Trakia Journal of Sciences, No 1, pp 32-35, 2024

Available online at:
https://trakia-uni.bg

ISSN 1313-3551 (online) doi:10.15547/tjs.2024.01.005

Original Contribution

PSYCHOLOGICAL STATUS OF CHILDREN AND THEIR CLOSE RELATIVES IN THE COURSE OF CHRONIC KIDNEY DISEASES

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ABSTRACT

Objectives and Study: Chronic kidney diseases in childhood are with variable etiology and clinical presentation. The purpose of this study is to investigate the influence of the chronic kidney diseases over the psychical status of these children and their close relatives and to make assessment how the disease intergrades with their neuro-psychological development and quality of life. Methods: 36 children aged from 7-18 with different chronic kidney diseases and a group of 36 adults (their close relatives) are included in the study (gr.A). The control group consists of 36 children with acute kidney diseases and their parents (gr.B). The parents were interviewed after a preliminary conversation and the Zung depression scale was assessed. In children, the EPQ Ayzenk test was performed after a preliminary talk and interview. Psychological tests of the children and adults were performed when the diagnosis was established and in 12-months intervals. Results: In the group of sick children(gr.A) a tendency towards isolation was observed and reduction of contacts. Manifestations of moderate depressive reactions were established in the group of parents when the diagnosis of their child was established.In the course of complex treatment of the chronic kidney disease reduction of parents' depression was observed. Conclusions: The psychological disturbances are more discreet in children with chronic kidney diseases, while in the group of adults they are more significant to well-expressed. The communication and work of well-trained psychologists with the parents and children would help them to be more adaptive.

Key words: chronic kidney disease, childhood, psychological status

INTRODUCTION

Chronic kidney disease (CKD) is a complex condition associated with significant morbidity and mortality as well as impaired quality of life. Chronic kidney diseases in childhood are with variable etiology and clinical presentation. Kidney Disease Outcomes Quality Initiative(KDOQI) working group of the National Kidney Foundation (NKF) defined chronic kidney disease as" evidence of structural or functional kidney abnormalities (abnormal urinalysis, imaging studies, or histology) that persist for at least 3 months, with or without a decreased glomerular filtration rate(GFR), as defined by a GFR of less than 60 ml/min per 1,73m^{2,}" (1, 10)

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The specific therapeutic approach demands multiple hospitalizations and often surgical interventions. The development of chronic kidney disease involves the development of terminal renal failure. Kidney transplantation creates expectations and new anxieties. The development of the disease creates conditions for interference with somatic and psychological world of the sick child. Adaptation to the chronic disease is difficult both for the sick child and his close relatives (2).

The purpose of this study is

1. To investigate the influence of chronic kidney diseases over the psychological status of these children and their close relatives;
2. To make assessment how the disease affects their neuro-psychological development and quality of life;

3. To analyse the presence of psychopathological disorders like anxiety and depression and determine their frequency.

MATERIALS AND METHODS

36 children aged from 7-18 (27 years) with different chronic kidney diseases and a group of 36 adults (close relatives) are included in the study (gr. A). The gender distribution is 15 girls and 21 boys. The parent's group is presented mainly by the mothers. The chronic kidney diseases are Reflux nephropathy in 20 children (n=20), Obstructive uropathy in 10 (n=10), Chronic glomerulonephritis in 2 (n=2), Familial juvenile nephronophthisis in 2(n=2), and Adult polycystic kidney disease in 2 children (n=2). Nine of the children were diagnosed with Chronic renal failure gr.2-3. Two of them had Terminal renal failure and undergone haemodialysis. Kidney transplantation was performed in one child with Familial juvenile nephronophthisis. The control group consists of 36 children with acute kidney diseases and their parents (gr. B).

Neuro-psychological development of the kids and their quality of life was observed (3). Psychological tests of the children and adults were performed when the diagnosis was established and again in 12 months intervals. The parents were interviewed after a preliminary conversation and the Zung depression scale was assessed. In children, the EPQ Ayzenk test was performed after a preliminary talk and interview. In children the level of neurotism and psychotism was determined. The level of anxiety and depression was assessed for their close relatives.

RESULTS AND DISCUSSION

The assessment of the neuro-psychological development of children was performed based on the following criteria: motor activity, speech, sensory functions, emotions and social behavior and playing activities. Chronic kidney disease doesn't affect these criteria with the exception of emotions and social behavior. Emotional lability, uncertainty, introversion was established in 13 children (n=13). This finding provoked the performance of more comprehensive psychological tests and observations.

At the beginning of the disease, the children are prevailed with feelings of unfairness, fear and guilt. The somatic pain, limited physical activity and adverse effects of the medications are also of importance. The chronic disease places the children in a particular situation. It deprives them of their freedom and makes them dependent on medical care.

Multiple hospitalizations and surgical interventions tear them away from their families. They suffer from this parting and they become even more attached to their relatives. This makes them insecure, dependent and introverted.

Sleep, appetite and school grades deteriorate. Changes in psychological state are transitory in 4 children (n=4) and prolonged in 9 of them (n=9). Psychological disorders – manifestations of neuropatism were found in 25% of sick children (n=9).

We didn't observe psychological disturbances described in literature like panic and aggression (9).

