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Coping with stress of mothers of children with disorders belonging to autism spectrum

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Abstract

Introduction: The aim of this study was to analyze the relationship between coping styles in mothers of children with an autism spectrum disorder (ASD) and the severity of their children's symptoms.

Material and method: The study included a group of 70 women raising children with a medical diagnosis of ASD. The children with the aforementioned pervasive developmental disorders were from 5 to 16 years old and were patients of the Mental Health Centre in Kielce, Poland. A study involved: our own survey; the Strengths and Difficulties Questionnaire (SDQ) by R. Goodman; the Coping Inventory for Stressful Situations (CISS) questionnaire by Endler and Parker; the Sense of Coherence Scale SOC-29 by Antonovsky; the Set of Questionnaires for the Diagnosis of Autism Spectrum Disorders (ASRS) by S. Goldstein and J. A. Naglieri.

Results: The mothers' preference for emotion-focused and avoidance coping styles was found to correlate significantly with their low sense of coherence and the severity of their child's ASD symptoms measured with ASRS and SDQ.

Conclusions:

1. Emotion-focused and avoidance coping styles were associated with a low sense of coherence in the surveyed women.
2. The mothers' preference for emotion-focused and avoidance coping styles was associated with increased ASD symptoms, more severe emotional and behavioral deficits and poorer peer interactions in their children.
3. The mothers' preference for problem-focused coping correlated with a low severity of their children's social and communication deficits.

Keywords: coping with stress, mother, sense of coherence, autism spectrum disorders

Streszczenie

Wstęp: Celem pracy była analiza zależności między stylami radzenia sobie matek dzieci z zaburzeniami ze spektrum autyzmu (ASD) a nasileniem objawów u ich dzieci.

Materiał i metody: Badaniem objęto grupę 70 kobiet wychowujących dzieci z rozpoznaniem zaburzeń ze spektrum autyzmu. Dzieci z wyżej wymienionymi zaburzeniami rozwoju były w wieku od 5 do 16 lat i były pacjentami Centrum Zdrowia Psychicznego w Kielcach. W pracy zastosowano: ankietę własnej konstrukcji, Kwestionariusz Mocnych Stron i Trudności (SDQ) R. Goodmana, kwestionariusz Coping Inventory for Stressful Situations (CISS) autorstwa Endlera i Parkera, Skalę Poczucia Koherencji SOC-29 Antonovsky'ego; zestaw kwestionariuszy do diagnozy zaburzeń ze spektrum autyzmu (ASRS) autorstwa S. Goldsteina i J.A. Naglieri.

Dyskusja: Stwierdzono istotne zależności między preferowanym przez badane matki stylem radzenia sobie ze stresem skoncentrowanym na emocjach i unikaniu a niskim poczuciem koherencji i nasileniem objawów należących do spektrum autyzmu u dziecka, mierzonych za pomocą ASRS i SDQ.

Wnioski:

1. Style skoncentrowane na emocjach i unikowe wiązały się z niskim poczuciem koherencji badanych kobiet.
2. Preferowanie przez matki stylu radzenia sobie ze stresem skoncentrowanym na emocjach i unikaniu łączy się z nasilonymi objawami zaburzeń ze spektrum autyzmu u ich dzieci.
3. Preferowanie przez matki zadaniowego stylu radzenia sobie ze stresem koreluje z niskim nasileniem deficytów społecznych i komunikacyjnych u dzieci.

Introduction

Parents of children with autism spectrum disorders (ASD) are at risk of chronic stress [1-14].

Most studies devoted to the issue of stress in parents of children with ASD focus on factors influencing the severity of parental stress. According to numerous authors [5,10,14], higher levels of parental stress correlate with the severity of ASD symptoms in children. Bonis and Sawin demonstrated that increased stress, anxiety and depression in parents of children with ASD were associated with the severity of the child's verbal and non-verbal deficits and ASD symptoms [15]. Similarly, Craig et al. showed that a higher level of parental stress correlated with a lower level of cognitive functioning and increased emotional and behavioral problems in children [16].

