

ORIGINAL ARTICLE

What Are the Hemodialysis Patients' Style in Coping with Stress? A Directed Content Analysis

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ABSTRACT

Background: Nowadays, the prevalence of chronic diseases, such as chronic renal failure, is rising. These patients need hemodialysis to continue their treatment, which is a stressful process. This research was conducted with the purpose of explaining coping styles in hemodialysis patients regarding stress factors based on the Lazarus and Folkman's transactional model.

Methods: This qualitative study was conducted as a content analysis. The data collection method was semi-structured interview with 22 patients from dialysis centers in Tehran. The data were collected from October to January 2017. Sampling was purposive and continued until data saturation. Data were analyzed using the directed content analysis method. The process of data analysis proposed by Hsieh and Shannon's was followed.

Results: 106 codes and 24 sub subcategories were obtained through this research and classified into 8 sub-categories of transactional stress model including: problem management, emotional regulation, social support, dispositional coping styles, positive reappraisal, revised goals, spiritual beliefs and positive events; and 3 categories of coping structures that included coping efforts, meaning-based coping and moderators.

Conclusion: Dialysis patients are making efforts to cope with their stress in order to reduce their stress; in some cases, these efforts lead to reduction in stress, and in some cases, due to using unsound coping style, they are ineffective or even harmful. Therefore, the necessity of planning and proper interventions is felt by health care providers to control stress in dialysis patients.

KEYWORDS: Coping, Hemodialysis, Qualitative research, Stress

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INTRODUCTION

Nowadays, we see an increase in the prevalence of chronic diseases, one of which being chronic renal failure; the average global growth rate of this disease has been reported by 8% over the past 5 years.¹ This disease affects different aspects of a person's life, including his lifestyle, health status, his role in society, and his occupational-social and family status.²

Since dialysis is unable to fully compensate for the metabolic activities of people, this is considered one of the potential stress factors among dialysis patients.³ Dialysis patients are dealing with many psychological tensions in addition to the problems in the field of treatment. These patients deal with significant stresses in the treatment of dialysis, due to the aggravation of chronic renal failure, and since the treatment of this disease is a long-term process, it affects the psychosocial function of these people, in a way that many psychiatric disorders are seen in these patients, including stress, depression and anxiety.^{4, 5} One of the most comprehensive models for stress management is transactional model.⁶ According to Lazarus and Folkman creators of transactional model, stress factors are situations and events that push people to react, and these reactions can emerge in a variety of forms, such as physical, psychological, and behavioral responses.⁷

Coping style in the transactional model includes coping efforts (intellectual, emotional, and behavioral) made by a person when he/she is faced with psychological stress in order to overcome, tolerate or minimize stress complications (Including problem management and emotional regulation). Meaning-based coping that induces positive emotion, which in turn sustains the coping process by allowing reenactment of problem or emotional focused coping and includes the positive reappraisal, revised goals, spiritual beliefs, and positive events. Moderators that are able to change the style of coping in different situations and build and maintain relationships with other people include the

dispositional coping style and social support.^{6, 8}

Research indicates that coping strategies used by individuals in coping with chronic diseases could help explain some differences in ability to adjust to the challenges experienced while living with chronic diseases and their disease survival rates.⁹ A study suggests that optimism may have a direct physiological effect on immune responses and on the neuroendocrine system, and an indirect effect on promoting protective health behaviors, enhancing positive and adaptive coping strategies.¹⁰ The findings of another study showed that the hemodialysis patients used fewer functional coping strategies and had more anxiety and depression than kidney transplant patients.¹¹

Given the scarcity of studies and knowledge as to the experiences of hemodialysis patients regarding coping styles, as well as the limitations of similar studies using transactional model with a qualitative approach, we sought to fully understand the coping style and extend conceptually a theoretical framework of this model in hemodialysis patients. Therefore, this study aimed to explain the coping styles in hemodialysis patients in relation to stress factors based on transactional model.

MATERIALS AND METHODS

The current study was a qualitative research of the type of guided content analysis. This study was conducted from October to January 2017. The sample number was 22 dialysis patients attending the dialysis centers in Tehran who were selected based on purposeful sampling method and sampling continued until data saturation. The inclusion criteria were patient with chronic renal disease, resident of Tehran and under treatment of hemodialysis; also, the exclusion criteria included psychiatric treatment and lack of willingness to participate in the study.

