing work of the members in the group; each group has 4-6 nursing staff, and each nursing staff is responsible for 6-8 patients. The nursing staff is required to be responsible for the patients under their jurisdiction, and implement admission health education, disease examination, rehabilitation nursing and other contents for the patients. ③ Health education for first dialysis: Hemodialysis is of great significance for uremic patients, which is convenient for prolonging the life cycle of patients, but it cannot cure the disease, resulting in a greater psychological pressure of patients, accompanied by a variety of adverse emotions, which will directly affect the hemodialysis treatment work; to this end, family nurses need to strengthen the construction of patients' psychological problems, take the initiative to care for patients, communicate with patients. The head nurse, family nurses and doctors on duty should receive patients with dialysis for the first time, and the family nurses need to explain the environment of dialysis room, and briefly explain the occurrence and development process of uremia and complications; a command tone cannot be taken in daily communication, which will easily lead to depression and tension in patients. When communicating, the words should be kind and the eyes should be soft, which is conducive to gaining the trust of patients, building a good nurse-patient relationship, and communicating with patients as if they were relatives; patients on dialysis for the first time should try to understand the occurrence and development of the disease and other health knowledge, and the importance and significance of blood should be emphasized, and the nursing staff should guide patients to strictly follow medical advice, eat scientifically to control body mass; for example, nursing staff should instruct patients to strictly control their weight, because weight is an important factor that leads to dialysis complications, and guide patients to strengthen self-management, improve compliance, in order to assist patients offer more spiritual strength and decrease the likelihood of difficulties, nursing staff should get in touch with the patients' families and request their involvement in the compassionate nursing job ④ Health guidance during dialysis: During hemodialysis, the nursing staff should comprehensively monitor the changes of vital signs of patients. In addition, it is of great significance to strengthen health education during dialysis, and give corresponding health guidance according to patients with different vascular pathways; the nursing staff should explain the method and significance of central catheterization for patients with central catheterization, guide patients how to properly carry out self-care, inform patients of measures to prevent catheter bending, falling off, infection, and

blockage, and how to correctly handle abnormal conditions once the abnormal conditions occur; patients with internal fistula are instructed to carry out daily condition monitoring and explain the importance of internal fistula; affectionate nursing is different from the traditional nursing mode, so the nursing staff are required to demonstrate in advance in the actual practice, and then the patients operate until they fully grasp it. At the same time, they should supervise the completion of the patients to help the patients improve their self-management ability. ⑤ Affection return visit: Usually, patients are instructed to go to the hospital for hemodialysis 2-3 times a week. Because hemodialysis requires a long time to treat repeatedly, the patients' compliance is easy to be affected, which may affect the treatment effects of the disease; therefore, the nursing staff should pay full attention to the work of affection return visit. The nursing staff should make the uremic patients joint to the WeChat group for unified notification, and guide the patients with possible problems during dialysis at any time. They can also take the way of telephone follow-up once a week to timely understand the development of the disease, and ask whether there is an abnormal state. During the return visit, they should mainly instruct the patients about volume of fluid intake, and give telephone to remind the patients at any time to help the patients improve their compliance, which is beneficial to improve the return visit effect and dialysis quality.

2.3. Observational Indicators

Compliance was compared. The evaluation was strictly according to the content of the Frankl compliance scale, and 1 point indicated refusal and pain, 2 points indicated unwillingness to cooperate, 3 points indicated indifference, and 4 points indicated active cooperation and enjoyment. The evaluation was carried out from the aspects of dialysis plan, drug administration, volume of fluid intake, etc. and the higher the score, the higher the corresponding compliance (Cabarcas-Barbosa et al., 2022). Nursing satisfaction was compared. The Likert 5-level scoring method was used for evaluation. The scoring range was 1-5 points. 1 point meant very dissatisfied, 2 points meant not very satisfied, 3 points meant general, 4 points meant relatively satisfied, and 5 points meant satisfied. Satisfaction = (general + relatively satisfied + satisfied) number of cases / total number of cases × 100% (Azarudeen, Kamath, Lalitha, & Vasudevan, 2022). The anxiety and depression after nursing were compared. Self-rating Depression Scale (SDS) and Self-rating Anxiety Scale (SAS) were employed, respectively, to assess the two moods. The former had a critical value of 50 points, while the latter had a critical value of 53 points. The significance of the related unpleasant emotions increases with score (Lima et al., 2022). After nursing, optimism levels were compared. based on the scale's assessment of the Herth Hope Index (HHI). With a total score of 12-48, T suggested having an optimistic outlook on the present and the future, P indicated acting positively, and I indicated keeping close relationships with others. The appropriate hope level rises as the score does (Kellum, Formeck,

