Original article

A Comparative Study of Stress, Anxiety & Work Impairment in Parents of Children with Conduct Disorder

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Abstract

Background: Conduct Disorder (CD) is a common childhood psychiatric illness with lasting repercussions on child's and parents' behavioural and emotional well-being. While there are studies exploring the impact of parental psychiatric disorders on evolution of CD in children, the reverse is less well researched. The current study aims to compare stress, anxiety and work-impairment in parents of children with CD.

Methods: This cross-sectional study was carried out in the department of psychiatry in a tertiary care-centre in Delhi. Thirty-two parent-dyads of CD children were assessed using Parental Stress Scale (PSS), Hamilton Anxiety Rating Scale (HAMA) and Work and Social Adjustment Scale (WSAS) after taking informed consent. Descriptive statistics & chi-square contingency test were applied using SPSS version 20.

Results: Mean age of patients was 15 years. Mean duration of illness was 4 years. Mothers' stress, anxiety, and social adjustment scores were significantly higher (PSS=63±16 HAMA=19±7 WSAS=22±8) as compared to those of fathers (PSS=53±14 HAMA=11±6 WSAS=14±7). Severity of illness correlated positively with paternal stress, maternal stress, maternal anxiety and maternal work-impairment. Stress scores for both parents increased and

significantly differed between mild-moderate, moderate-severe and mild-severe illness groups. Anxiety and work-impairment scores increased and significantly differed between mild-severe and moderate-severe illness groups. Duration of illness was negatively correlated with education of mother and head of family. Birth order was negatively correlated with stress and work-impairment of both parents.

Conclusion: Mothers seemed to bear the major brunt of illness. All parameters were closely associated with each other in the index parent and were influenced by their presence in the other parent.

Keywords: Conduct disorder, parents, stress, anxiety, work impairment.

Introduction

Conduct Disorder (CD) is a common childhood mental illness with long term repercussions on child's behavioral, emotional and cognitive well-being. It is defined as a repetitive and persistent pattern of behaviour in which the basic rights of others or major age appropriate societal rules are repeatedly violated [1]. In the UK and the USA, about 5-10% of children aged 5-15 years are diagnosed with CD [2,3]. The prevalence of CD in India is 1 % (Range: 0.4% to 1.3%) [4]. It has a male to female ratio ranging from 4:1 to 12:1 [5]. Affected children display behavioural problems such as aggression to people and human beings, destruction of property, deceitfulness and serious violations of rules [1]. Based on the age of onset, the disorder can be childhood onset type, adolescent onset type or unspecified type [1].

While there are studies exploring the impact of parental psychiatric disorders on the evolution of CD in children, the reverse is less well researched. Studies from the Indian subcontinent are even fewer. Keeping the above in view, the current study was planned with the aim of assessing and

comparing the level of stress, anxiety and work impairment in the parents of children with CD. Furthermore, the severity of these three parameters in parents with the severity of illness in children was also correlated. A correlation of these three parameters was additionally done with socio-demographic profile of the families.

Methods

Sample Characteristics

The current descriptive cross-sectional study was undertaken in Department of Psychiatry at a tertiary hospital in New Delhi, India. The study spanned over a period of 2 years and included every patient of conduct disorder who visited our child and adolescent clinic and fulfilled the inclusion and exclusion criteria in those 2 years. A total of 32 patients met the criteria, whose mothers and fathers were then screened for the study.

Inclusion criteria were children suffering from conduct disorder as per Diagnostic and Statistical Manual of Mental Disorders – 5 Criteria [1]; age of the children between 5 to 18 years; availability of both the parents; and parents willing to participate in the study. While children with single parent; children with parents, who are involved in care of another member suffering from another chronic physical or psychiatric illness in the family; children suffering from any other chronic physical or psychiatric illness; and children with parents who are themselves suffering from any chronic physical or psychiatric illness were excluded from the study.

A written informed consent was taken by both the parents individually before enrolment into the study. Ethical approval was taken from the Institutional Ethical Committee which follows Declaration of Helsinki in their protocol.

Instruments

Parental Stress Scale (PSS) : An 18 item likert scale with each item rated on a scale of 1-5 with total score range between 18 to 90 with satisfactory convergent validity, internal reliability (0.83) and test-retest reliability (0.81) [6]. The severity of stress is rated as: Mild – 18 to 42; Moderate – 43 to 66; Severe – 67 to 90.