The main method of data collection in this research was deep semi-structured interviews. The interview guide included several key questions; a sample of questions is presented in Table 1. Questions were extracted from the

Table 1: The sample questions asked during the interviews

Several key questions	Guiding questions
What kind of stress do you have in your life?	Can you explain more?
How do you cope with these stresses?	What do you mean, why and how?
What methods and strategies do you use?	Can you give an example?
Do spiritual beliefs make you manage the tension factor?	
Do you have anyone around you who can support you or you can get help from them in the stressful situations?	

interviews and used in subsequent interviews. These questions were also used to address all aspects of the issue. The interviews were conducted in one of the rooms of the dialysis centers in a quiet environment. The duration of the interviews was 30-40 minutes. All interviews were conducted by the corresponding author. The number of interviews was 22. During the interviews, an arrangement was made, so that the participants trusted the interviewer, and the interviewer did not correct the interviewee's statements.

Data were analyzed using Hsieh and Shannon's content analysis method. In relation to coding in directed content analysis, if the purpose of the research is to identify and categorize all instances of a particular phenomenon, the entire text should be read and highlight all text that on first impression appears to represent an emotional reaction. The next step in analysis would be to code all highlighted passages using the predetermined codes. Any text that could not be categorized with the initial coding scheme would be given a new code.¹² During the research, all conversations were recorded and then written in the manuscript and analyzed. Immediately after each session, the interview was heard several times and then written and the smallest significant units were determined, after which the meaningful units were converted into summarized meaningful units; then, the codes were extracted, and placed into sub sub-categories; also, similar sub sub-categories were placed in the sub categories and categories of transactional model.

Guba and Lincoln's criteria were used to assure the trustworthiness and rigor of the

data. Credibility was achieved using regular presence of the researcher in different working shifts at the hemodialysis ward and her longtime involvement with the subject. Member check by two participants and rectification of the codes that did not accurately describe the participants' point of view (based on their own opinion) improved dependability. To promote confirmability, the supervisor and advisor professors reviewed some quotations, codes and extracted categories and confirmed the accuracy of the coding process. For data transferability, the participants from several health centers were selected with the maximum variety.¹³

This research was approved by the Ethics Committee at Yazd University of Medical Sciences (No. IR.SSU.SPH.REC.1397.012). At the beginning of each interview, the participants were explained about the purpose of the research, and a written informed consent was obtained from the participation in the research and recording of the interview before the interview. The participants were reassured that if they did not wish to continue each research phase, they could withdraw from the interview and this would not affect the treatment process. The collected information was also completely confidential and was used only for research purposes without mentioning identity specifications.

RESULTS

The participants in this study were 22 hemodialysis patients with a mean age of 54.7±6.5 years. The participants' demographic data are presented in Table 2.

The results of data analysis led to the

Table 2: Demographic characteristics of the study participants

Participant's No.	Age (year)	Gender	Education	Employment status
1	55	Male	Academic	Employee
2	63	Male	Academic	Self-employed
3	60	Female	Secondary	Housewife
4	59	Male	High school	Retired
5	53	Male	Elementary	Retired
6	60	Male	Elementary	Employee
7	56	Male	Academic	Retired
8	55	Male	Secondary	Employee
9	45	Female	High school	Housewife
10	57	Female	Academic	Employee
11	58	Male	Secondary	Retired
12	54	Female	High school	Retired
13	60	Male	Secondary	Housewife
14	49	Male	Academic	Employee
15	57	Female	Elementary	Housewife
16	57	Female	High school	Housewife
17	54	Female	Elementary	Housewife
18	42	Female	Academic	Housewife
19	56	Male	Secondary	Retired
20	59	Male	High school	Retired
21	60	Male	Academic	Self-employed
22	36	Male	Academic	Self-employed