Kernan, Gómez, & Carcillo, 2022). The coping styles after nursing was compared. The Medical Coping Modes Questionnaire (mcmq) was use for evaluation, and with the increasing score, the more inclined to the corresponding coping style (Kalantar-Zadeh et al., 2022). After nursing, life quality was compared. The short form of the Health Survey (SF-36), which has a rating range of 0-100, was utilized for evaluation. The standard of living that corresponds to a higher rating is better (Shao et al., 2022).Self-management ability rating: Hemodialysis patients' self-management values, which ranged from 20 to 80 points, were analyzed. With a higher rating, the associated self-management capacity is greater (Walther, Nambi, Hanania, & Navaneethan, 2020).

2.4. Statistical Treatment

Data processing was carried out using the statistical program SPSS23.0. The x2 test was utilized to analyze the counting data, which were expressed as [n (%)]. The measurement data were represented as ($\bar{X}$ ± S), and the t-test was utilized to analyze them. P < 0.05 was utilized to describe whether there was a statistical meaningful variation among the two groups' data.

3. Results

3.1. Nursing Compliance

Table 1 and Figure 1 were shown below. With P < 0.05, the compliance of the experimental group was substantially greater compared to the controlling group.

Table 1: Comparing of the both Groups' Nurse Compliance Marks ($\bar{X}$±S, Points)

GROUPING	DIALYSIS PLAN	ADMINISTRATION	FLUID INTAKE
CONTROL GROUP (N=60)	2.67 ± 0.51	2.73 ± 0.48	2.67 ± 0.48
EXPERIMENTAL GROUP (N=60)	3.55 ± 0.50	3.35 ± 0.52	3.27 ± 0.45
T	9.085	7.152	9.846
P	0.000	0.000	0.000

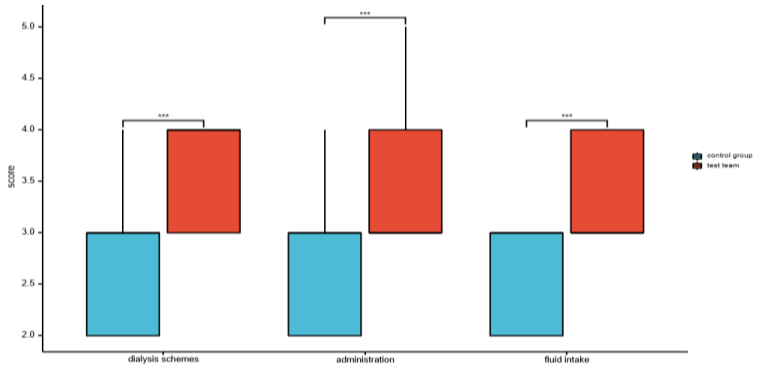

Figure 1: Comparison of nursing compliance scores between the two groups

3.2. Nursing Satisfaction

As shown in Table 2 and Figure 2 below, the experimental group's level of satisfaction was noticeably greater compared to the controlling group, with P < 0.05.

Table 2: Analysis of Nursing Satisfaction of the Two Groups [N (%)]

GROUPING	SATISFIED	RELATIVELY SATISFIED	GENERAL	NOT VERY SATISFIED	VERY DISSATISFIED	SATISFACTION
CONTROL GROUP (N=60)	32 (53.33)	7 (11.67)	10 (16.67)	7 (11.67)	4 (6.66)	49 (81.67)
EXPERIMENTAL GROUP (N=60)	43 (71.67)	8 (13.33)	6 (10.00)	2 (3.33)	1 (1.67)	57 (95.00)
X^2	5.172					
P	0.023					

