

# Anxiety and depression among children with learning disability and their parents

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## Abstract:

**Background:** The presence of a disabled child causes profound changes in the family, with impact of anxiety and depression on parents and on their quality of life being considerable.

**Aim:** The present study assessed the psychological comorbidity of children with learning problems and also evaluated the anxiety and depression among parents with learning disability children.

**Methods:** This prospective questionnaire-based study was conducted in the Department of Psychiatry, Kanchi Kamakoti Childs Trust Hospital (KKCTH). The study participants are inclusive of all the children with learning disability and their parents who gave their informed consent and available during the study period.

**Results:** Statistical significance was present between the prevalence of depression in relation to gender and the socioeconomic variables. The generalized anxiety disorder was found to be to about 25% among the study subjects. Around 31.5 % of mild depression was prevalent among the parents of learning-disabled children

**Conclusion:** Effective intervention programs are in need of the hour to address comorbid conditions like depression and anxiety. Psychoeducation about the child's condition and an effective remedial education program will be a great boon to the community.

## Introduction

Learning disabilities (LD) are a range of disorders which mainly affects the acquisition, organization, retention, understanding or use of verbal or nonverbal information. They mainly alter the learning aspects of an individual who are otherwise exhibiting average level of capabilities crucial for reasoning and thinking (Karanth, P, 2010). The emotional impact of Learning disability on children and their parents is often a neglected topic. Parental emotionality plays a major role in the intervention of children with learning disability. In India around 32 % of

the children of the total 80% of children with learning disabilities (LD) are suffering from psychological co-morbidities such as depression and anxiety (Sahoo, M. K., et al., 2015). The Specific Learning Disorder (SLD) according to the Diagnostic and Statistical Manual of Mental Disorders – V (DSM-V) includes Persistent learning difficulties pertaining to academic achievement mainly in writing, reading, arithmetic, or mathematical reasoning (Williams, et al., 2013).

Parents of children with learning disabilities experiences stressful situations as

they have undergone more physical and emotional distress than regular parenting which endangers their mental well-being. They also go through guilt for their child's condition which drives them into depression and anxiety about the child's future (Gopalan, et al., 2015). The purpose of this study is to assess the internalizing disorder such as anxiety and depression among children with learning disability and their parents (Sahoo, et al., 2015).

## Materials and methods

### Participants

This study was conducted in the Department of Psychiatry, Kanchi Kamakoti Childs Trust Hospital (KKCTH) after obtaining the approval from the Institutional Ethics Committee prior to the study. It is a prospective questionnaire-based study which was done for a duration of 3 months. The study participants are inclusive of all the children with learning disability and their parents who gave their informed consent and available during the study period. The participants in the study were nearly 76 Children diagnosed with learning disability based on academic performance who are attending normal school with average intelligence of either sex between the age group of 8 to 16 years was included in this study. Around 152 Parents both father and mother, who were educated up to the level of 10<sup>th</sup> standard were included in the study. The socio-demographic data like age, sex, class at the schooling of children and education status of the parents was collected. Any learning difficulties in children due to any known history of psychiatric, neurological impairment in hearing, vision, or speech, or medical disorders were excluded from the study.

### Tools and assessment:

#### Children's Depression Inventory (CDI) questionnaire

CDI is a self-report 27-item scale designed for varsity aged school going children and adolescents. It computes the various depressive symptoms like disturbed mood, self-evaluation, vegetative functions, and social behaviors. The score ranges from 0 to 54. The cutoff value of >19 is recommended as a screening tool for

assessing depressive disorders in children and adolescents (Mishra, et al., 2018).

#### The Screen for Child Anxiety Related Disorders (SCARED)

The Screen for Child Anxiety Related Disorders (SCARED) is a self-report scale that measures anxiety in children (Lohr, et al., 2017) W. D., It consists of 41-item inventory rated on a 3-point Likert-type scale. The SCARED is useful for generalized anxiety disorder, school anxiety problems, social anxiety disorder, and specific phobic disorders. Each of the anxiety disorder has individual cutoff scores, and a total cut-off value of  $\geq 21$  was considered to be significant. A total cutoff of  $\leq 20$  with any of the category is suggestive of one or more of the anxiety disorders. Each type of the specific anxiety disorder has an individual cut-off for subscales which is mentioned as follows: social anxiety disorder ( $\geq 8$ ), panic disorder ( $\geq 5$ ), generalized anxiety disorder ( $\geq 7$ ), separation anxiety disorder ( $\geq 8$ ) and significant school avoidance ( $\geq 3$ ) respectively (Madasu, S, et al., 2009). This tool was administered by the clinical psychologist after prior briefing about the study and sufficient time will be given to the participants to complete the tool (Birmaher, B, et al., 1997).

#### Depression, Anxiety and Stress Scale (DASS 21) questionnaire

The DASS 21 is a 21 item self-report tool structured to measure the severity of symptoms ranging from Stress, Anxiety and Depression. The DASS 21 questionnaire captures the positive symptom over the previous week. Each item is scored from 0 to 3. The DASS 21 is the most commonly used tool to assess the severity of the core symptoms of Depression, Anxiety and Stress. Accordingly, the DASS measure both the severity of a patient's symptoms and also the patient's response to treatment (Gopalan, et al., 2015; Sandal, et al., 2017; Bhasin, et al., 2010).

