

Depression and anxiety levels and coping strategies used by mothers of children with ADHD: a preliminary study

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ABSTRACT

Objective: Attention deficit hyperactivity disorder (ADHD) is one of the most frequent psychiatric disorders of childhood, characterized by an increased risk for the development of parent-child relationship problems. The aim of this study is to compare the depression and anxiety levels and coping skills used by the mothers of children with ADHD with healthy controls. **Methods:** The research included 36 children between 7-12 years and their mothers who applied to the Gülhane Military Medical Academy Child and Adolescent Psychiatry outpatient clinic consecutively and diagnosed as having ADHD according to the DSM-IV criteria. The mothers were evaluated with the COPE, Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI). **Results:** Of 30 subjects with ADHD who accepted to participate to the study, 5 (16.7%) were diagnosed as "inattentive subtype", 4 (13.3%) were diagnosed as "hyperactivity impulsivity subtype" and 21 (70.0%) were diagnosed as "combined subtype" ADHD. The Beck depression and anxiety scores of the mothers' of the study sample were significantly higher than healthy controls. The suppression of competing activities, focusing on and venting of emotions and denial subscales' scores of COPE and the total scores of dysfunctional coping strategies in COPE of study sample were significantly higher than healthy controls. There were no differences between the study and control groups with respect to child's age, gender, mother's age, and the education period. **Conclusions:** It should be remembered that the depressive and anxious complaints of the mothers' of the study sample might be higher than the controls. To know which coping skills are being used by the mothers in study sample points out the necessary aspects that should be supported by clinicians in psychiatric interview? Studies that are related with this topic with more subjects are needed. (*Anatolian Journal of Psychiatry* 2008; 9:217-223)

Key words: coping strategies, depression, anxiety, COPE, ADHD

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD), a childhood disorder with an early onset, is characterized by hyperactivity, attention problems and impulsivity. The prevalence of this disorder in school age children is reported to be 3-5 %.¹

The behaviors of children are known to affect the parents in an overt way, as well as

increasing their distress.^{2,3} Interaction between parents and children is reported to be bidirectional. A negative family climate is also reported to worsen the prognosis of ADHD.⁴ Patterson defined a dynamic cycle between parenting stress and aggression of the offspring, which is characterized by a directly proportional relationship between problems.⁵ The mothers of children diagnosed with ADHD may be especially liable to such a cycle.⁶ It is also known that the

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need for care of children with ADHD increases throughout childhood and adolescence.⁷ This increased need may hinder parenting function and affect the parents negatively.

Children diagnosed with ADHD display a more negative interaction with their parents, compared to controls.^{8,9} Studies focusing on those families found that parents of such children more frequently reported inadequacy feelings in their parenting roles, experienced more stress in parenting and reported more psychopathology for themselves.¹⁰

The negative behavior and interaction of the children with ADHD may lead their parents to apply for psychiatric treatment. Also, it was observed that mothers with children diagnosed as having ADHD experienced both general and maternal psychological problems more frequently than controls and that they felt themselves inferior in their maternal roles.^{11,12}

Coping can be defined as the resistance of a person to events or situations, which are distressing for the person in question. It involves cognitive, emotional and behavioral responses of the person which are used to resist those situations.^{13,14} The person is expected to develop several coping behaviors when he/she is unable to meet psychological, physical and social demands placed on him/herself in order to reduce and/or eliminate the deleterious consequences of the disorder.¹³

Coping behaviors are divided into three classes as those directed into problem focused, emotion focused and dysfunctional ones.¹⁵ A significant relationship was observed between application of coping behavior focused on reducing emotional stress and emergence and sustaining of psychopathology.¹⁶⁻¹⁸

This study aimed to compare the depression and anxiety levels of mothers with children diagnosed as having ADHD, as well as their coping skills with those of mothers in the control group. In accordance with the results reported in the literature, it was posited that the former group would have lower coping skills along with higher levels of depression and anxiety when compared with controls. The study was designed to validate this hypothesis as well as underline the importance of potential differences in the treatment of ADHD.