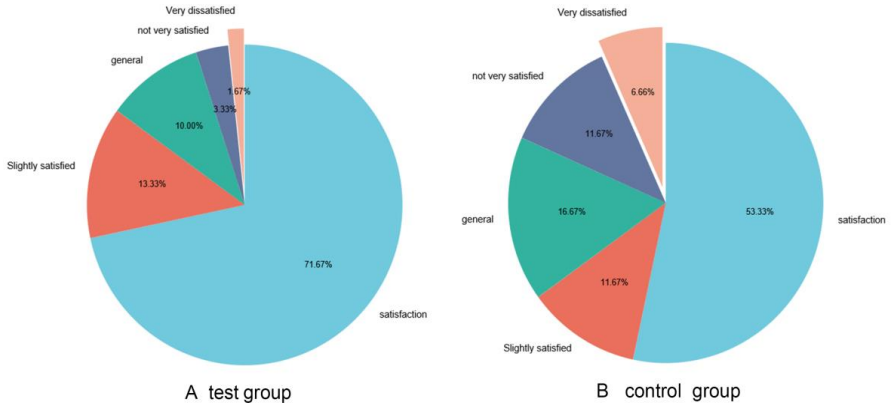

Figure 2: Comparing of the both Groups' Satisfaction with Nursing

3.3. SAS Score and SDS Score

Following nursing, the experimental group's ratings were vastly smaller compared to the controlling group, as illustrated in Table 3 and Figure 3 below, with P < 0.05.

Table 3: Comparing of SAS score and SDS score of the both groups ($\bar{X}$±S, points)

GROUPING	SAS SCORE	SDS SCORE
CONTROL GROUP (N=60)	47.62 ± 4.54	48.38 ± 4.49
EXPERIMENTAL GROUP (N=60)	43.15 ± 3.89	44.55 ± 4.18
T	5.819	4.781
P	0.000	0.000

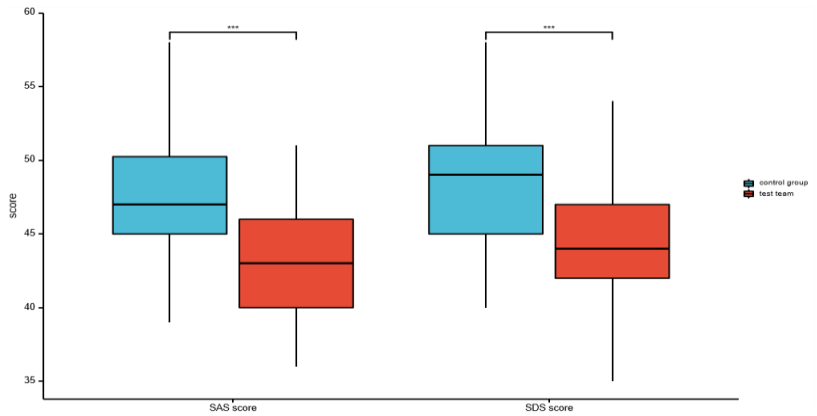

Figure 3: Comparison of SAS score and SDS score between the two groups

3.4. Hope Level

As shown in Table 4 and Figure 4 below, after nursing, the experimental group greatly outperformed the controlling group in terms of ratings for each aspect of hope level, with P < 0.05.

Table 4: Comparison of Hope Level between the two Groups ($\bar{X}$±S, Points)

GROUPING	T	P	I	OVERALL HOPE LEVEL
CONTROL GROUP (N=60)	12.83 ± 1.46	12.87 ± 1.62	12.60 ± 1.38	38.30 ± 2.01
EXPERIMENTAL GROUP (N=60)	14.68 ± 1.65	14.80 ± 1.53	14.90 ± 1.23	44.82 ± 1.23
T	6.489	6.708	9.716	21.485
P	0.000	0.000	0.000	0.000

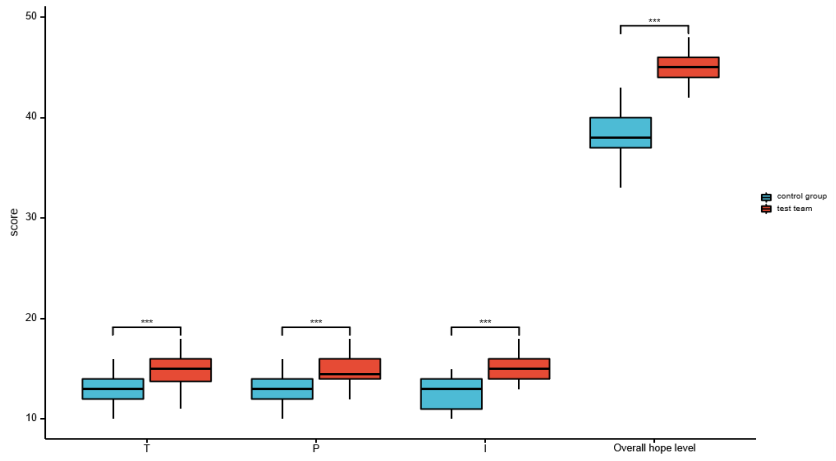

Figure 4: Comparison of hope Level between two Groups

3.5. Coping Style

As shown in Table 5 and Figure 5 below, after nursing, the experimental group's yield and avoidance ratings were much less compared to those of the controlling group, while the face rating was markedly larger, with P < 0.05.

