Symptom Distress, Illness Intrusiveness, Hope, and Depression in Dialysis Patients

Shu-Ching Hsu, MS RN, ARNP *School of Nursing, National Taipei University of Nursing and Health Sciences/ MacKay Memorial Hospital, Taipei, Taiwan*
Tsae-Jyy Wang, PhD, RN, ARNP *School of Nursing, National Taipei University of Nursing and Health Sciences, Taipei, Taiwan*
InFun Li, PhD, RN *Department of Nursing, Tamsui MacKay Memorial Hospital, New Taipei City, Taiwan*

Introduction

The prevalence of depression is 33.33% to 78.8% for hemodialysis patients, and 19% to 51.5% for peritoneal dialysis patients. Depression can reduce treatment compliance, and increase hospitalization and morbidity rate. Knowing factors influencing depression can help to screen for high-risk groups and develop preventive measures. The purpose of this study was to investigate depression among dialysis patients and its influencing factors, including demographics, disease characteristics, serum values (calcium, phosphorus, hemoglobin), symptom distress, illness intrusiveness, social support, and a sense of hope.

Methods

The study used a descriptive study design. A convenietn sample of 130 dialysis patients with end-stage renal diseases were recurited from a medical center in northern Taiwan. The data were collected by using a structured questionnaire, including questions on demogrphics, the Symptom Distress Scale, the Illness Intrusiveness Ratings Scale, the Social Support Scale, the Herth Hope Index and the Center for Epidemiological Studies Depression Scale. The patient's serum calcium, phosphorus, and hemoglobin values were collected via medical records. The data were analyzed by IBM SPSS 22.0 software package. The main analytical methods included descriptive statistics, independent sample t-test, one-way analysis of variance, Pearson correlation analysis and hierarchical regression analysis.

Objectives

(1) discuss the depression situation of dialysis patients.
(2) explore the demographic characteristics, disease characteristics, symptoms distress, illness interference, social support, hope related to depression.
(3) to explore the relationship between the demographic characteristics of dialysis patients and depression.
(4) to explore the relationship between the disease characteristics of dialysis patients and depression.
(5) to explore the relationship between serum calcium, serum phosphorus, hemoglobin and depression in dialysis patients.
(6) Discuss the relationship between symptomatic distress and depression in dialysis patients.
(7) Discuss the relationship between illness interference and depression in dialysis patients.
(8) Discuss the relationship between social support and depression in dialysis patients.
(9) Discuss the relationship between the hope of dialysis patients and the mood of depression.
(10) Discuss important predictors of dialysis patients' depression mood.

Result(1)

Pearson's product moment correlation was used to characterize disease characteristics (dialysis time), serum values (hemoglobin), symptomatic distress , disease disturbance, social support, hope and depression.

The results showed that symptomatic distress was significantly positively correlated with depression in dialysis patients ($r = 0.65$, $p < 0.01$). The higher the symptom- distress scale score, the higher the symptomatic distress, and the symptomatic distress of dialysis patients was significantly correlated with depression.

There was a significant positive correlation between disease interference and depression ($r = 0.55$, $p < 0.01$). The higher the disease interference scale score, the more serious the interference. Therefore, the results of this study found that the higher the degree of disease interference, the more severe the depression. . .

The social support scale used in this study, the higher the level of support. The results of the analysis showed that family and friends support was negatively correlated with depression ($r = -0.34$, $p < 0.01$), indicating that the lower the social support of the subjects and friends, the more serious the depression. Medical professional support was negatively correlated with depression ($r = -0.23$, $p < 0.01$), indicating that the lower the level of social support in the medical professionals, the more serious the depression. The social support of dialysis patients is significantly correlated with depression.

The results of the analysis showed that there was a significant negative correlation between hope and depression ($r = -0.63$, $p < 0.01$). The sense of hope is negatively correlated with depression, so the higher the level of hope for dialysis patients, the lower the depression.

