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(Research Article)

Psychosocial factors affecting the quality of life of children and adolescents with end-stage renal disease undergoing hemodialysis

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Abstract

Introduction: In recent decades, the prevalence of chronic kidney disease in pediatric patients has been increasing rapidly. End-stage renal failure is a multidimensional disease, which has significant impacts on the psychosocial well-being of children and adolescents undergoing dialysis. The severity of illness, the weekly demands of dialysis, social isolation, school absences, physical or psychological strain degrade the overall well-being and quality of life (QoL) of children and their families

Purpose: The purpose of the study was to identify the psychosocial factors that positively or negatively affect the quality of life of children and adolescents with end-stage renal failure undergoing hemodialysis

Methods: A scoping review and data search were conducted in the electronic databases PubMed and Scopus, using the following keywords: Chronic Kidney Disease, Dialysis, Quality of Life, Psychosocial factors, Children and Adolescents. Studies involving children and adolescents in English and Greek, and studies published between 2015 and 2025 were included. The selection of articles for analysis was carried out using the PRISMA-Scr flowchart and the presentation of the results was performed in tabular form

Results: After searching the international literature, 530 articles emerged, of which 7 were included in this review. From this study, it emerged that psychosocial factors have a negative impact on the quality of life of both children and adolescents with end-stage renal disease and undergoing hemodialysis, as well as their families. However, with the appropriate contribution of support network from school or health professionals, the effects of psychosocial factors can be minimized

Conclusions: Children and adolescents with end-stage renal failure disease face multiple challenges in aspects of their daily lives, school and psychosocial well-being. Emotional and physical strain, due to illness or dialysis, stress and reduced social interaction can affect their quality of life. Nevertheless, family support, mental empowerment from specialists and the provision of psychosocial support, in a holistic context, can enhance the well-being and progress of children and adolescents, as well as improve their quality of life

Keywords: Chronic Kidney Disease; Quality of Life; Dialysis; Psychosocial Factors; Children; Adolescents

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1. Introduction

In recent decades, it has been observed that hundreds of people, including many children and adolescents, suffer from chronic kidney diseases, such as Chronic Renal Failure or End-Stage Renal Disease as it is now commonly called. Chronic renal failure is found in 10-13% of the general population and has been associated with a high risk of cardiovascular complications and mortality. At the same time, chronic kidney disease is a gradual and irreversible disfunction of the kidneys that affects their excretory and endocrine function. The treatment of chronic renal failure includes conservative management or renal replacement therapy. The first treatment aims to slow the progression of renal disfunction and to treat the complications that arise, while the second treatment aims to treat kidney failure through extrarenal dialysis, including hemodialysis, peritoneal dialysis, or through kidney transplantation [2][11].

Patients with renal diseases constitute a special category of chronically ill patients, who not only face problems related to the disease itself, but are also faced with the new situation created by their inclusion in the artificial kidney dialysis or peritoneal dialysis program. People suffering from end-stage renal failure face serious impacts on their quality of life, regarding its psychological, economic and social dimensions. A cornerstone in the management of this chronic disease is the timely and regular monitoring of their renal status, as well as psychological support in the best possible way, so that these people can integrate into the new realities of their "new" life [2].

The purpose of the study was to identify the psychosocial factors that positively or negatively affect the quality of life of children and adolescents with end-stage renal failure undergoing hemodialysis.

2. Methods

For achieving the purpose of this study a scoping review was conducted, aiming at an extensive approach to the selected topic. For this scoping review, studies were searched and the necessary data were collected in two authoritative databases, PubMed and Scopus. The extensive search allowed the collection of up-to-date literature on studies related to the psychosocial impacts on the QoL of children or adolescents with end-stage renal disease undergoing hemodialysis. With the aim of thoroughly collecting all research that has been published and is conceptually related to the topic of this paper, research was carried out with the following four combinations of keywords:

“Quality of Life” AND “Dialysis” AND “Chronic Kidney Disease”

“Dialysis” AND “Psychosocial Factors”

“Quality of Life” AND “Psychosocial Factors” AND “Dialysis”

“Chronic Kidney Disease” AND “Psychosocial Factors” AND “Dialysis” AND Children” OR “Adolescents”

The data search was performed using the “AND” and “OR” operators. More specifically, the “AND” operator was used to investigate the keywords “Quality of Life”, “Dialysis”, “Chronic Kidney Disease” and “Psychosocial Factors”, while the “OR” operator was used for the keywords “Children” and “Adolescents”.