Table 5: Comparison of Coping Style Scores between the two Groups ($\bar{X}\pm$ S, points)

GROUPING	YIELD	AVOIDANCE	FACE
CONTROL GROUP (N=60)	11.63 ± 2.37	15.62 ± 2.61	17.60 ± 3.24
EXPERIMENTAL GROUP (N=60)	6.58 ± 1.87	11.53 ± 2.55	22.55 ± 4.22
T	13.045	8.740	7.093
P	0.000	0.000	0.000

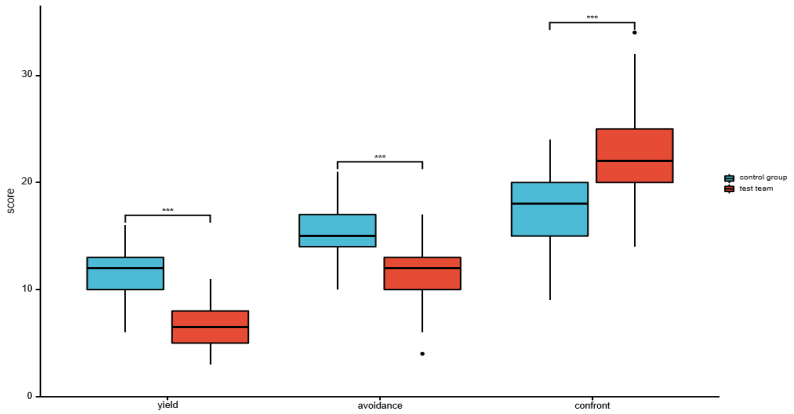

Figure 5: Comparison of Coping Style Scores between the two Groups

3.6. Quality of Life Scores

Following nursing the experimental group's ratings for each living standard component were noticeably superior compared to the control group, with P < 0.05, as illustrated in Table 6 and Figure 6 below.

Table 6: Comparison of Quality-of-Life Scores between the two Groups ($\bar{X}\pm$ S, points)

GROUPING	PHYSICAL FUNCTION	MENTAL FUNCTION	SOCIAL FUNCTION	MATERIAL LIFE
CONTROL GROUP (N=60)	68.37 ± 4.34	71.23 ± 4.57	70.30 ± 4.85	66.37 ± 4.61
EXPERIMENTAL GROUP (N=60)	75.27 ± 5.12	75.72 ± 4.65	76.27 ± 4.68	73.13 ± 4.79
T	7.913	5.252	6.862	7.835
P	0.000	0.000	0.000	0.000

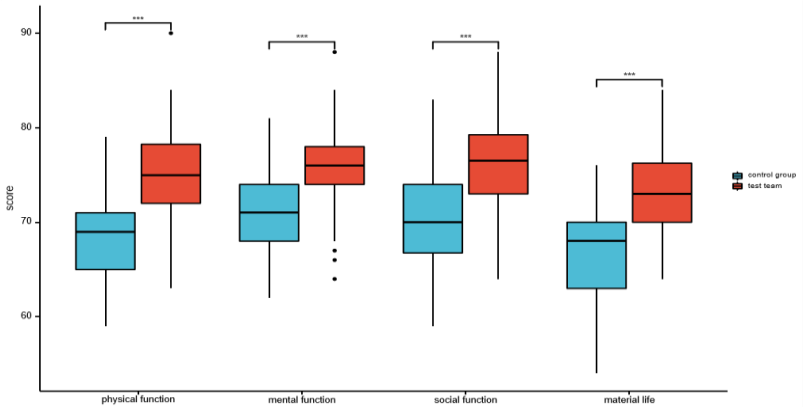

Figure 6: Comparison of Quality-of-Life Scores between the two Groups

3.7. Self-Management Abilities

As shown in Table 7 and Figure 7 below, after nursing, the experimental group's ratings on each of the self-management abilities dimensions were markedly larger compared to the controlling group, with P < 0.05.