Hamilton Rating Scale For Anxiety (HAMA): A 14 item likert scale with each item rated on a 0-4 scale with total score range between 0-56 with satisfactory internal consistency (0.77 to 0.92) and test-retest reliability (0.92) [7]. The severity of anxiety is rated as: mild- less than 18; moderate - 18 to 24; and severe- more than 24.

Work and Social Adjustment Scale (WSAS): A 5 item likert scale with each item rated on a 0-8 scale with total score between 0-40 with satisfactory internal consistency (0.66 to 0.93) and test-retest reliability (0.73) [8]. The severity of work impairment is rated as: mild- less than 11; moderate - 11 to 20; and severe- more than 20.

Operating Procedure

Diagnosis was confirmed using DSM-5 Criteria for CD after a consensus by two trained senior psychiatrists. Severity of CD was categorized as mild, moderate and severe. To render objectivity, categorization was done depending upon the number of symptoms. Patients having less than or equal to 5 symptoms were included in the mild category. Patients having 6 to 10 symptoms were considered having moderate illness. Patients having more than or equal to 11 symptoms were categorized as having severe disorder. The study protocol was explained to both the parents and their queries were addressed. Parents willing to provide informed written consent were included in the study. Information about the sociodemographic variables of the child and

the parents was collected using the semi-structured performa and Kuppuswamy's socio-economic status scale, modified for 2012 [9]. A detailed clinical interview was done by two psychiatrists independently to rule out chronic physical and psychiatric illness in parents and children. Parents were then administered Parental stress scale, Hamilton rating scale for anxiety and Work and social adjustment scale separately and privately. Assessments were preferably completed in a single sitting and took about an hour. Most appropriate treatment was offered to the child and to the parents, wherever required.

Statistical Analysis

Statistical Analysis was carried out using Statistical Package for the Social Sciences (SPSS) version 20 [10]. Descriptive Statistics were used for the sociodemographic variables. Independent sample t-test was used to make in-between group comparisons for continuous variables. Chi-square test was used to make in-between group comparisons for categorical variables. One way ANOVA was used to compare more than two means. Correlation of the final scores with the disease severity and sociodemographic variables was carried out using Pearson's test of correlation. The level of statistical significance was kept at p value less than 0.05 for all the tests.

Results

Socio-demographic findings

Assessment of socio-demographic profile of patients showed that mean age of the patients was 15 years. Mean duration of illness was found to be 4 years. Patients had, on an average, 6 years of education. Out of 32 patients, 31 were male. Majority of the families were nuclear (69%) followed by extended (16%) and then by joint (15%). Ninety one percent of the families were

headed by the father and rest by grandfather. In all 32 cases, mother was the primary care giver. Thirty one percent patients were the eldest sibling, 35% patients had second birth order, 9% patients were third in birth order, 22% patients had fourth birth order and 3% were sixth in birth order. The sample consisted of 33% patients in the mild category, 33% in the moderate category and 33% in severe category, when divided according to severity of illness. Depending upon the duration of illness, 66% patients had an illness of less than five years and 33% patients had an illness of five or more years.

Sociodemographic evaluation of parents revealed that mean age of fathers was 45 years and that of mothers was 41 years. When occupation of head of family was assessed, 19% were unskilled, 22% were semi-skilled, 16% were skilled, 28% were into clerical/shop owning/farming, 6% were semi-professional ad 9% were professional.

Scores of Parents' Scales

Mothers' mean PSS score was about 10 points higher than that of fathers' PSS score. Mothers' mean HAMA score was about 8 points higher than that of fathers'. Mothers' WSAS score was also about 8 points higher than that of fathers' score. Differences in the scores of mothers and fathers were statistically significant for all the three scales ($p < 0.05$) (Table 1)

Table-1: Comparison of Parent's Scores on three scales

	Parent	Mean	Std deviation	Std error mean	t	Sig
PSS	Father	52.75	13.914	2.460	-2.635	**0.011**
	Mother	62.63	15.999	2.828		
HAMA	Father	10.88	5.791	1.024	-5.185	**< 0.001**
	Mother	19.41	7.286	1.288		
WSAS	Father	13.78	7.529	1.331	-3.963	**< 0.001**
	Mother	21.59	8.331	1.473		

(PSS – Parent stress Scale, HAMA – Hamilton Anxiety Rating Scale, WSAS – Work and Social Adjustment Scale)

Figure-1 displays the scores of all the six scales according to the severity of illness.