Table 3: Categories, subcategories and sub sub-categories of the research

Categories	Sub categories	Sub sub-categories
Coping effort	Problem management	Escape-avoidance an effort to resolve the stressful situations searching for resource to overcome stress
	Emotional regulation	Distraction from stressful situations emotional discharge using sectional sedation using relaxation techniques
Meaning based coping	Positive reappraisal	Increase of self-awareness comparison between bad and worse care more about yourself
	Revised goals	Re-targeting in life changing of priority in aims
	Spiritual beliefs	Believing in the supernatural powers having spiritual feelings in the religious places the effect of Quran and praying on human's solace
	Positive events	Stress as a natural part of life positivism hope to the future
Moderators	Dispositional coping style	Variable coping style and contingency selecting the best coping style
	Social support	Information support emotional support appraisal support financial and instrumental support

emergence of a variety of coping strategies that participants used to manage the hemodialysis stressful event. According to the results, 106 codes and 24 sub subcategories were obtained and classified into 8 sub-categories of transactional stress model including: problem management, emotional regulation, social support, dispositional coping styles, positive reappraisal, revised goals, spiritual beliefs and positive events; Then, the sub-categories were

placed below the categories of coping styles structures and moderators of the transactional stress model, which include coping efforts, meaning-based coping and moderators that are listed in Table 3.

1. Coping Efforts

1.a. *The problem management:* Dialysis patients use different strategies to reduce the effects of stress factors on their lives. Some

of dialysis patients sought to resolve the stressful situation; A participant said: *“When I’m stressed out, I think rationally to see if I can solve the problem; even when I was too stressed, I went to counseling, so I try to solve the problem as much as I can”*.(P.8)

Also, a number of patients expressed their experiences in search for various resources (books, magazines, social networks, etc.) to overcome stressful situations. One of them said, *“When I get stressed out, I look for a book or article that can help me out”* (P.18).

Some patients expressed a range of escape-avoidance behaviors in a stressful situation. A participant stated: *“I do not meet stressful people; it means that I have noticed that I avoid those who make me stressful... it makes me feel a little relaxed”*. (P.5)

1.b. *Emotional regulation*: It emphasizes the management of emotions and associated actions.

Most patients expressed their experiences in stressful situations; they tried to change their mood when coping with stress factors because they often reckoned themselves too weak to solve a stressful situation.

A large number of patients had experienced distraction from stressful situations. *“I try to distract my mind from the subject that is causing my stress, or I try to keep myself away from the others, sit alone around the corner and think to reduce my stress”*. (P.4)

Patients stated that they would relax by catharsis (crying, shouting, screaming etc.). *“When I come here, if a patient is feeling bad, I feel bad too; when I feel bad I cry, and after that I become relaxed”*. (P.9)

Some patients also used relaxation techniques to reduce their stress. *“Sometimes, I just relax. I lie down and sleep; then, I take a deep breath. I relax from the tip of my fingers and proceed upward”*. (P.20)

The use of some pills and sedative medications was mentioned by some patients. One of the participants stated, *“Sometimes when I cannot sleep because of stress and bothering thoughts, I take pills; otherwise, I can’t sleep and I’ll be up until morning”*.(p.9)

2. *Meaning-Based Coping*

2.a. *Positive Reappraisal*: It emphasizes the positive aspects of the situation; in fact, it is the effort to manage an individual’s appraisal of the situation.

On reappraisal of stressful situations, some patients stated that the stressful situation brought about advantages; for example, it increases the level of self-awareness among them. They consider the stressful factors and the event happened as a chance for more thinking about the various aspects of life. A participant stated: *“I think this disease and its stress is good for me because before the illness I spent all my time to think about my job, industry, technique, etc. I didn’t have any place to think about how I want to react psychologically but now I have enough time for my psychological problems”*. (P.21)

Care more about oneself was also stated by some participants. *“After being afflicted with dialysis and being put into many problems, I just noticed what was important in life. I had to value myself instead of holding life and children”*. (P.8)

Several patients compared their disease with other hard-to-cure diseases and stated that the situation could be harder and worse than now. A participant said, *“We can’t blame the act of God. It is our destiny. We may be afflicted with another worse disease, maybe cancer. Fortunately, we can live a little more with this”*. (P.11)

2.b. *Revised goals*: Some patients stated that they tried considering more important aims in life after confronting to stressful situations. *“Now, I just aim to be healthy. My wife says that I should not be anxious because if you getting kidney transplant it maybe rejection. I myself try to be calm and have no stress”*. (P.1)

Changing of priority in aims was mentioned by patients. *“I try to change my aims in life. Previously, my all life was job and money; I now know what is more important”*. (P.3)

2.c. *Spiritual Beliefs*: Such beliefs guide the person to seek meaning and purpose in life and connect with values.

