# Self-esteem in Greek Dialysis Patients
## The Contribution of Health Locus of Control

Paraskevi Theofilou

Department of Psychology, Panteion University, Athens, Greece

**Introduction.** Chronic kidney disease is a permanent condition which requires renal replacement therapy (hemodialysis, peritoneal dialysis, or transplantation) to maintain life. The present study aimed to investigate the association of self-esteem with health locus of control in dialysis patients.

**Materials and Methods.** A sample of 144 patients was recruited from 3 General Hospitals in the broader area of Athens, consisting of 84 patients undergoing in-center hemodialysis and 60 patients on continuous ambulatory peritoneal dialysis. Measurements were conducted with the World Health Organization Quality of Life instrument, in which self-esteem is addressed by 1 item, and the Multidimensional Health Locus of Control inventory.

**Results.** The results indicated that self-esteem had a significant positive association with internal health locus of control. Self-esteem was also inversely related to the dimension of important others measured by the Multidimensional Health Locus of Control inventory.

**Conclusions.** Findings of this study provide evidence that there is a strong relation between self-esteem and health locus of control in dialysis patients.

**Original Paper**

## INTRODUCTION

Patients with chronic kidney disease (CKD) have a high burden of disease (particularly cardiovascular comorbidities) affecting their quality of life (QOL) and dramatically shortening life expectancy.[1-3] These patients may be faced with serious stressors related to the illness and its treatment, arising from the nature of CKD and the intrusiveness of the medical treatment.[4-8] They are often confronted with limitations in food and fluid intake; with physical symptoms, such as pruritus and lack of energy; with psychological stressors, such as loss of self-concept and self-esteem, feelings of uncertainty about the future, and feelings of guilt towards family members; and with problems in the social domain.[9-12]

When the fulfillment of the need for autonomy is hindered, one's experience of self-worth is also damaged, leading to either insecure or low self-esteem.[13] The feelings of self-worth depending on a person's experience is referred to as a state of self-esteem. Research showed that high as well as stable self-esteem is associated with greater psychological well-being.[14]

Recent studies on chronic diseases suggest that QOL and mental health may be related to patient's cognitive representations of illness and treatment. When confronted with an illness, people create their own models and representations of the illness in order to make sense of and respond to the problems they are faced with.[15-20] Regarding health beliefs, recently it has been recognized that hemodialysis patients' beliefs that one's health is controllable was associated with less depression.[21]

Furthermore, after controlling for baseline level of depression, baseline internal health locus of control was not a significant predictor of depression in CKD patients on follow-up.[22] In other studies, personal control was significantly and positively related to physical and social functioning, bodily pain, general health perception, and the physical component score in hemodialysis and peritoneal dialysis (PD) patients.[13] A higher personal control was also associated with a lower emotional response and a better understanding of the kidney disease.[13] Finally, it has been indicated that better health-related quality of life (HRQOL) in dialysis patients is associated with higher control beliefs, lower illness and treatment disruptiveness, lower consequences, and less symptoms.[23]

The purpose of this study was to examine the association of self-esteem with health locus of control in patients undergoing maintenance hemodialysis and PD. We mainly hypothesized that internal health locus of control was related to a higher level of self-esteem.

## MATERIALS AND METHODS

A sample of 144 patients was recruited from 3 General Hospitals in the broader area of Athens, consisting of 84 patients (58.3%) undergoing in-center hemodialysis and 60 patients (41.7%) on continuous ambulatory peritoneal dialysis (CAPD). The selection criteria included (1) age >18 years old, (2) ability of communication in Greek, (3) being on dialysis treatment for at least 1 year, and (4) a satisfying level of cooperation and perceived ability.

The rate of response was very high, reaching 99%. Thus, the total sample included almost all patients of these three units, consisting of 86 men (59.7%) and 58 women (40.3%), with a mean age of 60.6 ± 14.9 years. Participants were Greek adults having signed a consent form for participation. All of the participants had been informed of their rights to refuse or discontinue participation in the study according to the ethical standards of the Helsinki Declaration. Ethical permission for the study was obtained from the scientific committees of the participating hospitals.