Table 7: Comparison of Self-Management Ability Scores between the two Groups ($\bar{X}\pm$ S, points)

GROUPING	EMOTIONAL PROCESSING	PERFORMING SELF-CARE	PROBLEM-SOLVING	PARTNERSHIPS
CONTROL GROUP (N=60)	9.65 ± 2.53	18.60 ± 2.64	14.73 ± 2.58	13.80 ± 2.20
EXPERIMENTAL GROUP (N=60)	11.45 ± 2.40	21.52 ± 2.57	17.17 ± 2.17	15.35 ± 2.39
T	3.969	6.111	5.604	3.727
P	0.000	0.000	0.000	0.000

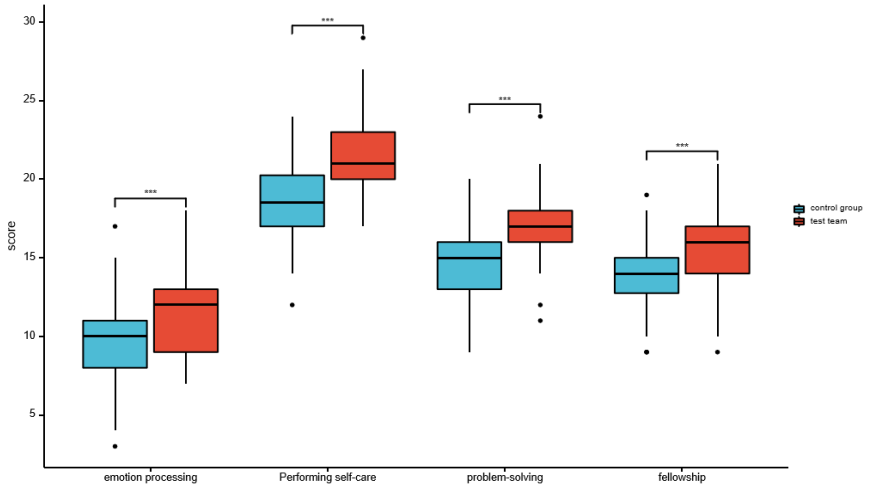

Figure 7: Comparison of Self-Management Ability Scores between the two Groups

4. Discussion

The main symptoms of uremia include water and electrolyte metabolism disorders, acid-base imbalance, renal function decline, etc., which pose a serious threat to human health and renal function trauma has irreversible characteristics, resulting in patients needing lifelong MHD treatment (Ronco, Reis, & Cozzolino, 2020). MHD is a common clinical scheme for the treatment of patients with acute and chronic renal failure. MHD applied to uremic patients is convenient to timely remove toxins in the body, maintain the balance of acid-base and electrolyte levels, and improve the body's immunity. However, repeated hemodialysis treatment for a long time will cause patients' physical and mental suffering, which is easy to reduce patients' compliance and cause the unwillingness to cooperate with medical staff in diagnosis and treatment

(Øzbay, 2020). During the actual treatment, the blood circulates repeatedly in the body and if the operation is improper, it is easy to cause infection events, thrombosis and other adverse conditions, which reduces the quality of life of patients. Clinical research points out that the vast majority of hemodialysis patients are accompanied by various psychological problems, and the adverse emotions such as anxiety and depression are more significant. In addition, elderly patients with uremia are older and have poor tolerance in body and with a long-term hemodialysis, patients have greater physical and mental pressure and are prone to a variety of adverse emotions, which is not conducive to the treatment of the disease (Puri, Shirazi, Yap, & Saggi, 2020). Therefore, 120 elderly patients with uremia were regarded as the research objects and they were treated with MHD in this study. The control group was treated with routine nursing, and the experimental group was treated with mindfulness intervention combined with affectionate nursing. The findings revealed that the experimental group's nursing compliance and satisfaction ratings were much greater than those of the controlling groups, and that the experimental group's anxiety and sadness scores following nursing were markedly smaller compared to the controlling group. The main reason is that mindfulness intervention gives patients self-psychological adjustment through consciously focusing their thinking and attention on the current behavior. Mindfulness intervention originated in Buddhism and the mindfulness skills of oneself are further improved through various formal meditations. In the 1970s-1980s, a foreign psychologist established mindfulness decompression therapy, which was defined as a specific way of conscious awareness, living in the present, and without making judgments (Kodumudi, Jeha, Mydlo, & Kaye, 2020). Mindfulness intervention can effectively improve the convulsion of patients' brains to make them feel their own internal experience, relieve their negative emotions about the disease in time, correctly recognize their own condition, and meditation and other ways are adopted to promote their mental health, obtain inner peace, and reduce psychological pressure in time. Relevant studies have pointed out that mindfulness intervention given to patients is conducive to promoting patients to correctly cognize their own situation, improving self-inclusiveness, and reducing various mental health problems (Thimoteus & Danilo, 2021). In this study, mindfulness intervention combined with affectionate nursing was performed to patients in the experimental group to give them mental care, improve the emotional experience of patients, and make them experience the care from the hospital, which was beneficial to effectively relieve anxiety, depression and other negative emotions, and improve the nursing satisfaction and compliance. The level of hope reflects the belief of patients to overcome their own diseases to a certain extent. Many scholars have pointed out that the hope level of hemodialysis patients is generally not high (Gaisne, Péré, Menoyo, Hourmant, & Larmet-Burgeot, 2020). The patients in the experimental group had markedly higher belief in beating the disease compared

