Depression and Quality of Life in Patients with Chronic Kidney Disease on Hemodialysis in Central Province, Saudi Arabia

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ABSTRACT

BACKGROUND: Chronic kidney disease (CKD) implies longstanding (more than 3 months), and usually progressive, impairment in renal function. Due to the life–long illness, majority of CKD patients may trigger physiologic, psychological, and social stressors at any point during the disease, thus, placing a barrier for them in maintaining the normal life-style and may also reduce their quality of life. Objectives: The study was designed; to find out the prevalence of depression among CKD patients on dialysis in central region of KSA and to evaluate their life style, social relationship & quality of life. **METHODS:** It was an observational cross – sectional Hospital based study. The data was collected from 159 CKD patients of either sex from Haemodialysis units at King Abdulaziz Medical City, National Guard, Riyadh, King Saud Medical City, Riyadh and King Khalid General Hospital, Almajmaah. Demographic data was collected using a self-administered questionnaire, severity of depression was measured through "Beck Depression Inventory', and quality of life was measured through WHOQOL. All the data was entered and analyzed using SPSS 20.0. **RESULTS:** The prevalence of depression among CKD patients was 57%. Majority of the patients had depression at the beginning of the condition after being diagnosed with CKD 112 (70.4%), majority of the patients 127 (79.9%) were leading normal social life despite of being diseased. Depression scale and depression at the beginning of the condition were significantly associated (p=0.043), showing patients with mild mood disturbance (n=48, 30.2%), those having borderline clinical depression were (n=28, 17.6%), (n=38, 23.9%) had moderate depression, whereas, (n=23, 14.5%) had severe depression. Significant association was also observed between depression scale and the QOL scale (p<0.001), showing that those with acceptable quality of life had borderline depression (n=22, 78.5%) and those with unacceptable quality of life, majority of them had severe depression (n=16, 69.5%). **CONCLUSION:** A high proportion of CKD patients on dialysis experienced depression eventually resulting in an impaired quality of life.

Key words: Chronic Kidney Disease, World Health Organization, Quality of Life, Depression

الملخص

خلفية: مرض الكلى المزمن يعني ضعف مزمن (أكثر من ٣ أشهر) في وظائف الكلى، وعادة ما يستمر الضعف. ولأن المرض يستمر مدى الحياة، فإن غالبية المرضى قد يعانون من ضغوطات فسيولوجية ونفسية واجتماعية في أي وقت خلال فترة المرض، وبالتالي قد تضع تلك الضغوطات حاجز يمنعهم من الحفاظ على نمط الحياة العادي ويمكن أيضا ان تقلل من نوعية حياتهم. **الأهداف:** تم تصميم الدراسة لمعرفة معدل انتشار الاكتئاب بين مرضى غسيل الكلى في المنطقة الوسطى من المملكة العربية السعودية وتقييم أسلوب حياتهم، وعلاقاتهم الاجتماعية ونوعية حياتهم. **المنهج:** دراسة وصفية مقطعية من داخل المستشفيات. تم جمع البيانات من ١٥٩ مريض من مرضى غسيل الكلي من كلا الجنسين من وحدات الغسيل الدموي في مدينة الملك عبد العزيز الطبية، ومستشفى الحرس الوطني بالرياض، ومدينة الملك سعود الطبية بالرياض ومستشفى الملك خالد العام بالمجمعة. تم جمع البيانات الديموغرافية باستخدام استبيان، وتم قياس شدة الاكتئاب بواسطة مقياس بيك، وقياس نوعية الحياة من خلال مقياس منظمة الصحة العالمية لنوعية الحياة. تم إدخال جميع البيانات وتحليلها احصائيا باستخدام الحاسوب. **النتائج:** كان معدل انتشار الاكتئاب بين مرضى الغسيل الكلوي٥٧٪. وبدأ الاكتئاب عند غالبية المرضى ١١٢ (٧٠,٤٪) في بداية تشخيص مرض الكلي، الغالبية العظمى من المرضى ١٢٧ (٧٩,٩٪) حياتهم الاجتماعية طبيعية على الرغم من المرض. وجدت علاقة ذات دلالة إحصائية بين درجة الاكتئاب وبداية الحالة (P = ٠,٠٤٣)، حيث تبين أن المرضى الذين يعانون من اضطراب بسيط في المزاج (ن = ٤٨، ٣٠,٢٪)، والمرضي في بداية الاكتئاب (ن = ٢٨، ١٧,٦٪)، والمرضي ذوي الاكتئاب المتوسط (ن = ٣٨، ٢٣,٩٪)، في حين أن (ن = ٢٣، ١٤,٥٪) لديهم اكتئاب شديد. وقد لوحظ أيضا ارتباط مهم وذو دلالة إحصائية بين درجة الاكتئاب ونوعية الحياة (P <٠,٠٠١)، حيث تبين أن من لديهم نوعية مقبولة من الحياة هم في بداية الاكتئاب (ن = ٢٢، ٧٨,٥٪) وهؤلاء الذين نوعية حياتهم غير مقبولة معظمهم يعانون من اكتئاب شديد (ن = ١٦، ٦٩,٥٪). **الخلاصة:** نسبة عالية من مرضى الكلي المزمن وعلى غسيل الكلى يعانون من الاكتئاب والذي يؤدي في النهاية إلى التأثير سلبا علي نوعية حياة المريض.

