SUMMARY

The impact of psychological intervention in the case management of children and adolescents with insulin-dependent diabetes mellitus

The impact of psychological interventions in the management of diabetes in pediatrics is a topic of great interest in recent decades, due to the role of the psyche in the management of chronic disease, and also due to the influence of feelings associated with diagnosis and treatment with the quality of life of children and young people with IDDM and their families.

This research aims to support families, specialists in clinical practice, and also health and education systems, in order to design intervention policies and strategies to facilitate the adaptation of children and young people to disease and treatment and a social integration that respects the right of the child and adolescent to dignity and safety.

The objectives of the research were the following:

• Evaluation of the presence of psychopathology in adolescents with IDDM, compared to a control group (adolescents without diabetes);

• Identifying a relationship between psychopathology and disease management (glycemic control);

• Building and applying a psychotherapeutic intervention program based on systemic psychotherapy of the family, couple and child, to children and adolescents with IDDM in order to improve their relationship with parents and increase glycemic control;

• Identifying the perceived changes in the quality of the parents' relationship with children and adolescents with IDDM, following family systemic psychotherapeutic intervention programs and individual psychotherapeutic intervention, compared to a control group;

• Assessment of differences in glycemic control, following family systemic psychotherapeutic intervention programs and individual psychotherapeutic intervention, compared to a control group;

• Evaluating the opinion of diabetes specialists on the factors that influence treatment adherence; • Evaluation of the basic knowledge about IDDM for primary and secondary school teachers and their attitude towards children and adolescents with IDDM;

• Design and development of a training intervention program for teachers in primary and secondary education, in order to involve them in the management of diabetes in children and adolescents with IDDM and also their school integration;

• Identifying the changes in the attitude and knowledge of teachers regarding IDDM in children and adolescents following participation in a training program on "Diabetes in school".

The research hypotheses were the following:

• The prevalence of psychopathology in adolescents with IDDM is not higher, compared to adolescents without IDDM (control group).

• Adolescents with IDDM and a low glycemic control will have a higher level in terms of psychopathology, compared to adolescents with IDDM that have a good glycemic control.

• There are significant differences in the parent-child relationship between those who participate in the systemic family psychotherapy program with their parents, those who participated in individual sessions, and those in the control group.

• The HbA1c value for children and adolescents who participate with their parents in family systemic therapy decreases, compared to HbA1c of children and adolescents with Type 1 diabetes who participated only in individual psychotherapy sessions and compared to the control group.

• The relationship of doctors with pediatric patients with IDDM and their families is considered very relevant by diabetologists, in terms of disease management.
• Through the participation of teachers in the training program "Diabetes at school", they will significantly improve their knowledge about IDDM in children and adolescents and the supportive attitude towards them.

General methodology

The present research includes two prospective clinical studies and two qualitative-descriptive studies. In the first and second study, the patients come from Mureș, Harghita and Sibiu counties. In the third study, the doctors come from Mureș County, Cluj, Sibiu, Brașov and Bistrița. In the 4th study, the teachers come from Mureș County. The teachers were contacted with the help of the school counselors from the respective schools, and the diabetologists were contacted by phone. Parents of pediatric patients with IDDM were contacted through a private diabetes clinic in Tg. Mureș between April 2020 and July 2020. The target group refers to children and adolescents diagnosed with IDDM (insulin-dependent), in the first study and to adolescents with IDDM and their parents, in the second study. The control group was composed of healthy volunteers in the first study, students from different middle and high schools in the county, and in the second study, children and adolescents with IDDM and their parents, without intervention (waiting list). The studies used as medical data the diagnosis confirmed by the diabetologist, the analysis of HbA1c value at the beginning of the study and at the end, provided by the parents from the children's medical records.

Several scales have been used in the present research. The scale applied in the first research was the APS-SF Scale (Reynold, 2000) [125]. This multi-dimensional tool measures personality characteristics in adolescents, the presence of psychopathology and its severity. Assess Behavioral Disorders (CND), Major Depression (DEP), Post Traumatic Stress Disorder (PTS), Eating Disorder (EAT), School Problems (ADP), Self-Esteem (SCP), Challenging Oppositional Behavior Disorder (ODD), Generalized Anxiety Disorder (GAD), Substance Use Disorder (SUB), Suicide (SUI), Violence and Anger (AVP), and Interpersonal Problems (IPP). Validity scales include Defensive Attitude (DEF) and Consistent Responses (CNR).
In constructing the questions from the semi-structured interview from study no.2, the Scale of the parent-child relationship was used as a benchmark (after Robert C.Pianta), with the author's consent. This concerns the parent-child relationship, respectively the parent-adolescent relationship, the questions being adapted to these two stages of age. The questions refer to the general close relationship between parent and child / adolescent. The variant of translating the items of the original scale into a semi-structured interview aimed at collecting more information regarding the existing problems in this relationship and clarifying them. The questionnaires and scales used are pencil-paper. The duration of the psychological evaluation was flexible, between 40-60 minutes.

The family psychotherapeutic interventions took place every two months, during six months, lasting 90 minutes each. The individual counseling interventions took place every two months, over a period of six months and lasted 50 minutes each.
The Microsoft Office Excel package was used to create the database. For statistical analysis, data were processed quantitatively with IBM SPSS Statistical 23. The descriptive analysis included differences, means, percentages, standard deviations, Spearman's rho correlations, Chi square. We also used Anova Simpla, Mc Nemar Test, Chi square, for each comparison with the significance level value, the T test for independent samples, for which we calculated the size index of the Cohen effect - d. The results were interpreted at the significance level $p < 0.05$.

Conclusions
• Adolescents with insulin-dependent diabetes mellitus (type 1 diabetes) face the same level of psychopathology as those without diabetes. The association between the presence and severity of

psychopathology and low glycemic control is an important risk situation for their health and life, which is a complex therapeutic approach, which cannot miss psychotherapy.

• The quality of parent-child relationships has an important role especially in the management of chronic diseases. The support, understanding and warmth offered by parents to their children are prerequisites for the formation of a positive attitude of self-care and overcoming barriers in achieving a glycemic balance. Systemic family therapy proves its usefulness both in the management of the disease and in building stable supportive relationships within the family.

• The stress of chronic disease is perceived equally by families and specialists. Therapeutic success is a result of the work of the doctor-child-parent team. In this sense, acquiring the knowledge of diabetologists about child and adolescent psychology, as well as collaborating with mental health specialists can prove useful.

• Systemic psychological intervention in pediatric diabetes, as a way of integrative approach to the problem, can support the medical act, participating in increasing adherence to treatment. This contribution is made by identifying behaviors, roles and relationships and unblocking barriers generated by illness and other psycho-social factors.

• Teachers have an important role to play in connecting and integrating children in school. The knowledge about the health problems that some of them face and the practical skills of rapid intervention in case of emergency are the right tools that can produce change in the Romanian school, both immediately and in the long run.

The systemic approach to insulin-dependent diabetes in children and adolescents is a dynamic-relational way of diagnosis and psychotherapeutic intervention. Its applicability is free of contraindications, and its benefits are long-term.