MATERIALS AND METHODS

Sampling and procedure

This study was conducted between September and November 2007 at the Child and Adolescent Psychiatry Department of the Gulhane Military Academy of Medicine. Thirty-six consecutive patients between 7-12 years old and diagnosed with ADHD according to the DSM-IV criteria and their mothers, who applied to the outpatient department, were enrolled in the study. The sample consisted of children who attended 1st to 6th classes of primary school. Data for thirty of the patients were evaluated.

All of the patients who were brought to the outpatient department with chief complaints of inattention and hyperactivity were thoroughly evaluated for criteria listed under the "Attention Deficit and Disruptive Behavior Disorders" section of DSM-IV by questioning their parents. Patients who were diagnosed with learning disabilities, conduct disorder, mood and anxiety disorder, those with an overall intelligence quotient of less than 85 and those with a chronic illness including epilepsy were excluded from the study. Patients with ADHD who had comorbid oppositional defiant disorder (ODD) were included in the study and ADHD subgroups were determined. The diagnoses were ascertained by distributing The Scale for Screening and Evaluation of Behavior Disorders in Children and Adolescents²⁰ to parents and teachers of cases.

After the diagnosis of patients with ADHD, the mothers were asked to complete COPE (Coping Orientation to Problems Experienced), Beck Depression and Beck Anxiety Scales. Mothers who had a primary level of education and those who were being treated for a psychiatric disorder at the time were excluded. The control group was formed by mothers of 30 children between 7-12 years old, who attended to the Pediatrics Department of Anittepe Dispensary between September and November 2007. They were also matched for age and educational status. Those mothers were also asked to complete the same forms.

Written informed consent was obtained from parents of children enrolled in the study. The study procedure was also explained to the children in a developmentally appropriate way and their oral consent was obtained.

The scales

Scale for Screening and Evaluation of Disruptive Behavior Disorders according to DSM-IV: This scale was developed according to DSM-IV and questions inattention with 9, hyperactivity with 6, impulsivity with 3, oppositional behavior with 8 and conduct disorder with 15 items. The reliability and validity study was conducted by Ercan and colleagues.¹⁹

Beck Depression Inventory (BDI): It measures the somatic, emotional, cognitive and motivational symptoms of depression. The 21 items all consist of 4 choices which are scored from 0 to 3. The depression score was obtained by the addition of those scores. This score is positively correlated with the severity of depression. The reliability and validity study in Turkish was conducted by Hisli.²⁰

Beck Anxiety Scale (BAS): It evaluates the frequency of anxiety symptoms experienced by the subject. It is a Likert type, self-measure which consists of 21 items. Those are scored from 0 to 3. The total score is positively correlated with the severity of anxiety. It was developed by Beck and colleagues and the reliability and validity study in Turkish was done by Ulusoy and colleagues.^{21, 22}

Scale for Evaluation of Coping Behavior (COPE): It was developed by Carver, Scheier and Weintraub to identify coping strategies employed at stressful situations.²³ The reliability and validity study of the Turkish form was completed by Ağargün and colleagues.²⁴ This is a self-measure which consists of 60 questions. The latter has 4 choices. These are 1=I never do so; 2=I rarely do so; 3=I do like that moderately; 4=I do so mostly.

COPE has 15 subscales. These are: 1) Active coping, 2) Withdrawal, 3) Planning, 4) Beneficial use of social supports, 5) Repressing other activities, 6) Positive reappraisal and development, 7) Religious coping, 8) Humor, 9) Emotional use of social supports, 10) Acceptance, 11) Behavioral apathy, 12) Substance use, 13) Denial, 14) Cognitive apathy, 15) Focusing on the problem and expression of emotions. These are all scored from 4 to 16 points. The sum of first five subscales yields Problem Focused Coping Score while that of 6 to 10 gives Emotion Focused Coping Score. The sum of the last 5 subscales yields the Dysfunctional Coping Score.

Analysis of data

Data were analyzed by using Version 15.0 of the SPSS program. T test was used in comparison of numerical data while categorical data were compared by using chi square test. The significance level was accepted as <0.05.