Figure-1: Scores of all three scales of parents according to severity of illness
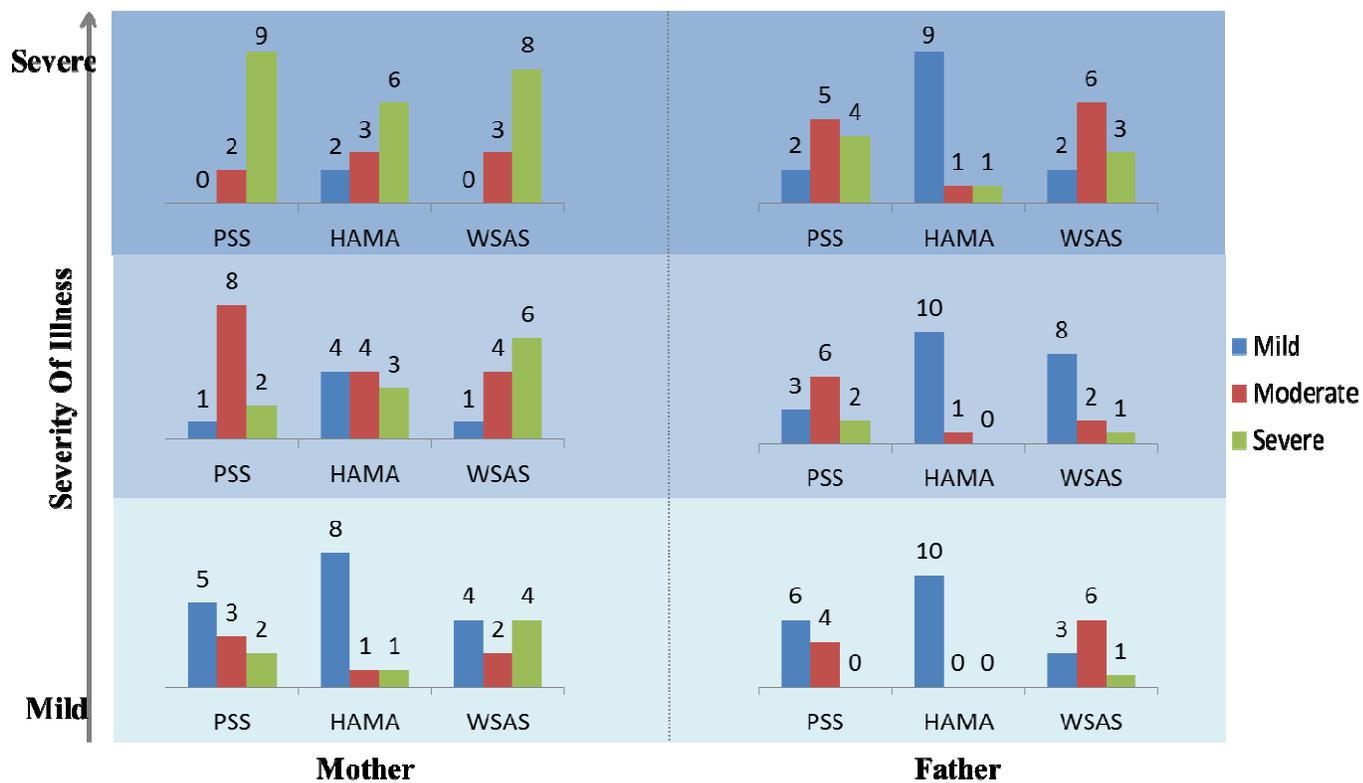
(PSS – Parent stress Scale, HAMA – Hamilton Anxiety Rating Scale, WSAS – Work and Social Adjustment Scale)

Interestingly, the overall frequency of stress was found different for mothers and fathers. Though majority of the mothers (41%) and fathers (47%) reported moderate stress, the frequency distribution for mild and severe stress was different for mothers and fathers. The general trend for stress was as follows:

Maternal Stress - Moderate (41%) > Severe (40%) > Mild (19%)

Paternal Stress - Moderate (47%) > Mild (34%) > Severe (19%)

Figure 2 shows the scores of all the six scales according to the duration of illness.