Dąbrowska and Pisula found that parents of children with autism reported higher levels of stress than parents of children with Down's syndrome and typically developing children [17]. They also noted that mothers of children with autism reported significantly higher levels of stress compared to fathers. Pisula listed the following as the strongest sources of stress in parents of children with autism: stigmatization, social isolation, incompetence, and the child's stereotyped and self-stimulating behaviors [18]. Liwag reported that elevated anxiety and stress in parents of children with autism were associated with receiving a diagnosis of the child's disorder, the child's communication deficits, hyperactivity, and aggressive behaviors as well as the fear that the child would never be developing properly [19]. Banasiak pointed out that a high rate of stress in mothers of children with autism coincided with impairments in the child's cognitive, physical and emotional development and the mothers' dependence on others for care. In his opinion, mothers of children with autism show preference for institutional care as a result of the stress they experience in connection with the prospect of having to continually take care of their sick child [20].

Sim et al. analyzed stress-related factors in families supporting a child with ASD. In their study, 44% of the guardians reported high rates of parenting stress which resulted from limited social engagement, a lack of access to individualized therapy, the negative impact of the child's disease on marital relations, and high costs of child care [12]. Little found that mothers of children with Asperger's syndrome displayed higher levels of stress associated with family problems and pessimism about their child's future [21].

Xue et al. observed that parents of children with ASD experienced relatively low levels of stress when their child exhibited stereotyped, aggressive behaviors only

occasionally. Parents whose children had no comorbidities and did not exhibit high levels of aggressive behavior, coped better with their child's disorder and experienced lower levels of stress [22].

Child stereotyped behaviors, self-regulation problems, non-compliance with rules, and antisocial and aggressive behaviors placed a higher demand on parents and were therefore associated with higher levels of stress. It should be noted that mothers, who received more social support, experienced much less stress [23]. According to DesChamps et al., parents report lower levels of stress when they have a sense of social satisfaction and parenting efficacy [24].

Argumedes et al. and Bonis and Sawin observed that parents found it more useful in dealing with stress to receive social support than to receive information about their child's disorder [1,25]. According to DesChamps et al., parents report lower levels of stress when they have a sense of social satisfaction and parenting efficacy [24].

The increasing prevalence of ASD has encouraged researchers to delve into the problems of the severity of the stress experienced by parents raising children with ASD and their preferred coping methods and styles [25]. Most of the authors of those studies have approached these issues along the lines of Lazarus' transactional model of stress and coping [26]. Lazarus and Folkman define stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" [26]. Lazarus (1986) distinguishes three basic coping strategies: (1) problem-focused, (2) emotion-focused, and (3) avoidance coping [26].

Parents who raise children with ASD may experience tension, anxiety, sadness, and a sense of chaos and insecurity. Some of them may respond to this burdening situation with a sense of helplessness, guilt, incompetence, and anger, while others will approach it in an active, task-oriented manner [27, 28]. Ruiz-Robledillo et al. believe that parents' responses to the difficult circumstances associated with supporting a sick child may be influenced by their preferred coping styles [29]. A similar opinion has been expressed by Baxter et al. and Hastings et al. [2, 3], who have observed that coping strategies play an important role in parents' adaptation to the problems associated with raising a child with ASD. Zaidman-Zait et al. described relationships of the level of the child's problematic social behaviors with parenting stress and mothers' use of avoidance coping strategies [23].

Dudek investigated coping strategies of parents of children diagnosed with autism. He discovered that

mothers of autistic children were more likely than fathers to use avoidance and distraction (engaging in substitute activities) coping styles [30]. In his study, there were no significant differences in coping styles between parents of children with autism and Asperger's syndrome [30]. Shepherd et al. and Ilias et al. explored the relationship between the severity of child autism symptoms and parental coping styles [11, 31]. They pointed out that there were several factors that determined parental responses to stress: level of social support, severity of autism symptoms, financial difficulty, parents' understanding and perception of the disorder, anxiety and worries about the child's future, and religious beliefs.

Similarly, Craig et al. showed that in parents of autistic children, elevated levels of parenting stress were related to the severity of their child's symptoms. In their study, parents of children with ASD had the highest parenting stress scores [16]. However, the level of parenting stress depended on how the parents perceived their situation and what coping strategies (i.e. problem-focused, emotion-focused, or avoidant) they used. According to those authors, higher levels of parenting stress are associated with the child's poorer cognitive functioning and more severe emotional and behavioral deficits [16].

