Stress among parents of children with attention deficit hyperactivity disorder

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Attention deficit hyperactivity disorder is the most common neurobehavioral disorder among school age children. The aim of the study was to assess stress among parents of children with attention deficit hyperactivity disorder. A descriptive correlation design was utilized in the current study. A sample of convenience of 107 parents of children with attention deficit hyperactivity disorders who were attending to the outpatient clinic in the center for social and preventive medicine in Cairo university hospital for children. Three tools were utilized in the current study including socio-demographic characteristics and medical data, parent stress index, ADHD symptoms checklist child version. The result showed that more than half of the parents have high level of parent stress and more than half of the studied sample had moderate degree of ADHD symptoms. Findings revealed that, there was a highly statistically significant relationship was found between anxiety symptoms and ADHD total scores; however there was statistically significant relationship between place of residence and parent stress total scores. There was statistically significant relationship between sibling number and parent stress total scores. The study concluded that, managing of parenting stress of the family having children with ADHD can be challenging task facing the parents and psychiatric nurse. The findings highlight the importance of further investigation and differentiation specific child characteristics that are likely to influence level of parenting stress, including diagnostic categorization of the child.

Keywords: parents stress, attention deficit hyperactivity disorder

INTRODUCTION

Attention deficit hyperactivity disorder is a chronic, pervasive condition characterized by inattention, impulsivity, and hyperactivity (American Psychiatric Association, DSM-IV-TR, 2000). It is also one of the most common childhood disorders, affecting about 5% of school-aged children world-wide (Polanczyk & Jensen, 2008). Researches indicate that, in most cases, ADHD is a lifelong disorder, existing in at least a partial remission form into adulthood (Barkey, Fischer, Smallish, & Fletcher, 2002).

Parental stress is a difficult construct involving behavioral, cognitive and affective components that marked into a tense child-parent relationship (Kadesjo, Stenlund, Wels, Gillberg, & Hagglndf, 2002). For example, the child's behavior and the parent's reaction to this behavior cause negative thoughts and emotions. Stress and poor parent-child interaction increases when the parents make an effort to deal with the child's behavior unsuccessfully.

For parents, the challenges that accompany an ADHD child's condition are various, for instance, financial strain might result from expensive medications being prescribed and from special schooling being required if functional impairment is within the realm of learning and academic achievement; social stress might result from trying to gain acceptance, or avoid blame, in a society that stigmatizes any form of abnormal behavior; relationship stress might result from...
difficulties associated with imposing a daily routine and discipline on the ADHD child (Austin & Carpenter, 2008).

These stressors can result in mental health difficulties for parents. In a family where one of the primary caregivers is morbidly depressed as a consequence of ADHD-related stress and he or she is not able to complete childcare tasks, the children's basic daily needs might be neglected. Clearly, it is of extreme importance that researchers and clinicians recognize and address parental stress as a way to go about developing interventions that might minimize the strain on these families. Empirical studies investigating parental stress in families of an ADHD child have generally found that parents are extremely stressed, may have difficulty accepting their child's disability, and may experience more difficulties in the marital relationship than in non-ADHD families Osman, (2009). Other factors such as availability of resources and support were able to stand alone as significant correlates of total parental stress, accounting for 30% of the variance in those levels. With regard to parents of children with ADHD, stress arose predominantly from internalizing (depressed, low self-esteem) problems the child experienced (Johnston & Mash, 2001; McCleary, 2002). In summary, Spratt et al., (2007) highlighted that there is a connection between behavior problems of the child and elevated stress levels of the parent, especially in conjunction with perceived inadequacy of support and/or resources.

Significance of the study

Parenting stress was studied as it relates to child ADHD with that little attention has been given to the parent and contextual factors that impact parenting stress as a function of child ADHD symptomatology. Attention-deficit hyperactivity disorder (ADHD) has increasingly attracted social attention due, among other things, to its high prevalence rate in the school population from 1.35 to 2.25 million of children, about 3% to 5% or more of school age children have ADHD in Egypt and the ratio between boys & girls is 6:1 (Fathy, 2010).

