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Perception of a child with a chronic disease and mothers' involvement in parenting tasks

Percepcja dziecka z chorobą przewlekłą a zaangażowanie matek w zadania rodzicielskie

Abstract: Parental involvement is an important variable explaining the treatment results in the course of a child's chronic disease. It should include tasks related to therapy and providing the child with optimal conditions to implement their developmental tasks. The article presents the results of our research aimed at determining the relationships between the perception of the child and their chronic disease and maternal involvement in tasks related to raising a child with epilepsy and diabetes. The material was collected using the Parental Involvement Scale designed by Parchomiuk and Kręcisz-Plis, and the Kansas Inventory by Behr et al. in the Polish adaptation by Pisula and Noińska. The study involved 128 mothers. Using regression analyses, we demonstrated the relationships between the perception of selected positive aspects of the child's functioning, the significance of the child's illness, and the mothers' involvement in caregiving, educational, and therapeutic tasks. Comparing one's situation to that of other parents/families was significant, as well as the belief in the specialists' neglect as the cause of the child's illness. The regression models also noted a substantial contribution

of the variable type of illness (diabetes) and time of diagnosis. Parents should be provided with reliable knowledge about the nature of the disease and the opportunity to work through experiences resulting from confrontations with other families. The latter can be positive as it provides models of coping and reinforcing positive beliefs about having one's personal or family resources.

Keywords: epilepsy, type 1 diabetes, mothers, parental involvement, upbringing, care, therapy.

Introduction

Chronic diseases, such as type 1 diabetes (insulin-dependent) and epilepsy, are relatively frequent in the population of children and adolescents. In Poland, in 2022, the incidence of type 1 diabetes in the age group 0-19 was 12.5/1000 (Poland Diabetes Report 2000-2045). The age-standardized incidence of idiopathic epilepsy per 100,000 people in 2016 in Poland was 230 to <280 (Beghi et al., 2019). Nationwide information is not available for younger age groups. There are approximately 40-50 thousand students with epilepsy (Małkowska-Szkutnik et al., 2017).

Both diseases pose different challenges for the child's family caregivers, primarily related to monitoring the health condition, achieving its relative balance, and preparing for adult life, allowing the child to optimize their resources to control the disease (Pierce et al., 2019). Research shows that children's families can adapt by changing their functioning and family tasks (see Mendes et al., 2018).

Parental responsibilities related to raising a child with a chronic disease

An important theoretical basis for the presented research is the theory of the *Continuum of Dependent Care Model*, whose authors explain the essence of family functioning in the face of taking on special care responsibilities (Stewart et al., 2018). According to the theory, care obligations towards a dependent person (a child or an older person) include the family's physical, emotional, social, and financial support. This type of family care lies on a continuum that begins with typical care responsibilities and ends with exceptional responsibilities, i.e. those that caregivers undertake for a family member with a disability or a chronic disease. Family caregivers occupy a specific place on this continuum, depending on the intensity, type, and complexity of care and available resources (including community resources of formal and informal support) (Stewart et al., 2018). This model allows parents to include typical care related to the course of life (including

the upbringing and socialization of the child) and exceptional care related to the special needs resulting from the child's chronic illness. The latter is characterized by increased physical, emotional, social, and financial requirements for the family.

Caregivers of children with chronic diseases cooperate with specialists and participate in medical decision-making (van Westrhenen et al., 2021; Tschamper et al., 2023; Yang et al., 2023). Both type 1 diabetes and epilepsy require constant vigilance on the part of the caregivers and monitoring of factors important for the course of the diseases (Wojciechowska et al., 2011; Carter et al., 2022; Koliouli et al., 2022). We can call it "disease management," requiring specialized knowledge (Hullmann et al., 2010). Epilepsy is a disease with a complex clinical picture (Berg et al., 2024; Kontna et al., 2016), and it may co-occur with other developmental problems (Kozłowska et al., 2021). These problems may also accompany diabetes (Onen et al., 2021). Such complexity of the child's needs requires undertaking tasks related to their functioning, treatment, and rehabilitation. Parents also face challenges related to the child's socialization and their relationship with the environment, including school, which requires confrontation with various, not always favorable, attitudes (Mu, 2008). In carrying out parental tasks in the event of a child's chronic illness, it is important — parents report — to maintain a balance between their involvement and activating the child and creating space for the child to develop independence and self-control (Sherifali and Ciliska, 2006; Mu, 2008). However, implementing this principle in the upbringing process is difficult, especially without external support (Wojciechowska et al., 2011; van Westrhenen et al., 2021).