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INTRODUCTION

The term 'CKD' has replaced terms such as chronic renal failure or insufficiency. CKD implies longstanding (more than 3 months), and usually progressive, impairment in renal function [1]. In Canada 1.9 - 2.3 million people are CKD patients [2]. In United States, the Centers for Disease Control and Prevention found that CKD affected an estimated 16.8% of adults aged 20 years and older, during 1999 - 2004 [3]. In UK and Northern Ireland, estimates, suggested that 8.8% have symptomatic CKD respectively [4].

The overall prevalence of CKD in Kingdom of Saudi Arabia is reported between 5.3% - 5.7%. Variety of biologic, physiologic, psychological, and social stressors may trigger depression and other psychological problems at any point during this life-long illness like CKD, thus reducing the quality of life of the patients [5]. Major depressive disorder (MDD) is a mental disorder characterized by episodes of all-encompassing low mood accompanied by low self-esteem and loss of interest or pleasure in normally enjoyable activities [6]. According to WHO's criteria for depression, a depressed person may report multiple physical symptoms such as fatigue, headaches, or digestive problems; physical complaints are the most common presenting problem in developing countries [7]. Depression is a major cause of morbidity worldwide [8]. Lifetime prevalence varies widely, from 3% in Japan to 17% in the US [9].

Depression is prevalent in patients with CKD and has been associated with increased morbidity and mortality. Whereas, the point prevalence of depression in US is from 2% - 4% in the general community and 5% - 10% in the primary care setting [10-11], 20% - 30% of patients with CKD have clinical depression [12-13-14]. Symptoms of clinical depression affect approximately 25% patients on hemodialysis and can be associated with low quality of life and increased mortality [19] [20] [21]. Depression have been found to be a stronger impact on QOL than clinical and socio-demographic variables [21]. In Sao Paul, Brazil quality of life is decreased in renal patients in the early stages of disease. No association was detected between the stages of the disease and the quality of life. It was possible to establish socio-demographic, clinical and laboratory risk factors for a worse quality of life in this population [22]. Therefore, this study was planned to find out the prevalence of depression among CKD patients in central region of KSA and to evaluate their life style, social relationships & quality of life.

METHODS

It was an observational cross – sectional Hospital based study. The study was conducted in Haemodialysis units at King Abdulaziz Medical City, National Guard– Riyadh, King Saud Medical City, Riyadh and King Khalid General Hospital, Almajmaah, Saudi Arabia. The population of the Riyadh province is around 5,254,560, whereas the population of Majmaah city is around 94000. Inclusion criterion was patients of either sex on haemodialysis between ages of 9 – 82 years suffering from CKD. The data was collected from November 2013 – December 2013 from 159 CKD patients using complete enumeration sampling method. The data was collected by three questionnaires, demographic information was collected through a self-administered questionnaire. Severity of depression was measured using Beck Depression scale which is a 21-question multiple-choice self-report inventory questionnaire. The quality of life of CKD patients was measured through HHHHHM Scale a modified form of WHOQOL questionnaire (The five H's stand for: Hurt, Hunger, Hydration, Hygiene and Happiness. The two M's stand for Mobility and More good days than bad). The reliability of the questionnaires was checked by Cronbach's Alpha (0.68 and 0.77 for the former and latter questionnaire respectively). The data was entered and analyzed using SPSS 20.0. Mean + S.D was given for quantitative variables like age etc. Frequencies and percentages were given for qualitative variables. Pearson chi-square and Fisher exact tests were applied to observe associations between qualitative variables. A p-value of <0.05 will be considered as statistically significant. Verbal consent from the patients was taken. They also briefed about the advantages to community due to their participation. All information was kept purely confidential and was used only for statistical analysis. Secondly, approval from ethical committee, Majmaah University was also soughted to ensure complete adherence to ethical issues.

RESULTS

The prevalence of depression in CKD patients was 57%. The average age of patients was 47.24+18.015 years. Males (n=81, 50.1%) were slightly more as compared to females (n=78, 49.1%). Majority of

the patients had depression at the beginning of the condition after being medically diagnosed with CKD (n=112, 70.4%), majority of the patients (n=127, 79.9%) were leading normal social life despite of being diseased. Majority of the patients (n=117, 73.6%) were not involved in any sports activities. Healthy diet was not being followed by (n=67, 42.1%) of the patients, patients who were sometimes following a healthy diet (not regularly) were (n=55, 34.6%), and (n=37, 23.3%) were following a healthy diet.