Measurements were conducted with the following instruments: the World Health Organization Quality of Life instrument (WHOQOL-BREF) was used for measurement of HRQOL.[24] It is a self-report generic QOL inventory of 26 items,

validated within Greek populations.[25] From the WHOQOL-BREF, the study presented here used 1 key question to evaluate self-esteem that was rated on a Likert scale. This question concerns patient's satisfaction with himself or herself ("satisfied with yourself"). Higher scores indicate a better QOL. The Multidimensional Health Locus of Control (MHLC) was utilized for measurement of the locus of control, which is a self-report tool measuring a patient's beliefs about control over health outcomes. Health locus of control is one of the widely used measures of individuals' health beliefs and has been designed to determine whether patients are internalists or externalists. The inventory consists of 18 items, which comprise 4 categories of beliefs: (a) internal locus, (b) chance, (c) doctors, and (d) important others. The last three refer to external locus of control.[26,27] The brief description of the theory explores the fact that health locus of control is a degree to which individuals believe that their health is controlled by internal or external factors. Whether a person is external or internal is based on a series of statements. The statements are scored and summed to find the above. Externals refer to the belief that one's outcome is under the control of powerful others (ie, doctors) or is determined by fate, luck or chance. Internals refers to the belief the one's outcome is directly the result of one's behavior.[26,27] The four categories are not mutually exclusive and scores may weight in a particular direction. Higher scores indicate stronger presence of the specific dimension of beliefs.

All analyses were performed with the SPSS software (Statistical Package for the Social Sciences, version 13.0, SPSS Inc, Chicago, Ill, USA). The Kolmogorov-Smirnov test was performed in order to check whether the values of the sample would fall within a normal distribution. Next, the analyses used aimed to investigate the relation between self-esteem and health locus of control score. Thus, correlation analysis was performed using the Pearson correlation coefficient test. Hierarchical regression analyses were also used to assess the above association in the total sample but also in the groups of hemodialysis and PD patients, separately. A $P$ value less than .05 was considered to indicate statistical significance.

## RESULTS

Baseline characteristics of the participants are

summarized in Table 1. All the measured values of the total cohort were found be normally distributed. Investigating the relation between self-esteem and health locus of control in the total sample, patient's satisfaction with himself or herself was significantly associated with internal locus and inversely associated with important others (Table 2). Further investigation was performed in the two groups of patients separately. In the hemodialysis patients, a higher level of self-esteem was associated with focusing on internal health locus of control. Also, the variable of self-esteem was related in an inverse way to the dimension of important others. On the other hand, there were no statistically significant relations in PD patients (Table 2).

A hierarchical regression analysis was performed in order to investigate the aforementioned association in the total sample. Specifically, internal locus was found to have a positive effect on patients' self-esteem while important others were found to have a negative effect (Table 3). The above associations were also observed in the subgroup of hemodialysis patients. Furthermore,

**Table 1.** Sociodemographic Characteristics of the Sample

| Characteristic | Hemodialysis | Peritoneal Dialysis |
|---|---|---|
| Number of patients | 84 | 60 |
| Age, y | 58.12 ± 16.11 | 64.28 ± 12.51 |
| Gender | | |
| Male | 55 (65.5) | 31 (51.7) |
| Female | 29 (34.5) | 29 (48.3) |
| Marital status | | |
| Single | 19 (22.6) | 6 (10.0) |
| Married | 58 (69.0) | 49 (81.7) |
| Divorced | 1 (1.2) | 0 |
| Widowed | 6 (7.1) | 4 (6.7) |
| Living with roommate | 0 | 1 (1.7) |
| Education | | |
| Elementary | 42 (50.0) | 20 (33.3) |
| Secondary | 26 (31.0) | 30 (50.0) |
| University | 16 (19.0) | 10 (16.7) |

**Table 2.** Correlations Between Self-esteem and Health Locus of Control in Dialysis Patients*

| | Self-esteem | |
|---|---|---|
| MHLC Domains | All | Hemodialysis Patients |
| Internal locus | 0.33† | 0.41† |
| Chance | -0.11 | -0.21 |
| Doctors | -0.07 | -0.11 |
| Important others | -0.18‡ | -0.21 |