Meeting the challenges of raising a child with diabetes or epilepsy carries the risk of unfavorable consequences for parents, such as increased stress, depression, psychosomatic symptoms, and negative emotions and beliefs (Salom et al., 2023; Carosi-Arcangeli et al., 2024). On the other hand, parental experiences in the event of a child's chronic illness may also have positive aspects. Parents of children with epilepsy report personal empowerment, new perspectives, appreciation of life, strengthened spirituality, development of parenting competencies, and increased family cohesion, mutual acceptance, and respect (Mu, 2008; Koliouli et al., 2022). Parents of children with Dravet syndrome, in addition to the physical and mental burden, report experiencing personal satisfaction as a result of raising a child with this syndrome (Domaradzki and Walkowiak, 2023) and speak about stronger relationships in the family (Jansson et al., 2024). The psychosocial significance of an illness for the child and family depends on many factors,

including the meaning given to the illness by the child, family, and social environment (Camfield et al., 2001).

Aim

The presented research aims to determine the relationship between mothers' perception of their child and the child's chronic disease (including its positive significance), mothers' comparison of their situation with that of other families and beliefs about the causes of the disease, plus maternal involvement in tasks related to raising a child with a chronic disease. As Cynthia A. Berg et al. (2017) write, parental involvement is significant in the treatment process, but the scope of its empirical verification is fragmentary. The presented research included parental responsibilities and tasks related to the care, upbringing, and support for the development and treatment of the child.

According to the theoretical assumptions underlying the tool used here (the theory of cognitive adaptation and the theory of family stress and coping), a child's illness is a stressor to which caregivers (parents) take remedial action. Adaptation at the cognitive level may include assigning meaning to an event, for instance, by predicting the causes of the disease and determining its role in the perspective of life, trying to gain control over it, and trying to increase self-esteem by comparing with others (Behr et al., 1992). This type of adaptation to the child's illness may affect the parent's functioning as a caregiver.

According to the life cycle concept, family life and the individual development of family members are characterized by alternating phases in which development tasks will change (Rolland, 2012). These changes will imply diversity in parental tasks and the intensity of parental involvement. Parental involvement in disease-related tasks changes as the child's self-regulatory competencies and coping skills develop (Berg et al., 2017). Taking these assumptions into account, we focused on a specific stage of development — adolescence. Research shows that at this time the risk of unfavorable (anti-health) behavior increases among children and adolescents with chronic diseases, and it is also a period that requires coping with developmental tasks, such as strengthening personal and social identity and self-image crystallization (Berg et al., 2017; Onen et al., 2021). It is also a period when parental concerns for the child's future and the transition to an independent life may increase (Webster, 2019).

Research shows that mothers often become the primary caregivers of a child with a chronic disease (Reilly et al., 2015; Stewart et al., 2018). As

a result, they may suffer greater consequences of the care burden, which has been proven in research (Boesen et al., 2022; Domaradzki and Walkowiak, 2023). The presented research investigated the mothers' perspective.

The attitude towards a child's illness evolves as an expression of family adaptation resulting from integrating resources and expanding knowledge (Yang et al., 2023). The period after diagnosis is challenging (Domaradzki and Walkowiak, 2023). In the presented research, we included the variable of time of diagnosis of diabetes and epilepsy in the analyses.

The following hypotheses were tested:

H1: There is a relationship between the perception of positive aspects of the child's functioning, the significance of the child's illness, and the mothers' involvement in care, upbringing, and therapeutic tasks.

H2: There is a relationship between the mothers' perception of their situation in the context of other families' situations and mothers' involvement in their tasks.

