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Research article

Quality of life and its relationship to severity of symptoms among patients with end stage renal disease undergoing haemodialysis

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Abstract

Depression disorders are the most frequent mental disorders diagnosed among patients with somatic diseases. The data indicate that depression disorders may affect up to 50% of patients with somatic diseases. The problem of co-morbidity of somatic disease and depression disorder also affects Primary Health Care patients. In the light of available data, the pain syndromes put patients at highest risk of depression, reaching as high as 80%. The concept of quality of life for persons with end stage renal disease is a growing concern among dialysis professionals. **Aim:** To assess the quality of life and severity of symptoms of patients with end stage renal disease undergoing haemodialysis. To find out the relationship and to determine the association between quality of life and severity of symptoms with selected socio demographic and clinical variables among patients with end stage renal disease undergoing haemodialysis in dialysis unit of a selected hospital in Vellore. **Methods:** Total enumeration sampling technique was used and a total of 124 samples were assessed using Quality of Life Index Dialysis Version III (QLI-D) and Dialysis symptom Index (DSI). Data was collected by self-administered questionnaire. **Results:** The findings showed that most of the subjects had a good quality of life (70.2%) and most of them experienced less severe symptoms (97.6%). There was also a significant negative correlation between quality of life and severity of symptoms ($p<0.01$). **Conclusion:** The result of this study showed patients QOL is an important indicator of the effectiveness of the medical care that they receive.

Key Words: Quality of life (QOL), Severity of symptoms, End stage renal disease (ESRD), Dialysis professionals.

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1. Introduction

Chronic kidney disease (CKD) refers to the progressive decline in kidney function and its consequence, ESRD is an emerging public health problem in western and developing countries [1]. In India, the exact prevalence of chronic kidney injury and ESRD is not known. India being in the top five countries with the highest prevalence of diabetes mellitus accounts to 40% of people with chronic kidney disease. ESRD has a functional impact on the functional status and QOL perceived by the patient since it is a devastating medical, social and economic problem [2]. QOL of ESRD patients is a subjective well-being and an important measure of dialysis adequacy. So, it is a growing concern among dialysis professionals for two reasons. First, ensuring the highest acceptable QOL constitutes ethical care and second, QOL measures may assist health care providers to tract illness progression including identification of end of life.

A descriptive study done using WHO QOL- BREF by [3] showed that haemodialysis has negative impact on QOL. Another study by [4], to describe the QOL in persons with ESRD and examine factors that may affect QOL showed a high score on QOL i.e., 21.14 ± 4.87 (maximum score is 30). Thus it is found that patients with ESRD on haemodialysis have a good QOL contributed by certain factors in each individual. The above study also showed dialysis symptom index score

of 41.55±23.30 among the subjects and the subjects have expressed a higher severity of score. This describes that patients try to maintain relatively a comparable QOL by adjusting their life aspiration according to the changes in life circumstances to maintain subjective well being. A cross sectional study by [5] to assess the quality of life in haemodialysis patient showed that the QOL of haemodialysis patients were significantly impaired comparing to general population and renal transplant patients ($p < 0.05$). Since the number of patients on haemodialysis is increasing steadily, the investigator was interested to study the quality of life of patients undergoing haemodialysis and factors contributing to it like severity of symptoms.

A study compared the patients with end stage renal disease and Primary Health Care patients with regard to depression symptoms. This study used comprised 323 patients with end stage renal disease (ESRN) and 200 patients without renal failure– the Primary Health Care patients. The group of patients with end stage renal disease got significantly higher scores in BDI as compared to Primary Health Care patients. The BDI results indicate the depression symptoms severity in the group of patients with mild or medium renal insufficiency, but in the PHC patients with mild symptoms [6].