Figure-2: Scores of all three scales of parents according to duration of illness
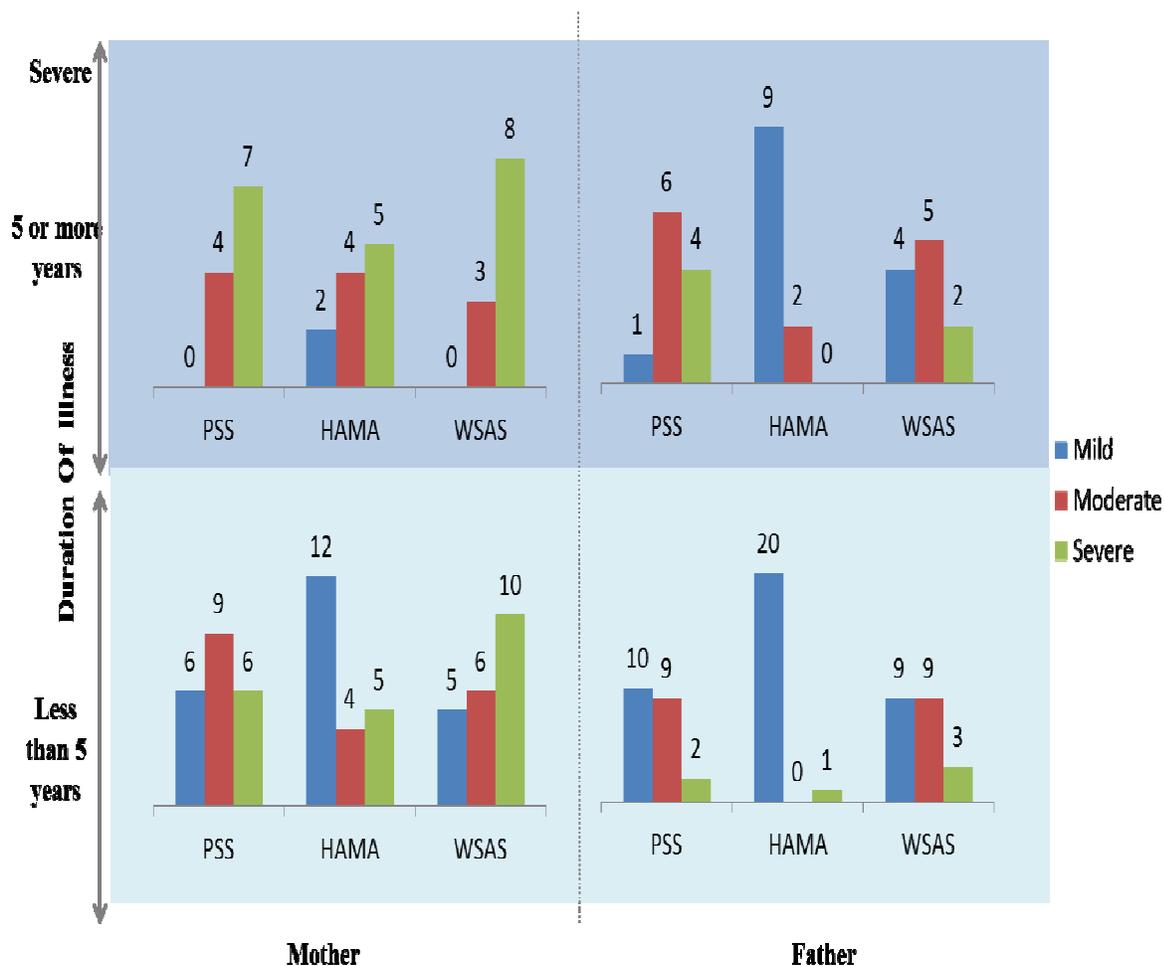
(PSS – Parent stress Scale, HAMA – Hamilton Anxiety Rating Scale, WSAS – Work and Social Adjustment Scale)

Similarly, parental trend for anxiety and work impairment were also found to be different for both mothers and fathers with a different frequency distribution for each.