H3: There is a relationship between mothers' beliefs about the causes of their child's illness and their involvement in their tasks.

Each of these hypotheses will also verify the contribution of variables: the type of chronic disease and the time of its diagnosis.

Method

Two tools were used in the research. The Parental Involvement Scale by Monika Parchomiuk and Elżbieta Kręciszc-Plis was used to determine involvement in three dimensions: implementation of tasks (Care and Education – O_W and Therapeutic – T) resulting from being a parent of a child with a chronic disease (to what extent the task is implemented: from 0 - I do not implement them to 4 - I implement them to a large extent; R_O_W and R_T), motivation to implement them (from 1 - very low to 4 - very high; M_O_W and M_T) and the level of achieved satisfaction with their implementation (from 1 - very low to 4 - very high; S_O_W and S_T). The scale consists of 48 items.

The initial version of the scale was based on a literature analysis concerning the issues of raising a child with a chronic disease in the family. Then, statements were selected to allow a broader application of the scale: diagnosing parents' involvement in the situation of the child's various chronic diseases. The original version of 51 statements was assessed by three competent judges: researchers dealing with the issue of raising a child with a chronic disease in the family. Their input was included in the preparation of the final version. The research confirmed the reliability of the scale. Cronbach's alpha

coefficients for individual subscales in studies involving parents of children with diabetes and epilepsy were, respectively, task completion: 0.93, level of motivation: 0.95, and satisfaction: 0.96 (Kręcis�-Plis, 2020). This tool includes questions covering sociodemographics and the child's illness.

The Kansas Inventory of Parental Perceptions by Shirley K. Behr and co-authors (1992), in the Polish experimental version by Ewa Pisula and Dorota Noińska (2011), was used to determine the perception of the child, their illness/disability, and the importance of the illness/disability. The inventory consists of four parts, which are independent elements of the tool: KIPP1: Positive contribution of the child, KIPP2: Social comparisons, KIPP3: Search for the cause, and KIPP4: Sense of control. Although the reliability coefficients were satisfactory in the research conducted by the authors of the tool (Behr et al., 1992), and other researchers confirmed its usefulness, the adaptation of the scale in Poland required re-developing its structure, which is recommended by its Polish authors (Pisula, tip sent by e-mail). For the presented analyses, we used three parts (KIPP1-KIPP3, details below). We conducted factor analyses for them, obtaining a slightly different internal structure than the original one in the Social Comparisons and Search for the Cause.

Procedure

The research procedure included the following stages: 1) establishing contact with healthcare facilities, educational institutions, and associations; 2) sending research tools to mothers with information about the research by traditional means (personal delivery); 3) providing tools to mothers who gave consent through a person authorized at the facility/association; 4) collecting materials sent in previously prepared stamped envelopes; 5) data coding. In the case of medical facilities, it was necessary to follow internal procedures. The research included schools of various types and levels, specialist clinics, and associations for people with epilepsy/diabetes in Poland. The addresses of the facilities were obtained from multiple databases, including the Ministry of National Education databases (<https://rspo.mein.gov.pl>).

Recruitment included mothers of children diagnosed with epilepsy (regardless of the type) and type 1 diabetes aged 10 to 18 years. Children and adolescents with intellectual, sensory, and motor disabilities or autism spectrum disorders were excluded.

Ethical consent for the research was granted by the Research Ethics Committee of the University of Warmia and Mazury in Olsztyn (21/2023).

Informed consent and voluntary participation were ensured during data collection.

Statistics

Selected descriptive statistics and correlations (Pearson's r) were calculated (data available from the authors). Then, regression analyses were carried out, considering dependent variables such as the implementation of care and educational tasks, motivation to implement them, satisfaction with it, and the implementation, motivation, and satisfaction with therapeutic tasks. The models included independent variables of various dimensions of how the child and their illness are perceived (its type and time of diagnosis). Analyses were performed in SPSS 29.0.

Results

The study involved 128 mothers (age $M=40.38$; $SD=5.62$), including 52 mothers of children with epilepsy and 76 mothers of children with type 1 diabetes. Most families had one child with a chronic disease (92.2%), including 46.9% girls. The average age of the sick children was 12.36 years ($SD=3.00$), and 28.9% were only children. The mean age at diagnosis was 75.41 ($SD=50.48$). Most of the surveyed women worked (61.7%) and had higher education (60.2%).

