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Self-Efficacy and Locus of Control as Predictors of Coping among Patients with Chronic Kidney Disease

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Abstract

Predicting coping among patients with chronic kidney disease (CKD) is very important in designing treatment regimen. This study investigated self-efficacy and health locus of control as predictors of coping among patients with CKD. Cross-sectional survey method was used in this study. One hundred and twelve (112) patients with CKD were purposively selected from three different hospitals. Questionnaire used was divided into socio-demographics, health locus of control, self-efficacy and coping. Multiple regressions, t-test for independent samples and ANOVA were used in data analysis at >05 level of significance. The results showed that Self-efficacy predicted passive coping (β = -.24; t = -2.27). Patients with low self-efficacy scored higher ($\bar{x}$ = 14.86) on passive coping than patients with high self-efficacy ($\bar{x}$ = 11.50). Patients in FMCA ($\bar{x}$ = 26.50) cope significantly better than their counterparts in (OOUTH: $\bar{x}$=20.86; KCN: $\bar{x}$=20.60). Patients with CKD experience significant level of burden and stress, therefore it is recommended that psychologists, clinicians and caregivers should identify and address the impact of stress and provide necessary support and assistance.

Keywords: Health locus of control; Self-efficacy; Coping; Chronic Kidney Disease

Introduction

Hemodialysis is one of the supportive therapies that have become a must for people with CKD (chronic kidney disease). The long-term hemodialysis process is becoming a stressor for patients with CKD. Therefore, patients with CKD need the proper coping mechanism for facing their stressor because the treatments affect their quality of life and causes some other psychological problems. The problems are not only in physical and social, but also in psychological aspect that makes the patient feel depressed with the disease. Coping mechanism of patients with CKD is one of the things that must be considered in treatment regimen. Managing difficult or overwhelming situations, whether they be internal or external, is a constantly evolving process that involves both thinking and behaving in a certain way. For this process,

known as coping, to occur, certain conditions must be present. These include an individual's perception and life experiences, which allow them to evaluate and handle challenges, and access to sufficient resources and support systems (Lazarus & Folkman, 1984). According to Stanisławski (2019), coping involves using both cognitive strategies and behavioural actions to deal with situations that exceed an individual's current abilities. When faced with obstacles, disappointments, or stressful events, a person's capacity to create and use effective coping strategies may make or break how they behave physically and emotionally. In a larger context, coping may be understood as an individual's way of using social resources to achieve personal goals in difficult situations. When someone is coping, it means they are taking action to handle a challenging situation. There is not one singular approach or classification system for coping strategies. "Rejection," "control," "resignation," "dependence," "avoidance," and "reduction" are all coping responses that describe the meaning or qualitative "style" of the individual's reaction rather than the specific methods used. Conscious coping strategies are developed when initial, subconscious coping strategies fail to address an ongoing threat. Researchers have paid less attention to the influence that psychosocial aspects like self-efficacy, health locus of control, and self-esteem have on the health of CKD patients. People who have a lot of faith in their abilities and feel they can reliably achieve their objectives have high degrees of self-efficacy. Bandura (1988) is widely acknowledged as the creator of this idea. Self-efficacy is emphasised as crucial in the evaluation and treatment of chronic illnesses by Mohamadinejad, Razi, Aliasgharpour, and Tabari (2015) and Freund, Gensichen, Goetz, Szecsenyi, and Mahler (2011). Self-discipline, happiness, openness to change, optimism, flexibility in the face of adversity, physical and mental health, and the capacity to avoid disease are all impacted by these variables. Social-learning theory developed the concepts of locus of control (LoC) and health locus of control (HloC) to characterise people's beliefs of their own abilities to alter their own health (Rotter 1954). The multidimensional kind of health locus of control puts responsibility for one's health in the hands of oneself, destiny, or an objective third party (Wallston, Wallston, & DeVellis 1978). Those with a strong internal locus of control tend to blame themselves more than external circumstances for any unfavourable health outcomes. Individuals with a high LoC tend to assign a considerable lot of control over their health to luck or chance. People who put a high external LoC on others, such as their physicians, believe that their health is ultimately out of their control. There is evidence that LoC affects risk factors, health, and sickness. There is evidence that LoC may have a role in the development of chronic diseases (Neylon, Canniffe, Anand, Kreatsoulas, Blake, Sugrue, & McGorrian 2013; Henninger, Whitson, Cohen, & Ariel, 2012). When evaluated alone, LoC is only marginally useful in explaining health-related behaviours (Wallston, 2005). The findings of empirical studies on the relationship between LOC and health behaviour are equivocal. Some research finds no correlation, while others reveal a lack of explanatory capacity (Bennett, Norman, Murphy, Moore, & Tudor-Smith 1998). Researchers have yet to study the impact of health locus of control in coping due to the recognised psychological and social implications of this condition. This study answered the following research hypotheses