- Maternal Anxiety – Mild (44%) > Severe (31%) > Moderate (25%)

- Paternal Anxiety – Mild (91%) > Moderate (6%) > Severe (3%)

- ▪ Maternal Work Impairment – Severe (56%) > Moderate (28%) > Mild (16%)

- ▪ Paternal Work Impairment - Moderate (44%) > Mild (41%) > Severe (15%)

Further, One way ANOVA was used to compare the three scale scores according to severity of illness. The results were statistically significant for all the three scales (p value < 0.05) The F values for each scale were Fathers' PSS = 3.666, Fathers' HAMA = 1.165, Fathers' WSAS = 5.925, Mothers' PSS = 9.294, Mothers' HAMA = 3.452, Mothers' WSAS = 2.248.

Additionally, parental scores were compared on the basis of severity of illness, which revealed that scores varied significantly with each other. When the three scale scores were compared between Mild and Moderate illness, a statistical difference (p value < 0.05) was found only in the PSS scores and not in HAMA or WSAS. However, the three scores differed significantly (p value < 0.05) when mild and severe illness groups were compared. Similarly, the three scores differed significantly (p value < 0.05) when moderate and severe illness groups were compared.

To further establish whether the parental psychopathology and the child's CD were dependent attributes or not, chi square contingency test was done. The scores of the six scales were cross tabulated separately with the severity of illness. The analysis revealed that maternal stress (p < 0.05) and maternal anxiety (p < 0.05) were significantly dependent on child's CD. The other three scales namely maternal work impairment, paternal stress and paternal work impairment showed that these attributes were independent of the child's illness. Dependency of paternal anxiety could not be assessed because of small sample. This finding established that maternal stress and maternal anxiety were present as a function of child's disorder.

On the basis of severity of illness, one way ANOVA was used to compare the groups and to see whether they differed with each other significantly in any parameter. It was seen that the three

groups were comparable in all aspects except duration of illness, fathers' PSS scores, mothers'

PSS scores, mothers' HAMA scores and mothers' WSAS scores. (Table-2)

Table-2: Descriptive statistics according to severity of illness (N=32)

	Mild Disorder	**Moderate Disorder**	**Severe Disorder**
	Frequency		
Total Patients	10	11	11
Males	10	10	11
	Mean score		
Patient's age	12.50	15.09	16.00
Education years	5.10	5.55	6.55
Duration of illness (year)	2.30	3.91	4.91
Father's age	45.50	43.73	45.91
Mother's age	40.50	41.09	40.45
Father's PSS score	43.30	54.55	59.55
Father's HAMA score	9.50	9.00	14.00
Father's WSAS score	13.30	10.82	17.18
Mother's PSS score	49.50	61.18	76.00
Mother's HAMA score	14.10	19.27	24.36
Mother's WSAS score	17.30	20.91	26.18

PSS = Parental Stress Scale; HAMA = Hamilton Anxiety Rating Scale; WSAS= Work & Social
Adjustment Scale

Furthermore, on the basis of duration of illness, the two groups were found comparable in all

parameters except mother's education, head of family's education, severity of illness, father's

PSS scores, mother's PSS scores and mother's HAMA scores (Table-3).

Table-3: Descriptive statistics according to duration of illness (N=32)

	DOI = Less Than 5 Years	DOI = 5 Or More Years
	Frequency	
Total Patients	22	11
Males	21	11
	Mean score	
Patient's age	13.14	17.36
Education years	5.52	6.18
Father's age	44.52	46.00
Mother's age	39.95	42.09
Father's PSS score	47.67	62.45
Father's HAMA score	10.33	11.91
Father's WSAS score	13.33	14.64
Mother's PSS score	58.33	70.82
Mother's HAMA score	17.52	23.00
Mother's WSAS score	20.57	23.55

PSS = Parental Stress Scale; HAMA = Hamilton Anxiety Rating Scale; WSAS= Work & Social Adjustment Scale

Correlation of all the socio-demographic variables was done with the scores of scales for both mothers and fathers. The important correlations are presented in table-4, with the statistically significant values being star marked. Other than these 14 variables, no significant correlation was found between any other variables.