A study aimed to identify the prevalence of depressive symptoms among patients undergoing peritoneal (PD) and hemodialysis (HD), also to correlate these symptoms with the demographic data. Using the Zung SDS; the prevalence of depression was significantly higher among PD patients (98.5%) in compare with HD patients (83.5%). This study reveals that there is a high prevalence of depressive symptoms among PD and HD patients. This will lead us to think of adding a system for screening, diagnosis and treatment of depression for all dialysis patients to improve their life [7].

A study investigated the prevalence of sleep disorders in a large population of uraemic patients recruited from 20 different dialytic centers in Triveneto. The questionnaire revealed the presence of insomnia (69.1%), RLS (18.4%), OSAS (23.6%), EDS (11.8%), possible narcolepsy (1.4%), sleepwalking (2.1%), nightmares (13.3%) and possible RBD (2.3%). Eighty percent demonstrated SLEEP+, having at least one sleep disorder. The questionnaire showed a high presence of sleep disruption in dialytic populations [8].

A study examined the relationships among self-care self-efficacy, depression, and quality of life in 160 patients receiving hemodialysis. Measures include Strategies Used by People to Promote Health, the Geriatric Depression Scale, and the Quality of Life Index. Results indicate that self-care self-efficacy and depression are the significant predictors of quality of life after controlling for the effect of age. Self-care self-efficacy explains 47.5% of the variance (β=0.52, p<0.001) and depression (β=−0.29, p<0.001) explains an additional 5.5% of variance in quality of life. The study provides important information for health care providers as they design interventions for patients receiving hemodialysis [9].

A study compared the sociodemographic and clinical characteristics and health-related quality of life of depressed and nondepressed patients using *t* tests and the chi-square test, and we used a Cox regression model to test the relationship between depression and mortality. 62 patients were interviewed and followed them for a mean of 29 months (range, 0.1–36). Seventeen (28%) had major or minor depression. Depressed patients were younger and had lower health-related quality of life than did nondepressed patients. Depression predicted mortality (HR=4.1, 95% CI=1.5–32.2, P<.05) after adjusting for age, gender, race, medical comorbidities, albumin, kt/V and/or the presence of diabetes [10].

The challenges for the next 30 years include understanding the relationship of psychosocial factors to demographic and medical factors in large ESRD patient populations and the refinement of associations between psychosocial factors and patient outcomes, including adjustment, compliance, morbidity and mortality.

Objective

The objectives of the study were to

- To assess the quality of life and severity of symptoms of patients with end stage renal disease undergoing haemodialysis.
- To find out the relationship between quality of life and severity of symptoms.
- To determine the association between quality of life and severity of symptoms with selected socio demographic and clinical variables.

2. Methodology

A descriptive correlational study design was used to assess the quality of life and its relationship to severity of symptoms. A total of 124 patients were selected using total enumeration sampling technique. Data was collected using the Quality of Life Index Dialysis Version III (QLI-D) and Dialysis symptom Index (DSI) which are standardized tools. Data was collected by self administered questionnaire from the subjects after obtaining a written consent. The study was conducted after the approval of the institutional review board and confidentiality of the subjects was maintained.

3. Results

Demographic data showed that majority (25%) of the subjects were more than 60 years of age, males (68.5%), married (78.2%), employed (37.1%) and had a monthly family income of more than Rs.10,000 (58.1%). Clinical variables showed that majority of them were on

haemodialysis for more than 3 months to one year (59.7%).

The mean percentage of QOL was 77.7 ± 9.3 and the overall QOL was skewed much towards good QOL (70.2%), whereas 29.0% of subjects had a moderate QOL and only 0.8% expressed a poor QOL as shown in the Figure 1.

