

Quality of life of Chronic Kidney Disease patients attending Nephrology OPD of a tertiary care centre in Western Maharashtra

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Received: 30th November 2022; **Accepted:** 25th March 2023; **Published:** 01st April 2023

Abstract: *Introduction:* Kidney disease is a global public health problem affecting approximately 750 million people worldwide. Patients of Chronic Kidney Disease (CKD) face bio-psychological stressors affecting their quality of life (QoL). CKD patients with low QoL have shown considerably high mortality. Assessing QoL can help in planning holistic medical care for these patients and improve disease outcomes. The present study has been conducted with the objective to assess QoL in CKD patients. *Objective:* To assess QoL of CKD patients attending Nephrology OPD of a tertiary care Government centre in Western Maharashtra. *Methodology:* It was a cross-sectional descriptive study conducted in Nephrology OPD of a tertiary care hospital in Western Maharashtra. Pre-tested Research and Development Corporation 36-item Health Survey Questionnaire was self-administered to CKD patients and QoL scores were calculated. All patients attending Nephrology OPD were included in the study group from July to Oct 2019. Data was analysed using SPSS version 20.0. *Results:* The study included 70 patients with moderate to advanced CKD irrespective of status of treatment being received. Diabetes Mellitus was found to be the most common cause of CKD followed by Hypertension. The mean overall QoL score was 38.9±8.2. The mean Mental Component Summary (MCS) score (29.2±7.8, 95% C.I.: 21.4–37.0) was significantly lower than the mean Physical Component Summary (PCS) score (48.5 ± 9.5, 95% C.I.: 39.0–58.0, p<0.001). *Conclusion:* Patients with CKD have lower MCS compared to PCS.

Keywords: Quality of Life, Chronic Kidney Disease, Mortality.

Introduction

Chronic Kidney Disease (CKD) is an increasing public health problem due to its high morbidity and mortality. CKD is defined as kidney damage or decrease in glomerular filtration rate lower than 60 ml/min per 1.73m² for 3 months or longer [1]. CKD is one of the most undocumented causes of premature mortality in developing countries [2]. The factors responsible for increased incidence of CKD in the regions of South Asia, Eastern Europe and Latin America chiefly include Diabetes Mellitus, hypertension, low socio-economic status, infectious diseases and environmental factors [3].

According to the Million Death Study in India, the proportion of deaths due to kidney failure has risen from 2.1% to 2.9% of total deaths in 2015

[2]. The most important factor contributing to this number is uncontrolled Diabetes Mellitus. By 2030, India is expected to have largest number of diabetic patients which will further increase the disease burden in our country [4].

Patients of CKD are exposed to multiple physical and psychological problems due to the chronic course of illness [5]. World Health Organisation (WHO) defines Quality of Life (QoL) as individual's perception of their position in life in the context of culture and value systems in which they live and in relation to their goals, expectations, standards and concerns [6]. It is a multifaceted broad concept that includes physical health, psychological state, social relationship, personal beliefs and environment [7].

Lower QOL is associated with increased hospitalisation and higher mortality rates. It provides survival prediction and also act as prognostic indicator [8]. 36-item Short Form Health Survey Questionnaire (SF36) is a global measurement tool for health related QoL [9].

SF-36 is a multidimensional scale that measures following items- Physical Functioning (PF), Role limitation due to Physical health problems (RP), Bodily Pain (BP), Social Functioning (SF), general Mental Health covering psychological stress and well-being (MH), Role limitations due to Emotional problems (RE), Vital energy or fatigue(VT), General Health perspectives (GH) [10]. 36-item questionnaire is then computed in Physical Component Summary (PCS) and Mental Component Summary (MCS) [11].

Assessment of QOL can provide insight into intervention tools for coping with adverse disease outcomes, help in monitoring patient's needs resulting in a better disease outcome and planning of better preventive and treatment strategies [12]. Achieving holistic medical care requires improvement in QoL in patients of CKD. The present study aims to assess QoL of CKD patients attending Nephrology OPD.

Material and Methods

This is a cross sectional descriptive study conducted in Nephrology OPD of a Government tertiary health care centre. Nephrology OPD runs twice a week for patients suffering from CKD. This study was conducted on 70 patients of which 46 males and 24 females suffering from CKD over a period of 04 months from July to October 2019 were included. Inclusion criteria was patients with moderate to advanced CKD having an estimated GFR of less than 60 ml/min/1.73m². The diagnosis was confirmed by their medical documents and investigations.