Table 1. Descriptive statistics and reliability coefficients for The Parental Involvement Scale and KIPP

| Scales | M | SD | Rank | Cronbach's α |
|-------------------------|--------|-------|--------------|---------------------|
| R_O_W | 101.80 | 15.40 | 51.00-163.00 | .90 |
| M_O_W | 106.10 | 13.24 | 74.00-124.00 | .97 |
| S_O_W | 102.03 | 16.47 | 48.00-124.00 | .97 |
| R_T | 55.83 | 7.65 | 36.00-68.00 | .77 |
| M_T | 58.39 | 6.94 | 40.00-68.00 | .88 |
| S_T | 54.97 | 8.55 | 33.00-68.00 | .90 |
| KIPP1 Learning | 3.05 | .46 | 1.86-4.00 | .77 |
| KIPP1 Fulfillment | 3.27 | .49 | 1.50-4.00 | .84 |
| KIPP1 Personal strength | 3.07 | .51 | 1.57-4.00 | .83 |
| KIPP1 Life's purpose | 2.78 | .59 | 1.00-4.00 | .65 |
| KIPP1 Personal growth | 2.92 | .52 | 1.57-4.00 | .82 |
| KIPP1 Social network | 2.47 | .54 | 1.00-4.00 | .79 |

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|------------------------------------|-------|------|------------|-----|
| KIPP1 Career or job growth | 2.51 | .54 | 1.00-4.00 | .71 |
| KIPP1 Ambition | 2.80 | .52 | 1.00-3.86 | .82 |
| KIPP2 Upward, favorable comparison | 13.68 | 2.84 | 6.00-20.00 | .84 |
| KIPP2 Similar comparison | 14.47 | 2.08 | 9.00-20.00 | .81 |
| KIPP2 Downward comparison | 8.79 | 1.99 | 4.00-16.00 | .61 |
| KIPP3 Professionals' negligence | 2.21 | .42 | 1.25-3.50 | .82 |
| KIPP3 Physiologic cause | 1.87 | .39 | 1.00-2.63 | .62 |
| KIPP3 Fate or chance | 8.06 | 2.30 | 4.00-14.00 | .68 |
| KIPP3 Someone's fault | 1.96 | .39 | 1.00-2.83 | .82 |

N = 128.

Table 2. Regression coefficients for KIPP and The Parental Involvement Scale – care and educational tasks

| Variables | R_O_W | | | M_O_W | | | S_O_W | | |
|------------------------------------|-----------|------|-------|-----------|------|------|-----------|------|-------|
| | B | β | SE | B | β | SE | B | β | SE |
| Constans | 71.56*** | | 10.00 | 66.50*** | | 8.62 | 57.12*** | | 10.40 |
| KIPP1 Learning | -2.95 | -.07 | 3.68 | -.47 | -.02 | 3.18 | -1.54 | -.04 | 3.83 |
| KIPP1 Fulfillment | 7.30* | .23 | 3.44 | 8.46** | .32 | 2.97 | 9.60** | .40 | 3.58 |
| KIPP1 Personal strength | 5.22 | .17 | 3.92 | 1.36 | .05 | 3.38 | 1.62 | -.02 | 4.08 |
| KIPP1 Life's purpose | -4.54 | -.18 | | 1.93 | -.05 | 2.09 | -3.13 | -.18 | 2.52 |
| KIPP1 Personal growth | -8.02* | -.28 | 3.15 | -5.95* | -.24 | 2.71 | -5.40 | -.24 | 3.27 |
| KIPP1 Social network | 3.21 | .11 | 2.56 | 2.73 | .11 | 2.21 | 4.97 | .13 | 2.67 |
| KIPP1 Career or job growth | 5.19 | .19 | 2.72 | 3.94 | .16 | 2.34 | 4.88 | .26 | 2.83 |
| KIPP1 Ambition | 7.17* | .24 | 3.08 | 5.51* | .22 | 2.65 | 6.35 | .09 | 3.20 |
| Type of disease | -4.89 | -.16 | 2.55 | -2.09 | -.08 | 2.20 | -4.30 | | 2.65 |
| Time of the diagnosis | -.05* | -.17 | .03 | -.02 | -.07 | .02 | -.04 | | .03 |
| R ² | | | .32 | | | .30 | | | .32 |
| ΔR ² | | | .26 | | | .24 | | | .26 |
| Constans | 122.83*** | | 11.32 | 121.20*** | | 9.85 | 104.63*** | | 12.02 |
| KIPP2 Upward, favorable comparison | 1.39** | .26 | .49 | 1.12* | .24 | .43 | 1.45** | .26 | .52 |
| KIPP2 Similar comparison | -1.19 | -.16 | .68 | -.76 | -.12 | .59 | -.21 | -.03 | .72 |