The articles included in this study met certain criteria. The first criterion was the time- period in which the articles were published. More specifically, the review sample preferred articles that had been published within a decade, specifically from 2015 to 2025, thus providing timeliness and validity to the results. The second selection criterion was the research population, which exclusively concerned children and adolescents (aged up to 18 years) with end-stage renal disease undergoing hemodialysis. The third selection criterion for articles was the language of publication, emphasizing studies published in English and Greek. The fourth criterion concerned the type of research, referring to research studies of any design, for example Prospective Studies, Observational Studies and Randomized Controlled Trials (RCT).

In contrast, the articles that were not included in this review concerned articles that referred to an adult population over 18 years of age, as well as articles that were irrelevant to the present topic, such as articles that referred to the function of peritoneal dialysis and not to that of hemodialysis.

3. Results

The selection criteria led to the finding of 530 articles, of which 131 articles were found in “PubMed” and 399 articles in “Scopus”. Out of these, 37 articles were duplicates and were rejected. Another 264 articles were excluded due to irrelevance to the topic. After reading the abstracts of the 229 remaining articles, 222 articles that did not meet any of the selection criteria were rejected and of the 7 remaining, 1 study was excluded due to inability to find full text. Then, after reading the full text of the 6 remaining articles, 1 article was added after manual search. Therefore, the search led to the selection of 7 articles for this limited review. The process of selecting and rejecting the articles is presented in detail in the flowchart below (Figure 1).

The 7 selected articles included a total of 842 children and adolescents. The studies were conducted in 5 different countries: one in Brazil [1], two in Egypt [5] [8], one in Indonesia [10], one in France [4], and two in Australia [6] [12]. 6 out of 7 studies were conducted in children and adolescents undergoing hemodialysis, while the sample of one study included 12 participants, who were health professionals. Of these, one was a methodological study [1], one was a mixed method study [5], two were randomized control trials [8] [12], one was a prospective study [4], one was a cross-sectional study [10], and one was a cohort study [6]. Participants' range of age was 2-18 years. A total of 12 tools were used in the studies that were included in the review. The selected studies from the scoping review, along with research methodology utilized, are presented in Table 1.