1. Health locus of control and self-efficacy will jointly and independently influence coping strategies used by patient with CKD.
2. CKD Patients receiving treatment at Federal Medical Centre will significantly score higher on coping scale compared to their counterpart in other health care Centers.

Methods

Patients with chronic renal failure getting hemodialysis at three different institutions (Abeokuta Kidney Clinic, Federal Medical Centre Abeokuta (FMC), Olabisi Onabanjo University Teaching Hospital (OOUTH); Sagamu) were questioned to assess their self-efficacy and locus of control over their health (AKC). These patients were recruited as samples for the study. The inclusion criteria for the study included being 18 years of age or older, undergoing dialysis for at least six months, being

able to read English, and being willing to participate in the research. Exclusion criteria included major mental illness or cognitive impairment, physical dependency, and severe illness. The study was explained to eligible participants both orally and in writing. To calculate the sample size for this observational study, we used G*power 3.1 software, which was set at a 95% power (1-beta = 0.95), a type 1 error rate of 0.05 (two-tailed), and an assumption of a large effect size (Cohen's d = 0.1). Based on these parameters, we determined that a minimum of 112 volunteers were needed for the investigation.

Measures

A number of demographic factors were taken into account, including patients' gender, age, religion, marital status, level of education, occupation, place of care, and comprehension of their medical condition.

Xie's (1998) Simplified Coping Styles Questionnaire (SCSQ), which is centred on the Problem-focused and Emotion-focused framework, was utilised to evaluate patients' coping strategies (Lazarus & Folkman, 1984). This scale is 20-items with two subscales. Items 1-12 measures active coping strategies or problem-focused, while items 13-20 measures passive coping strategies or emotion-focused. The scale is of the Likert kind and has four points, with 0 representing "not use" and 3 representing "use often." Respondents indicate on this scale how frequently they use the coping mechanism that is detailed in the questions. Therefore, a score of sixty is the greatest possible point total on this scale. It is clear that the SCSQ is genuine and reliable. Test-retest coefficients for the SCSQ were 0.89 overall after two weeks. Total questionnaire Cronbach's alpha was 0.90, while active coping and passive coping subscales each had alphas of 0.89 and 0.78, respectively.

The Chronic Disease Self-Efficacy Scale (CDSES) was developed by Lorig, Stewart, and Ritter to assess patients' confidence in their ability to manage their disease (1996). There are a total of 33 items on the scale, and they are organised into 10 different groups, including: awareness of the illness; assistance from others (such as friends, family, and medical professionals); disease management; accomplishment of tasks; participation in social and recreational activities; management of symptoms; management of shortness of breath; and management of depression. Participants are asked to rate their confidence in their ability to do a series of mundane activities on a scale from 1 (not at all confident) to 10 (very confident) (very confident). A perfect score would be 10, given that each correct answer is worth one point. Reliability estimates for the CDSES varied from 0.72 to 0.89 for those with cardiovascular illness, lung disease, stroke, or arthritis. Each item had a correlation with its own measure of at least one standard error, confirming discriminant validity, and multi-trait scaling was used in the study. Therefore, the reliability and validity of the measure are well supported by the available data.