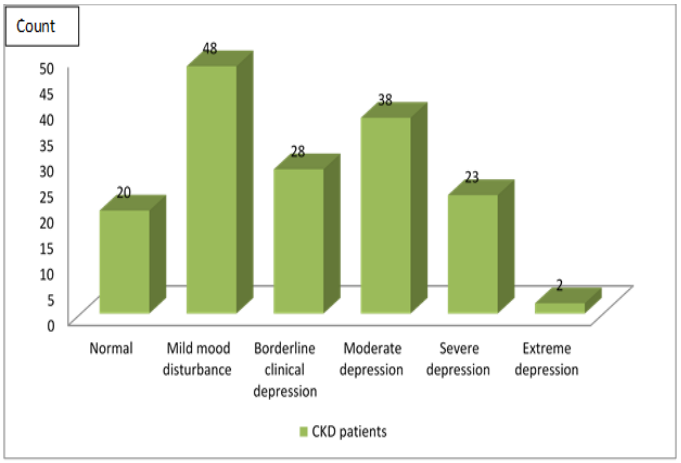


Figure 1: Beck Depression Scale

Doing sports activities (p=0.214), gender (0.985) and following a healthy diet (0.178) was not significantly associated with depression scale. However, depression scale was significantly affecting the social life of patients, showing that patients with severe depression had no social life (p<0.001). Significant association was also observed between depression scale and depression at the beginning of the condition (p=0.043), showing patients with mild mood disturbance (n=48, 30.2%), those having borderline clinical depression were (n=28, 17.6%), (n=38, 23.9%) had moderate depression, whereas, (n=23, 14.5%) had severe depression. Significant association was observed between depression scale and the QOL scale (p<0.001), showing that those with acceptable quality of life had borderline depression (n=22, 78.5%) and those with unacceptable quality of life, majority of them had severe depression (n=16, 69.5%).

No significant association was observed between depression scale and normal social life (p=0.722), depression scale and involvement in sports (p=0.619), depression scale and eating healthy diet (p=0.486). Gender was also not significantly associated with the depression scale (p=0.391).

Table1: Quality of life in CKD patients

Parameters	Yes n (%)	No n (%)	Sometimes n (%)
Depression at the beginning of the condition after diagnosed with CKD	112 (70.4)	47 (29.6)	15
Normal social life	127(79.9)	32(20.1)	22
Following diet	37(23.3)	67 (42.1)	48
Doing sport	11 (6.9)	117 (73.6)	10

DISCUSSION

Chronic kidney disease as the other chronic diseases has its burden on the psychological, behavioral and quality of life of the patients. Depressive disorders and anxiety disorders are the most common mental health problems in the CKD population [16-17-18]. The prevalence of depression in CKD patients is estimated to be between 20% - 30% in many studies [12-13-14]. In our study the prevalence of depression in CKD patients was 57% which is in consistence with the largest study conducted so far, that had been done in the Dialysis Outcomes and Practice Patterns Study that assessed the symptoms of depression with >9,000 participants from 12 countries. In that study, they used the Center for Epidemiologic Studies Depression Scale, reported that 43% of patients had scores indicating depression [13].

One of unique results of our current study is that there is no significant association between depression scale and normal social life (p=0.72) whereas, 79.9% of patients admit that they have normal social life despite they have depression. This result can be explained by knowing that all those patients belonging to an Islamic culture and obeying the Islamic recommendations regarding patience behavior in case of disease. In addition to that the structure of the Muslim's family and the support for each others can explain normal social life of the patients with this chronic disease. Significant association was observed in our study between depression scale and the QOL scale (p<0.001), showing that those with acceptable quality of life had borderline depression (n=22, 78.5%) and those with unacceptable quality of life, majority of them had severe depression (n=16, 69.5%)

which is in consistence with other studies those show Depression are predictors of poor QOL in the hemodialysis, peritoneal dialysis, and transplanted populations [19-20-21]. Also depression have been found to have a stronger impact on QOL than clinical and socio-demographic variables [21].

Conclusion

A high proportion of CKD patients experience several symptoms of depression, resulting in impaired quality of life.

Limitations of this study

1. The data was collected on 159 CKD patients. A larger group of patients should be studied for a longer period of time to confirm the effects observed in this study.
2. A larger sample size may be able to determine if assessing psychological status, QOL, diet and lifestyle modifications can help in slowing the progression of the chronic renal disease.
3. Also further studies are still needed to assess the association of the different depressive disorders with outcome of CKD, but the available evidence suggests that both depres¬sive affect and depression are associated with impaired QOL and poorer survival in these patient groups.

Recommendations

1. Regular screening of depressive disorders in CKD patients on dialysis is essential.
2. Adaptation of the CKD patient to new condition requires medical staff cooperation with patient's family and his friends support.
3. Financial aid whether from governmental or private institutions should be provided to CKD patients in order to improve their quality of life.
4. Social and psychological consultation sessions should be offered to the CKD patients regularly.

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