

Stress and Coping Mechanisms among Hemodialysis Patients in the Gulf and Neighboring Countries: A Systematic Review

Jeffrey Navarro Rojas¹

Sur Nursing Institute, Ministry of Health, Sultanate of Oman
Email: jeffrojas2015@gmail.com

ABSTRACT

Chronic kidney disease is a major health problem due to the significant financial burden for the healthcare system and likewise for the patient who needs the treatment. The patient's whole life situation is turned upside down with chronic kidney disease when they are confronted with the forced change to start treatment with hemodialysis. Patients undergoing hemodialysis require direct and continuous care. Identifying the stress and coping mechanisms used by the hemodialysis patients could make other people understand what these daily stressors mean to the patients and how they impact the daily lives of patients on hemodialysis are important to healthcare professionals who provide direct care for patients on hemodialysis. Thus, this study will add to existing nursing science knowledge of the person as a focal point of health care development. A literature review was conducted through sources of data base available in the Medline/Pub Med, Google Scholar, Science Direct, and EBSCO Academic Search Complete for studies published in Gulf countries. Thirteen studies were found to be related to the domains of hemodialysis stress and coping mechanisms in the GCC and neighboring countries. Almost 42 percent of the published studies (four studies) were from India, three from Iran, and one each from Turkey, Jordan, Saudi Arabia and Egypt. Although, stress and coping mechanisms among hemodialysis patients in GCC and neighboring countries are affected by several factors. Thus, it necessitates the need for identifying these stressors and how they hemodialysis patients cope. Relevant institutions should try to raise society's awareness of hemodialysis treatment and associated stressors, and educate about the importance of family and health professionals support. Additionally, there is a need for nurses and other health providers to intervene in assessing and educating patients and their families on hemodialysis. The regular psychiatric assessment and counselling could facilitate the coping process of dialysis patients with the stress factors and lead to improvement in the quality of life as well as promoting physical and mental health of these patients.

Keywords : Hemodialysis, Chronic Kidney Disease, Stress, Stressors, Coping Mechanisms, Healthcare

1 INTRODUCTION

End stage renal disease (ESRD) is a chronic and life-threatening illness and a worldwide public health problem. It implies that the kidneys are permanently damaged and the person can no longer survive independently without renal replacement therapy. Hemodialysis remains the most common form of treatment for ESRD. Hemodialysis patients are subjected to multiple psychosocial and physiological stressors and may be threatened with many potential losses and lifestyle changes [1], [2].

Individuals undergoing long-term hemodialysis have been found to be subjected to multiple physiological and psychosocial stressors and experience personal losses and lifestyle changes. Stress is a common component of everyday emotional life and it consists of a number of emotional responses. Different level of stress are optimal for different people and learning how much stress a person could handle is essential for recognizing its effect on the person's mental, physical, and emotional well-being. It involves both physical and psychological factors. It has direct effects on the body, but how stresses people depends on factors such as how people perceive the stressful event, their tolerance for stress, and their personal beliefs about the resources they have to cope with stressors as

stressed by Mo, K.W. [3].

Since stress is a transaction between people and environment in which the critical mediating variable is people's perception of a demand and of their ability to cope with it according to Lazarus, R.S & Folkman, S. [4]., people particularly those undergoing haemodialysis use various strategies to cope with the stressors related to their disease and the treatment procedures [5], [6].

Research evidence on stress and coping mechanisms among chronic kidney disease/end stage renal disease patients in the Sultanate of Oman and other Gulf Countries is very few. Experience of stress is a subjective phenomenon. Hence, there is a need to conduct a systematic review of studies on these areas in order to gain real insight about factors that cause stress among hemodialysis patients.

2 OBJECTIVE OF THE STUDY

To do a systematic review of literatures on stress and coping mechanisms among hemodialysis patients in the GCC and neighboring countries.

3 METHODS

A literature review was conducted through online sources of data base available in the Medline or PubMed, Google Scholar, Science Direct, and EBSCO Academic Search Complete for published studies in Gulf Countries and nearby countries. Search terms used singly or in combination included: renal dialysis unit, stress, coping mechanisms, and hemodialysis patients. Criteria for inclusion were 1) the study was done among any of the Gulf countries such as Kuwait, Bahrain, Oman, Qatar, Saudi Arabia, United Arab Emirates including Jordan, Iran, Iraq, Turkey, India and Egypt; 2) related to any of the stress and coping mechanism components or domains. No specific range for year of publication was specified, so as to retrieve maximum number of studies. Thirteen studies were found to be related to the topic were able to be retrieved from the web search. But one study was found to be repeating the information. Thus, there were twelve studies which were finally considered for the literature review.