The parents of ADHD children experience higher stress levels than do parents who do not have children with ADHD. The consequences of these higher stress levels are almost invariably negative, and can often tear a family apart. Although some researches on ADHD and parental stress have been conducted, the effects of ADHD on parental stress levels have not been closely examined. Previous studies have also largely ignored different severity levels or functional impairment of ADHD and their varying effects on parental stress and familial outcomes.

MATERIALS AND METHODS

Aim of the study

The aim of the study was to examine stress among parents of children with attention deficit hyperactivity disorders.

Research Question

What's the magnitude of the correlation between attention deficit hyperactivity disorders and parent's stress?

Design

A descriptive correlational design was utilized in the study to assess stress among parents of children with attention deficit hyperactivity disorders.

Setting

Children and their parents were recruited from Pediatric Out-Patient Clinics (pediatric psychiatric unit) at the Center of Social and Preventive Medicine, Cairo University Specialized Pediatric Hospital (CUSPH). Pediatric psychiatric unit is receiving children from all over Egypt.

Sample

A convenient sample of total 107 parents of children with attention deficit hyperactivity disorders who were attending with their children to the out-patient Clinic in the Center for Social and Preventive medicine.

Tools for data collection

1-Socio-Demographic characteristics.

All participating parents completed the "demographic information Form. The assessment will include parents and child's age, gender, education level, and socioeconomic status.

2-Parenting stress Index (PSI, Elbeblawy, 2002).

This is an adopted self-report questionnaire to assess parental stress developed by Elbeblawy (2002), includes 101 items (Arabic version), it is rated on a 5-point likert scale format, ranged from strongly agree (5) to strongly disagree (1). Reliability and validity are tested (i.e., 0.84 and 0.70 to 0.90) respectively. The total scoring system ranged from (101 to 505), the
higher the score the higher the parent's stress level.

3-ADHD Symptom Checklist Child / Adolescent Version.

This is an adopted checklist (Arabic version) developed by Ahmed, (1999), it is designed to determine if symptoms intensity of ADHD is present. It consists of 54 items, rated on a 4-point likert scale format, its total scoring system ranges from (0 - 354). The higher the score, the higher the presence of symptoms intensity with ADHD children. Reliability and validity of the scale are tested, (0.83 and 0.71 to 0.82) respectively.

Procedure

All subjects were informed that participation in the current study is voluntary; no names were included in the questionnaire sheet, anonymity and confidentiality of each subject were protected by the allocation of a code number for each participant who responded to the questionnaire. Official permissions were granted after the investigator presented the documented papers, and introduced her to the directors of selected settings. Data were collected over a period of 4 months, using a socio-demographic data sheet, Parenting Stress Index (PSI), ADHD Symptom Checklist. The average time needed to complete the tools ranged from one hour to one hour each mother's child was interviewed individually, after explaining the purpose of the interview and getting agreement of the mother to participate in the research.

Ethical Consideration

A written ethical approval was received from the ethical committee of scientific research at the faculty of nursing Cairo university. In addition, an official permission to conduct the proposed study was obtained from the head of Center for Social and preventive Medicine (attention deficit hyper activity disorders). informed consent were obtained from the parents to participate in the study.

Pilot Study

A pilot study was conducted at the beginning of the study. It included 10 parents. The standardized tools were tested on those subjects, who fulfilled the inclusion criteria.

Statistical Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 21. Numerical data were expressed as a mean and standard deviation. Qualitative data were expressed as frequency and percentage. Probability (p-value)> 0.05 indicates non-significant result, p-value< 0.05 is considered a significant result and p-value<0.001 is considered highly significant result. Descriptive and inferential statistical tests were used.

RESULTS

Table (1) revealed that, the studied subjects consisted of 107 child with a mean age of 6.4 ± 2.16, 33% of them were less than 5 years and 47.7% of them, their age ran from to 5 to 8 years old, 18% of them, their age was between 9-12 years old.