RESULTS

Eighty percent of the ADHD group was male (n=24) while the rest was female (n=6). The corresponding ratios in the control group were 73.4% (n=22) and 26.6% (n=8), respectively. There was no statistically significant difference between groups (p=0.55). When ADHD subgroups were evaluated according to DSM-IV, it was observed that 70.0% of the cases (n=21) were "combined" type. The ratios for "predominantly inattentive" and "predominantly hyperactive-impulsive" types were 16.7% (n=5) and 13.3% (n=4), respectively. The mean age of the ADHD group was 9.1±1.7 years while that of the control group was 8.96±1.40 years. There was no statistically significant difference between groups (p=0.74).

The mean age of the mothers was 32.5±4.8 (26-43) years in the ADHD group and 30.8±4.5 (21-38) years in the control group. No statistically significant difference was observed between groups (p=0.17). The mean durations of education for the ADHD and control groups were 10.6±2.0 and 11.2±2.0 years, respectively and the groups were not significantly different for that variable also (p=0.22).

The mean BDI score of mothers in the ADHD group was 14.2± 6.8, while that of mothers in the control group was 8.8± 2.6. The groups differed significantly in terms of BDI scores (p=0.00). The mean BAS score of mothers in the ADHD group was found to be 19.2±12.9 and that of mothers in the control group was found to be 10.7±6.3. The groups also differed significantly for BAS scores (p=0.00).

When the subscales of COPE were evaluated it was observed that scores for repression other activities, focusing on the problem and expression of emotions, denial and dysfunctional coping behavior were higher in the ADHD group and those reached statistical significance (Table 1).

When the subscales of COPE were evaluated, it was also seen that only the use of substances

Table 1. Comparison of the subscales scores of COPE between ADHD group and the healthy controls

Parameters	ADHD group (n=30)	Healthy group (n=30)	t	p
Active coping	11.83±2.52	11.46±1.65	0.67	0.51
Planning	12.20±2.73	12.13±1.61	0.12	0.91
Withdrawal	9.73±1.52	9.20±1.44	1.39	0.17
Beneficial use of social supports	11.80±3.07	11.73±2.33	0.01	0.93
Repressing other activities	10.63±2.04	9.53±1.43	2.42	0.02
Problem focused coping score (total)	56.20±9.01	54.06±5.19	1.12	0.27
Positive reappraisal and development	13.00±2.30	12.93±1.31	0.14	0.89
Religious coping	12.60±3.03	13.06±2.58	-0.64	0.52
Humor	7.93±3.39	7.66±1.95	0.37	0.71
Acceptance	9.73±2.30	10.06±2.53	-0.53	0.60
Emotional use of social supports	11.86±2.93	11.66±2.24	0.30	0.77
Emotion focused coping score (total)	55.13±8.24	55.40±7.03	-0.14	0.89
Focusing on the problem and expression of emotions	13.20±2.23	12.00±1.85	2.26	0.03
Denial	6.70±2.62	5.60±1.22	2.08	0.04
Behavioral apathy	7.56±2.77	6.86±2.43	1.04	0.30
Cognitive apathy	9.80±2.13	9.40±1.65	0.81	0.42
Substance use	4.60±1.81	4.53±1.38	0.16	0.87
Dysfunctional coping score (total)	41.86±5.65	38.40±4.81	2.56	0.01

by the mother significantly correlated positively with BAS score ($p=0.03$).

DISCUSSION

This study evaluated the depressive symptoms, anxiety status and selection of coping behavior of mothers of children diagnosed with ADHD. The gender and ADHD subtypes of the enrolled patients were concurrent with previous studies conducted on clinical populations.^{25,26}

It was observed that BDI and BAS scores of mothers of children diagnosed with ADHD were both significantly higher than healthy controls. Due to its chronic nature, ADHD causes a significant stress for the mothers. Although we have not interviewed mothers for definitive

diagnoses, we can infer that higher levels of depression and anxiety may be natural results for those mothers. Also, it was reported in the literature that depressive mothers displayed more negative parenting behavior.^{27,28} Mc Cormick and colleagues²⁹ evaluated the levels of depression in mothers of children with ADHD and reported that the prevalence of major depression was 17.9% while that of minor depression was 20.5%. Similar to our study, Gau and colleagues did not interview mothers of children with ADHD for psychiatric diagnoses though they evaluated parental and familial factors in ADHD.³⁰ They reported that anxiety, depression, somatic symptoms and sleeping problems increased in mothers. Alizadeh and colleagues reported that self-esteem of parents with children diagnosed with ADHD reduced.³¹