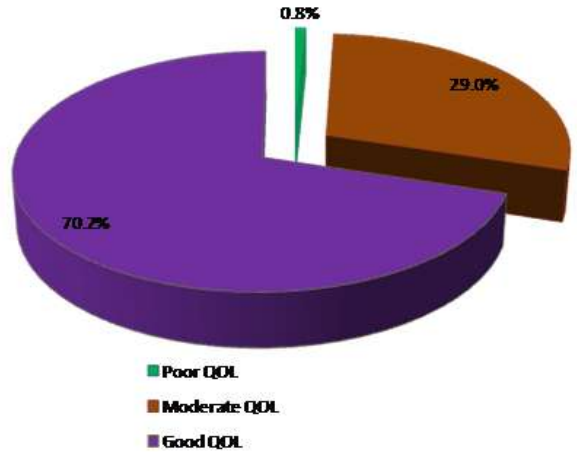

Figure 1. Overall quality of life

Analysis showed that the mean percentage symptom score is 15.8 ± 11.4 (maximum score is 150). Most of the subjects have experienced less severe symptoms in the past week of the study (97.6%), few (2.4%) have experienced moderately severe symptoms and there was none who had more severe symptoms as shown in Figure 2.

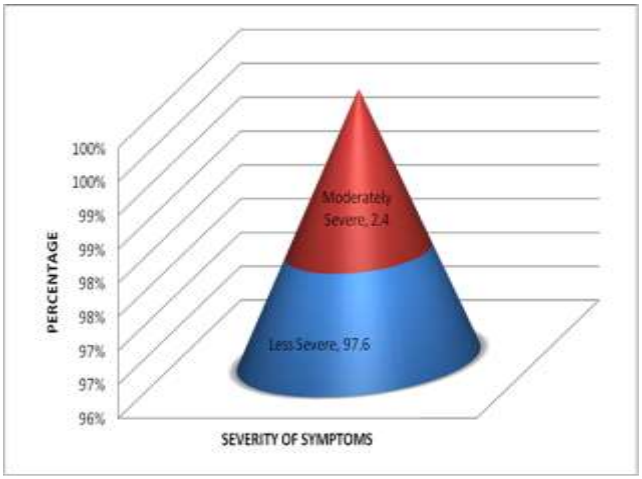

Figure 2. Overall severity of symptoms

Findings revealed a negative correlation that exists between the quality of life and severity of symptoms. This explains that as severity of symptom increases, quality of life decreases as shown in table 1.

Table 1: Correlation between Quality of Life and Severity of Symptoms (N = 124)

Variables	***r* value**	***p* value**
Quality of life Vs Severity of symptoms	-.42	<.01*

*p<.01

The findings showed that there is an association between QOL and variables like sex, family income, marital status, hemoglobin level and duration on haemodialysis (p<.01). The study findings also highlighted the association between severity of symptoms and variables like sex, occupation (p<.01) which were statistically significant.

4. Discussion

In these patients with end stage renal failure, hope helped to determine goals of care and provided the focus for facilitated advance care planning. The patients perceived the process of advance care planning as a means of enhancing hope by providing information early in the illness that focuses on the impact on daily life, empowering patients and enhancing relationships with staff and loved ones. Conversely, the reliance on health professionals to initiate end of life discussions and the daily focus of clinical care were perceived to be potential barriers to hope.

Many health professionals believe that end of life discussions may destroy hope for patients with end stage renal disease [11,12]. These beliefs may originate from the perception that denial-like coping mechanisms are commonly used to adapt to life on dialysis as most patients seem unaware of possible imminent death [13, 14]. Hope is a complex multidimensional construct that provides comfort during life's challenges. Hope limits the range of information that patients take into account, the inferences drawn from the information, and the set of options among which they will choose [15]. Gaps exist in our knowledge with regard to how hope is derived and how it influences clinical outcomes.