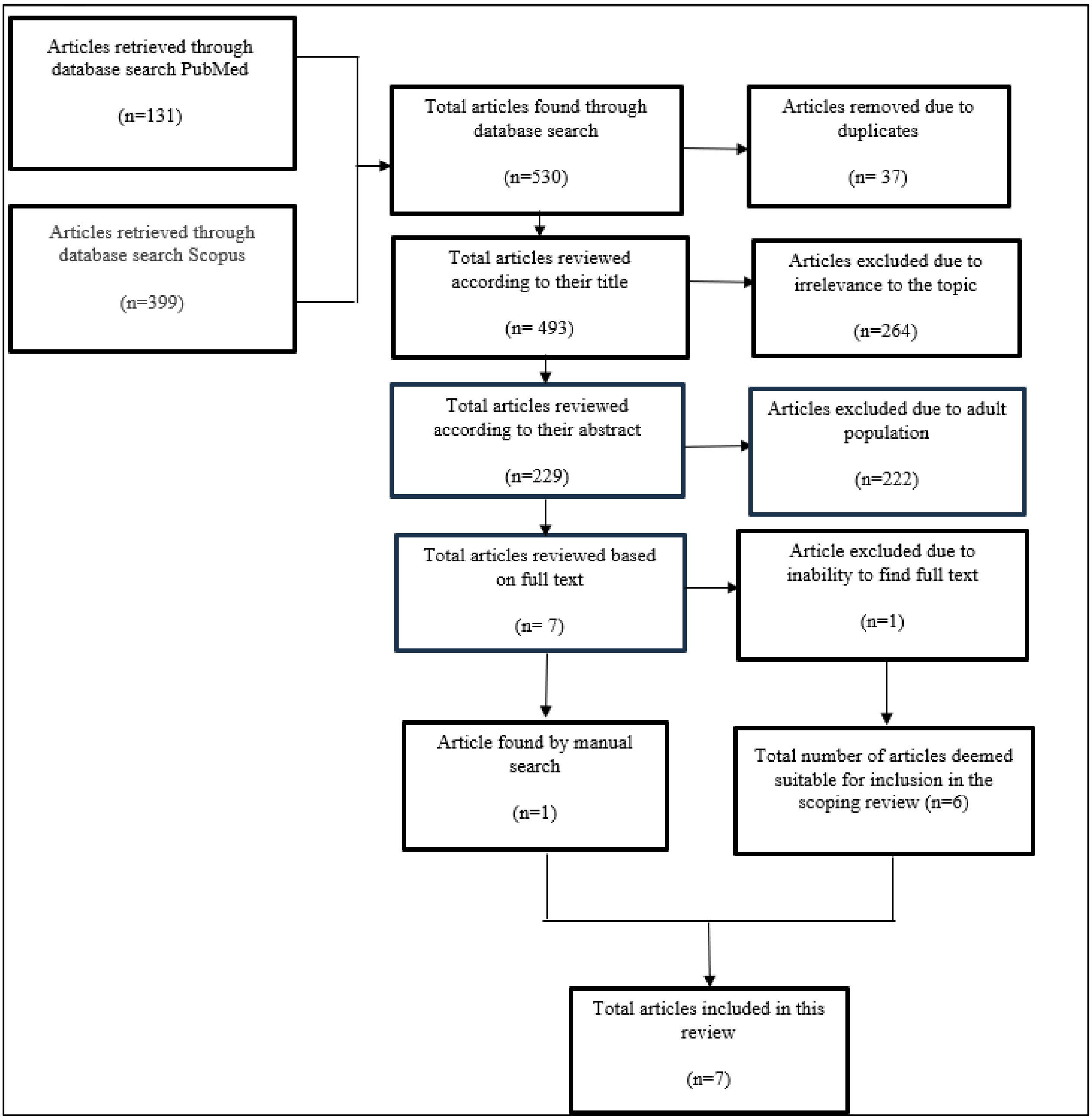

Figure 1 PRISMA-ScR flow chart for identifying relevant articles related to the psychosocial factors affecting the quality of life of children and adolescents with end-stage renal disease undergoing hemodialysis

Table 1 Characteristics of the studies fulfilled the insertion criteria of the scoping review

Abreu et al., (2015)	
Title	«Children and adolescents with renal failure on hemodialysis: professionals' perception»
Country	Brazil
Sample	The sample included 12 participants, who were health professionals, of whom there were: 3 doctors, 3 nurses, 2 social workers, 2 psychologists and 2 nutritionists.
Purpose	The aim of the research was to identify the aspects that influence the quality of life (HRQoL) of children and adolescents with chronic renal failure undergoing hemodialysis, from the perspective of health professionals working in the field of nephrology.
Method	Methodological study
Assessment tool	MAXQDA-Qualitative Data Analysis Software
Intervention	Data collection took place in two dialysis centers, where participants were invited to give individual interviews. The interviews lasted approximately 40 minutes and consisted of 12 questions. The main areas examined, based on the questions, were: physical (treatment and confinement), mental (independence and emotional state) and social (social inclusion and exclusion)
Results	The data collected were grouped into 7 thematic areas: self-care, family support, impact of diagnosis, expectations from kidney transplantation, socialization and stigma, and school dropout. Regarding self-care, participants reported that the children took care of themselves and made sure to take their medications daily, despite the difficulties they faced. Regarding family support, the testimonies of the participants showed that children and adolescents appreciated the value of the family, however, the family could often stand as an obstacle to the development of children, due to their overprotectiveness. It was also noted that upon being informed of the diagnosis of the disease, both the children themselves and the family were shocked and experienced intense feelings of anxiety and worry. Furthermore, they reported that when there was hope for a kidney transplant and for some reason it was not possible to carry it out, children and adolescents were overwhelmed by feelings of disappointment and sadness, as the expectation of a transplant would "free" them from the dialysis process. Finally, regarding the socialization of children and the stigma surrounding the disease, children were socially isolated due to the demands of dialysis and the disease itself. At the same time, they feel that they are not accepted by their peers, and they are unable to coexist and for this reason social interaction is limited, given the children's interruption of school attendance.
Conclusions	It was observed that the mental and social sectors had a greater negative impact on the quality of life of children and adolescents, compared to other sectors. The factors identified to influence QoL were children's information about the diagnosis of CRF, interruption from school activities, social stigma, and social isolation. It is therefore demonstrated that the value of family and family support can contribute to improving the problems that arise in children, such as stigma or school dropout, resulting in an improvement in the quality of life of children.
El Shafei et al., (2018)	
Title	«Assessment of Quality of Life among Children with End-Stage Renal Disease: A Cross-Sectional Study»
Country	Egypt
Sample	55 children aged 5-18 years, with end-stage renal disease, of which 25 children were undergoing dialysis, while 30 had undergone a kidney transplant, as well as 86 controls