Perception of a child with...

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|---------------------------------|-----------|------|------|-----------|------|------|-----------|------|------|
| KIPP2 Downward comparison | -1.78** | -.23 | .64 | -1.78** | -.27 | .56 | -1.43* | -.18 | .68 |
| Type of disease | -6.56* | -.21 | 2.60 | -3.01 | -.12 | 2.26 | -5.68* | -.18 | 2.76 |
| Time of the diagnosis | -.06 | -.20 | .03 | -.03 | -.13 | .02 | -.06* | -.19 | .03 |
| R^2 | | | .18 | | | .14 | | | .14 |
| ΔR^2 | | | .14 | | | .11 | | | .11 |
| Constans | 122.25*** | | 9.48 | 127.27*** | | 8.26 | 127.61*** | | 9.80 |
| KIPP3 Professionals' negligence | -7.51* | -.20 | 3.31 | -51.4 | -.16 | 2.89 | -3.32 | .03 | 3.43 |
| KIPP3 Physiologic cause | -.79 | -.02 | 4.93 | .72 | .13 | .88 | -9.29 | .10 | 5.10 |
| KIPP3 Fate or chance | -.55 | -.08 | 1.01 | -2.72 | -.08 | 4.30 | 1.62 | -.15 | 1.05 |
| KIPP3 Someone's fault | 4.78 | .12 | 7.09 | -3.44 | -.10 | 6.18 | -4.14 | .03 | 7.33 |
| Type of disease | -6.58* | -.21 | 2.81 | -2.92 | -.11 | 2.44 | -4.76 | -.10 | 2.90 |
| Time of the diagnosis | -.06* | -.20 | .03 | -.03 | -.13 | .02 | -.05 | -.13 | .03 |
| R^2 | | | .12 | | | .08 | | | .13 |
| ΔR^2 | | | .07 | | | .03 | | | .09 |

Type of disease: epilepsy – 1, diabetes – 0; time of the diagnosis in months

* $p < .05$; ** $p < .01$; *** $p < .001$

All models obtained in the regression analysis including the variables of implementation of care and educational tasks, motivation, and satisfaction with it, were significant: R_O_W: $F(10.118) = 5.441, p = .000$, M_O_W: $F(10.118) = 5.050, p = .001$, S_O_W: $F(10.118) = 5.505, p = .001$. They indicated that 32%, 30%, and 32% of the variance in the dependent variables was explained by the positive aspects of the perception of a child with a chronic disease, the type of disease, and the time of diagnosis (Table 2). Happiness and fulfillment (KIPP1 fulfillment) was a significant and positive predictor in each model. Positive relationships with implementing these tasks and motivation to perform them were created by ambition and cooperation (KIPP1 ambition). Negative significant relationships between the dependent variables of implementation and motivation were present for the sense of personal development and maturity (KIPP1 personal development), implementation, and the time of the diagnosis.