Physicians admit to a lack of accurate survival statistics and often feel that patients either do not understand or misinterpret statistics [16]. In our study, however, hope had relatively little to do with the statistical effectiveness of treatment. Participants looked to physicians for assistance in making the necessary connections between their lives and the vast array of information available to them. Helping patients see future possibilities consistent with their values is what maintains hope. People also change as they learn more about their illness and "who they are" or can be in the context of that illness. As illness progresses, health professionals, through advance care planning, play a critical part in reshaping what patients imagine for their future and what they hope for. These

findings are consistent with and supported by the literature on hope in other groups of patients [17,18].
The overall QOL was skewed much towards good QOL (70.2%) and this can be because of the major factors like family & economical stability which influences the QOL and effective dialysis. In this present study, the samples were those who are able to manage their financial needs for the dialysis. Symptoms in CKD are very devastating and it drains the person's energy. Analysis showed that most of the subjects have experienced less severe symptoms in the past week of the study (97.6%) which was highlighting that they have effective dialysis.

Similarly few studies in other places showed a good QOL among ESRD patients. The study by [19] reported that QOL in patients with ESRD is an important measure of dialysis adequacy and overall, QOL is good in patients with ESRD. This finding is again supported by the findings of the study by [20] where the mean overall QOL score was 22.8 ± 4.0 (maximum score 30) which is categorized as good QOL. Another study conducted among 150 adult patients in Lodz region showed that their level of satisfaction would be higher if nurses spent more time and initiated more discussion with the patients [21].

Analysis of the relationship between QOL and severity of symptoms showed a negative correlation that exists between QOL and severity of symptoms (r= -.42, p<.01) which is statistically significant. Similar finding was seen in a study done by [20] where all domains of QOL were correlated with the symptoms and its severity and in the study by [22], severity of symptoms correlated significantly with overall QOL (r= -.48, p <.001). The strongest predictor of quality of life is found to be patients' symptoms reports [23]. Thus it shows that severity of symptoms do have an impact on quality of life both in this present study and in the literature.

Conclusion

Along with survival and other types of clinical outcome, patient's QOL is an important indicator of the effectiveness of the medical care that they receive. Renal replacement therapy such as haemodialysis corrects the uraemia partially and it also renders a substantial lifestyle changes.

It is broadly accepted that, in addition to the classic parameters such as urea kinetics, albumin etc, the definition of adequate dialysis should also include the QOL expressed by the patient and it is health teams' responsibility to enable each patient to achieve the maximum degree of rehabilitation.

Including QOL indicators in patient monitoring is important not only because it is a basic part of the concept of health but also because of the close relationship between QOL, morbidity and mortality. This study brings to light that severity of symptoms and few other factors like family, social & economic status, sex, marital status, duration on dialysis, hemoglobin levels impacts the QOL of patients with ESRD on haemodialysis. Survival is greater in patients with better QOL, better performance status and less morbidity [23].

Reference

[1] The incidence of end-stage renal disease in India: a population-based study. Modi, G. K., & Jha, V. 2006, *Kidney international*, PP. 70. (12), 2131-2133.

[2] Current status of chronic kidney disease care in southeast Asia. Jha, V. 2009, *In Seminars in nephrology WB Saunders.*, pp. 29 (5):487-496.

[3] Quality of life and its determinants of hemodialysis patients in Taiwan measured with WHOQOL-BREF (TW). Yang, S. C., Kuo, P. W., Wang, J. D., Lin, M. I., & Su, S. 2005, *American Journal of Kidney Diseases*, pp. 46(4), 635-641.

[4] Factors affecting quality of life in persons on hemodialysis. Kring, D. L., & Crane, P. B. 2009, *Nephrology Nursing Journal*, PP. 36(1), 15.

[5] An assessment of the quality of life in hemodialysis patients using the WHOQOL-BREF questionnaire. Sathvik, B. S., Parthasarathi, G., Narahari, M. G., & Gurudev, K. C. 2008, *Indian journal of nephrology*, pp. 18(4), 141.

[6] Depression symptoms among patients with end stage renal disease and among primary health care patients. Arch Psychiatr Psychother, 3, 5-10. Makara-Studzinska, M., & Kocełak, A. 2011, *Arch Psychiatr Psychother*, pp. 3, 5-10.