Purpose	The aim was to evaluate the quality of life of children with end-stage renal disease who were either undergoing dialysis (for at least 6 months) or who had undergone kidney transplantation, as well as to compare them with healthy controls.
Method	Mixed method
Assessment tool	Pediatric Quality of Life Scale (PedsQLTM) version 4.0 End-stage renal disease (ESRD)-specific quality of life scale PedsQLTM ESRD version 3.0 5-point Likert scale (where 0: never and 4: almost always)
Intervention	This study was conducted at Abo El-Reesh Pediatric Hospital between December 2016 and May 2017. A cross-sectional study was conducted to assess children with ESRD, using the PedsQLTM 4.0 questionnaire and a case study comparing children with ESRD who had undergone kidney transplantation or children undergoing hemodialysis and 86 controls. Regarding the completion of the PedsQLTM 4.0 questionnaire, it was completed by parents and children and included 23 questions, which covered the physical, emotional, social and school domains. In contrast, the PedsQLTM ESRD questionnaire included questions related to general fatigue, treatment- and disease-related problems, family interactions, anxiety, communication, and perceived physical appearance.
Results	Statistically, there was a significant difference between children on dialysis and transplanted children, regarding disease-related problems and treatment-related problems. It was also found that approximately 50% of children undergoing dialysis, in contrast to only 6% of transplanted children, were not enrolled in school. Regarding the assessment of quality of life, it was observed that the control group presented a higher score in all dimensions (physical, emotional, school and social), compared to children with end-stage renal disease who presented a lower score. It also emerged that the mean scores for the school and physical dimensions were higher in the transplant group compared to the dialysis group, while the mean scores for the emotional and social dimensions were higher in the dialysis group but not in the transplant group.
Conclusions	As children with ESRD suffer from life-altering complications, such as frequent hospitalizations, school absences, activity limitations, and painful medical procedures, quality of life is compromised. For this reason, the researchers recommend: the development of special school tutoring centers for children with ESRD that will aim to improve school performance and reintegrate children into school conducting further studies at a national or multicenter level, with the aim of developing a specific program to improve quality of life
Van Zwieten et al., (2019)	
Title	«NAV- KIDS^{2} trial: protocol for a multicenter, staggered randomized controlled trial of a patient navigator intervention in children with chronic kidney disease»
Country	Australia
Sample	210 patients aged 3-17 years from low socioeconomic backgrounds, with chronic renal failure stage 3-5, undergoing dialysis or who had undergone kidney transplantation were randomized
Purpose	The primary objective of the study was to assess the self-reported health (SRH) of children with CRF who were randomized to the 12-month intervention program. The secondary objective was to assess the caregiver's health, quality of life, satisfaction with healthcare, progression of renal dysfunction, children's school absences, mortality, and morbidity. Finally, the NAV-KIDS2 trial had as its ultimate objective the evaluation of the cost and effectiveness of the program, as well as the barriers or factors that contributed to facilitating the implementation of the patient navigation program.
Method	Randomized Controlled Trial (RCT)
Assessment tool	Educational program - patient navigator (CanCare) Health Utility Index (HUI-3) for assessing quality of life based on utility

	Questionnaire assessing issues such as caregiver care and trust in the healthcare system
Intervention	The participants, who were patients and parents or caregivers, used a special educational navigation program (CanCare), which consisted of a worksheet, tailored to the needs of patients and families. With the help of the navigator, 4 areas were examined: identifying task categories for a specific patient and family, facilitating a specific patient and family, identifying networks, and recording or reviewing. During the follow-up process, a total of 42 children were randomized to each intervention center, in 5 hospitals in Australia, over a 12-month period. Each child was randomized by stage of CRF and by recruitment center. Children randomized to the intervention arm received the patient navigation program immediately after randomization for 24 weeks, while children randomized to the waiting list arm received standard care during the waiting period for 23 weeks. Children in the second category began the patient navigation program intervention at week 24.
Results	The results of the trial revealed that the assessment of children's health status was carried out by the parents themselves in children aged 3 to 7, while children over 8 years old were able to self-assess their health (SRH). It was found, therefore, that the child's self-assessment of health and the parents' assessments were correlated with the child's physical and mental health.
Conclusions	It was shown that children with CKD suffered from cognitive, physical, and psychological effects that significantly affected their quality of life and minimized life expectancy. At the same time, children with CKD experienced a wide range of adverse health and social impacts. The intervention program appeared to be effective in individuals with low socioeconomic status and could be directly applied in clinical practice.
Clavé et al., (2019)	
Title	«Quality of life in adolescents with chronic kidney disease who initiate haemodialysis treatment»
Country	France
Sample	32 adolescents with a mean age of 13.9 ± 2.0 years and their parents
Purpose	The research aimed to describe the quality of life of adolescents enrolled in a hemodialysis program, to identify factors related to quality of life, as well as to evaluate coping methods and the impact on quality of life.
Method	Prospective study
Assessment tool	Questionnaire for the assessment of Quality of Life “Vécu et Santé Perçue de l'Adolescent et l'Enfant” (VSP-A), version for children 11-17 years old Kidcope questionnaire for the assessment of coping strategies
Intervention	The study was conducted from September 2013 to July 2015 and included 32 adolescents with CKD starting MCH and was conducted in 17 MCH centers in France. The self-administered quality of life questionnaire (VSP-A) was used, which assessed 10 dimensions of children's quality of life and an indicator, such as: vitality, energy, psychological well-being, physical well-being, body image, leisure activities, interpersonal relationships with family, friends, school, school performance and relationships with medical personnel. Participants rated their quality of life on a scale of 0 – 100. The higher the score, the better their quality of life. Similarly, the Kidcope questionnaire assessed the cognitive, emotional and social domains of adolescents. Each adolescent answered each question and each question was associated with a strategy assessment. The strategies were grouped into active, negative and avoidant coping strategies. Active coping strategies involved problem solving, social support, cognitive restructuring, and positive reinforcement and negative emotional regulation. Negative coping strategies focused on self-criticism and blaming others, while avoidant coping strategies included distraction, resignation, social withdrawal, and wishful thinking. Scores were adjusted to a scale from 0 to 10 for each of the 3 coping strategies.
Results	It was found that most adolescents continued to attend school, while among the 4 adolescents who did not attend school, 2 stopped temporarily and 2 permanently. Regarding psychological characteristics, a large percentage of adolescents used to give up, cognitive restructuring, and distraction as coping strategies. Also, active avoidant coping strategies were used by almost all participants, while negative coping strategies were used by almost no adolescents.