Only a few authors [32, 33, 34, 35, 36] have focused their research on the analysis of the relationships of stress and coping styles with the sense of coherence in parents of children with ASD. The sense of coherence has been defined by Antonovsky in reference to Lazarus' transactional model of stress. Lazarus' and Antonovsky's models are complementary and allow a more complete understanding of the issues under consideration [37, 38]. The sense of coherence is the "feeling of certainty that (1) the stimuli provided in the course of life by the internal and external environment are structured, predictable and explicable; (2) there are available resources which help face the challenges arising from these stimuli; (3) [and that] these challenges are a worthwhile effort". Thus, the sense of coherence consists of three components: (1) comprehensibility, (2) manageability, and (3) meaningfulness. Comprehensibility refers to the evaluation of stimuli as being repeatable, predictable and comprehensible. *Comprehensibility* is the cognitive component of the sense of coherence. *Manageability* is the belief that one can cope with various situations because one has the appropriate resources to do so. Manageability is the instrumental-behavioral component of sense of coherence. *Meaningfulness* is the extent to which one believes that the activities one undertakes make sense from an emotional point of view. Meaningfulness is the emotional-motivational component of sense of coherence. According to Antonovsky [37, 39], the sense of coherence permits one to discern and use available resources

for specific demands/stressors, allowing one to more effectively deal with the stressors and stress.

Mak et al. studied the relationships between the sense of coherence, parental attitudes and parenting stress in mothers of children with autism [40]. The study involved 157 women. The authors showed that mothers with a high sense of coherence experienced lower levels of stress than mothers with a low sense of coherence, even when their children had more severe autistic symptoms. The sense of coherence was associated with a sense of parental competence (parental confidence) and acceptance of the child [40]. Lustig et al. observed that mothers of children with autism who had difficulty adjusting to the circumstances associated with their child's disease had a low sense of meaningfulness [41].

Pozo and Sarriá emphasize that increased difficulties in behavioral functioning in children are associated with a low sense of coherence in parents and increased parental stress [42]. Parents with a high sense of coherence perceive the situation of raising a sick child as being more predictable, manageable, and meaningful, and experience less stress than parents with a low sense of coherence. Parents with a low sense of coherence are more likely to use avoidance coping strategies compared to parents with a high sense of coherence. People with a strong sense of coherence perceive the world as being predictable, manageable and meaningful, and view stressors as important challenges that are worth facing [37, 38].

Pisula and Kossakowska compared the levels of sense of coherence between parents of children with autism and parents of typically developing children; they also examined the relationship between the level of sense of coherence and parental coping strategies [36]. Their findings are consistent with the results reported by Olsson and Hwang, who showed that parents of children with autism had a lower sense of coherence than parents of healthy children [35]. Parents' confidence in their parenting efficacy is a factor that reduces the level of parental stress [32]. Bekhet et al. emphasize that parents of children with ASD who use problem-focused coping strategies have positive cognitions about their parenting capabilities, which increases their resilience [33]. Those authors reported that indicators of mental resilience, which included acceptance, sense of coherence, optimism, and positive family functioning, were predictors of problem-focused coping. A higher level of self-efficacy was associated with better, active coping in mothers of children with autism [34]. Batool and Khurshid pointed out that the relationship between the severity of the child's difficulties and parental sense of efficacy was a significant predictor of the level of parenting stress [32].

Results of research on the factors influencing the level of stress in parents bringing up a child with ASD,

their coping styles, and the psychological variables, such as the sense of coherence, which promote adaptive, problem-focused coping, have been harnessed in various educational programs [25, 30, 42–43, 44]. Bonis believes that the development of additional programs aimed at helping parents to learn appropriate coping skills to deal with the stress of caring for a child with ASD may allow both the parents and their children to achieve the best possible quality of life [25].

Aim

The aim of the present study was to analyze the relationships linking the coping strategies used by mothers of children with ASD with their sense of coherence and their assessment of the severity of their child's symptoms and difficulties in social-emotional and behavioral functioning.

The hypotheses

The following research hypotheses were formulated in this study:

- H1. Problem-focused coping is significantly associated with a high level of sense of coherence.
- H2. Emotion-focused, avoidance and distraction coping is significantly associated with a low level of sense of coherence.
- H3. Problem-focused coping is significantly associated with infrequent ASD symptoms in the child.
- H4. Emotion-focused, avoidance and distraction coping is significantly associated with frequent ASD symptoms in the child.
- H5. Problem-focused coping is significantly associated with rarely observed difficulties in the child's emotional and behavioral functioning.
- H6. Emotion-focused, avoidance and distraction coping is significantly associated with frequently observed difficulties in the child's emotional and behavioral functioning.