### Statistical analysis

Results were analyzed using the Statistical Package for the Social Sciences for Windows

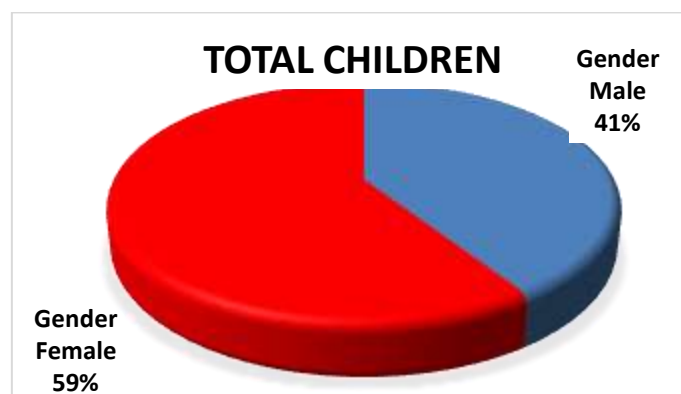
(SPSS) version 22. The Statistical Significance was set at a P value of  $< 0.05$ .

## Results

This cross-sectional questionnaire-based study consisted 76 Children diagnosed with learning disability aged between 8 to 16 years, of which 31 were male and 45 were female, depicted in

the Figure-1. The Table 1 summarizes the descriptive characteristics of the parents involved in the study. The socioeconomic status of the participants is distributed as Upper income group 17(22.3%), Middle income group 31(40.7%) and Lower income group 28(36.8%) as mentioned in the Table-2.

**Figure-1: Total Children participated in the study**



**Table-1: Demographic characteristics**

Age limit	Father	Mother
20-30	40	54
30-40	28	22
40-50	8	0
<b>Total</b>	<b>76</b>	<b>76</b>
<b>Mean</b>	30.96	27.98
<b>SD</b>	5.91	5.48

**Table-2: Socioeconomic status**

Socioeconomic Status	n (Number)	% (Percentage)
Lower Income	33	43.4%
Middle Income	29	38.2%
Upper Income	14	18.4%
<b>Total</b>	<b>76</b>	<b>100 %</b>

## CDI Score for screening depression in children

CDI score was positive ( $\geq 19$ ) in 24 participants (31.5%) of the total study population. Out of these 76 participants CDI score positive

participants 15 were in Lower income, 6 were in Middle income and 3 were in Upper income with regard to the socioeconomic status. Table-3 shows that there was statistically significance between the prevalence of depression in relation

to gender ( $P=0.0419$ ) and the socioeconomic variables ( $P=0.0454$ ).

**Table-3: Prevalence of depression (Children's Depression Inventory  $\geq 19$ ) in relation to sociodemographic variables**

Variables	Categories	Total Subjects	Participants with CDI ≥19(%)	x2	P
Gender	Male	31	13(54.17%)	20.64	<0.001*
	Female	45	11(45.83%)		
		Total	76		
Socio Economic Status	Lower Income	28	15(62.50%)		
	Middle Income	31	6(25%)		
	Upper Income	17	3(12.50%)		
		Total	76		
CDI Scale vs Gender					
	Mean (SD)	Median	Range		
Male	19.25(13.17)	15	7 to 53		0.0419*
Female	13.95(9.10)	11	6 to 51		
CDI Vs Socio Economic Status					
	Mean (SD)	Median	Range		
Lower Income	19.72(13.66)	15	15 to 53		0.0454*
Middle Income	13.48(8.84)	11	11 to 53		
Upper Income	13.07(5.86)	11	11 to 27		

(\* Statistical Significance was set at a P value of < 0.05; x2-Chi-square test; Mann–Whitney U test; One-way Analysis of variance test)

#### **SCARED score for screening child anxiety**

A total of 49 (64.4%) children were found to be experiencing some form of anxiety disorders with a prevalence of 22.7%. The prevalence was found to be similar among females (49.1%) than

males (48.7%). The most familiar type of anxiety disorder was found to be generalized anxiety disorder with a occurrence of 25% in this study. Significant school avoidance (15.7%) was found to be the second-most common anxiety disorder. The social anxiety disorder was found to around 9.21% followed by separation anxiety disorder (7.89%) and panic disorder (6.57%) as summarized in the Table-4.