[7] Prevalence of Depressive Symptoms among Hemodialysis and Peritoneal Dialysis Patients. AlDukhayel, A. 2015, *International journal of health sciences*, pp. 9(1), 9.

[8] Sleep disorders in patients with end-stage renal disease undergoing dialysis therapy. . Merlino, G., Piani, A., Dolso, P., Adorati, M., Cancelli, I., Valente, M., & Gigli, G. L. 2006, *Nephrology Dialysis Transplantation*, pp. 21(1), 184-190.

[9] Self-care self-efficacy, depression, and quality of life among patients receiving hemodialysis in Taiwan. ,. Tsay, S. L., & Healstead, M. 2002, *International Journal of Nursing Studies*, pp. 39(3), 245-251.

[10] Characteristics of depression in hemodialysis patients: symptoms, quality of life and mortality risk,. Drayer, R. A., Piraino, B., Reynolds, C. F., Houck, P. R., Mazumdar, S., Bernardini, J., ... & Rollman, B. L. 2006, *General hospital psychiatry*, pp. 28(4),306-312.

[11] The discussion about advance directives. Patient and physician opinions regarding when and how it should be conducted. . Johnston SC, Pfeifer MP, McNutt R,. 1995;, *Arch Intern Med*, pp. 155: 1025–30.

[12] Physician reluctance to discuss advance directives. Morrison RS, Morrison EW, Glickman DF. 1994, *Arch Intern Med*, pp. 154: 2311–8.
[13] Patient attitudes and psychological considerations in dialysis discontinuation. . Cohen LM, Germain M, Woods A, Gilman ED, McCue JD. 1993, *Psychosomatics*, pp. 34: 395–401.
[14] Denying the dying. Advance directives and dialysis discontinuation. . Cohen LM, McCue JD, Germain M, Woods A. 1997, *Psychosomatics*, PP. ;38: 27–34.
[15] When hope makes us vulnerable: a discussion of patient-health care provider interactions in the context of hope. . C., Simpson. 2004, *Bioethics*, PP;18: 428–47.
[16] The power of compassion: truth-telling among American doctors in the care of dying patients. . NT., Miyaji. 1993, *Soc Sci Med*, p. ;36: 264.
[17] Hope and spiritual well-being: essentials for living with AIDS. Carson V, Soeken K, Shanty J, Terry L. 1990, *Perspect Psychiatr Care*, PP.; 26: 28–34.
[18] Hope in older adults with chronic illness. . M., Forbes. 1999, *Appl Nurs Res*, pp. ;22: 74–87.
[19] Quality of life in end stage renal disease: a multicentre comparative study. . Gayle, F., Soyibo, A.K., Gilbert, D.T., Manzanares, J., & Barton, E.N. 2009, *West Indian Med Journal*, PP. 58(3), 235-242.
[20] Nocturnal sleep, daytime sleepiness and quality of life in stable patients on haemodialysis. . Kathy, P.P. 2003, *Health and quality of life outcomes.*, PP. 1, 68. doi: 10.1186/1477-7525-1-68.
[21] Chronic dialysis patients' expectations towards dialysis nurses. . Niedzwiecka, A., Novicki, M., & Tkaczyk, M. 2009, *Pol Merkur Lekarski*,, PP. 26 (154), 311-314.
[22] Factors affecting quality of life in patients on haemodialysis. . Kring, D. L., & Crane, P. B. 2009, *Nephrology nursing journal*,, PP. 36 (1), 15 – 55.
[23] Quality of life of patients with end stage renal disease at various stages of the illness. Frank, A., Auslander, G.K., & Weissgarten, J. 2003, *Soc Work Health Care*, PP. 38 (2), 1-27.
[24] Jofre, R., Lopez-Gomez, J. M., & Valderrabano, F. (2000). Quality of life for patient groups. *Kidney International*, 57, S121-S130.