Material and methods

Study group

The study included a group of 70 women raising children with a medical diagnosis of ASD. The children with the aforementioned pervasive developmental disorders were from 5 to 16 years old and were patients of the Mental Health Centre in Kielce, Poland. The mothers' mean age was 38.77 (SD = 4.60; min = 28; max = 49). Thirty one (44.29%) of the participants lived in the countryside, and thirty nine (55.71%) in the city. Eleven (15.71%) women had vocational education, twenty eight (40.00%) – secondary, and thirty one (44.29%) – higher. Thirty four

(48.57%) mothers were professionally active, two (2.86%) were on a disability pension/retired, and thirty four (48.57%) did not work by choice. Ten mothers (14.29%) raised their child as single parents and sixty mothers (85.71%) – together with their husbands. For thirty four (48.57%) of the participants, the child with ASD was their only child.

Methods

Our own survey allowed for the collection of data on: the age of the studied women and their children, level of education of the study subjects, their place of residence, marital status, professional activity, and the children's medical diagnosis.

The Coping Inventory for Stressful Situations (CISS) questionnaire by Endler and Parker includes 48 statements enabling the identification of strategies chosen by the subject to cope with a stressful situation. The subject chooses the answer according to the five-point Likert gradation, where "1" corresponds to the lack of choice of a specific way of coping with stress, and "5" corresponds to making very frequent choices of a particular way. The scale includes three subscales: 1) task-solving orientation, 2) emotion-revealing orientation, and 3) avoiding the problem by engaging your attention in other activities. The third style can take two forms: ACZ – distraction seeking while diverting attention away from the main problem and PKT – social diversion. Each of these subscales includes 16 items. Each of these subscales includes 16 items. Polish adaptation of the CISS was developed by Strelau et al. [45]. Coefficients of reliability range from 0.78 to 0.90, and the correlation coefficients between twofold examination of 2–3 weeks apart within the range of 0.73–0.80. Polish standards were developed for people aged 16 to 79.

The Sense of Coherence Scale SOC-29 by Antonovsky measures the sense of coherence and was published in 1983 [37,38]. In its original version, it includes 29 items and 3 subscales: the sense of comprehensibility (SOC-29 ZR), manageability (SOC-29 Z) and meaningfulness (SOC-29 S). The first subscale includes 11 items, the second – 10, and the third – 8. The subject answers using a 7-point Likert scale, in which "1" corresponds to the statement that a given attitude always occurs, and "7" never occurs. In some items, reverse scoring was used. Based on the scale, it is possible to obtain a general score (SOC-29), which determines the general intensity of the sense of coherence in the studied person [37,38]. The SOC 29 Life Orientation Questionnaire is featured by high integrity and cross-cultural validity [46, 47, 48,49]. In Polish studies, SOC-29 showed a very high reliability and validity. The internal consistency coefficients, calculated using the split half method with the Spearman-Brown correction, were as follows: sense of coherence – 0.92, comprehensibility –

0.78, manageability – 0.72, and meaningfulness – 0.68. The dimension of meaningfulness is the most diagnostic subscale of the Orientation to Life Questionnaire [47].

The Set of Questionnaires for the Diagnosis of Autism Spectrum Disorders (ASRS) by S. Goldstein and J. A. Naglieri allows for the identification of difficulties related to: communication skills, attention deficits, difficulties in contacts with peers and adults. The set of questionnaires includes separate versions for parents and teachers, and for two age groups: 2 to 5 years and 6 to 18 years. The full version of the questionnaire includes 71 items and allows to calculate the following scores: general score, DSM scores, ASRS scores and therapeutic scales. The test can be conducted individually or in groups. The parent chooses the answer from among 5 options: 0 - never, 1 - rarely, 2 - sometimes, 3 - often, 4 - very often, which best describes the child's difficulties. Goldstein and Naglieri [50] distinguished the following ASRS scales: 1) Social relations/ communication - incorrectly uses verbal and/ or non-verbal communication to initiate contacts, engage in relationships, maintain social contacts; 2) Atypical behaviour - has difficulty tolerating changes in routine activities, engages in seemingly pointless, stereotypical behaviour, reacts too strongly to specific sensory experiences; 3) Self-regulation - has attention deficit, motor control and impulse control deficits, is quarrelsome and confrontational; 4) DSM scales - has symptoms directly corresponding to the DSM-IV-TR diagnostic criteria for ASD. Therapeutic scales include: 1) Relationships with peers - has limited abilities and interests in terms of engaging in activities that favour establishing and maintaining relationships with peers; 2) Relationships with adults - has limited abilities and interests in terms of engaging in activities that are conducive to establishing and maintaining relationships with adults; 3) Social and emotional reciprocity - has a limited ability to adequately react emotionally in a relationship with another person and in a social situation; 4) Atypical language - communicates verbally in an unstructured, unconventional way; 5) Stereotypies - engages in pointless, repetitive behaviour; 6) Behavioral rigidity - has difficulty tolerating changes in the order of the day and routine activities; environmental features must not change; 7) Sensory sensitivity - too strongly reacts to some tactile, auditory, visual, smell or taste sensations; 8) Attention/ self-regulation - has difficulty focusing attention properly on one thing and ignoring distractors; seems lost and confused; may have deficits in motor and impulse control, is confrontational [50]. In 2014, Polish standardization study was conducted. Standards were developed and the assessment of the reliability and accuracy of the questionnaires was developed. Internal consistency, defined by Cronbach's α coefficient, is very