Patients' internal and external locus of control over their own health were evaluated using Rotter's eleven-item Health Locus of Control Scale, which was published in 1966. This scale was used to examine patients. The items 3, 4, 5, 6, 7, and 9 were each given a grade based on an objective scale that ranged from 0 to 6. A scale (from 100% agreement to 100% disagreement). Items 1, 2, 8, 10, and 11 get low marks because their wording is inward-focused and hence negative (by subtracting the circle response from the number 7). A person's health locus of control is calculated by adding the scores for the external and internal factors (for a total of 11). An increased total indicates that you give more weight to extraneous factors.

Procedure

The Federal Medical Centre, Abeokuta, OOUTH, Sagamu, and Abeokuta dialysis Centre's Research and Ethical Committee were all provided with an introductory letter to get their consent. In order to help with the distribution of the survey, two research assistants were given the necessary instruction. Volunteers were guaranteed privacy and that their participation in the research would not affect the care they receive. There was proper use of informed consent procedures. Over the course of four weeks, participants visited the medical outpatient clinics of the three participating hospitals many times to fill out questionnaires. Out of a total of

120 questionnaires sent out, we were able to collect and analyse data from 112.

Statistical Analysis

Data was analysed using the SPSS version 20.0. Multiple regressions, One Way ANOVA and t-test for independent samples were used at.05 level of significance.

Results

Table 1: Showing Normative Scores on Active and Passive Coping based on participants' Demographic Characteristics

Category	Sub-Category	N	(%)	Active Coping		Passive Coping	
				$\bar{x}$	SD	$\bar{x}$	SD
Gender	Male	66	(58.9)	21.25	5.04	12.73	5.44
	Female	46	(41.1)	20.85	6.96	13.36	5.65
Age	Young	60	(53.6)	20.87	6.38	12.97	5.11
	Old	52	(46.4)	21.33	5.33	13.00	5.99
Religion	Christianity	78	(69.6)	20.86	6.29	13.26	5.85
	Islam	25	(22.3)	21.88	4.97	12.67	5.08
	Traditional	7	(6.3)	21.29	5.82	10.86	3.39
	Others	2	(1.8)	19.00	1.41	13.50	2.12
Marital Status	Single	16	(14.3)	20.87	5.98	12.65	5.42
	Married	81	(72.3)	22.40	6.39	15.19	4.68
	Divorced	2	(1.3)	24.00	8.49	13.50	10.61
	Widowed	13	(11.6)	20.38	4.79	12.23	6.31
Educational Background	No Formal Education	9	(8.0)	26.00	4.15	19.89	3.59
	Primary School	13	(11.6)	21.46	4.50	10.69	4.71
	SSCE	23	(20.5)	19.39	4.50	13.65	6.13
	OND/NCE	20	(17.9)	19.94	5.53	14.20	5.28
	HND/BSC	31	(27.7)	21.32	7.59	12.13	5.67
	MSc	14	(12.5)	21.31	5.09	12.15	5.98
	OTHERS	1	(0.9)	27.00	-	12.00	-
Occupation	Civil Servant	45	(40.2)	21.58	5.82	12.44	5.40
	Student	9	(8.0)	25.67	7.16	17.00	5.00
	Artisan	9	(8.0)	20.67	4.24	13.56	5.96
	Self-employed	35	(31.3)	19.69	6.37	12.71	5.40
	Unemployed	2	(1.8)	21.00	2.82	10.00	.00
	Retiree	9	(8.0)	21.33	3.54	12.78	6.46
	Military Officer	1	(0.9)	18.00	-	21.00	-
	Immigration Officer	2	(1.8)	16.50	3.54	9.0	1.41

Hypothesis one which states that health locus of control and self-efficacy will jointly and independently influence coping strategies used by patient with CKD was tested using multiple regression analysis. The results are presented in Table 2.