4 RESULTS

A systematic review on the epidemiology of end-stage renal disease in the countries of the Gulf Cooperation Council (GCC) which consist of Saudi Arabia, the United Arab Emirates, Kuwait, Qatar, Bahrain, and Oman using mixed methods.

A study was conducted by Cinar, S., Barlas, G.U., & Alpar, S.E., [7] whose aim was to determine relationships among treatment-related stressors and coping strategies of chronic hemodialysis patients among 224 participants. Data was collected through the use of Hemodialysis Stressors Scale and Carver Coping Scale and analyzed by using the linear multiple regression analysis. Results show that the most frequent stressors reported were the following: limitation of vacation (80.4%), followed by fatigue (79.9%) and uncertainty about future (79.0%). The most frequently used coping strategies were turning to religion, active coping and suppression of competing activities. Moreover, physical treatment-related stressors were significantly related to behavioral disengagement. This shows that the Turkish view the belief as the basic and most important aspect of human life so the belief of affects of coping in this country are different from the Western World. A qualitative study was carried out on which examined the lived experiences of Jordanian patients with chronic kidney disease who received hemodialysis [8]. Seven common themes emerged after transcription and analysis and these are: lifestyle change, time wasted, symptom-related suffering, marital and family role disruption, religious commitment disruption, motivators to alleviate stressors, and experience of healthcare providers' support. Findings likewise revealed areas where nurses and other healthcare providers can improve care for this patient population and for patients with other chronic illnesses.

A descriptive correlational study which utilized Hemodialysis Stressors Scale (HSS) and Jalowiec Coping Scale (JCS) investigated the stressors and coping strategies of 70 hemodialysis

in-patients among hospitals supervised by Medical Sciences University of Jiroft in 2013. The findings revealed that the psychosocial stressors were reported more bothering than physiological stressors and patients experienced them more. The most frequent experienced physiological stressors included fatigue, limitations of fluids, limitations of food and arterial and venous stick and the most frequent psychosocial stressors included limits on the time and place for vacation, boredom, sleep disturbances and interference with job. Optimistic coping mechanism was the most common coping strategies used by the patients. There was statistically significant relationship between the percentage of experienced stressors in hemodialysis patients and their age [9].

A similar study was conducted in India by Maria Juliana, J. & Arjunan, P. [10] which assessed the level of stress and coping among Indian patients subjected to hemodialysis at Dialysis unit through cross-sectional descriptive research design. Sixty patients were selected using convenience sampling from the dialysis unit of a tertiary care hospital, South India. Thirty-nine (39) out of the sixty patients were having mild stress and twelve (12) of them were having moderate stress. The study also revealed that 38 of the participants never practiced coping whereas 22 of them had practiced sometimes coping. Negative correlation between the level of stress and coping among the patients subjected to dialysis insist on intervention to overcome the stress thereby coping with the present condition.

Stress in human life is often equated with tension, anxiety, worry and pressure. Chronic renal failure is threatened with many potential losses and changes in lifestyle, but as the disease progresses, the patient physically may not be able to cope up, patients receiving hemodialysis use various strategies to cope with the stressors related to their disease and the treatment procedures. A descriptive cross sectional study design was used to assess the level of stress and coping strategies used by patients among patients undergoing hemodialysis and to determine the relationship between these stressors and the coping strategies used by thirty (30) patients undergoing hemodialysis. The results revealed that 97% of the patients undergoing hemodialysis experienced severe stress where half of them always adopt emotion focused and problem orientation as their coping strategies while 90% of the patients sometimes used avoidance oriented coping strategy, while the others 56% sometime use the coping strategy of seeking support and isolated thought [11].