	Regarding the quality of life of adolescents, it was indicated that adolescents undergoing hemodialysis had higher scores in relationships with medical staff and body image, while lower scores in leisure activities, energy and vitality, as well as physical well-being. Age was correlated with the quality of life of adolescents and it appeared that age and age at diagnosis of the disease contributed to a worse quality of life in adolescents.
Conclusions	In conclusion, significant dialysis problems affected the quality of life (QoL) of adolescents in the French population. More specifically, the quality of life in individuals undergoing dialysis was lower mainly in physical dimensions, such as energy - vitality, physical well-being and social dimensions, such as interpersonal relationships with friends and leisure activities. In addition, school performance and psychological well-being were lower in adolescents undergoing dialysis. Finally, the present study showed that age at dialysis initiation and early diagnosis degraded quality of life. Active coping was shown to improve QoL, compared to avoidant and negative coping strategies. However, health professionals should support the learning coping processes in care management to promote the best possible quality of life
Pardede et al., (2019)	
Title	«Quality of Life in Chronic Kidney Disease Children Using Assessment Pediatric Quality of Life Inventory»
Country	Indonesia
Sample	112 children 2-18 years old
Purpose	The present study aimed to determine the quality of life (QoL) in children aged 2-18 years with CKD undergoing hemodialysis and conservative treatment, as well as demographic factors (age, gender, education of parents and children, family income, employment status of parents) that affected the quality of life of children and their parents. The research also aimed to correlate quality of life with the severity of the disease and the duration of diagnosis
Method	Cross-sectional study
Assessment tool	PedsQLTM Quality of Life Assessment Questionnaire for Children and Their Parents, version 4.0
Intervention	A total of 118 participants took part in the study from July 2016 to May 2017. The study was conducted at the Outpatient Unit of the Department of Nephrology, the Hemodialysis Unit, and the Inpatient Unit of the Department of Child Health, at a hospital in Jakarta. Participants were pediatric patients with CKD receiving treatment in the Outpatient Unit of the Department of Nephrology, the Hemodialysis Unit, and the Inpatient Unit of the Department of Child Health.
Results	Of the 118 participants, 112 met the inclusion criteria for the study. 53.6% of participants were male, while 54% were children aged 13-18 years and 31.3% were aged 8-12 years. Regarding the level of education, 42% of the children had an average formal education, while 60.8% had an educated father. high school and 51.8% had a mother with a high school education. 97.3% of the participants who were fathers were working, while only 27.7% of the mothers were working. Regarding the family economic situation, half of the participants had a low socioeconomic level, while the other half had a satisfactory socioeconomic level. The PedsQLTM questionnaire was divided into 2 types: parent reports and child reports. 5.4% of participants did not complete the child report due to age <5 years, while there was difficulty in obtaining responses from children aged 5-7 years. Both parents and children reported that quality of life was disrupted by the disease. The majority of children reported that school was directly affected by the disease, while parents mainly emphasized that physical and school functioning were affected to the greatest extent.
Conclusions	The study found that there was no significant relationship between disease severity and quality of life in children and parents. Female gender, duration of more than 60 months since diagnosis, and medium level of education were risk factors for poor quality of life in children with CKD.
Francis et al., (2019)	
Title	«Quality of life of children and adolescents with chronic kidney disease: a cross-sectional study»
Country	Australia