Having spiritual feelings in religious places was also mentioned by participants. *"When I feel seriously stressful, I go to the mosque and I feel calm. I say to myself 'it is an event which may happen for another person'. The beliefs and religious affairs make me calm".* (p.14)

The effect of Quran and praying on human's solace was also stated by several patients. *"I owe this solace to Salawat and praying. I always read An-Nas Sura before sleeping because it lowers my stress".* (P.17)

Several patients believed in the supernatural powers in controlling all the situations of living and felt God in all the situations. A participant said: *"When my catheter is not working, I close my eyes and murmur 14 Salawat for Imam Zaman. I feel calm. The nurse suddenly says, 'it is working now'. Yes, I resort to the prophets so much. I strongly believe in them. They always give a hand to me and I hope it continues".* (P.8)

2.d. *Positive events:* Some patients were generally positive and tried to look to everything through a positive view. *"I always say it will be ok. No negative thinking. Thinking negatively will influence the people badly. I always say what you think will happen. Think positively, so positive things happen to you".* (P.5)

Some participants had experienced stress as natural part of their life. *"Stress happens for every people. We just feel a little more. Generally, stress is a part of every person's life. You can't find a person without stress. Everybody has".* (P.11)

Hope in the future was also stated by some patients. *"I still have a little hope to have my kidneys. I always think I will have my kidneys back in the morning. I always feel it. Having hope is very different in contrast to be a hopeless person".* (P.22)

3. Moderators:

3.a. *Social support:* Some patients expressed their experiences in obtaining information support from others. *"Patients told me 'if you need a transplant, doctors will give you pills, so that the white blood cells get*

weakened". Well, I said, so every virus could easily get into our blood. I was so nervous until I asked my doctor. He said that don't worry, it is not like that". (P.1)

Some patients emphasized the emotional support that they received from friends and the relatives. *"I could only open my heart to my friends and neighbors, or I could cry out and lighten up".* (P.17)

Appraisal support was also stated by half of the patients. *"We have one or two family friends who come and listen to me. I also listen to them. Of course, I always try to trade with them. I mean, not that they just comfort me. I comfort them, too. We give each other some suggestions and strategies; after all, we try to help each other".* (P.16)

Many of participants talked about financial and instrumental support. *"My son pays all my expenses at the moment. I am very grateful to my family for supporting me".* (P.13)

3.b. *Dispositional Coping Styles:* They are general ways of behavior that can affect emotional response or individual performance to a stressor.

Selecting the best coping style was mentioned by patients. *"I usually investigate stressful situations and say to myself 'what can I do?'" I mean, I'm trying to find the best solution".* (P.10)

Some participants had experienced variable coping styles and contingency for coping with different stressful situations. *"I sometimes try to cope with my stress and sometimes I resolve it". "I'm a persistent person, I won't say, let it go".* (P.16)

DISCUSSION

The main aim of this study was to explain the coping styles in hemodialysis patients in relation to stress factors based on transactional model. In relation to coping efforts in the context of stress-induced illness, patients tended to use more emotion regulation to resolve these conditions rather than problem management; due to the severity of the disease, they felt that they couldn't resolve the main stressor condition, which

was dialysis disease. Thus, they had to calm themselves down emotionally to achieve more calmness in life which is mentioned in previous study.¹⁴ In line with the present research, in other study patients used different strategies to deal with their problems, including meaning-based coping, emotion regulation, and escape-avoidance oriented issues.¹⁵ More individuals imagine themselves exposed to an untreated disease with a long treatment period; they are more likely to use emotional regulation coping strategies.¹⁶ It has been pointed out that when people are able to control stress, they are more likely to focus on the problem management, but when they are unable to control it, they will get help from emotion regulation.⁶ This finding confirmed our results. Some patients in the face of a stressful situation tried to do creative work to solve a new situation. Some of them said that they achieved more self-awareness when they faced stress-induced diseases. They realized that life is important, and found new attitudes and beliefs. In line with the results of this study, previous study showed that positive reappraisal coping strategies can help individuals to adapt to long and unpredictable periods of time.¹⁷ Also, increased levels of confrontation and positive reappraisal could increase mental health in individuals.¹⁸ Positive reappraisal can be useful as a self-regulatory resource to promote positive affect and reduce negative impact.¹⁹ A recent study suggests that positive reappraisal is related to positive emotion.²⁰ Consistent with our findings, the role of positive reappraisal to increase stress management skills and mental health were confirmed in other study.²¹