Table 2: Summary of Multiple Regression Analysis Showing the Influence of internal and external health locus of control and chronic disease self-efficacy on problem and emotional focused coping

	Predictors	**β**	**t**	**p**	***R***	***R²***	***F***	***p***
Problem focused	Internal locus of control	-0.10	-0.77	>.05	0.18	0.03	1.09	>.05
	External locus of control	0.22	1.63	>.05				
	Chronic disease self-efficacy	-0.11	-1.09	>.05				
Emotional focused	Internal locus of control	-0.08	-0..77	>.05	0.32	0.11	3.99	<.05
	External locus of control	-0.01	1.63	>.05				
	Chronic disease self-efficacy	-0.29	-2.89	<.05				

Self-efficacy in dealing with a chronic disease, a sense of internal control over one's health, and a sense of control over one's environment all had insignificant effects on problem-focused coping ($R^2 = 0.03$, F (3, 101) = 1.09). Changes in internal health locus of control, external health locus of control, and self-efficacy for managing chronic disease were each associated with a 3% shift in problem-focused coping. The results show that problem-focused coping is independent of internal health locus of control, external health locus of control, and self-efficacy in the face of chronic disease. Problem-focused coping was not affected by either internal health locus of control (β =.22, t = 1.63), or self-efficacy (β = -.11, t = -1.09). Emotionally focused coping was jointly predicted by internal health locus of control, external health locus of control, and chronic illness self-efficacy ($R^2 = 0.11$, F (3, 101) = 3.99, p<.01), as shown in the table. A total of 11% of the variance in self-reported emotionally focused coping may be attributed to changes in internal health locus of control, external health locus of control, and chronic illness self-efficacy. Emotionally focused coping is significantly influenced by self-efficacy (β = -.29, t = -2.89) and external health locus of control (β = -.01, t = 1.63) but not by self-efficacy alone (β = -.08, t = -.77). All of this lends credence to the study's central hypothesis.

Hypothesis two states that CKD patients receiving treatment at Federal Medical Centre will significantly score higher on coping scale compared to their counterpart in other health care centers was analyzed using one way ANOVA and the summary of the result presented in Table 3.

Table 3: Summary of one-way ANOVA showing the influence of hospital type on coping strategies (problem focused and emotional focused).

	Source	SS	df	MS	F	p.
Problem focused	Between Groups	212.798	2	106.399	3.177	
	Within Groups	3583.465	107	33.490		<.01
	Total	3796.264	109			
	Between Groups	532.924	2	266.462	11.214	
Emotional focused	Within Groups	2589.933	109	23.761		<.01
	Total	3122.857	111			

Results revealed that there is significant effect of hospital type on problem focused coping (F (2,107) = 3.18). The result further revealed that there was significant type of hospital on emotional focused coping (F (2,109) = 11.21).

Table 4: Descriptive statistics showing mean difference in coping styles based on type of hospital

				LSD Post Hoc Analysis		
Hospitals	N	$\bar{x}$	S.D	1	2	3
FMCA	44	22.77	5.69			
OOUTH	42	20.12	5.01	2.65*	-	
KCN(ADC)	24	19.67	7.11	3.10*	0.45	-
FMCA	46	13.89	4.95	-		
OOUTH	42	9.31	4.99	4.58*	-	
KCN(ADC)	24	9.75	4.48	4.14*	-0.44	

***. The mean difference is significant at 0.05 level.**

Descriptive analysis and *post hoc* analysis revealed that respondents receiving treatment at FMCA ($\bar{x}$ = 22.77) and OOUTH ($\bar{x}$ = 20.12) significantly reported higher problem focused than respondent from KCN (ADC) ($\bar{x}$ = 19.67). More so, respondent receiving treatment at FMCA ($\bar{x}$ = 13.89) significantly reported emotional focused coping compare to respondent from OOUTH and KCN (ADC) hospital. The result confirmed the stated hypothesis and it is accepted in this study