Sample	375 children and adolescents aged 6-18 years with CKD, stages 1-5, undergoing dialysis or kidney transplantation, between 2013 and 2016
Purpose	The aim of this study was to compare quality of life (QOL) among children and adolescents with different stages of CKD and to identify factors associated with changes in quality of life.
Method	Cohort study
Assessment tool	40-item Health Utilities Index 3 (HUI3) quality of life assessment index with a scale from – 0.36 to 1, where -0.36 is equivalent to death and 1 to perfect health respectively
Intervention	375 children and adolescents participated in the Kids with CKD study, which took place in 5 pediatric nephrology units in Australia and New Zealand. The HUI3 questionnaire assessed vision, hearing, speech, gait, dexterity, cognition, emotion, and pain. It was completed by caregivers in the case of young participants, while in the case of adolescents, the questionnaire was completed by the adolescent.
Results	Between 2013 and 2016, of the 375 participants, 106 had CKD stage 1-2, 91 had CKD stage 3-5, 43 were undergoing CKD, and 135 became kidney transplant recipients. 77% of participants reported quality of life deficits. Quality of life scores for children undergoing dialysis were lower compared to those for children undergoing kidney transplantation and children with CKD stages 1-2 and 3-5. A large percentage of participants experienced a decrease in quality of life in terms of education (50%), pain (42%), and emotion (40%). In contrast, a small percentage of participants reported any deficits in hearing, vision, speech, dexterity, and walking. Finally, children on dialysis, compared to children with CKD stages 1-2, presented more deficits in the areas of pain and emotion.
Conclusions	In conclusion, it was demonstrated that children and adolescents presented basic deficits in quality of life across the spectrum of CKD. Quality of life was mainly affected in individuals undergoing hemodialysis and in the domains of cognition, pain and emotion. Additionally, children undergoing dialysis and coming from low-income families were at higher risk of poor quality of life, compared to children from high-income families. Although the quality of life in these individuals requires immediate attention, using the HUI3, it can be assessed, with the ultimate aim of contributing to holistic healthcare.
Khalf-Allah et al., (2024)	
Title	«Effect of muscle stretching and isometric exercises on quality of life in children undergoing regular hemodialysis»
Country	Egypt
Sample	68 children aged 6-18 years with renal failure undergoing hemodialysis at Assiut University Children's Hospital
Purpose	The aim was to investigate the effect of muscle stretching and isometric exercises on the quality of life of children undergoing hemodialysis.
Method	Randomized Controlled Trial (RCT)
Assessment tool	Simple questionnaire for personal and medical data Pediatric Quality of Life Scale (PedsQLTM) version 4.0
Intervention	The 68 children were randomly divided into 2 groups of 34: the study group received a program of muscle stretching and isometric exercises, lasting 40 minutes, 3 times a week for 2 months, while the control group received standard hospital care in the form of medication and hemodialysis, eating a healthy snack, playing word games with the caregiver, and watching TV. Each child was assigned a number between 1 and 68 in serial order and then randomization was done online Regarding the evaluation of the children's personal and medical data, a structured questionnaire was used which included personal data such as age, gender, date of birth, educational level, parents' education, parents' profession, as well as medical data such as: duration of disease and dialysis, number of AMC sessions per week, patient age at diagnosis and other diseases Regarding the PedsQLTM scale version 4.0, it consisted of 23 items categorized into 4 domains: physical functioning (8 items), emotions (5 items), social functioning (5 items), and school performance (5 items). Each item was scored from 0-4, where 4 indicated that the child never had a

	problem, while 0 indicated that the child almost always had a problem. The scoring system for each item was out of 100, where 100 indicated that the child's quality of life was considered quite good, while 0 indicated that the child's quality of life was quite poor.
Results	The results showed that the majority of participants were males, aged 14-18 years. After the intervention, there was a significant improvement in the total PedsQLTM score in the study group compared to the control group. More specifically, an improvement in the children's emotional functioning, social functioning, and school functioning was observed, suggesting that the presence of exercise improved the quality of life of children with CRF. Regarding the overall level of quality of life of the children, before the intervention there was no significant difference between the two groups and the majority of the children presented a poor quality of life due to the disease. However, at the end of the intervention, 66.7% of the children examined in the study group had a good quality of life, compared to 3.3% of the children in the control group.
Conclusions	In conclusion, the application of muscle stretching and isometric exercises during hemodialysis represents an important aspect of this care that may be associated with significant improvement in all areas of children's quality of life. Children undergoing dialysis need organized programs that cover the physical and psychological aspects. Healthcare organizations should also encourage the use of physical exercise among children undergoing hemodialysis and demonstrate appropriate techniques, providing guidance on frequency and intensity.