Table-4: Correlations of sociodemographic variables with scale scores of mothers & fathers

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	.81**	1	-	-	-	-	-	-	-	-	-	-	-	-
3	.91**	.83**	1	-	-	-	-	--	-	-	-	-	-	-
4	.47**	.47**	.43*	1	-	-	-	-	-	-	-	-	-	-
5	-.40*	-.21	-.26	.02	1	-	-	-	-	-	-	-	-	-
6	-.55**	-.39*	-.44*	-.07	.54**	1	-	-	-	-	-	-	-	-
7	-.30	-.24	-.34	-.12	-.04	.24	1	-	-	-	-	-	-	-
8	-.32	-.38*	-.43*	-.09	.01	.25	.46**	1	-	-	-	-	-	-
9	-.02	.02	-.05	-.08	-.45*	-.01	.48**	.51**	1	-	-	-	-	-
10	-.13	-.10	-.10	-.28	-.05	.11	.33	.13	.49**	1	-	-	-	-
11	.09	.19	.08	-.26	-.43*	-.11	.22	.08	.59**	.45*	1	-	-	-
12	-.01	.05	.01	-.24	-.41*	-.01	.68**	.38*	.82**	.44*	.67**	1	-	-
13	-.14	-.09	-.13	-.41*	-.14	-.07	.58**	.36*	.51**	.51**	.35*	.67**	1	-
14	.13	.10	.12	-.23	-.47**	-.08	.44*	.17	.72*	.42*	.68**	.87**	.61**	1

**Correlation is significant at p < 0.01, *Correlation is significant at p < 0.05 (2-Tailed)

1=Father's Education
2=Mother's Education
3=Head of family's education
4=Family income
5=Birth order
6= No. of siblings
7= Severity of illness
8= Duration of illness
9= Father's PSS
10=Father's HAMA
11=Father's WSAS
12=Mother's PSS
13=Mother's HAMA
14=Mother's WSAS

Discussion

The study showed multiple key findings. However, despite exhaustive search, authors could not find many relevant Indian studies on the same topic. So, the key findings of the study have been compared to international studies despite subtle differences in socio-cultural background and family structure. Nonetheless, it is worth noting that this study, novel and one of its kind, will

contribute wealth of knowledge to the existing literature and help other researchers from India to build up further on this subject.

Parental Scores

The study revealed that mothers scored significantly higher on perceived stress, anxiety and, work impairment as compared to fathers. The analysis established that maternal stress and maternal anxiety were present as a function of child's disorder.

As expected, this study duplicated the findings observed in the previous research. It further strengthens the fact that mothers have more stress, anxiety and work impairment due to behavioural complaints of their children, which is now proven in various cultures and classes of society.

Notably, a number of reasons can explain these findings. Firstly, in the patriarchal trend of North Indian families, mothers carry the responsibility of looking after their children. They continue to prioritize their children before their work and social obligations. At the same time, fathers spend most of their time at work place and are involved in earning livelihood for their families. Being the sole earning members, fathers may not afford to ignore work obligation, which in turn explains lesser work impairment in them. Secondly, most of the families included in the study were nuclear in nature. This increases the burden of care on mothers as no other significant elder member is there to look after the diseased child. Thirdly, majority of mothers in the study were unemployed. This could be another reason for higher stress levels in mothers because there was no other involvement except home where they could divert their energies. Fourthly, it is prudent to note that there may be differences in perception of stress by parents. Symptoms like aggression may not be considered stressful to the father, but may bring significant strain to a

mother. Finally, as discussed by Catuzzi and Beck, women are predisposed to anxiety much more than men due to their inherent genetic and hormonal make up [11].

When compared according to the severity of illness, stress significantly increased between mild-moderate, moderate-severe and mild-severe illness groups. However, anxiety and work impairment increased only between moderate-severe and mild-severe group and did not differ between mild-moderate group.

Breen and Barkley established a similar trend in their study. They found the severity of child aggression and conduct problems to be significantly related to parental stress levels [12]. Johnson and Reader too revealed comparable results in their study [13].

This could be explained by the assumption that mild to moderate conduct problems, though an important cause of stress in parents may not necessarily cause clinical anxiety or apparent work impairment because the behaviour may not be considered pathological by many parents. It may be assumed that such a child is at the edge of the spectrum of normal behaviour. However, when the illness transforms into severe form, parents have significantly high levels of stress, anxiety and work impairment because of better acceptance of the child's problems.

Association of sociodemographic variables with parental scores

Birth Order, Parental Stress and Work Impairment

Birth order was negatively correlated with parental stress (r = - 0.45 for FPSS, r = - 0.41 for MPSS) and work impairment (r = - 0.43 for FWSAS, r = - 0.47 for MWSAS) in both mothers and fathers. This means that both mothers and fathers had higher stress and work impairment if conduct disorder was present in their elder child as compared to younger child.