*MHLC indicates Multidimensional Health Locus of Control.
†$P < .01$
‡$P < .05$

**Table 3.** Hierarchical Regression Analysis of Health Locus of Control Affecting Self-esteem in Dialysis Patients*

| | All | | Hemodialysis Patients | | PD Patients | |
|---|---|---|---|---|---|---|
| MHLC Domains | Beta | P | Beta | P | Beta | P |
| Internal locus | 0.44 | < .001 | 0.57 | < .001 | 0.32 | .03 |
| Chance | -0.10 | .20 | -0.04 | .65 | -0.03 | .83 |
| Doctors | -0.03 | .70 | -0.08 | .46 | -0.00 | .96 |
| Important others | -0.29 | < .001 | -0.36 | < .001 | -0.22 | .12 |

*MHLC indicates Multidimensional Health Locus of Control and PD, peritoneal dialysis.

in the PD patients, there was a positive relation between self-esteem and the dimension of internal health locus of control (Table 3).

## DISCUSSION

The present study shows strong associations of self-esteem with health locus of control in CKD patients. Concerning the relation between health locus of control and the variable of patients' satisfaction with themselves in the total sample, it seems that personal control regarding health status makes the patient evaluate his or her QOL more favorably and feel more confident. In the relevant literature, it has been suggested that the internal locus of control is significantly and positively related to physical and social functioning and general health perception in these patients.[13,28-30] In further investigation that was performed in the two groups of patients separately, the above conclusions were also confirmed. Specifically, in hemodialysis as well as PD patients, it seems that the internal health locus of control is related to a higher level of self-esteem.

In the light of these findings, it is observed that patients who hold more internal beliefs than beliefs concerning the dimension of important others experience more confidence and self-worth. Health locus of control explains a large amount of variance in predicting psychological well-being and specifically self-esteem. Perceptions about the personal controllability of the illness appear to be an important predictor of self-confidence; experiencing the ability to personally control the illness is associated with autonomy feelings.

Several limitations in this study warrant mention. First, self-esteem was measured with a limited item from the WHOQOL-BREF questionnaire. Although future studies addressing similar questions should ideally use well-established instruments that

have proven reliable and valid, the reliability and validity of self-esteem instruments that capture factors specific to dialysis and the lives of dialysis patients have not been established. Second, it was not possible to assess whether the levels of patient's satisfaction with himself or herself preceded or followed the initiation of dialysis, which should be viewed as a limitation, especially for associations with adherence indicators and other outcomes assessed cross-sectionally at the initiation of the study. Self-esteem may vary over time and may be important to consider at the initiation of dialysis therapy. There is a need for future research to use prospective and longitudinal study designs to examine the interaction between self-esteem and health locus of control in patients with CKD. Another methodological issue relates to the sample representativeness. Studies on a broader CKD population and recruiting even larger samples to enable effective multi-group analysis should be pursued in future research.

## CONCLUSIONS

Despite its limitations, the present study demonstrates the importance and the contribution of health locus of control to the patients' evaluation of QOL and more specifically of self-esteem.

## ACKNOWLEDGMENTS

## CONFLICT OF INTEREST

None declared.