Written and informed consent was taken from all participants. Clinical aetiology was diagnosed and recorded in clinical notes by attending nephrologist. Patients with amputation, any previous physical disability and major psychiatric illness were excluded from study as these factors can independently lead to a poorer QOL score.

A structured questionnaire was administered to each of patient to obtain the following data –

name, age, sex, Physical Functioning (PF), Role limitation due to Physical health problems (RP), Bodily Pain (BP), Social Functioning (SF), general Mental Health covering psychological stress and well-being (MH), Role limitations due to Emotional problems (RE), Vital energy or fatigue (VT), General Health perspectives (GH). To avoid any language barrier, the questionnaire was translated in Hindi as well as in local language (Marathi) and back translation was also carried out. Scores ranged from 0 to 100 on a subjective scale. 0 represented worst QOL while 100 represented best QOL for the participant.

Results

The study included 70 patients with moderate to advanced CKD with estimated GFR of less than 60 ml/min/1.73m² irrespective of status of their treatment. There were 46 (65.7%) males and 24 (34.3%) females. The mean age of participants was 61.6 ± 12.4 years. Average age of males was 61.3 years and for females was 61.5 years.

The QoL score was determined in its sub domains of physical functioning, physical role, body pain, general health, vital energy, social functioning, emotional problems and mental health. [Table 1]

Table-1: Mean of sub domains of QoL score (n=70)		
Sub domain	Mean score	Standard Deviation
Physical functioning	64.28	23.7
Physical role	33.21	40.3
Body pain	68.51	27.8
General health	46.91	19.3
Vitality	49.0	23.1
Social functioning	71.25	23.05
Emotional problems	58.09	42.3
Mental health	66.22	21.2

Table 1 shows the mean and standard deviation of eight sub domains of QoL score.

The mean Physical Component Summary (PCS) score was 48.5 ± 9.5 and mean Mental Component Summary (MCS) score was 29.2 ± 7.8 . The mean overall QoL score was 38.9 ± 8.2 . The mean MCS score (29.2 ± 7.8 , 95% CI [21.4–37.0]) was significantly lower than mean PCS score (48.5 ± 9.5 , 95% CI [39.0–58.0], $p < 0.001$).

Discussion

WHO defines health as a state of complete physical mental and social wellbeing and not merely an absence of disease or infirmity. This includes the ability to lead a socially and economically productive life. Health has emerged as a holistic approach and is increasingly concerned with improving QOL of patients. Assessment of QoL and determinant of QoL in chronic diseases need further research in developing countries like India [13].

Previous studies have shown that the main factor responsible for CKD is uncontrolled diabetes. With increase in diabetes and elderly population, patients of CKD will rise in India [14].

In the present study, QoL of CKD patients was assessed to improve the disease outcome. Results of our study are similar to study done by El liot k

Tannor and Betty R Norman in Ghana [11]. The findings of our study show that there is low QoL in CKD patients. The mean mental component was significantly lower than the mean physical component. This indicates that psychosocial and demographic factors play an important role in low QOL. This opens avenues for successful intervention to improve QoL and better clinical outcome of disease. It can be used to compare different treatment modalities too. The tool for QoL assessment is inexpensive and easy to use. Undoubtedly, there is an urgent need to have social, cultural, political strategy to improve quality of life in CKD patients [15].

Psychological counselling and lifestyle modifications can be given to patients for better disease outcome.

Conclusion

Assessment of QoL in CKD can be used for routine clinical review to identify patients with low QoL. A trained counsellor can be involved to focus on mental component of QoL to improve overall health of patients. Lifestyle modifications can be incorporated in management guidelines of CKD patients.

Financial Support and sponsorship: Nil

Conflicts of interest: There are no conflicts of interest.

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Cite this article as: Salaria S, Sharma S, Sabharwal GS, Dubey SK, Dudeja P and Mangla V. Quality of life of Chronic Kidney Disease patients attending Nephrology OPD of a tertiary care centre in Western Maharashtra. *AI Ameen J Med Sci* 2023; 16(2): 188-191.

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