Clinical features and evaluation of Quality of life in children with CKD.

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ABSTRACT

This paper aimed to assess the quality of life for children between the ages of 8 to 15 years in Iraq KIDSCREN-52 dimensions and outcomes were collected for pediatric patients from different hospitals with the period from 2019 to 2020.

In this study, the results were analyzed using IBM SPSS SOFT 22. statistical analysis program Where a questionnaire was distributed to parents or first-degree relatives to diagnose the condition of the children and evaluate the psychometric characteristics.

The results found

the distribution of patients according to the general diagnosis. It is classified into two groups (non-glomerular for 57 pediatric patients and glomerular disease for 13 patients).

In this study, a comparison was made between sick and control children, where statistically significant differences were found in 4 dimensions: physical well-being, self-perception, autonomy, psychological, parent relation, and home life

according to person correlation between health care with patient and control, an inverse relationship was found between patient group and quality of life with s-sig. 0.45, r-correlation= -0.987, and through this, we infer the effect of chronic kidney disease on changing life activities in children

Keywords: CKD, QL, KIDSCREEN, Pediatric, Dimensions, Children

Introduction

The concept of 'quality of life (QOL) has been strongly included in the assessment of general health, including children's practice. As the assessment of health status, which is part of the concept of quality of life [1,2],

It is believed that a quality-of-life study can help in determining treatment tactics for each individual patient, assessing their effectiveness [3], and planning rehabilitation and, thus, an adequate and timely assessment of the quality

of life [4] before the start of treatment, during its implementation and after its completion. [5]

Kidney disease requires frequent clinical and analytical controls, and this leads to medical and parental dependency and alteration of childhood activities such as play, study, development, and growth [6].

There are very few publications on quality of life (QoL) in children with CKD. [7] Most have been performed on adolescents or adult patients with onset in childhood [8]

The aim of our study was to study the QoL perceived by children with CKD, understood in a multidimensional manner that includes physical, mental, and social well-being, and to compare outcomes with the QOL of a control group of healthy children. [9,10]

According to the Pediatric Registry of Renal Insufficiency in 2010, the incidence of non-terminal CKD was 8.66 cases per million population in children under 18 years of age where epidemiological data is provided by pediatric nephrology hospitals, [11,12] which according to the most recent data obtained in 2010, 60 children were on dialysis programs and an average of 60-70 transplants were performed annually. [13,14]

Chronic kidney disease is a long-term, progressive and irreversible disease that becomes more severe in children by covering an extended period of their lives. [15]

Kidney disease in children is becoming more frequent every day, and it has been confirmed that acute kidney injury, which is a complication of other diseases, can increase the risk of developing chronic kidney disease in children, increasing morbidity and mortality [16]. It is believed that there is an under-reporting of data on children with kidney disease worldwide since the symptoms of the disease in its early stages are not very specific and are generally treated by other diseases. [17]

Patient and method

A descriptive cross-sectional study was conducted with the study population of 70 children, 40 boys and 30 girls with aged 8 to 15 years, and demographic data and outcomes were collected for pediatric patients from different hospitals in 2019 to 2020

Consent was sought for being minors in accordance with the ethical recommendations for research with humans; To collect the data, a tool was used, and the questionnaire was filled out by the child himself; However, he was always accompanied by the person in charge of sample collection

To assess the quality of life in children with kidney disease, we used a global questionnaire adapted for the Quality-of-Life Study-PedsQLTM. The psychophysiological status was also assessed.

The sample collection criteria included the study group of all children who attended the nephrology consultation at six months and, who agreed to participate in the study, who had other comorbidities.

Socio-demographic variables were collected: age, marital status, studies and functional status of parents, marital level, type of housing, number of siblings, Duration of dialysis therapy, during PD/before RT

In this study, the data were analyzed by using the IBM SOFT SPSS 22 statistical analysis program

Description of quantitative variables is expressed as the mean and standard deviation (SD), and qualitative variables are expressed as a percentage or frequency. To establish the associations, a bivariate analysis was performed. To compare the statistical differences between the two groups, ANOVA was used, and the purpose of the study was to assess the quality of life of children with kidney disease.

The KIDSCREEN questionnaire was based on a subjective assessment of the health and well-being of children and adolescents (Health-Related Quality of Life, HRQoL). These drugs have been developed to be self-administered to children and adolescents, both healthy and chronically ill, between the ages of 8 and 15.