high; for the overall score of the version for parents it is 0.93. The scales distinguished on the basis of factor analysis have the highest reliability - coefficients for these scales range from 0.87 (social relations/ communication) to 0.96 (atypical behavior). The coefficients for the DSM scale were also very high and ranged from 0.88 to 0.96 [50]. A version of the questionnaire for parents was used in the study.

The Strengths and Difficulties Questionnaire (SDQ) by R. Goodman is a tool used to assess the intensity of symptoms of emotional, social and behavioural difficulties in children from 3 to 16 years of age. It consists of 25 statements describing various features of the studied person, 10 of which refer to strengths of the child, 14 describe his weaknesses, and 1 is a neutral statement. The SDQ questionnaire consists of 5 subscales (with 5 statements each): Hyperactivity / Inattention (HA), Emotional Symptoms (ES), Conduct Problems (CP), Peer Problems (PP), Prosocial Behaviour Symptoms - PBS). The first 4 subscales are part of the Total Difficulties Score (TDS), which describes overall intensity of psychopathology symptoms. The answers are scored from 0 to 2 points for negative statements and from 2 to 0 points for positive statements. The overall score of the SDQ ranges from 0 to 40 points. A high number of points is associated with an increase in the difficulty of the tested child. The scores for the individual subscales and the overall score are categorized as: "normal", "borderline", "abnormal". In Poland, the only available standards are for the self-report version of the SDQ questionnaire for adolescents [51, 52] and researchers most often refer to English standards of the SDQ [53, 54]. „Externalising” and „internalising” scores: the externalising score ranges from 0 to 20 and is the sum of the conduct and hyperactivity scales. The internalising score ranges from 0 to 20 and is the sum of the emotional and peer problems scales. Using these two amalgamated scales may be preferable to using the four separate scales in community samples, whereas using the four separate scales may add more value in high-risk samples [55]. In the study, a version of the questionnaire for parents was used – the Strengths and Difficulties Questionnaire (SDQ). In studies conducted among parents of children with central auditory processing disorders, Cronbach's α for the SDQ questionnaire ranged from 0.78 to 0.51 [54].

Study procedure

The study was approved by the Bioethics Committee at the Medical University of Lublin, No. KE-0254/3/2020. The individuals who consented to the study were provided with a set of questionnaires. They were informed that they could consult a psychologist at any time in case of questions regarding the study. The female subjects

completed the questionnaires individually at the Mental Health Centre, but also had the opportunity to complete them at their place of residence. Each of the subjects received material including instructions, a demographic survey and a set of the above questionnaires. The study was absolutely voluntary

Study procedure

The results were analyzed statistically using STATISTICA 10.0PL software. The normality of distribution of the individual variables within groups was tested using the Lilliefors test (a version of the Kolmogorov–Smirnov test). Relationships between interval variables were determined by calculating

Table 1. Pearson's correlation coefficients (*r*) between the subjects' CISS and SOC-29 scores

SOC-29	CISS				
	Task-oriented style	Emotion-oriented style	Avoidant style	Distraction seeking	Social diversion
Sense of comprehensibility	-0.01	-0.33**	-0.19	-0.19	-0.02
Sense of manageability	0.11	-0.62***	-0.40***	-0.40***	0.16
Sense of meaningfulness	0.13	-0.59***	-0.42***	-0.42***	0.10
Overall score	0.09	-0.61***	-0.28*	-0.40***	0.09

Notations: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Pearson's correlation coefficient (*r*). A *p* value of 0.05 was deemed statistically significant.