4. Discussion

From the above findings, it follows that Chronic Renal Insufficiency (CKD) and, for the most part, Chronic Kidney Disease (CKD) have a significant negative impact on the quality of life of children and adolescents suffering from this disease and undergoing hemodialysis. More specifically, the quality of life is significantly affected on multiple levels: physical, psychological, social and educational level. However, most research has shown that there are aspects that are most affected in children and adolescents, speaking of the psychosocial aspects [7] [12].

Psychosocial factors significantly affect the quality of life of children undergoing dialysis, given the severity of the disease. Living with a chronic condition on a daily basis brings significant psychological burden, as children experience fear, anxiety, depression and a sense of isolation. In addition, the physical changes caused by the disease or dialysis, such as the presence of a catheter and frequent hospitalizations, may negatively affect their self-esteem [6].

Furthermore, in an attempt to examine psychosocial factors that affect the quality of life of adult patients undergoing hemodialysis, it was demonstrated that medical factors directly affected psychosocial factors and indirectly affected quality of life. In detail, there were associations between psychosocial factors and quality of life, including depression, anxiety, and support from other people [9].

According to a meta-analysis, which examined a population of adults with CKD undergoing hemodialysis, three types of psychosocial interventions were identified, including psychological support, relaxation-based therapy, and psychoeducational intervention. A positive effect of psychosocial interventions on depression and anxiety was noted, contributing to improving quality of life [3]. In a study, which also focused on an adult population, it was shown that social isolation is related to quality of life and is correlated with other issues, such as depression, physical comorbidities, age, gender, employment and housing [7]. Moreover, sleep disturbance is a common phenomenon in people with chronic renal failure undergoing hemodialysis, since a majority of patients suffer from insomnia [7].

Furthermore, a study, evaluated the quality of life between children on dialysis and children who had undergone a kidney transplant. Using the PedsQL TM End-Stage Renal Disease Module questionnaire, specialized for Chronic Kidney Disease, it was found that the scores of transplant patients were comparatively better than the scores of children undergoing dialysis and related to problems related to treatment and disease [5]. Additionally, a study showed that school absences, information about the diagnosis, and limited social contacts make the socialization process difficult and may lead to feelings of marginalization and stigma [1] [4].

The family environment seems to play a decisive role. Parental overprotection, stress or financial burden, especially low income, as well as the psychological burden of the family can exacerbate the child's difficulties. The level of education of parents plays a crucial role in the adjustment and quality of life of children with CKD. Parents with a higher level of education tend to have greater access to information about the disease, treatment, and support options, which facilitates better management of the child's condition and collaboration with medical staff. Furthermore, parents are better able to enhance the child's psychosocial well-being by promoting positive attitudes, problem-solving strategies, and a supportive environment. Conversely, parents with a lower educational background may face more difficulties in understanding and implementing medical and nursing instructions, as well as increased stress or insecurity, which can be transferred to the child and burden his/her emotional state. Therefore, the educational level of parents directly influences not only the quality of care provided, but also the overall psychosocial support the child receives [6][10]. Psychological support from specialists, such as the presence of a stable and supportive network, family, school or friends, as well as integration into social activities, can promote adaptability and significantly improve the quality of life of these children [8].

However, in conducting this scoping review, several limitations arose. Firstly, due to the tight time frame, the databases were limited to a minimum of two. Secondly, most of the studies presented in the paper were based on a quantitative methodology with data collection using questionnaires. In this way, specific variables were examined without emphasizing the way in which young patients experience the effects of end-stage renal disease. Also, another limitation of the review is the lack of assessment of the quality of the studies, while their assessment in terms of title, abstract and full text was carried out by only one person. Finally, only two languages were used, resulting in a risk that articles published in another language and related to the topic may not have been included in the review.

5. Conclusion

In conclusion, it is evident that end-stage renal failure is a complex disease with many long-term consequences. CKD negatively affects all aspects of the lives of children and adolescents undergoing dialysis, including physical, social, psychological, and academic functioning. The demands of treatment, the limitation of daily activities, and the emotional burden degrade the quality of life and well-being of children. The review of the literature demonstrates that not only the physical burden of the disease, but also the psychosocial factors caused by the disease, negatively affect the quality of life (HRQoL) of children and adolescents, given the anxiety, depression, social isolation and difficulties in school adjustment. The chronic process of hemodialysis and frequent hospital visits alter the routine of childhood and adolescence, affecting the overall quality of life and development of children. For this reason, a holistic approach is required that will include not only comprehensive medical and nursing care, but also evidence-based psychosocial support and social empowerment, aiming to promote the overall well-being of children, adolescents and their families. Systematic support, both from medical and nursing staff, as well as from the family and school, is of crucial importance and can contribute to improving the quality of life of these pediatric patients.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors.