The KIDSCREEN-27 instrument validated for the population was used.

The KIDSCREEN-27 has five dimensions and 27 items: Physical activity, mood, and feelings; family life and free time; social support and friends and school environment; presents a

Cronbach's alpha for each of the dimensions greater than 0.87. For physical activity, it is 0.93; for mood, it is 0.96; for family life, it is 0.92.

Results

In this research, 70 patients and 60 as a control group were collected. In this study, patients aged between 8-15 years were included; they were distributed in two phases, from 8-11 years old for 43 patients and from 12-15 to 27 patients. As for the control group, they were Including 35 children from 8-11 years old and 25 children from 12-15 years old, as shown in the table below

Table 1- Demographic results of child patient with chronic kidney disease

Variable	Patient, N=70	Control, 60	P-value
Age			
8-11	43	35	
12-15	27	25	0.05
Sex			
Boys	40	39	0.77
Girls	30	21	0.34
Comorbidities			
Hypertension	36	29	
Anemia	14	11	
Others	20	20	0.01
Estimated GFR ml/min/1.73 m2)	55	12	
Economy status, n (%)			
High	19	12	
Moderate	30	29	0.87
Low	21	19	
Responsible for evaluation			
Mother	30	40	
Father	25	13	0.55
Sibling	15	7	

In Figure 1, the distribution of patients according to the general diagnosis It is classified into two groups (non-glomerular for 57 pediatric patients and glomerular disease for 13 patients).
CAKUT was the most frequent in this study for 30 pediatric patients, with 42.8%.

Fig 1 - Distribution of patient according to the underlying diagnosis

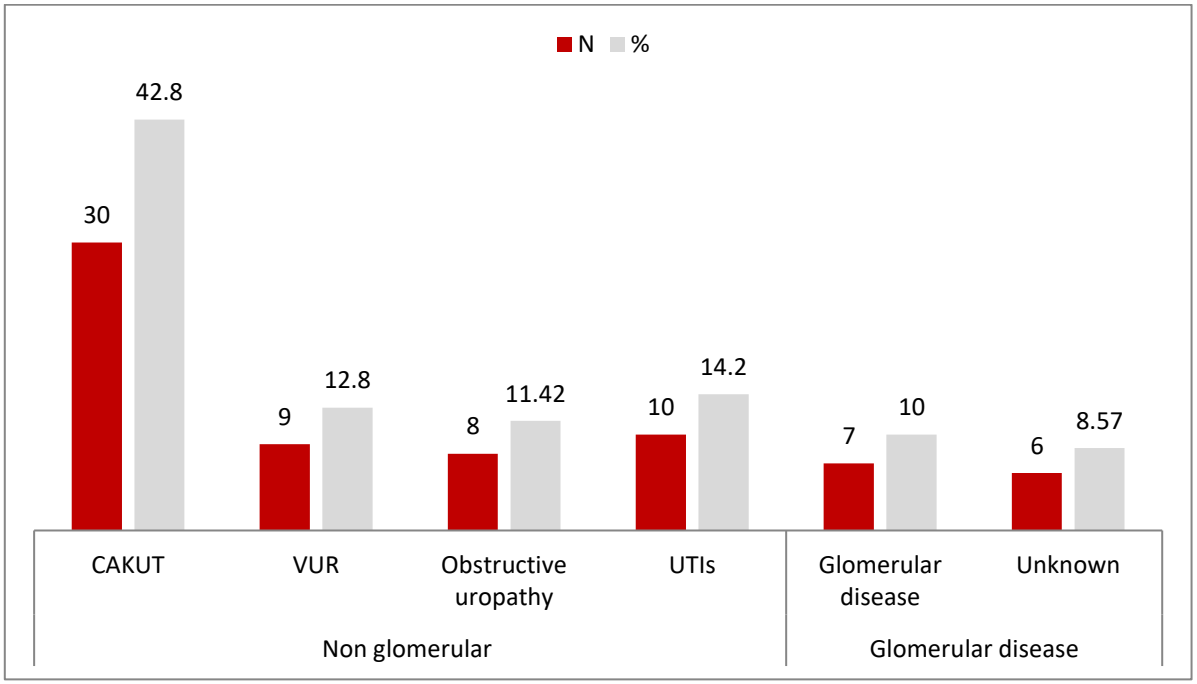

Table 2- Distribution of patients according to CKD stage

CKD stage	N	%
1	4	5.7
2	6	8.57
3	12	17.1
4	25	35.7
5	23	32.8

Table 3- Evaluation of final outcomes for children with CKD

Outcomes	G1	G2
Stable in follow-up	31	40
On RRT (dialysis)	20	10
Lost to follow-up	14	8
Died	5	2