## REFERENCES

1. Covic A, Seica A, Mardare N, Gusbeth-Tatomir P. A longitudinal study on changes in quality of life and illness representations in long-term hemodialysis patients with low comorbidity. Dial Mæd. 2006;1:12-9.
2. Covic A, Gusbeth-Tatomir P, Goldsmith DJ. The challenge of cardiovascular risk factors in end-stage renal disease. J Nephrol. 2003;16:476-86.
3. Ginieri-Coccossis M, Theofilou P, Synodinou C, Tomaras V, Soldatos C. Quality of life, mental health and health beliefs in haemodialysis and peritoneal dialysis patients: Investigating differences in early and later years of current treatment. BMC Nephrol. 2008;9:1-9.
4. Theofilou P. Sexual functioning in Chronic Kidney Disease:The association with depression and anxiety. Hemodial Int. 2012;16:76-81.
5. Theofilou P. The role of sociodemographic factors in health-related quality of life of patients with end-stage renal disease. Int J Caring Sci. 2011;4:40-50.
6. Theofilou P. Depression and anxiety in patients with chronic renal failure: the effect of sociodemographic characteristics. Int J Nephrol. 2011;1-6.
7. Theofilou P. Quality of life in patients undergoing haemodialysis or peritoneal dialysis treatment. J Clin Med Res. 2011;3:132-8.
8. Theofilou P. Quality of life and mental health in haemodialysis and peritoneal dialysis patients: the role of health beliefs. Int Urol Nephrol. 2012;44:245-53.
9. Cameron S, editors. Kidney failure. New York: Oxford University Press; 1996.
10. Christensen AJ, Ehlers SL. Psychological factors in end-stage renal disease:an emerging context for behavioral medicine research. J Consult Clin Psychol. 2002;70:712-24.
11. Covic A, Seica A, Gusbeth-Tatomir P, Gavrilovici O, Goldsmith DJ. Illness representations and quality of life scores in haemodialysis patients. Nephrol Dial Transplant. 2004;19:2078-83.
12. Krespi R, Bone M, Ahmad R, Worthington B, Salmon P. Haemodialysis patients' beliefs about renal failure and its treatment. Patient Educ Couns. 2004;53:189-96.
13. Ryan RM, Brown KW. Why we don't need self-esteem: On fundamental needs, contingent love, and mindfulness. Psychol Inq. 2003;14:71-6.
14. Paradise AW, Kernis MH. Self-esteem and psychological well-being:implications of fragile self-esteem. J Soc Clin Psych. 2002;21:345-61.
15. Cameron LD, Leventhal H, editors. The self-regulation of health and illness behaviour. London: Routledge; 2003.
16. Cameron LD, Moss-Morris R. Illness-related cognition and behavior. In: Kaptein A, Weinman J, editors. Health Psychology. Oxford: Blackwell Publishing and British Psychological Society; 2004.
17. Caress AL, Luker KA, Owens RG. A descriptive study of meaning of illness in chronic renal disease. J Adv Nurs. 2001;33:716-27.
18. Hagger MS, Orbell S. A meta-analytic review of the common-sense model of illness representations. Psychol Health. 2003;18:141-84.
19. Heijmans M, de Ridder D. Assessing illness representations of chronic illness:explorations of their disease-specific nature. J Behav Med. 1998;21:485-503.
20. Rees G, Fry A, Cull A, Sutton S. Illness perceptions and distress in women at increased risk of breast cancer. Psychol Health. 2004;19:749-65.
21. Christensen AJ, Turner CW, Smith TW, Holman JM, Gregory MC. Health locus of control and depression in end-stage renal disease. J Consult Clin Psychol. 1991;59:419-24.
22. Cvengros JA, Christensen AJ, Lawton WJ. Health Locus of Control and Depression in Chronic Kidney Disease: A Dynamic Perspective. J Health Psychol. 2005;10:677-86.

23. Griva K, Jayasena D, Davenport A, Harrison M, Newman PS. Illness and treatment cognitions and health related quality of life in end stage renal disease. Brit J Health Psychol. 2009;14:17-34.

24. WHOQOL Group. The World Health Organization's WHOQOL-BREF quality of life assessment: psychometric properties and results of the international field trial. A report from the WHOQOL Group. Qual Life Res. 2004;13:299-310.

25. Ginieri-Coccossis M, Triantafillou E, Antonopoulou V, Tomaras V, Christodoulou GN, editors. Quality of life handbook in reference to WHOQOL-100. Athens: Medical Publications VITA; 2003.

26. Wallston BS, Wallston KA. The development and validation of the health related locus of control (HLC) scale. J Consult Clin Psychol. 1976;44:580-5.

27. Wallston BS, Wallston KA, DeVellis R. Development of the multidimensional health locus of control (MHLC) scale. Health Educ Monogr. 1978;6:160-70.

28. Wiebe SJ, Christensen AJ. Health beliefs, personality, and adherence in hemodialysis patients:An interactional perspective. Ann Behavioral Med. 1997;19:30-5.

29. Bremer AB. Absence of control over health and the psychological adjustment to end-stage renal disease. Ann Behavioral Med. 1995;17:227-33.

30. Gencoz T, Astan G. Social support, locus of control, and depressive symptoms in haemodialysis patients. Scand J Psychol. 2006;47:203-8.

Correspondence to:
Paraskevi Theofilou, PhD
Department of Psychology, Panteion University, Eratous 12, 14568, Athens, Greece
Tel: +30 697 744 1502
Fax: +30 210 622 1435
E-mail: theofi@otenet.gr