Pearson's product-related analysis showed that variables associated with dialysis patients and depression were significantly associated with symptoms, disease distress, social support and hope.

Result(2)

Hierarchical regression is an important predictor of depressive mood. Variables that are significantly different or related to depression mood after analysis by independent T-test, One-Way ANOVA, and Pearson's product moment correlation Including economics, dialysis time (months), hemoglobin, symptomatic disturbances, disease disturbances, social support, and a sense of hope, analyzed by three models in a hierarchical regression model.

Predictor factor of depression

Variable	Beta	t	p	VIF	R^2 increased	F	p	R^2	Adjusted R^2	F	p
Mode1								0.14	0.12	6.98	<0.001
Dialysis time	-0.11	-1.33	0.185	1.07							
Just enough	-0.37	-3.67	<0.001	1.46							
Surplus	-0.32	-3.28	0.001	1.38							
Mode2					0.056	8.71	<0.01	0.20	0.173	7.73	<0.001
Dialysis time	-0.09	-1.05	0.296	1.08							
Just enough	-0.33	-3.43	0.001	1.48							
Surplus	-0.30	-3.19	0.002	1.39							
Hemoglobin	-0.24	-2.95	0.004	1.03							
Mode3					0.455	25.11	<0.001	0.653	0.627	25.11	<0.001
Dialysis time	-0.02	-0.36	0.72	1.14							
Just enough	-0.06	-0.91	0.37	1.71							
Surplus	-0.05	-0.73	0.47	1.68							
Hemoglobin	-0.07	-1.29	0.20	1.11							
Symptom Distress	0.34	4.58	0.00	1.95							
Illness Intrusiveness[2]	0.17	2.35	0.02	1.83							
Social support											
Family or friend	-0.16	-2.41	0.02	1.44							
Medical personnel	0.07	1.09	0.28	1.49							
Hope	-0.40	-6.44	<0.001	1.35							

Conclusions

Hierarchical regression analysis showed that the economy and dialysis time could explain the 14.2% variation in depression ($R2 = 0.142$, $p < 0.001$). The inclusion of hemoglobin may additionally account for a 5.6% variation in depression (R2 increase = 0.056; $p < 0.01$). Inclusion of symptoms, illness intrusiveness, social support, and hope may additionally explain the variation of depression 44.1 (R2 increase = 0.441; $p < 0.001$). Factors such as economy, dialysis time, hemoglobin, symptomatic distress, illness intrusiveness, social support and hope can explain 65.3% of the depression.

The lack of economic income, the shorter the dialysis time, the lower hemoglobin level, the more serious the symptoms, the more serious illness intrusiveness, the lower the level of social support, and the lower the hope, the more serious the depression.

Therefore, if a set of evaluation tools can be established in the clinic, the patients should be screened when they initially receive dialysis treatment, and the high-risk group patients should be given appropriate measures and clinical treatments to reduce the patient's depression.

Reffences

Ali, A., Salih, RM.(2018). Renal anemia syndromes in hemodialysis patients according to iron status. *Saudi Journal of Kidney Diseases and Transplantation*, *29*,127-135.

Bahmani, B., Najjar, M. M., Sayyah, M., Shafi-Abadi, A., & Kashani, H. H. (2016). The Effectiveness of Cognitive-Existential Group Therapy on Increasing Hope and Decreasing Depression in Women-Treated with Haemodialysis. *Global Journal of Health Science*, *8*(6), 219–225. http://doi.org/10.5539/gjhs.v8n6p219.

Chiang, H., Guo, H., Livneh, H., Lu, M., Yen, M., & Tsai, T. (2015). Increased risk of progression to dialysis or death in CKD patients with depressive symptoms: A prospective 3-year follow-up cohort study. *Journal of Psychosomatic Research*, *79*(3), 228-232. doi:10.1016/j.jpsychores.2015.01.009