Discussion

The purpose of this research was to determine whether individuals with CKD who felt more in control of their health situation also used more coping mechanisms. Emotionally oriented coping was shown to be predicted by both internal and external loci of control over one's health and self-efficacy in the face of chronic illness. One study found that self-reported emotional focused coping might be explained by a mix of internal health locus of control, external health locus of control, and chronic illness self-efficacy. In a 2009 study, Koutsopoulou, Stavropoulou, Vlachou, and Barka found that 9 percent of CKD patients also suffered from moderate to severe anxiety and 10 percent from serious depression. Health-related quality of life was greater among CKD patients who reported lower levels of depression and anxiety. Many of the psychological symptoms of the disease itself are very likely to be experienced by these people. Haemodialysis patients, therefore, must be provided with psychological assistance as part of their care. When psychosocial treatment is started shortly after a diagnosis is obtained and modified as the condition develops, it may be very helpful. It has been shown that patients who get emotional support are more likely to complete their dialysis treatment and lead a healthier lifestyle. Keedy,

Keffala, Altmaier, and Chen (2014) found that patients treated for low back pain reported substantial gains in locus of control, self-efficacy, and physical and mental wellbeing. lvarez-Villarreal, Velarde-Garca, Chocarro-Gonzalez, Pérez-Corrales, Gueita-Rodriguez, and Palacios-Cea (2019) asserted that body composition and sexuality may be affected by chronic kidney disease. The patients complained of an overall loss in health and well-being, as well as feelings of being overweight and ugly. It's possible for women to modify their appearance in order to hide their use of catheters and/or fistulas. Women's sexuality, desire for, and happiness with, sexual engagement may alter with age. Having a catheter was cited as the single most annoying thing to deal with when making passionate love. These results emphasise the value of include psychosocial care for CKD patients. The findings showed that hospital type has a substantial influence on problem-focused coping, confirming the second hypothesis that patients with CKD getting treatment at Federal Medical Centre would have much higher coping scale scores than their counterparts in other health care facilities. More precisely, the findings revealed that the kind of hospital had a significant impact on emotionally-focused coping. When compared to KCN respondents, individuals getting treatment at FMCA and OOUTH reported much more issue focus, as shown by both descriptive and post hoc analyses (ADC). FMCA patients also reported elevated levels of emotionally focused coping than OOUTH and KCN (ADC) patients. This appears to be the first study of its sort, bringing together CKD patients from diverse institutions to compare coping tactics. Since the Federal Medical Center, Abeokuta (FMCA) was supervised by the Federal Government of Nigeria and had sufficiently skilled personnel, CKD patients may have been more prone to adhere to their physicians' prescription practices. Patients at the OOUTH, a state-owned teaching hospital, scored higher on the coping strategy scale than those at the state-owned ADC Hospital, implying that the trained personnel at the OOUTH may be to blame for the gap. There is little evidence to support these findings. This is the first study of its sort in the domain of hospital treatment for persons with CKD. According to a comparison study, persons who are burned out are more likely to experience non-restorative sleep despite spending the same number of hours in bed (Sonnenschein et al., 2007)

Conclusion

This study found that internal health locus of control external health locus of control, and chronic disease self-efficacy all worked together to predict emotion-focused coping. Two factors, self-efficacy and an external health locus of control, were shown to have a substantial impact on emotionally focused coping. The findings of this study have obvious implications. Patients would learn the positive impact of coping with chronic kidney diseases and other psychosocial factors as regards their psychological wellbeing. It will help individual with CKD develop strategies to combat and deal with the frustration often brought on by the disease condition and make living with CKD easier. Finally considering the enormous psychological problems associated with CKD. It is vital that all kidney care centers are provided with Psychologists who can implement program at the point of diagnosis and conduct research on patients coping problems, which will help other health providers and the patients to deal directly with this issue.

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