Table 4 - Assessment of health care of children with CKD

Outcomes	G1	G2
Stable in follow-up	31	40
On RRT (dialysis)	20	10
Lost to follow-up	14	7
Died	5	3

A significant contribution to the formation of the idea of the quality of life is made for the patients' children in this study through the KIDSCREEN-52 scale dimensions, which is increasingly focused on integrated and complex characteristics that relate not only to objective indicators but also to the subject Appreciation and degree of satisfaction as shown in the table below.

Table 5- Assessment of the health status and quality of life of pediatric patients compared to the control group

Items	Patient	Control	P-value
Physical well-being	44.3±8.8	51.3±10.2	0.001
Self-perception	43.2±5.5	52.3±6.6	0.0045
Autonomy	48.8±8.8	53.3±8.9	0.67
Psychological	48.2±6.6	54.4±8.8	0.05
Parent relation and home life	46.6±7.3	60.7±6.9	0.0032
School environment	55.5±6.8	60.8±10.3	0.78
Social acceptance	49.4±8.3	67.7±6.6	0.33

Table 7- Person correlation between health care with patient and control

Items	health care	Patient	Control
r-correlation	1.00	-0.987	0.67**
s-sig	---	0.45	0.001
N	---	70	60

Discussion

The main outcome of this paper is multiple dimensions of quality of life in children with CKD, and the number of outcome variables obtained that influence the concept of 'quality of life, from the cause of the disease to the level of the mother's education.

A clear answer has not yet been given as to what criteria or areas are involved in a person's life.

In the quality-of-life review, relationships with clinical, psychological, and socioeconomic variables were noted that contributed to establishing clear levels of quality-of-life variables. [18]

interest in studying QOL in pediatrics in children with chronic kidney disease arose when this indicator was evaluated in adults in several clinical studies.

According to previous studies, the number of QOL studies in pediatrics is much lower than in adults, although there is a trend towards a continuous increase in the number of publications, indicating the importance of this problem.

Quality of life in children with CKD was evaluated, and the data showed that in children with CKD, there is a clear decrease in most indicators, and thus more than half of the children (56.5%) rate their physical performance as low. About a third of patients (32%) note a decrease in emotional functioning.

Quality and interest in learning activities were detected in 48% of the respondents, and these changes affected the quality of social functioning in the majority of children (57%).

Parents participated as external residents. Since neither the child's self-assessment nor the parental assessment is without risk of error, some researchers suggest obtaining data from both the child and the parents [1, 3]. Such an approach can give the most complete picture of the impact of the disease and its treatment on the life of the child and his family. Compared to children, adults usually give more reliable estimates of complex, abstract, and psychologically oriented indicators. Parents' opinion is very important due to the interdependent nature of the relationship between children and parents. Parents usually assess the child's health and determine whether or not it needs treatment. Parents can also provide valuable information about the impact of a child's illness and treatment on family relationships, which is an integral part of children's QoL [19]

The obtained psychometric analyzes demonstrated the appropriate characteristics found in this KIDSCREEN, which are reflected in the good levels of reliability measured by the rest of the test correlation that was relied on in the statistical analysis software. [20,21,22]

The differences found by CKD indicate that the questionnaire is able to distinguish between groups in which differences are expected where significant differences by CKD were observed in all dimensions, as better quality of life was found in the control group compared to studies conducted by Urzúa A. et al. statistically significant differences were observed only in the dimensions of "physical activity and health," social support and "school environment."

Conclusion

The degree of subjective satisfaction of children with chronic kidney disease about themselves and their lives in certain social conditions was studied. It turns out that chronic kidney disease leads to a decrease in the level of the child's mental abilities in carrying out activities and a reduction in communication with others.

Quality of life is affected in chronic diseases, as several studies of adults with chronic kidney disease have shown a reduced quality of life.

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