All models, including comparisons of one's family situation with that of other parents/families, were significant for the dependent variables: implementation of care and educational tasks, motivation, and satisfaction: R_O_W: $F(5.122) = 5.193, p = .001$, M_O_W: $F(5.122) = 4.018, p = .002$, S_O_W: $F(5.122) = 4.120, p = .002$. These models explained 18%, 14%, and 14% of the variance in the dependent variables, respectively. Comparing one's

situation with the situation of others, resulting in positive beliefs, created positive relationships with all dependent variables, while unfavorable comparisons created negative relationships. The type of child's disease (diabetes) was a significant predictor of implementing these tasks and satisfaction with them. Satisfaction also created a negative relationship with the time of the diagnosis.

The last set of independent variables including the beliefs about the causes of the child's illness, created significant regression models for the implementation of care and educational tasks and satisfaction with them: R_O_W: $F(6.121) = 2.716, p = .016$, M_O_W: $F(6.121) = 1.762, p = .114$, S_O_W: $F(6.121) = 3.103, p = .007$. The significant models explained 12% and 13% of the variance in the dependent variables. In the case of these tasks, significant negative relationships were created by beliefs about professionals' negligence as the cause of the disease and the time of its diagnosis. The role of diabetes was also significant. None of the variables in the second model created significant associations with task satisfaction.

Table 3. Regression coefficients for the KIPP and The Parental Involvement Scale – therapeutic tasks

| Variables | R_T | | | M_T | | | S_T | | |
|------------------------------------|----------|---------|------|----------|---------|------|----------|---------|------|
| | B | β | SE | B | β | SE | B | β | SE |
| Constans | 42.57*** | | 5.51 | 36.88*** | | 4.74 | 30.13*** | | 5.63 |
| KIPP1 Learning | .58 | .03 | 2.03 | 2.14 | .14 | 1.74 | -.71 | -.04 | 2.17 |
| KIPP1 Fulfillment | 3.61 | .23 | 1.90 | 4.77** | .34 | 1.63 | 5.05* | .30 | 1.94 |
| KIPP1 Personal strength | -.83 | -.06 | 2.16 | -.08 | -.01 | 1.86 | 1.23 | .07 | 2.21 |
| KIPP1 Life's purpose | -1.67 | -.13 | 1.34 | -1.99 | -.17 | 1.15 | -2.55 | -.18 | 1.36 |
| KIPP1 Personal growth | -.58 | -.04 | 1.74 | -2.15 | -.16 | 1.49 | -1.97 | -.12 | 1.77 |
| KIPP1 Social network | 2.40 | .17 | 1.41 | 2.29 | .18 | 1.21 | 2.51 | .16 | 1.44 |
| KIPP1 Career or job growth | 1.33 | .09 | 1.50 | .78 | .06 | 1.29 | 1.96 | .13 | 1.53 |
| KIPP1 Ambition | .74 | .05 | 1.70 | 1.47 | .11 | 1.46 | 3.25 | .20 | 1.73 |
| Type of disease | -2.16 | -.14 | 1.40 | -.44 | -.03 | 1.21 | -.72 | -.04 | 1.43 |
| Time of the diagnosis | -.02 | -.17 | .01 | -.00 | -.01 | .01 | -.01 | -.03 | .01 |
| R ² | | | .17 | | | .24 | | | .27 |
| ΔR^2 | | | .10 | | | .18 | | | .21 |
| Constans | 65.68*** | | 5.68 | 62.32*** | | 5.32 | 50.56*** | | 6.38 |
| KIPP2 Upward, favorable comparison | .49* | .18 | .25 | .54* | .22 | .23 | .72* | .24 | .28 |