Wu et al in a Taiwanese study of maternal self-reported behavioural and emotional problems in children found that externalizing behavioural problems were significantly associated with first

born child [14]. Dunn studied and concluded that siblings play a causal role in the development of aggressive behaviour in children [15]. Volling suggested that transition to siblinghood can itself lead to behavioral problems like aggression in the firstborn [16]. This study, though did not find any correlation with the number of siblings, it did associate birth order with parental stress and work impairment. This could be due to higher expectations and more involvement with the eldest child. First time parents have less experience in handling stressful situations and lesser knowledge about developmental problems of their child. As the number of children increases in the household, the elder siblings contribute in home management tasks and help looking after the younger siblings.

Family income and maternal anxiety

A significant negative correlation was found between family income and mothers' HAMA scores (r = - 0.41). This indicates that more the monthly income, lesser is the maternal anxiety.

Busch and Barry talked about how a child's mental illness increases economic strain on the families, which adds on to parental stress [17]. They established a significant association between child's mental illness, economic strain and parental stress. According to Moore and Probst, parental stress was more in families living in poverty zones and directly linked to violent behaviour of children [18]. Lastly, Puff and Renk highlighted a robust association between financial condition of the family and parental stress [19]. Although no association was found between family income and stress, maternal anxiety was significantly associated with family income. This may be due to the fact that financial issues are taken better care of in a higher income family. Loss of property due to child's aggression, paying fines due to violation of rules, frequent hospital visits, cost of medications and other factors directly linked to monetary matters may make mothers less anxious in a better to do family.

Severity of illness, stress, anxiety and work impairment

Severity of illness was found to have a strong correlation with four out of six scales, with highest correlation with maternal stress ($r = 0.68$) followed by maternal anxiety ($r = 0.58$) followed by paternal stress ($r = 0.48$) followed by maternal work impairment ($r = 0.44$). This means that more severe the disease in children, higher the levels of stress, anxiety symptoms and work impairment in parents. As mentioned previously, stress was much higher in mothers as compared to fathers.

A growing body of literature supports that children with CD have adverse effects on parents' mental health. Researchers from Michigan State University, USA suggest that the severity of disruptive behaviour in children is uniquely and positively correlated with parent role-specific distress. In general, both mother and father are dissatisfied and distressed with the oppositional and aggressive behaviour of the child leading to a dynamic cycle between parental distress and child aggression, with each problem exacerbating the other [20].

It was found that mothers, as compared to fathers, of children with disruptive behaviour disorders displayed greater anxiety, higher parental intrusiveness, increased negative discipline, lower parental warmth and lesser positive involvement. This is perhaps, because mothers continue to carry the major responsibility of disciplining their problematic children [21].

A Chinese study revealed that most parents of mentally ill children experienced pressure in their life, and 97.9% of them had increased anxiety. Moreover, over half of parents indicated that their leisure time significantly decreased, and over a third of them reported that they were reluctant to invite friends to their house because of their child's problems. Parental feelings of burden and stigma seem to be evident across cultures [22].

It was further established that parents of children with CD had much more strain as compared to parents of children suffering from anxiety or depression as the latter were relatively less "visible" diseases. Another explanation for this could be that having a child with an emotional disorder may be more likely to attract sympathy and support, while parents of children with challenging behaviour may be more likely to be blamed, to fear being blamed, or to blame themselves for their children's difficulties. To add further, parents perceived much more strain for their girl child with behavioural problems as compared to their boy child with similar complaints [23].

Duration of illness, parental stress and anxiety

It was found that duration of illness had a high correlation with three of the six scales, with strongest correlation with paternal stress (r = 0.51) followed by maternal stress (r = 0.38) followed by maternal anxiety (r = 0.36). This finding suggests that longer the illness, higher the stress and anxiety symptoms in parents. However, stress in this case was higher for fathers as compared to mothers.