Another coping style experienced by patients was meaning-based coping; our participants' experiences revealed that they tried to change their goals after facing with a stressor and, in some cases, consider other important goals. They said that after that, they had a greater sense of satisfaction and happiness in life. Individuals who pursue an important goal in their lives have a better sense of emotional health.²² In another study on dialysis patients, the experience of the sense of well-being was accompanied by

understanding the purpose.²³ The majority of patients said they believed in supernatural forces and, in many stressful situations, they got help from this force and reached calmness. Having a kind of spiritual belief in increasing the adaptation to the disease and the resulting stress has also been stated in other studies that confirms our research results.¹⁵ In another study, dialysis disease was considered as a divine test.²⁴ According to the relevant study, patients reporting a type of spiritual beliefs had a higher level of calmness at all stages of their life.²⁵

Consistent with similar studies, religious and spiritual activities have been identified as a spiritual need in patients that can be effective in improving social communication, providing powerful coping strategies to overcome the problems, and ultimately improving the quality of life of patients.²⁵⁻²⁷ Some patients reported that they were very positive people in their lives, were hopeful about the future, and considered stress as a natural part of life. In general, positive people were able to find more adaptability to their illness and its resultant stress. Other study also confirmed these findings, indicating that positive people in the face of stressful events show stability and confidence, and they tend to consider positive prospects in future.²⁴ The direct and beneficial effects of positivism have been seen in a prospective study on cancer patients.²⁸

Also, the patients' experiences in relation to the use of moderators for coping with stressful situation were as follows: As to dispositional coping styles, some patients tried to change their coping style related to situation for having better coping, while others were trying to choose the best solution for relaxation. Dispositional coping styles are general ways of behavior that can affect emotional response or individual performance to a stressor.^{6,29} Most patients expressed their attempt to get different kinds of support from others, including informational, emotional and instrumental support, etc., such as sharing their stressors with others, seeking help from

expert people, sympathizing with friends and acquaintances, and accepting others' helps to solve the problem and cope with stressful situations. Various studies have pointed to the role of social support to increase adaptation to the stressful event that are in line with our study.^{21, 30} Most of patients received the family support, which made them able to cope with the stressful situation. However, in another study, patients indicated a lack of family support; perhaps this difference was due to the difference in participants and their characteristics.³¹ Many patients referred to the role of peer support to increase calmness, so that when they entered the dialysis section, they were speaking with their counterparts, which made them more compatible with dialysis disease. The role of peer support is expressed as a valuable experience that can reduce the patients' concern.^{31, 32} Patient who use positive social interactions could benefit from experiences of other dialysis patients and attract the support of health care team and their family.²³ In various studies, the role of social support and its impact on health and its effective implications have been proven that are in line with the current research.^{23, 33}

The qualitative approach to this study limits the generalizability of the findings. In addition, the present study was conducted only on hemodialysis patients, while many dialysis patients undergo peritoneal dialysis. Therefore, similar research on these patients can help to complete the results of this study.

CONCLUSION

Dialysis patients tried to use various coping strategies. A large number of patients used emotion regulation in order to confront the stresses as the result of their disease and reach solace. Meaning-based coping (including trust in God and religious practices) and social support also played an important role in adapting patients to which we should pay attention. On the other hand, some more patients couldn't cope with the stresses efficiently and used unhealthy coping styles; also, a large number of patients couldn't

use problem management for their stressor. Therefore, the need for training programs in order to employ the adaptive healthy coping styles is felt. Therefore, nurses and other health care groups should support the patients to reach the adaptive strategies in creating basic changes to cope with the stresses and emphasize the effective coping in the routine life of these patients, so that they experience a normal and non-stressful life.

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