**Table-4: Type of anxiety disorders identified by Screen for Childhood Anxiety-Related Emotional Disorders (SCARED)**

Type of anxiety disorders by SCARED	Total = 76, n (%)	Males=31, n (%)	Females= 45, n (%)
Social Anxiety Disorder	7 (9.21)	3(7.31)	4(6.77)
Panic Disorder	5(6.57)	1(2.41)	4(6.77)
Generalized Anxiety Disorder	19(25)	8(19.5)	11(18.6)
Separation Anxiety Disorder	6(7.89)	3(7.31)	3(5.08)
Significant School Avoidance	12(15.7)	5(12.1)	7(11.8)
<b>Number out of the total participants</b>	<b>49(64.4)</b>	<b>20(48.7)</b>	<b>29(49.1)</b>

**DASS-21 Scores for parents of learning-disabled children**

The Table-5 shows the extent of the depression, anxiety and stress among parents. Depression, anxiety

and stress are divided as normal, mild, moderate, severe and extremely severe. In depression, 51.9% of the participants are normal while

31.5%, 13.8%, 1.3% and 1.3% of the participants have mild, moderate, severe and extremely severe depression respectively. With regard to anxiety status around 44% are having mild anxiety and 17.1% fall under moderate anxiety. Moreover 25% of the parents doesn't have any stress. Around 27.6% have mild stress and 23% have moderate stress. Correlation between the scores in three Domain of DASS 21 is summarized in the Table-6.

**Table-5: Prevalence of depression, anxiety and stress among parents (n=152)**

DASS 21	Normal (%)	Mild (%)	Moderate (%)	Severe (%)	Extremely Severe (%)	No of Parents
<b>Depression</b>	79(51.9)	48(31.5)	21(13.8)	2(1.3)	2(1.3)	n= 152
<b>Anxiety</b>	45(29.6)	67(44.0)	26(17.1)	9(5.9)	5(3.2)	n= 152
<b>Stress</b>	38(25.0)	42(27.6)	35(23.0)	20(13.1)	17(11.1)	n=152

**Table-6: Summary of the DASS-21 Scores Amongst the Parents (n=152)**

	Depression	Anxiety	Stress
Range of Score Possible	0 to 36	0 to 40	0 to 42
Minimum Score Expected Among the Parents	0	0	0
Maximum Score Expected Among the Parents	36	40	42
Mean (SD)Score	9.08(6.05)	8.47(6.26)	19.32(10.95)
Median Score	8	8	18
<b>Correlation between the scores in three Domain</b>			
Depression	1	0.677*	0.603*
Anxiety	0.677*	1	0.476*

Stress	0.603*	0.476*	1
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\*Correlation is significant at the  $<0.001$  level (2-tailed).

(Figures for correlation represent the Pearson's Correlation Coefficient).

## Discussion

Learning disability has been known to manifest by a wide range of disorders which includes difficulties in reading, writing, reasoning, comprehending and mathematical abilities (Hammill, 1990). The present study confirmed that parents caring for a child with a learning disability definitely has substantial symptom of anxiety and depression. Almost one-third of the parents of learning-disabled children in the current study had mild depression, and two-thirds had mild to moderate anxiety which is quite comparable to a meta-analysis done in learning disabilities and anxiety which indicated that nearly 70% of students with learning disabilities experience some kind of anxious disorder (Hammill, 1990, Sahoo, et al., 2015, Margari, et al., 2013).

In this study among the 76 children with learning disabilities, 31.5% were positive with CDI score  $>19$  within the 8 to 16 age group which was similar to a study done to assess the depressive elements in learning-disabled and nonlearning-disabled students using CDI scale (Mammarella, et al., 2016). In our study there is a remarkable correlation between the CDI score positive children and the socioeconomic status ( $P < 0.0454$ ), which is similar to a study done on the depression and nonacademic self-perceptions in children with and without learning disabilities proves a strong association of internalizing disorders like depression with the learning disabilities (Hall, et al., 1989, Li, H., et al., 2007).

SCARED tool results have shown that a total of 49 (64.4%) children were found to be enduring from some form of anxiety disorders lot of similar fears and related anxieties. Comorbidity with anxiety and mood

disorders are always been associated with learning disabilities (Nelson, J. M., et al., 2011, Mishra, et al., 2018). The Generalized Anxiety

Disorder (GAD) was found to be around 25% of the children with learning disabilities and it's the most frequent form of anxiety disorder which needs to be addressed at the earliest. The Significant School Avoidance was around 15.7% of the children with learning disabilities and the Social Anxiety Disorder was around 9.2% amongst them. These findings are similar to another study done by Madasu, S., et al, 2019.

Results have showed that the level of depression, anxiety and stress among parents of children with learning disabilities are increasing alarmingly. The result in our study shows that there was a positive relationship between the scores of depressions, anxiety and stress among parents with disabled child and are similar to study done by Firth et al., 2013 and Rodriguez CM et al., 2011.

## Conclusion

Awareness about specific learning disability is still nascent stage to most of the parents of children with learning disabilities. The psychological comorbidities in children with learning disabilities are still undertreated due to lack of knowledge among people. Parents of children with learning disabilities also present with some form of depressive spectrum disorder which directly reflects on the quality of the caregiver's wellbeing. Effective intervention for comorbid conditions like depression and anxiety also helps in rendering effective remedial education program. Psychoeducation about the child's condition and effective remedial information to the parents also helps in mitigation reducing their guilt, depression and anxiety. This study will definitely help the mental health professionals to create more awareness among the caregivers. The results will further emphasizes the significance of mental health screening, appropriate support system and interventions like remedial education for the children and psychological therapies for the caregivers and their children with learning disability.

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