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|------------------------------|----------|------|------|----------|------|------|----------|------|------|
| KIPP2 Similar comparison | -.20 | -.05 | .34 | -.22 | -.07 | .32 | .22 | .05 | .38 |
| KIPP2 Downward comparison | -1.19*** | -.31 | .32 | -.80** | -.23 | .30 | -.77* | -.18 | .36 |
| Type of disease | -2.27 | -.15 | 1.30 | -.75 | -.05 | 1.22 | -1.55 | -.09 | 1.46 |
| Time of the diagnosis | -.03* | -.20 | .01 | -.01 | -.06 | .01 | -.02 | -.10 | .01 |
| R ² | | | .17 | | | .10 | | | .12 |
| ΔR ² | | | .14 | | | .06 | | | .09 |
| Constans | 64.99*** | | 4.72 | 65.20*** | | 4.45 | 64.85*** | | 5.31 |
| KIPP3 Professionals' neglect | -4.50** | -.25 | 1.65 | -2.11 | -.13 | 1.56 | -2.16 | -.11 | 1.86 |
| KIPP3 Physiologic cause | -1.21 | -.06 | 2.45 | -1.44 | -.08 | 2.32 | -4.46 | -.21 | 2.76 |
| KIPP3 Fate or chance | -.43 | -.13 | .50 | .14 | .05 | .48 | .48 | .13 | .57 |
| KIPP3 Someone's fault | 4.93 | .25 | 3.53 | .16 | .01 | 3.33 | .34 | .02 | 3.97 |
| Type of disease | -2.12 | -.14 | 1.40 | -.67 | -.05 | 1.32 | -1.10 | -.07 | 1.57 |
| Time of the diagnosis | -.03* | -.20 | .01 | -.01 | -.06 | .01 | -.01 | -.07 | .01 |
| R ² | | | .13 | | | .03 | | | .07 |
| ΔR ² | | | .09 | | | -.01 | | | .03 |

Type of disease: epilepsy – 1, diabetes – 0; time of the diagnosis in months

* $p < .05$; ** $p < .01$; *** $p < .001$

All regression models created for the dependent variables of implementing therapeutic tasks, motivation, and satisfaction with them and the independent variables, positive perception of the child and their illness, were significant: R_T: $F(10.118) = 2.414$, $p = .012$, M_T: $F(10.118) = 3.699$, $p = .001$, S_T: $F(10.118) = 4.411$, $p = .001$. They explained 17%, 248%, and 27% of the variance in the dependent variables, respectively. The variable sense of happiness and fulfillment was important here, creating positive relationships with the motivation to carry out these tasks and the satisfaction with it.

All models including the set of variables describing the results of comparing one's situation with the situation of others, were significant: R_T: $F(5.122) = 5.010$, $p = .000$, M_T: $F(5.122) = 2.579$, $p = .030$, S_T: $F(5.122) = 3.348$, $p = .007$. The indicators relating to the explained variance of dependent variables were 17%, 10%, and 12%. Significant positive relationships with each dependent variable were created by upward comparisons, and negative relationships were created by downward comparisons. Moreover, the time of diagnosis was significant for implementing therapeutic tasks, creating a negative relationship.

Only one regression equation, for the variable of implementation of therapeutic tasks and the perceived causes of the child's illness, was significant: R_T: $F(6.121) = 3.003$, $p = .009$, M_T: $F(6.121) = 0.723$, $p = .632$, S_T:

$F(6.121) = 1.591, p = .155$. The independent variables in the significant model explained 13% of the variance in the variable implementation of therapeutic tasks. Significant negative relationships with this variable were created by beliefs about professionals' negligence as the cause of the child's illness and the time of its diagnosis.

Discussion

Regression analysis showed few connections between the perception of positive aspects of the child's functioning and the importance of the child's illness and mothers' involvement in care, upbringing, and therapeutic tasks (H1). Happiness and fulfillment appeared in almost every model, creating positive relationships with the dependent variables. Mothers believed they experienced happiness and fulfillment thanks to bringing up a child with a chronic disease when they were also more involved in activities necessary for the successful development of the child, created favorable conditions for them, supported them, respected their rights and needs, cooperated with teachers, accompanied the child, discovered their potential, and helped them overcome their limitations caused by the disease. This scope of tasks also included taking actions to plan the child's future (including their education and profession). This aspect of mothers' beliefs coincided with greater motivation to undertake tasks aimed at the child's treatment, therapy, and rehabilitation, among others, by implementing specialists' recommendations and cooperating with them, expanding their knowledge in the area, and developing the child's self-control to cope with the disease, plus satisfaction with these tasks. A stronger belief in the sick child's positive contribution to family life, this child's involvement and help, and a sense of pride in their achievements were significant for greater satisfaction with implementing care and educational tasks and motivation for them.