Statement of informed consent

No informed consent needed for the review.

References

[1] Abreu, I. S., Nascimento, L. C., de Lima, R. A. G., dos Santos, C. B. (2015). Crianças e adolescentes com insuficiência renal em hemodiálise: percepção dos profissionais. Revista Brasileira de Enfermagem, 68(6), 1020–1026. https://doi.org/10.1590/0034-7167.2015680604I

[2] Ammirati, A. L. (2020). Chronic Kidney Disease. Revista Da Associação MédicaBrasileira, 66(1), s03–s09. https://doi.org/10.1590/1806-9282.66.S1.3

[3] Barello, S., Anderson, G., Acampora, M., Bosio, C., Guida, E., Irace, V., Guastoni, C. M., Bertani, B., Graffigna, G. (2023). The effect of psychosocial interventions on depression, anxiety, and quality of life in hemodialysis patients: a systematic review and a meta-analysis. International Urology and Nephrology, 55(4), 897. https://doi.org/10.1007/S11255-022-03374-3

[4] Clavé, S., Tsimaratos, M., Boucekine, M., Ranchin, B., Salomon, R., Dunand, O., Garnier, A., Lahoche, A., Fila, M., Roussey, G., Broux, F., Harambat, J., Cloarec, S., Menouer, S., Deschenes, G., Vrillon, I., Auquier, P., Berbis, J. (2019). Quality of life in adolescents with chronic kidney disease who initiate haemodialysis treatment. BMC Nephrology, 20(1), 163. https://doi.org/10.1186/S12882-019-1365-3

[5] El Shafei, A. M., Soliman Hegazy, I., Fadel, F. I., Nagy, E. M. (2018). Assessment of Quality of Life among Children with End-Stage Renal Disease: A Cross-Sectional Study. Journal of Environmental and Public Health, 2018, 8565498.https://doi.org/10.1155/2018/8565498

[6] Francis, A., Didsbury, M. S., Van Zwieten, A., Chen, K., James, L. J., Kim, S., Howard, K., Williams, G., Bahat Treidel, O., McTaggart, S., Walker, A., Mackie, F., Kara, T., Nassar, N., Teixeira-Pinto, A., Tong, A., Johnson, D., Craig, J. C., Wong, G. (2019). Quality of life of children and adolescents with chronic kidney disease: A cross-sectional study. Archives of Disease in Childhood, 104(2), 134–140.https://doi.org/10.1136/ARCHDISCHILD-2018-314934

[7] Kang, G. W., Lee, I. H., Ahn, K. S., Lee, J., Ji, Y., Woo, J. (2015). Clinical and psychosocial factors predicting health-related quality of life in hemodialysis patients. Hemodialysis International, 19(3), 439–446. https://doi.org/10.1111/HDI.12271

[8] Khalf-Allah, S. H., Ebrahim, H., Badawy, A., Sayed, H. (2024). Effect of muscle stretching and isometric exercises on quality of life in children undergoing regular hemodialysis. Pediatric Nephrology (Berlin, Germany), 39(11), 3289.https://doi.org/10.1007/S00467-024-06398-2

[9] Kim, K., Kang, G. W., Woo, J. (2018). The quality of life of hemodialysis patients is affected not only by medical but also psychosocial factors: A canonical correlation study. Journal of Korean Medical Science, 33(14).https://doi.org/10.3346/JKMS.2018.33.E111

[10] Pardede, S. O., Rafli, A., Gunardi, H. (2019). Quality of Life in Chronic Kidney disease children using assessment Pediatric Quality of Life Inventory. Saudi Journal of Kidney Diseases and Transplantation: An Official Publication of the Saudi Center for Organ Transplantation, Saudi Arabia, 30(4), 812–818. https://doi.org/10.4103/1319-2442.265456

[11] Theofilou, P., Panagiotaki, E. (2010). Quality of Life in Patients with Chronic Renal Failure: Differences between Patients with Fewer and More Years of Treatment. NURSING, 49(3): 295-304

[12] Van Zwieten, A., Caldwell, P., Howard, K., Tong, A., Craig, J. C., Alexander, S., Howell, M., Armando, T. P., Hawley, C., Jesudason, S., Walker, A., Mackie, F., Kennedy, S., McTaggart, S., McCarthy, H., Carter, S., Kim, S., Crafter, S., Woodleigh, R., … Wong, G. (2019). NAV-KIDS 2 trial: Protocol for a multi-centre, staggered randomised controlled trial of a patient navigator intervention in children with chronic kidney disease. BMC Nephrology, 20(1), 1–9. https://doi.org/10.1186/S12882-019- 1325-Y/FIGURES/2