Similarly, Lesesne and colleagues reported that mothers of school age children diagnosed with ADHD experienced depression, anxiety and emotional problems at impairing levels.³²

According to Gerdes and colleagues, mothers experiencing life events as uncontrollable and evaluating parenting stress as severe, displayed inadequate mothering.³³ They proposed that experiencing events as uncontrollable and consequently having elevated stress lead mothers to be unresponsive to child's negative behavior. Those cognitions limit problem solving ability of the mother as well as increasing depressive symptoms. Similar to those hypotheses, our study showed that mothers of children with ADHD have elevated levels of depression and anxiety and those factors may be important in the treatment process of the child.

Another important finding is that the dysfunctional coping style scores are significantly higher in the ADHD group. This may reflect the facts that the mothers of children with ADHD are strained in management of hardships, that they are prone to deny them and that they are less occupied both behaviorally and cognitively with issues involving their children. The children with ADHD present more stress in the family and their parents frequently misinterpret their behavior and intentions.^{35,36} In a study which evaluated the coping behaviors in care of patients with Alzheimer's disease, Cooper and colleagues found that the group using emotion focused coping predominantly, both at baseline and at the end of the first year displayed lower levels of anxiety when compared to groups using problem focused and dysfunctional coping behaviors.³⁶ Due to its chronic nature, ADHD also requires parents to face issues continually and cope with them. The fact that mothers of children with ADHD use dysfunctional coping behaviors more frequently may show that their anxiety will continue. However, the cross-sectional nature of our study hinders proposing a more clear-cut relationship between the coping behaviors of mothers and the phenomenology of ADHD. To illuminate the relationship between those behaviors and ADHD, further prospective studies are needed.

Also, we have observed that mothers of children with ADHD use repression the other activities coping method more frequently among problem focused coping behavior. The repression the other activities is defined as canceling other projects to cope with the stressor and to

limit being distracted by other events.²³ The fact that mothers of children with ADHD spend less time with themselves and their environments in order to be more attentive to their children's needs may lead them to experience feelings of inadequacy in parenting roles with time.

We have also observed that mothers of children with ADHD use focusing on the problem and expressing emotions coping method more frequently. This is defined as focusing on the issue and expressing those emotions.³⁷ Such a response may be functional or, alternatively focusing on emotions may hinder adjustment.³⁸ In that case, stressful situations may accumulate, and focusing on them may limit the active coping behavior of the person.^{23,39} So, due to their use of emotion focused coping behaviors more frequently, mothers of children with ADHD may be limited in their cognitive problem solving abilities. This, when combined with the impulsive and emotionally labile child may further damage intrafamilial communication, resulting in a vicious cycle.

Another finding is that mothers of children with ADHD use denial more frequently. On the one hand, denial may reduce stress and free resources for coping.⁴⁰ On the other hand, it may lead to further problems, limiting successful resolution of the stressor.⁴¹ Levine and colleagues suggested that denial was useful in the early phases of the stress, thereafter limiting successful coping.⁴² The finding that mothers of children with ADHD use denial more frequently than controls can either be interpreted as their taking the problem of ADHD lightly, or behaviorally and cognitively ignoring the unsolvable problems between the mother and the child.

Another finding was the statistically significant relationship between BAS and the substance use subscale of the COPE. This may reflect the tendency of using substances in order to feel better, forget stressful situations and ignore themselves, especially by overanxious mothers. The sample size of our study was inadequate to compare coping styles between ADHD subtypes, and the sample size was one of the main limitations of this study. Also, the lack of using a clinical interview form (e.g. K-SADS) to rule out comorbidities in children can be another limitation.

As a result, it can be proposed that the evaluation of family function and especially the mother in the treatment and follow-up of children and adolescents with ADHD is crucial.

The areas of inadequacy and problems for the mother should be questioned and those should be supported in clinical interviews. According to our knowledge, this is the first study to apply COPE to mothers of children with ADHD. Therefore, our results should be deemed pre-

liminary. It can be posited that further use of COPE in larger samples and in various study designs would be beneficial. Also, further prospective studies are needed in order to better illuminate the relationships between maternal coping behavior and the diagnosis of ADHD.

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