to the controlling group, according to the study's results, which also demonstrated that the experimental group's nursing plan could raise patients' hope levels. The marks of all dimensions of the hope level in the experimental group after nursing were markedly larger compared to the controlling group. The main reason is that mindfulness intervention can help patients reduce their psychological burden, get more positive awareness to promote self-acceptance through diversified training. Through the communication among patients, nursing staff, and family members, affectionate nursing can establish a good nurse-patient relationship in time, provide more emotional support for patients, which is easier to stimulate the confidence of patients to overcome the disease, and actively seek solutions to problems. Coping style refers to the behavior response taken by individuals in the face of stressful events. Hemodialysis patients are prone to have abient, negative and other coping styles in the face of their own diseases. Self-management abilities are the abilities of patients that they rely on subjective initiative to transform and control their own behavior and thoughts according to social goals (Igboeli et al., 2020). The findings of this study revealed that the experimental group's yield and avoidance ratings were markedly lesser compared to the controlling group, while the experimental group's face marks were markedly larger compared to the controlling group. Additionally, the experimental group's marks on all dimensions of self-management abilities were markedly larger compared to the controlling group. The main reason is that the nursing staff in the experimental group help the patients face their diseases correctly through positive guidance, and mindfulness intervention helps the patients adjust their psychological state in time and guide the patients to pay more attention to the current situation to cultivate centrifugal thinking mode. On the basis of meeting the basic needs of patients, affectionate nursing helps patients get more emotional support, fully respects the individual differences of patients, which makes patients voluntarily take a positive coping style to accept hemodialysis treatment, and also improves medical compliance behavior (Balestracci, Battaglia, Toledo, Martin, & Alvarado, 2021). In addition, the scores of all dimensions of quality of life in the experimental group were significantly higher than those in the control group, which was consistent with the research results of most scholars. Affectionate nursing can effectively fix the relationship between nurses and patients, which can facilitate the popularization of nursing knowledge such as health education and timely understand the physical and mental status of patients, and symptomatic treatment can be timely given in case of abnormal conditions. Affectionate nursing can fully reflect the humanized characteristics of nursing, which takes patients as the nursing center and helps patients create a personalized and integrated nursing mode to improve the nursing comfort, and is more suitable for hemodialysis patients, which is beneficial to reduce the occurrence of various complications and further improve the quality of life of patients (Zheng, 2021). This study demonstrates that the integration of

mindfulness intervention with affectionate nursing significantly enhances the quality of life, psychological well-being, and self-management abilities of elderly patients undergoing maintenance hemodialysis for uremia. These improvements are not only critical for mitigating the physical and emotional burdens of chronic disease but also serve as a foundation for promoting active participation in physical activity and rehabilitation programs. By fostering greater psychological resilience, adaptive coping mechanisms, and patient compliance, this integrated care approach aligns with the objectives of sports and health sciences to encourage physical engagement and holistic well-being in vulnerable populations. The findings underscore the potential for combining mindfulness and compassionate care within multidisciplinary frameworks to enhance both the health outcomes and functional capabilities of patients, enabling them to achieve greater independence and quality of life. Future research should explore the long-term impacts of such interventions on physical activity levels, rehabilitation outcomes, and overall fitness in elderly populations, providing further evidence for their integration into sports and health care practices. These efforts will contribute to developing innovative care models that prioritize the synergy between physical, emotional, and social dimensions of health.

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