Parvan, K., et al. [12] conducted a study on the coping methods to stress among patients on hemodialysis (HD) and peritoneal dialysis (PD) at the Imam Reza Educational-Medical Hospital, Tabriz, West Azarbaijan, Iran. The findings disclosed that mean score of frequency of use of the coping strategy as "sometimes used" for the HD patients was 70.94 ± 18.91 and also for PD patients as "seldom used" was 58.70 ± 12.66 . The mean score of helpfulness of coping strategies in the HD group was 49.57 ± 19.42 as "slightly helpful", whereas in the PD group it was 37.21 ± 14.38 as "slightly helpful" Furthermore, both groups used the emotion-oriented coping styles more frequently than the problem-oriented methods. HD patients used coping methods more frequently than the PD patients. The majority of patients used emotion-oriented coping strategies to deal with stress factors. Use of educational, coun-

selling and supportive programs to assist in coping techniques can facilitate the coping process with stress factors in dialysis patients.

In Saudi Arabia, a descriptive study was conducted among fifty (50) patients with end stage renal disease who were scheduled for hemodialysis to determine the prevalence of psychosocial problems in patients with end-stage renal disease and to assess the prevalence of depression in patients with end-stage renal disease. The result of the study indicated that hemodialysis severely interferes with social activities of patients & depression is a common psychological problem among the Saudi patients with ends stage renal disease [13].

The individual maintained on hemodialysis is facing multiple and potentially overwhelming stressors which impact the level of social, psychological, and physical functioning. The patients use various coping strategies to cope with the stressors related to their disease and hemodialysis treatment. Bukhary, F.E.S., Sayied, N.E., Abo -El-Magd, M.H., & Saber, E.H. [14] conducted a study in order to assess the psychological stress facing the hemodialysis patients, identify the coping strategies used by these patients and investigate relationship between these stressors and the coping strategies used by the 250 patients at the El-Minia University hospital at Dialysis Unit. The main results yielded by the study proved that 36% of patients had moderate level of stress while 14% of them suffered from severe level of stress. As regards with coping; 36% of the patients with age group > 40 years used problem- focused coping while nearly half 49.6% of males and patients residing in rural areas used emotion focused coping. The study recommended that programs should be planned to educate nursing staff about stressors related to hemodialysis treatment and coping strategies with these stressors, in order to encourage patients to use more adaptive problem oriented coping methods.

Jadhav, S.T., & Lee, P. [15] conducted a study using a phenomenological approach to gain insight into the lived experience of stressors experienced by patients' on hemodialysis treatment. Content analysis was used to analyze the data. Three main themes emerged namely: physical stressors, psychological stressors and socio-economic stressors. Pain, tiredness and loss of appetite were the predominant physical stressors reported by participants. Shock and depression on diagnosis and initiation of dialysis, difficulty adhering to prescribed therapeutic regimen, feeling of being burden on family, fear of complications and uncertainty about life were the psychological stressors reported by participants. A range of socioeconomic stressors were reported by the participants that included: loss of employment, financial problems, loss of ability to perform activities of daily living and limited social life.

A correlational study on quality of life and coping strategy among dialysis patients in selected Hospital at Mangalore was carried out by

Raju, R. & Latha, S. [16]. Sixty dialysis patients participated in the study who were purposively selected to answer the questionnaires on quality of life and coping strategy. The findings of the study showed that majority of the dialysis patients 68.3% (41) had average quality of life. Highest percentage 81.7% (49) had satisfactory coping. 31.7 % (19) of dialysis patients were in the age group of 61-70 yrs, majority of the dialysis patients were males 68.3% (41) , 85% of the subjects were

married, 46.7% (28) of them had completed secondary & higher secondary education, 55% (33) of them were unemployed , 60% (36) of them had an income less than 5000 Rupees per month, 83.3 % (50) of the subjects were Hindus, 57% (37) were undergoing dialysis for a duration of 0-12 months. There is positive correlation between Quality of life and Coping strategy. Study findings also revealed that there is significant association between the Quality of life and religion.

Furthermore, a cross sectional study was carried out among 50 patients with end stage renal disease, who were on chronic peritoneal dialysis (CPD = 25) and chronic hemodialysis (CHD=25), was done for level of stress and stress coping ability by Kumar, T.R.U., Amalraj, A., Soundarajan, P., & Abraham, G. [17]. The results showed that the overall mean stress score in the CHD patients was higher (78.3%) than in CPD patients (43.3% $p < 0.001$). Coping ability score for CHD patients was 51.9% as compared to CPD patients (60.9% $p < 0.001$).