The results from the psychological tests reveal neuropathic changes in 9 children (n=9) (25%) which are often discreet. Most frequent is the propensity for isolation, selective contacts, introversion. As a result, they build a defence barrier in their contacts and create complexes for insignificance. These are 9 children with Chronic renal failure. Seven of them are with Chronic renal failure gr. 2-3, as a result of Chronic glomerulonephritis(n=2); complex Obstructive uropathy (n=3); Reflux nephropathy (n=2). Two children with Familial juvenile nephrophthisis have been on haemodialisis and in one of them, kidney transplantation was performed. Kidney transplantation is followed by new expectations and anxieties. After it has been carried out there is a transient feeling of relief and independence in medical care. Insecurity, fear, unstable behaviour are characteristic of a 27-years-old girl, after kidney transplantation 11 years ago as a result of nephronophthisis. In spite of her good education and professional realization she still lacks self-confidence and is limited in her social functioning. Children with chronic renal insufficiency passively and with a feeling of being doomed accept multiple hospitalizations, manipulations, surgical interventions.

The goals of chronic kidney failure treatment are currently grouped into two large directions: decreasing morbidity and mortality and increasing the children's quality of life. Quality of life(QOL) is an evaluative concept (4). As a result, it has a dual structure, based on the following two distinct components:

- ✓ state – the state of an individual's or a community's life, as a whole or as its various components, at a certain moment;
- ✓ a set of evaluative criteria (values) by which life is appreciated as good or bad.

Health-related quality of life refers to the measure of a patient's functioning, well-being, and general health perception in each of three domains: physical, psychological, and social. Patient QOL is a very important indicator of the effectiveness of the medical care they receive. QOL of patients with end-stage renal disease is influenced by the disease itself and by the type of replacement therapy. Numerous studies have identified the effect of such factors as anaemia, age, comorbidity, and depression on QOL (5, 6). Sleep disorders, ethnicity or transplant possibility are factors that affect the QOL score. Leaving with a chronic kidney disease can be seen as a success from the medical point of view but survival is not enough for a patient looking for a life more close to a normal one.

Children's reactions differ in each child. Conscious or not they are consistent with parents' behavior. Close relatives are not prepared to accept the serious diagnosis.

In the group of parents, the scales of depression and anxiety were assessed. In 19 of them, the deviations differ (52.3%). Psychological disorders in parents – anxiety and depression were found in 52,7%.

Significant and well expressed manifestations of anxiety and depression were found in 15 parents. Six of them are with demonstrative depression (31.5%). Their kids are with combined obstructive uropathy and reflux nephropathy. In 9 persons from close relatives manifestations of moderately expressed depression were found (47.3%). Their kids' diseases are adult polycystic kidney disease, reflux nephropathy combined with renal hypoplasia, chronic glomerulonephritis, nephrophthisis. Mild depression was found in 4 parents (21 %). 17 of the parents were without deviations. In the group of close relatives expressed depression was found in 31.5%, moderately expressed in 47,31%, and mild in 21%.

The prevailing moderately expressed depressive reactions in the group of parents (rg. A) are established when their kids were diagnosed. In the course of treatment depression in the group of close relatives goes down, anxiety is overcome and parents become more confident. They start to accept more easily child suffering. Devoted to their kids, they are totally engaged with their health problems. They become overprotective and overcaring, but in this way they cope with their own depressive manifestations.

In the group of children with acute kidney disease and their parents (gr. B), psychological deviations are transient in the course of treatment of children. The following results were found in the group of children with acute renal diseases and their parents (gr. B): anxiety in 9 parents, agitation and restlessness in 13 children (n=13).

A meta-analytic review reported that children with "physical disorders" (including asthma, cardiac disorders, cancer, diabetes, inflammatory bowel disease, juvenile idiopathic arthritis, neurological disorders, and sensory disorders) had a higher risk of developing internalizing (e.g., anxiety, depression, social withdrawal) and externalizing symptoms (e.g., hyperactivity and aggressive behavior) and overall adjustment problems and lower self-concept or self-esteem than healthy children (8).

A review that integrated 569 studies that administered the Child Behavior Checklist, Youth Self Report, and Teacher Report Form for children and adolescents with chronic physical illnesses found higher elevations in internalizing problems (withdrawn, somatic complaints, anxious/depressed), externalizing problems (delinquent and aggressive), and total behavior problems than their healthy peers (9).

Our study presents the psychological status of children and their close relatives in the course of chronic kidney diseases. The study reveals the psycho-emotional world of the children and is an attempt to rationalize the problem.

It is a precondition for building a strategy of trust and preventing development of psychological, psychiatric and psychosomatic complications. The way to detect these problems is the meetings, discussion and psychological analysis (7). During the last months, the necessity for opening a school for parents is ripe which will inform them for the problems of the disease and will enable them to build adaptive models of behavior to help their sick kids.

CONCLUSIONS

1. Adaptation to the chronic kidney disease is the psycho-emotional and social reaction of

the kids and their parents. It changes their quality of life.
2. The children remain continuously introvert, with reduced social skills, changed perception to the surrounding world. The chronic kidney disease affects their psycho-emotional development and the development of their individuality as a whole.
3. Their parents react with more significant reactions of anxiety and depression even in the stage of clarification of diagnosis. After a certain period of time they escape the trap of depression, become dominant, too much caring even super active in regard of their sick children.
4. Close collaboration between pediatric nephrologists and pediatric psychologists creates confidence and security in the parents and kids and helps them overcome their suffering.

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