Mothers with weaker beliefs about their personal development and developing self-control, responsibility, productivity, and coping skills were also more involved in care and upbringing tasks and had greater motivation to do it. In this case, the pursuit of tasks supporting the development of the sick child, reinforced by positive beliefs about the child's capabilities (active participation in family life and achievements), was a platform for these mothers to develop characteristics they believed they lacked.

Regarding hypothesis 2, we discovered most of the relationships for favorable and unfavorable comparisons. Mothers who experienced more positive effects of comparing their situation with that of other parents and less negative effects showed greater commitment to implementing care,

educational, and therapeutic tasks, as well as stronger motivation and satisfaction. Mothers who were more involved (globally, considering its three dimensions) in both types of tasks had stronger hope, happiness, courage, and faith when they compared their situation to that of other families. Such a confrontation was a source of discouragement or resignation for them to a lesser degree.

In the case of hypothesis 3, only one aspect, defining mothers' beliefs about the causes of the child's illness, was significant for care, as well as educational and therapeutic tasks. Weaker assumptions about the specialists' negligence and errors accompanied more involvement in implementing these tasks.

The positive aspects that mothers perceive in their relationship with their child with a chronic illness constitute potential (resources) in coping with the demands of care (Behr et al., 1992), and the fact of perceiving them may be a positive coping strategy (Pierce et al., 2019). On the other hand, both satisfaction with completing tasks, motivation to do it, and positive beliefs may reflect mothers' general attitude towards their situation and be a manifestation of their adaptation to life with a child with a chronic disease (Mu, 2008; Johnson and Mendoza, 2018; Yang and al., 2023).

The patterns of correlations created by the type of disease and the time of its diagnosis were consistent in all models, although not always significant. The shorter time since the diagnosis occurred in the model created by positive aspects and the implementation of care and educational tasks, comparisons of one's situation and satisfaction with care and education tasks, beliefs about the causes of the disease, and the implementation of both types of tasks. The literature indicates the negative impact of a shorter time since the diagnosis of the disease on parental functioning (Domaradzki and Walkowiak, 2023; Kim et al., 2024). Presumably, for the mothers in the sample, it was a more intense period of searching for optimal methods of treatment/therapy, which required extended cooperation with specialists and implementation of their recommendations. A shorter time from the diagnosis may also be related to the younger age of the child, which necessitates undertaking both types of tasks to a greater extent. This issue requires empirical analysis involving the age variable.

The child's disease (diabetes), not surprisingly, was important in models involving comparisons of the mothers' situation and beliefs about the causes of the disease, but only for the implementation of care and educational tasks and satisfaction with them. In the case of type 1 diabetes, the etiology covers relatively fewer factors compared to epilepsy, and control

of the disease provides good developmental prognoses for the child. This may result in a broader spectrum of expectations and activities, including those that normalize this development and satisfaction with implementing them.

Parents' beliefs about their child's illness, including its causes, are shaped by personal experiences and environmental influences. Parents rarely know the specifics of the disease, so after the diagnosis, they rely on the knowledge provided by specialists (Kozłowska et al., 2021). In the case of some diseases, such as epilepsy, more widespread myths and stereotypes also come to the fore (Mu, 2008; Yang et al., 2023). Parents should be provided with reliable and comprehensive knowledge because, as our analyses show, beliefs about the etiology of the disease are important for maternal involvement in their tasks. Specialists in health and education, such as psychologists in counseling centers, will play a key role here.

Parents should also be supported in processing experiences resulting from confrontations with other families. The presented research shows that specific results of such confrontations are important for engagement in tasks in its various dimensions. On the one hand, comparisons can provide coping models; on the other hand, they can help parents become aware of their potential (Behr et al., 1992).

The issues raised in this work are worth further exploring to identify other personal and social factors shaping parental involvement, especially in motivation and satisfaction. Mothers' dominant participation in care must not exclude fathers. Understanding their involvement and its context from a dyadic perspective would be of great value.

The Kansas Inventory used here is a versatile tool in terms of both the scope of application and issues. Importantly, it can be used to verify the positive aspects of parental experiences. However, further research is needed to check its structure in Poland.

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