Table (1) Frequency Distribution of the Studied Children According to Socio-Demographic Characteristics (n=107)

<table>
<thead>
<tr>
<th>Item</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5 years</td>
<td>36</td>
<td>33.6%</td>
</tr>
<tr>
<td>5-8 years</td>
<td>51</td>
<td>47.7%</td>
</tr>
<tr>
<td>9-12 years</td>
<td>20</td>
<td>18.7%</td>
</tr>
<tr>
<td>M±SD</td>
<td></td>
<td>6.4 ± 2.16</td>
</tr>
</tbody>
</table>

Table (2) displayed that, mother's age ranging from 21-<36 years old represented 72.9% in the studied sample; the mean of mother's age was 32.8 ± 7.38, while the father's age ranging from 25-<41 years old represented 62.2% in the studied sample; the mean of father's age in the studied sample was 38.2 ± 8.65.

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Table (2). Frequency Distribution of the Studied Sample According to Socioeconomic Level of the Parents (n=107).

<table>
<thead>
<tr>
<th>Item</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-35 years</td>
<td>78</td>
<td>72.9%</td>
</tr>
<tr>
<td>36-46 years</td>
<td>23</td>
<td>21.5%</td>
</tr>
<tr>
<td>46-60 years</td>
<td>6</td>
<td>5.6%</td>
</tr>
<tr>
<td>M±SD</td>
<td></td>
<td>32.8 ± 7.38</td>
</tr>
</tbody>
</table>

Table (3) clarified that, 88.8% and 11.2% of the studied sample had either moderate or mild
degree of ADHD symptoms respectively. Table (3). Frequency Distribution of the Studied Sample According to Degree of ADHD (n=107).

<table>
<thead>
<tr>
<th>Degree of ADHD</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild degree</td>
<td>12</td>
<td>11.2%</td>
</tr>
<tr>
<td>Moderate degree</td>
<td>95</td>
<td>88.8%</td>
</tr>
<tr>
<td>Severe degree</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table (4) demonstrated that, 99.1 % and 0.9% of the studied Subjects had either high or medium degree of parent stress respectively. Table (4). Frequency Distribution of the Studied Subjects According to Degree of Parent Stress (n=107).

<table>
<thead>
<tr>
<th>Degree of stress</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low parent stress</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Medium parent stress</td>
<td>1</td>
<td>0.9%</td>
</tr>
<tr>
<td>High parent stress</td>
<td>106</td>
<td>99.1%</td>
</tr>
</tbody>
</table>

Table (5) showed that, no statistically significant relationships were found between socio-demographic data (child age and gender) and total ADHD scale and Total parent stress index. Moreover, no statistically significant relationship was found between sibling number and Total ADHD scale and Total parent stress index. There were a highly statistically significant relationship between sibling order and total parent stress index among the studied sample where R=0.24 at P=0.01. Also results revealed that, there was a highly statistically significant relationship were found between place of residence and total parent stress index, where R=0.23 at P=0.01.

Table (6) revealed that, there was highly statistically significant relationship between anxious and Total parent stress scale, where R=0.27 at P=0.02. However, no statistically significant relationship were found between unstable or moody, aggressive, hyperactive and Total ADHD scale and Total parent stress index among the studied Subjects (p>0.05).

Table (7) showed that, there was a statistically significant difference between sibling number and Total parent stress index among the studied Subjects, where F=2.64 at p=0.05.
DISCUSSION

Sociodemographic Characteristics of the Studied Subjects.

Result of the present study revealed that the mean age of the studied sample was 6.4±2.16 while the age of children ranged from 5-8 years old (table 1). This is confirmed with the study carried out by Osman (2009), to estimate the prevalence rate of ADHD in Egyptian children when their age ranged between 6-12 years.

This result also consistent with (Fathy, 2010) who found the high percentage of children in both aged between 7-8 years. Also it was found that, the majority of the studied samples were boys 88% while the minorities were girls 12%. Some studies revealed that the prevalence of ADHD between school age children is approximately 5%-7% and the ratio between boys and girls reached 6:1. This finding was supported by Parsons, (2007), and Verb& James, (2008) who found that, from 1.35 to 2.25 million children—3% to 5% or more of all school-age children have attention-deficit/hyperactivity disorder. This translates into a probability of 1 to 2 students in a typical classroom. Estimation of the number of affected adults varies widely, from 30% to 70% of those diagnosed in childhood experiencing ongoing symptoms. The incidence of occurrence in males exceeds females by a 4 to 1 ratio.