5 DISCUSSIONS

Chronic kidney disease does not usually cause symptoms until it reaches an advanced stage. During the progression of the disease, the patients experiences some of the common symptoms like lack of energy, difficulty concentrating, poor appetite, insomnia, muscle cramping, edema, dry skin, increased urinary frequency, bruising, shortness of breath, and bone pain.

Considering the increasing rate of hemodialysis patients, different results of previous studies, human's constant interaction with the environmental changes and living in today's modern world, people are exposed to a barrage of constant changes and stressors.

Dialysis patients need to deal and cope with various aspects of their disease. Identifying the adaptation methods provides valuable information for planning specific treatment and medical care delivery and improving the performance of medical teams.

Various treatments such as hemodialysis prolong the life of chronic renal failure disease patients who must tolerate many physical, emotional, social and economic difficulties. Therefore, social support is considered as a vital area of investigation for such patients.

These changes in chronic renal failure patients comparing to healthy individuals are more and different. The type of coping strategies used by the people depends on several factors including personal experience, social support systems, personal beliefs, available resources and genetic background.

Hemodialysis severely interferes with social activities of patients & depression is a common psychological problem among the Saudi patients with ends stage renal disease.

Recent studies have used different methods to gain insight about the experiences of patients living on dialysis. In various ways, these studies have pointed out that dialysis treatment imposes many challenges and difficulties for patients and their families, who often require new and different ways of coping. Lifestyle is markedly impacted by the complex therapy, and such experiences require patients to adapt to a new way of living.

The literature emphasizes the prevalence of fatigue is always encountered by in patients on long-term dialysis therapy. Findings several investigations reported that fatigue typically reported post and during dialysis interfered with daily activities and mobility. Moreover, several qualitative and quantitative studies have examined hemodialysis stressors. Studies have described how treatments impact changes in the patients' lifestyles such as limited time and freedom, disruptions in their routine (family, marital and work), sleep disturbances, boredom, fatigue, limitations of fluid and food intake, and uncertainty for the future.

Studies also revealed that HD patients used emotion-oriented coping strategies to deal with the stressors they encountered. Although many of the emotion-oriented coping strategies were identified as helpful coping strategies by the patients, because the problem-oriented coping strategies are more difficult to respond, these methods were not adequately applied, which could be due to lack of knowledge among the patients. Psychological stressors were also reported in several studies which have reported depression, helplessness, uncertainty about prognosis in hemodialysis patients as stressors.

6 CONCLUSIONS

This study has identified stressors experienced by chronic kidney disease patients on initiation of hemodialysis in Indian context. Study's findings illustrate physical, psychological and socioeconomic stressors experienced by patients. These findings can be utilized to design a pre-hemodialysis preparatory program which can be implemented for stage-4 chronic kidney disease patients to prepare them for hemodialysis.

There are very few studies in the GCC which explored the stresses and coping strategies of individuals experiencing hemodialysis. Although results of this systematic review cannot be generalized to other populations or countries, they do provide healthcare professionals with important information about HD patients' stress and coping mechanisms.

It identified common meanings and themes associated with hemodialysis stressors, and it identified the coping mechanisms of this population's needs.

This review has indicated the difficulty patients have in dealing with physiological stressors, such as fatigue and tiredness, both during dialysis and between dialysis days, which decrease their activities and functional status. Thus, it is important during clinical assessments to include questions regarding fatigue and activity level, as well as to allow patients to express their feelings in this regard. Additionally, prayer and religion are ways of coping among this group. Nurses and other health providers can discover and support the uniqueness of each individual's or community's belief patterns and what each finds meaningful.

7 RECOMMENDATIONS

Relevant institutions should try to raise society's awareness of hemodialysis treatment and associated stressors, and educate about the importance of family and health professionals sup-

port. Additionally, this study supports the need for nurses to intervene in assessing and educating patients on hemodialysis. Considering the importance of understanding all aspects of stress factors and coping strategies, regular psychiatric assessment and counselling could facilitate the coping process of dialysis patients with the stress factors and lead to improvement in the quality of life as well as promoting physical and mental health of these patients.

Home dialysis treatment, including peritoneal dialysis, is widely used now in the United States and other western countries. It is proven to be a safe and effective alternative to hemodialysis. Thus, it is recommended that administrators and policy makers introduce home dialysis to HD patients with CKD when kidney transplant is not feasible or while they are waiting for transplantation.