Results

To determine the relationship between the mothers' coping styles and their sense of coherence, Pearson's correlation coefficient (*r*) between the subjects' CISS and SOC-29 scores (Table 1) was calculated.

The results of the correlation analysis demonstrated that there were significant associations between low levels

of sense of coherence, manageability and meaningfulness, and the mothers' preference for emotion-focused and avoidance coping styles, which they expressed by engaging in substitute activities in order to divert their attention from problems and difficulties. Statistically significant correlations were found between low comprehensibility and the emotion-focused coping style, which was often used by the surveyed women.

To determine the relationship between the mothers' coping styles and mother-reported ratings of child ASD severity, Pearson's correlation coefficients (*r*) between the

Table 2. Pearson's correlation coefficients (*r*) between the subjects' CISS and ASRS scores

ASRS	CISS				
	Task-oriented style	Emotion-oriented style	Avoidant style	Distraction seeking	Social diversion
Social relations and communication	-0.25*	0.25*	0.19	0.32**	-0.13
Atypical behaviours	0.00	0.28*	0.20	0.28*	-0.07
Self-regulation	0.10	0.28*	0.22	0.26*	0.06
DSM	-0.12	0.25*	0.20	0.30**	-0.09
Relations with peers	-0.13	0.29**	0.14	0.31**	-0.20
Relations with adults	0.02	0.28*	0.29*	0.33**	0.12
Social-emotional reciprocity	-0.20	0.25*	0.21	0.30**	-0.07
Atypical language	-0.09	0.28*	0.18	0.25*	-0.05
Stereotypies	0.02	0.14	0.08	0.15	-0.11
Behavioural rigidity	0.02	0.16	0.14	0.19	-0.04
Sensory sensitivity	0.02	0.36**	0.28*	0.35**	-0.01
Attention	-0.01	0.18	0.11	0.16	-0.01

Notations: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

subjects' CISS and ASRS scores were calculated (Table 2).

The correlation data showed that there were significant dependencies between the mother's preference for problem-focused coping and the mother's low ratings of her child's social and communication deficits. The more often the women used emotion-focused coping and distraction coping in stressful situations, the more likely they were to rate their child as displaying more severe ASD features and behaviors, such as communication deficits, stereotyped behaviors, sensory sensitivity, attention, motor control and impulse control deficits, argumentativeness and conflict-proneness, difficulties

in establishing and maintaining relationships with peers and adults, and inadequate emotional responses to social situations.

In order to determine the correlation between mothers' stress coping styles and the assessment of disorders occurring in children, the r-Pearson correlation coefficients between the scores obtained by the studied women in the CISS and SDQ scales were calculated (Table 3).

The results of the correlation analysis indicated that the mothers' preference for emotion-focused coping was significantly correlated with the child's increased

Table 3. Pearson's correlation coefficients (*r*) between the subjects' CISS and SDQ scores

SDQ	CISS				
	Task-oriented style	Emotion-oriented style	Avoidant style	Distraction seeking	Social diversion
Hyperactivity Scale	-0.01	0.19	0.09	0.18	-0.08
Emotional Symptoms Scale	0.06	0.35**	0.22	0.23	0.09
Difficult Behaviour Scale	0.13	0.39***	0.30**	0.26*	0.18
Problems with Peers Scale	0.02	0.29*	0.08	0.12	-0.04
Prosocial Behaviour Scale	0.02	-0.29*	-0.21	-0.20	-0.09
Overall score	0.07	0.42***	0.23*	0.27*	0.05
Externalising score	0.06	0.32**	0.21	0.25*	0.04
Internalising score	0.05	0.40***	0.19	0.22	0.04

Notations: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

behavioral and emotional symptoms, poorer peer interactions, and low pro-social behaviors. Avoidance coping and distraction coping correlated with severe behavioral symptoms observed in the child.

Discussion

The statistical analyses allowed us to verify the hypotheses formulated at the beginning of this article. In our study, the mothers' preference for avoidance, emotion-focused and distraction coping strategies correlated with a low sense of coherence, manageability and meaningfulness. Statistically significant relationships were also found between a low sense of comprehensibility and emotion-focused coping, which was the women's most preferred way of dealing with stress. These results indicate that mothers who have problems discerning and understanding the situations they experience, think negatively of their parenting competence and have low motivation to cope with stressors; they tend to respond to difficult situations with a sense of guilt, depressed mood, and aggressive or auto-aggressive behaviors and to concentrate on emotions and escape from problems through engaging in substitute activities, such as sleep, overeating, etc.