As regards sibling number the study finding revealed that there was statistically significant relationship was found between ADHD symptoms and parent stress total score. This result consistently with Lavee et al., (1996) who reported that a higher number of children was associated with more difficulty in the parenting role.

Past and Present Medical History of the Studied Subjects.

The finding of the present study revealed that, there is a highly statistically significant relationship between anxiety symptoms of the child at the preschool age and total parent stress total scores, where r=0.27at P=0.00 (table 6), there were no statistically significant relationships between being unstable or moody, aggressive, hyperactive and severity of ADHD symptoms and total parent stress total scores (table 6). These results were not supported by Silverthorn (2006), who studied 276 ADHD children, and found that in 55% of adult responses, hyperactivity was the main complaint, impulsivity was in 27%, and in 18% it was for inattentiveness. The same author found that, the children with hyperactivity tend to be restless, overactive, and easily aroused emotionally.

Social and economic characteristics of the parents.

The finding of the current study revealed that the majority of mothers were between the age 21<36 years old with mean age was 32±7.38, while the father age ranged from 25 to 41 years old (table 2). This result matched with that carried out by Parsons (2007) who found that, the range of the age distribution of parents in this study was 30-50 years. This indicated that 25% of parents fell in the 30-35 age groups, 25% were between 36-40 years old, 25% were between 41-45 years old and 25% fell in the 46-50 age group. The study results supported by Fathy (2010) who stated that, mothers age ranging from 30<40 years old, represented 93% of the study group with mean age 33.86±4.65 while the highest percentage of father age ranged from 30<40 years old with mean age 40.10±6.11.

Parenting stress among studied Subjects.

Regarding the degree of ADHD among the studied sample, study finding revealed that, 88.8% of them have moderate degree of symptoms (table 3) and high level of parenting stress. In a similar study conducted by Baker and McCal (1995) to compare levels of parental stress in a sample of parents of children with learning disabilities and those without them. The investigators measured level of stress using the Parental Stress Index Abidin,(2003) and the child’s externalizing and internalizing behaviours using the Child Behaviour Checklist (CBCL) . There were significant positive correlations between levels of parental stress and both externalizing and internalizing behaviours, as measured by the CBCL. The ADHD group displayed higher levels of overall parental stress when compared with both the learning disabled group and the control group. Results suggested that, the greater the pathology the child displays, the greater the parental stress is experienced by the parent.

The current study revealed that, no statistically significant relationship found between parenting stress and ADHD symptoms (table 5). This study is inconsistent with Fischer (1990) and Anastopoulos and colleagues (1992) who suggested that parental psychopathology, which they found occurring more frequently in parents of children with ADHD compared with control families, exacerbates parenting stress. Maternal
psychopathology has been shown to be related to higher levels of parenting stress, most likely because mental illness and psychological difficulties may prevent a parent from using coping skills that are necessary for decreasing stress levels. Maternal depression in particular has been linked with higher levels of parenting stress and this relationship has been widely reported among mothers of children with ADHD (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992; Harrison & Sofronoff, 2002).

Another study contradicted with the current finding that has been shown to increase parenting stress in parents of children with ADHD is the degree and severity of inattention symptoms and hyperactivity symptoms as reported by parents on self-report measures (Bussing et al., 2003; Harrison & Sofronoff, 2002). This may be because symptoms associated with ADHD, such as hyperactivity, impulsivity, and inattentiveness, affect the type and quality of interactions the parent has with their child (Fischer, 1990). In support of this, Vitanza and Guarnaccia (1999) found that “what was most important to a mother’s level of parenting distress was how challenging and oppositional she perceived her child to be. Therefore, in this study, the strongest predictor of parenting stress was the degree of challenge that a child’s behavior presented (table5).

CONCLUSION

The majority (99.6%) of the studied sample had high level of parental stress. Moreover the study finding revealed that, 88.8% of the studied sample had moderate degree of ADHD symptoms. In addition, the study sample indicated that there was high level of parental stress related to socioeconomic status and number of children. It is of extreme importance that researches and clinician recognize and address parental stress as a way to go developing intervention that might minimize the strain on these families.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

ACKNOWLEDGEMENT

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AUTHOR CONTRIBUTIONS

All authors contributed equally in all parts of this Study

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