This could be because longer duration of illness may cause despondency in the parents that the child is not going to be normal which in turn escalates their stress and anxiety. Secondly, it could be because longer illness may mean more financial strain for fathers. Fathers may feel increased fiscal load and focus more on work, which in turns explains the insignificant correlation with work impairment. Another possible explanation could be that once the duration of illness increases, there is reduced opportunity for the parents to engage themselves in recreational activities. Most of their time is spent in either taking the child for treatment or facing the chaos created due to child's illness. This leaves lesser time for parents to indulge in pleasurable pursuits and distract their minds away from the child's illness. Furthermore, duration of illness and severity of illness depicted a significant correlation (r = 0.46), which means as the duration

increased, the severity also increased. This could be because of delay in seeking treatment or progression of illness despite treatment.

Duration of illness and parental education

Duration of illness was negatively correlated with mother's education (r = - 0.38) and head of family's education (r = - 0.43). This means more the education of mother and head of family, lesser was the duration of illness. More education means more awareness, which in turns means seeking early medical help and timely interventions. This may have led to shorter duration of illness in more educated families.

Whitley et al highlighted an inverse association of parental IQ with conduct problems in children [24]. Moore and Probst, affirmed that conduct problems were significantly less in children whose parents were at least high school pass [18].

Other variables

There has been a long standing debate whether parental stress is higher for a boy child or a girl child. Different studies have revealed different findings. Moore and Probst depicted more stress for boys, probably because of greater expectations from boys to be functional [18]. Meltzer et al showed higher stress levels for girls, due to general belief that girls are inherently benign and submissive [23]. However, no association was found between the gender of the patient and the parental scores because of disproportionate gender distribution of the sample of the currents study.

Correlation of parental scores

Expectantly, a robust and strong correlation was found between the various scores of parents. It was seen that perceived stress was correlated with anxiety (r = 0.49), which was further

correlated with work impairment (r = 0.45) in fathers. Perceived stress in fathers also correlated with work impairment (r = 0.59). All the values were significant at p < 0.05.

The correlation between mothers' scores was similar but much stronger. Correlation value between mothers' stress and anxiety came out to be r = 0.67, between mothers' anxiety and work impairment was r = 0.61, and between stress and work impairment was r = 0.87.

Additionally, it was also found that stress in fathers was significantly associated with stress in mothers (r = 0. 82). Not only this, paternal anxiety showed a similar, though weaker correlation with maternal anxiety (r = 0.51). Strength of correlation of work impairment between mothers and fathers (r = 0.68) was somewhere in between these two values. The three correlations were highly significant at p < 0.01.

Besides, paternal stress was also associated with maternal anxiety (r = 0.51) and maternal work impairment (r = 0.72). Paternal anxiety demonstrated association with maternal stress (r = 0.44) and maternal work impairment (r = 0.42). Paternal work impairment had association with maternal stress (r = 0.67) and maternal anxiety (r = 0.87) too.

Wood, while discussing the neurobiology of social stress, opines that stress is highly associated with anxiety [25]. Any social situation that brings out stress in an individual predisposes her to anxiety. Finsterwald and Alberini added to this finding and emphasized how stress and anxiety are highly co-morbid in nature [26]. Lastly, Walker et al observed that anxiety is a physiological outcome of stress, and may enhance the performance of an individual initially [27]. However, too much anxiety can impair the functioning and may prove detrimental to the individual.

To conclude, this study is a clear cut pointer that mothers and fathers of children with CD are facing significant stress, anxiety and work impairment. It also proves that perceived stress leads to anxiety symptoms irrespective of the gender of the parent. Mothers and fathers are at high risk

of experiencing stress and anxiety, associated, if not with child's illness, then with each other's stress and anxiety. The three parameters assessed in this study seem to be closely associated with each other in the index parent and can be influenced by their presence in other parent as well.

In the end, we would like to acknowledge the limitations of our study. This study, being cross sectional in nature, could not assess the bidirectional association between child's behaviour problems and parental psychopathology. Also, we could not compare how the stress of parenting a normal child differs from the stress of parenting a CD child due to lack of a control group. Secondly, the study had a small sample size. This could be probably because many parents do not visit hospital thinking that their child's conduct problems may not be pathological but normal variation of behaviour. Nonetheless, the entity CD need not be uncommon, given the fact that journalistic reports do highlight the way our society suffers from delinquent behaviours, though these reports cannot be equated to the nationwide scientific data which still remains patchy. Thirdly, since it was a hospital based sample, the study results cannot be extrapolated on general population unless community based research replicate these findings. It would be imperative to validate the same results with a larger, community based, longitudinal study to have better understanding of the disorder and its outcomes in future.

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Conflict of interest: None

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