

EFFECT ON BLOOD PRESSURE AND INTERDIALYTIC WEIGHT OF PLANNED EDUCATION IN PATIENTS RECEIVING HEMODIALYSIS

Mukadder Mollaoğlu*, Esra Başer*

*Cumhuriyet University, Health Sciences Faculty, Nursing Department, Sivas, Turkey

INTRODUCTION

Diet can enhance health status and therapeutic influence for patients undergoing hemodialysis.¹ But, seems that many patients are not fully aware of diet and fluid intake restriction. Findings display that many patients receiving hemodialysis do not adhere to appropriate diet and fluid intake restrictions.² Interdialytic weight gain due to high fluid intake is one of the most common problems in patients receiving hemodialysis.^{2,3} On the other hand, interdialytic weight gain is also effective on blood pressure. Patient education, one of the important responsibilities of the nurse, are among effective nursing approaches to enable patients appropriate their behaviors, and improve their ability, knowledge, and awareness.^{1,4}

PURPOSE

This study was conducted for examining the effect on interdialytic body weight (IDWG) and blood pressure (BP) of planned education related to salt and fluid restricted diet given to patients undergoing hemodialysis.

METHODS-MATERIALS

The method of the study was a randomly controlled clinical trial. A sample of 100 individuals participated, of which 50 were in the Experimental group (EG) and 50 were in the Control group (CG). For the control group to be representative of the usual care patient population, no contact was made with these patients. This resulted in the allocation of 50 subjects to the EG and 50 patients to the CG, who were followed for the 12-week study duration.

The educational program consisted of three sessions between the educator and hemodialysis patients. Diet education, including face to face training with educational brochures, were conducted in the three sessions. Having carried out the educational program, BP and IDWG were measured and recorded by researcher-designed checklists. Effects of the education were evaluated by the tests carried out monthly in the clinical biochemistry laboratory of the hospital. Analyses were performed using SPSS version 22.0 statistical software.

The study was approved by the Ethics Committee of the Cumhuriyet University Hospital. Written informed consent was provided by all patient participants prior to entry into the study.

RESULTS

The EG ($n = 50$) and the CG ($n = 50$) were statistically equivalent on baseline demographic and clinical features (Table 1).

Table 1: Sociodemographic and clinical characteristics of the patients undergoing hemodialysis

	EG*	CG**	p value
Age (years); mean±SD	52.6 ± 16.3	51.3 ± 16.7	.066
Gender; n(%)			
Male	26 (52.0)	28 (56.0)	0.68
Female	24 (48.0)	22 (44.0)	
Educational status; n(%)			
Literate	10 (20.0)	8 (16.0)	0.86
Primary school	29 (58.0)	30 (60.0)	
Secondary and tertiary	11 (22.0)	12 (24.0)	
Duration of illness (years) ; n(%)			
≤1	8 (16.0)	10 (20.0)	0.96
2–5	20 (40.0)	19 (38.0)	
6–10	12 (24.0)	11 (22.0)	
≥11	10 (20.0)	10 (20.0)	
HD frequency; n(%)			
Two times/week	13 (26.0)	11 (22.0)	0.34
Three times/week	37 (74.0)	39 (78.0)	
Has another chronic illness; n(%)			
Yes	35 (70.0)	37 (74.0)	0.65
No	15 (30.0)	13 (26.0)	

*EG: Experimental Group, ** CG: Control Group

The comparison of the individuals' preeducation BP (Systolic Blood Pressure (SBP), diastolic Blood Pressure (DBP) and IDWG mean values indicated no statistically significant difference between the E and C groups for any of the values ($p > 0.05$; Table 2).

After the third education program, in the analysis of the difference between means of the EG and CG, statistically significant differences were found between BP, IDWG and creatinine level (Table 2).

Table 2: Comparison of some parameters in pre-education and post-education stages in Experimental Group (EG) and Control Group (CG).

	Pre-Education*		t-test	Post-Education*		t-test
	EG (n:50) X±SD	CG (n:50) X±SD		EG (n:50) X±SD	CG(n:50) X±SD	
Sistolic BP	135.8 ± 14.98	136.4 ± 15.3	t:0.12 p:0.729	127.0 ± 10.89	136.3 ± 15.43	t: 9.910 p:0.002
Diastolic BP	85.94± 7.85	86.46±8.29	t: 1.49 p:0.224	81.78± 7.25	83.52 ± 9.02	t:4.54 p: .0036
IWDG	3.50 ± 0.93	3.46± 0.97	t: 0.138 p:0.711	2.74± 0.63	3.28± 0.92	t:8.329 p: 0.005
Creatinine	9.04±2.79	9.16±2.77	t:0.042 p:0.83	8.1±3.33	6.08± 2.91	t: 3.22 p:0.001
BUN	83.48± 6.96	83.54± 7.72	t:0.72 p:0.398	81.32± 8.53	82.38± 7.18	t:1.80 p:0.182

*Measurements taken before dialysis

CONCLUSION

Planned education in patients receiving hemodialysis run to a decrease in interdialytic weight gain, and systolic blood pressure, diastolic blood pressure, creatinine but has no effect on blood urea nitrogen.

At the end of the three sessions, there was a important fall down in BP and IDWG mean values for the Experimental group. Besides, this study defines that the client-centered, self-care focused intervention that is given by nurses to patients undergoing hemodialysis can also help achieve and maintain normal BP and IWDG. Based on these results, it is recommended that continuous planned education be given to hemodialysis patients to achieve and maintain normal interdialytic body weight and blood pressure. Further studies should investigate barriers to non-adherence to fluid and sodium restrictions.

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