HD patients in this study brought up concerns about unemployment, reducing hours of work, and quitting work after starting hemodialysis. Thus, this concern needs social support and the attention of the policy makers because previous studies of employment have often been used as coping strategy.

The literature review for this study identified no previous research on stress and coping mechanism of Omani patients who were receiving hemodialysis. Future research is recommended, therefore, to include a more diverse sample that reflects the Omani population.

ACKNOWLEDGMENT

The author wish to thank the researcher's Adviser Associate Professor Dr. Zabidah Binti Putit, Deputy Dean, Faculty of Medicine and Health Sciences and co-adviser Dr. Dr Sidiah John Siop, Department of Nursing, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak (UNIMAS).

REFERENCES

- [1] K.S. Baldree, S.P. Murphy, and M.J. Powers. "Stress identification and coping patterns in patients on hemodialysis." *Nursing Research*, 31(2):107-112, 1982.
- [2] J.A. Gurklis, and Menke, E.M. "Identification of stressors and use of coping methods in chronic hemodialysis patients." *Nursing Research*, 37(4):236-139, 1988.
- [3] K.W. Mo. "Burnout: Relations with Stress, Personality, and Social Support." *Education Journal*, 19, pp. 3-11, 1991.
- [4] R.S. Lazarus, and S. Folkman. "*Stress Appraisal and Coping*." Springer, New York, 1984.
- [5] S. Folkman, and R.S. Lazarus. "An analysis of coping in a middle-age community sample." *J Health Social Behaviour*, 21:219-39, 1980.
- [6] R.S. Lazarus, and S. Folkman. "*Stress Appraisal and Coping*." Springer, New York, 1984
- [7] S. Cinar, G.U. Barlas, and S.E. Alpar. "Stressors and Coping Strategies in Hemodialysis Patients." *Pak J Med Sci*, 25 (3): 447-452, 2009.
- [8] E.A. Al Nazly, M. Ahmad, C. Musil, and M. Nabolsi. "Hemodialysis stressors and coping strategies among Jordanian patients on hemodialysis: A qualitative study." *Nephrology Nursing Journal*, 40(4), 321-327, 2013
- [9] Z. Shahrokhi, M. Rayyani, S. Sabzevari, and A.A. Haghdoost. "Stressors and Coping strategies in dialysis patients." *Iran J Crit Care Nurs*, 7(3):184-193, 2014.

- [10] J. Maria Juliana, and Arjunan, P. "Stress and Coping among Indian Haemodialysis Patients." *International Journal of Pharmacy and Biological Sciences*. 5 (4) 8-23, 2015.
- [11] M. Shinde, and S.P. Mane. "Stressors and the Coping Strategies among Patients Undergoing Hemodialysis." *International Journal of Science and Research (IJSR)*. 3(2), 266-276, 2014.
- [12] K. Parvan, R. Ahangar, F.A. Hosseini, F. Abdollahzadeh, M. Ghojzadeh, and M. Jasemi. "Coping methods to stress among patients on hemodialysis and peritoneal dialysis." *Saudi J Kidney Dis Transpl*. 26 (2) :255-62, 2015
- [13] E. Gemeay, S. Gaber, A. Kanona, and A.A. Alshebel. "Impact of hemodialysis on the psychosocial state of patients with end-stage renal disease." *Life Science Journal*, 9(4) 5867-5871, 2012
- [14] F.E.S. Bukhary, N.E. Sayied, M.H. Abo -El-Magd, and E.H. Saber. "Psychological Stress and Coping Strategies among Chronic Hemodialysis Patients at El-Minia University Hospital." *AAMJ*, 11(3), 1-48, 2013
- [15] S.T. Jadhav, and P. Lee. "Understanding the Experience of stress on initiation of Haemodialysis." *International Journal of Nursing* 3(1), 11-19, 2014.
- [16] R. Raju, and S. Latha. "A Correlational Study on Quality of Life and Coping Strategy among Dialysis Patients in Selected Hospital at Mangalore." *NUJHS*, 2(4), 8-11, 2012.
- [17] T.R.U.Kumar, A. Amalraj, P. Soundarajan, and G. Abraham. "Level of stress and coping abilities in patients on chronic hemodialysis and peritoneal dialysis." *Indian J Nephrol* 13: 89-91, 2003.

IJOART