Our results are consistent with those reported by

Margalit et al., who showed that parents of children with ASD who scored low on measures of sense of coherence were more likely to use avoidance coping [56, 57]. Bonis and Dunn et al. found that mothers of children with autism usually used emotion-focused coping, which was associated with a low sense of competence and self-efficacy [25, 58]. Kucz reported a significant negative correlation of self-esteem and self-efficacy with emotion-focused coping [59]. Pisula and Kossakowska reported that a low sense of coherence in parents of children with ASD was negatively associated with seeking social support [36]. By contrast, a strong sense of coherence in parents of children with autism correlated with positive adjustment and constructive, adaptive coping with the difficult situation of the child's disease which they perceived as a task to be dealt with rather than a burden [35, 36]. Siman-Tov and Kaniel found that a strong sense of coherence, an internal locus of control, a sense of social support, and a high-quality marital relationship increased parents' ability to actively cope, in a task-oriented way, with the stress of raising an autistic child [60].

Brookman-Frazee and Koegel, Pozo and Sarriá and Tonge et al. emphasize that SOC is a psychological variable whose dimensions can become the target of specific interventions [42, 61, 62]. Parents' understanding of the problems they have to deal with can be enhanced by

providing clear and consistent information about their child's ASD symptoms and the steps they need to take after hearing the diagnosis. To strengthen parental sense of manageability and competence, it is important to work with families to identify their needs and to provide them with appropriate support in solving everyday problems. Coping skills training for parents allows them to gain a sense of control and management over their lives and to develop adaptive coping strategies [42, 63, 64, 65]. Parents can learn to view stressors as challenges that are worth committing oneself to and investing one's strength in [42].

The results of the statistical analyses conducted in the present study indicated that mothers' preference for emotion-focused, avoidance and distraction coping was associated with increased ASD traits and behaviors in their children, such as communication deficits, stereotyped behaviors, sensitivity to stimuli, attention deficits, motor control and impulse control deficits, argumentativeness and conflict-proneness, difficulties in establishing and maintaining relationships with peers and adults, and inadequate emotional responses in social situations. The results of the correlation analysis showed that the mother's preference for emotion-focused coping was significantly correlated with the child's increased behavioral and emotional symptoms, poor relations with peers, and low pro-social behaviors. Avoidance coping and distraction coping, which are often used by mothers of children with ASD, correlated with severe behavioral symptoms in the child.

A hypothesis can be formulated that a mother who frequently reacts to stress with a sense of guilt, aggression or self-aggression and who avoids thinking about and confronting the problem, escaping from the difficulties into shopping, sleeping, eating, watching TV, etc., will find it difficult to establish a proper relationship with the child, work with him or her, cooperate with professionals, and get involved in child therapy, which will aggravate the child's problems. The offspring's increased difficulties may contribute to the mother experiencing a sense of parenting failure, guilt, incompetence, helplessness, and confusion, destroy her faith in the positive effects of therapy and her motivation to expend effort in helping her child. The mother's preferred coping style and the child's symptoms may reinforce one another in a feedback loop.

Our results closely correspond with other authors' findings. According to Seymour et al., increased behavioral difficulties of a child with ASD may contribute to parental fatigue, which may, in turn, promote the use of ineffective coping strategies [66]. A high level of parenting stress has a negative impact on parents' ability to effectively cope with their child's behavior and the child-raising process in general [15, 33]. Dudek reported that mothers of children with ASD were more likely than fathers to use

avoidance and distraction coping styles [30]. Similarly, Pisula and Kossakowska drew attention to the fact that mothers of autistic children were more likely than mothers of typically developing children to experience feelings of helplessness, failure, and parenting inefficacy and to use avoidance as a coping strategy [36]. McStay et al., Paynter et al. and Stuart and McGrew showed that the use of avoidance coping resulted in poor psychological adaptation of parents of children with ASD [67, 68, 69]. Similarly, Sivberg reported that parents of children with autism were more likely to isolate themselves and escape from problems than parents of typically developing children [69]. At the same time, Ishtiaq et al. demonstrated that parents of children with ASD most often used emotion-focused coping [71].

In reference to the results obtained in the present study, it should also be emphasized that children learn how to react to stress by observing their parents' behavior. Parents who deal with difficult situations by showing aggression or a sense of guilt or eat and watch TV to escape from their problems become role models for their children, who imitate their behavior. The present study also showed that the more often the mothers engaged in substitute activities (eating, watching TV, shopping, etc.), ignoring the child's difficulties and running away from them, the more likely they were to observe externalizing behaviors in their children. It can be hypothesized that by displaying externalizing behaviors, children try to provoke their mother to pay attention to them. The mother's response to the child's externalizing behavior, the interest she shows will act as a "reward" and thus reinforce these behaviors. At the same time, attention should be paid to the results which show that there are significant relationships between the mother's preference for emotion-focused coping and increased externalizing and internalizing behaviors observed in the child. These results contradict the opinion expressed by Beurkens et al. and Gulsrud et al. that mothers of autistic children who display a larger number of externalizing behaviors are more likely to use problem-focused, active coping strategies, but they are also more likely to report higher levels of stress [72, 73].

Numerous researchers [74, 75, 76] have described the use of avoidance coping in parents of children with severe symptoms of autism, which are associated with higher levels of parenting stress, a decrease in their quality of life, increased symptoms of depression and anxiety, and greater tension between spouses [77]. Effective adaptation to the stressful situation of rearing a child with ASD requires the use of problem-focused coping strategies and social support [70].

Our study shows that mothers who focus on resolving their concerns and use problem-oriented coping strategies are less likely to observe social and communication

deficits in their children. It can be hypothesized that, mothers, taking active steps towards solving problems and seeking information about ASD symptoms and treatment are closely associated with gaining experience in caring for their child and are conducive to establishing a closer relationship with the child, to better communication, and an improved ability to understand and satisfy the child's needs. Accepting a child with autism and understanding his or her problems are essential for parents to be able to deal with stress in a task-oriented manner [78]. It can be expected that mothers who prefer the problem-focused coping style will be more willing to participate in educational programs or support groups and cooperate with professionals, which will increase their adaptation abilities, and at the same time improve the child's emotional and behavioral functioning. As the mother observes an improvement in the functioning of her child, her sense of competence, agency, and faith in the ability to cope with the difficult situation will probably get strengthened, increasing her motivation to take similar actions and use the coping style that brings positive effects.

Our study shows that there is a relationship between the mother's preference for problem-focused coping and the child's having fewer social and communication deficits. These findings are consistent with those reported by Bozkurt et al., who demonstrated that parents who preferred to use problem-focused coping strategies, spent much more time with their autistic children and found it easier to adapt to the parenting situation [79]. DesChamps et al. pointed out that a lower level of stress reported by parents was associated with a sense of satisfaction in social relationships and effectiveness in applying parenting styles [24]. Xue et al. found that parents of children with ASD who rarely exhibited stereotyped, aggressive behaviors and had less severe ASD symptoms, experienced relatively low levels of stress and tended to deal with stress in a task-oriented manner [22]. According to Hastings et al., the psychological well-being of parents of autistic children who use problem-focused coping techniques is better than that of parents who use emotional-focused strategies [4]. Parents, who use active, task-oriented coping strategies focused on solving problems, experience lower levels of stress and enjoy the benefits of greater family cohesion and integration [75, 77].

Clifford and Minnes point out that parents of children with ASD, who use the help of support groups, are more likely to apply adaptive stress coping strategies that help them effectively identify and meet their own needs, their child's needs, and the needs of other family members [43, 44], as well as deal in a task-oriented, adaptive and competent way with the challenges related

to family relationships, the child's problems and his or her upbringing [15].

Mello et al. emphasize that both personality-related and environmental factors directly influence the coping potential of parents who have to face problems related to raising a child with ASD. By analyzing the situation of those parents and providing psychological assistance to them, one can properly identify the tension-generating difficulties they have to confront and evaluate their ability to deal with them. As research shows, the severity and specificity of the child's developmental disorders are not without significance [80]. Kuru and Piyal argue that specialized intervention programs should be developed and that psychological and pedagogical help should be oriented at providing parents raising children with ASD with appropriate, optimal social support [81].

Conclusions

1. Emotion-focused and avoidance coping styles were associated with a low sense of coherence in the surveyed women.
2. The mothers' preference for emotion-focused and avoidance coping styles was associated with increased ASD symptoms, more severe emotional and behavioral deficits and poorer peer interactions in their children.
3. The mothers' preference for problem-focused coping correlated with a low severity of their children's social and communication deficits.

Conflict of interest

The authors have declared no conflict of interest.

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