

A Comparative Study of Stress, Emotional Wellbeing Among Adolescents with and without Specific Learning Disorder

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Received: 23-03-2023 / Revised: 11-04-2023 / Accepted: 15-05-2023

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Conflict of interest: Nil

Abstract

Introduction: Specific learning disorder is a developmental disorder, manifesting as difficulty in reading, writing, comprehending or using language, calculations. Emotional and behavioral problems are common among children with learning disability and which often enhances the serious negative consequences for a child's academic achievement and social development and forms vicious cycle. Based on this aim of our study is to assess and compare the level of stress, prevalence of emotional and behavioral problems among adolescents with and without specific learning disorder.

Material and Methodology: This study was done as a hospital based cross-sectional study for a period of 3 months in 40 patients who diagnosed as a case of specific learning disorder by clinical and mental status examination and IQ assessment and test of academic abilities (NIMHANS INDEX) done by clinical psychologist. Patient fulfilling the criteria for Specific learning disorder, according to ICD- 10 Criteria. In age group between 12 -17 years whose patients whose parents giving informed consent were included in the study as cases.

Results: It was inferred that there was no significant relationship between age of the study population and emotional and behavioral problems. Our study shows correlation of stress and emotional & behavioral problems in cases. It was also observed that stress levels positively correlated with the emotional symptoms, conduct problems, Hyperactivity, peer problem and Total difficulty scores in strength and difficulty questionnaire and stress levels negatively correlated with prosocial behaviors.

Conclusion: Based on the findings in our study, it is understood that adolescents with specific learning disorder experiencing high level of stress and they have a high risk of emotional and behavioral problems comparing with adolescents without specific learning disorder. Early diagnosis and intervention of emotional and behavioral problems in patients with learning disorder makes a substantial improvement in self-confidence and social competency, which in turn leads to improvement in their ability of learning.

Keywords: Specific Learning Disorder, Stress, Adolescents.

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Introduction

Specific learning disorder is a developmental disorder, manifesting as difficulty in reading, writing, comprehending or using language, calculations, wherein the child has normal intelligence and conventional schooling, adequate motivation and opportunity, and intact hearing and visual capacity. Cultural symbols are used to represent specific numbers and speech sounds were invented only a few thousand years ago. Multiple skills are involved in learning to process one's cultural symbol systems. These include the awareness that spoken language can be segmented into smaller units (words, syllables, phonemes) and mapped onto written visual symbols (e.g., letters, characters, numerals); the ability to rapidly identify letters, letter clusters, and words (orthographic awareness); the ability to extract meaning from this written language; and the ability to transcode meaning between symbol systems. For a surprisingly large subgroup of children have persistent and impairing problems in acquiring and using the cultural symbols that are required for reading, writing, and arithmetic which results in academic failure[1].

Academic failure is a constant threat throughout a child's life that has a learning disability. Adolescents with learning disabilities struggle in an academic environment which affects their emotional well-being. Individuals with learning disabilities experience social, emotional and motivational hardships more severely than someone who does not have a learning disability[2]. Previous studies by Dollinger et al[3] and Geisthardt & Munsch[4] showed that adolescents with learning disabilities experience more stress in the school environment and may manifest more internalizing disorders than students without disabilities .

Emotional and behavioral problems are common among children with learning

disability and which often enhances the serious negative consequences for a child's academic achievement and social development and forms vicious cycle. Parents are frequently the first adults to identify that a child has a serious emotional or behavioral problems and they play a major role in arranging diagnostic and treatment services for children. There were many studies on learning disabilities has mainly focused on academic under achievement, perceptual and cognitive ability deficits, but problems with learning disabled pupils' social, emotional, and behavioral development has received little attention .

This study is focused on the level of stress and occurrence of emotional and behavioral problems among adolescents with specific learning disorder, a condition which has features of difficulties in learning and use of academic skills in spite of having normal intelligence. This study is designed to find the frequency and type of emotional and behavioral problems among adolescence with and without specific learning disorder and comparing the both groups.

In addition, this study also aims to correlate the level of stress and occurrence of emotional and behavioral problems in both groups. In India there were many studies related to prevalence of learning disabilities, but there were limited number of studies regarding stress, emotional well-being among adolescents with specific learning disorder. So there is an utmost need to evaluate the level of stress, occurrence of emotional and behavioral problems among adolescents with specific learning disorder.

By understanding the types of emotional and behavioral problems, its relationship with experiencing stress level, we can identify the same earlier, which will be helpful for earlier intervention and promoting their emotional well-being and

that leads to improvement of their academic performance. Based on this aim of our study is to assess and compare the level of stress, prevalence of emotional and behavioral problems among adolescents with and without specific learning disorder.

Material and Methodology

This study was done as a hospital based cross-sectional study for a period of 3 months in 40 patients who diagnosed as a case of specific learning disorder by clinical and mental status examination and IQ assessment and test of academic abilities (NIMHANS INDEX) done by clinical psychologist, in psychiatry OPD and compared with 40 Normal adolescents who are attending other clinical OPD. Written Informed consent obtained from the patient's parents.

Patient fulfilling the criteria for Specific learning disorder, according to ICD- 10 Criteria. In age group between 12 -17 years whose patients whose parents giving informed consent were included in the study as cases

Socio demographic and clinical proforma, Kuppusamy rating scale for socioeconomic status, Modified Adolescent Stress Questionnaire, Strength and Difficulties Questionnaire were used to evaluate in our study. Complete physical examination including neurological evaluation and detailed mental status examination was done.

Statistical design was formulated using the data collected as above, for each of the

scales and socio-demographic variables. Statistical analysis was done using SPSS (Statistical Package for Social Studies) version 22.0. The central values and dispersion were calculated. In comparison of the data for categorical variables chi-square and for numerical variables student t test were used. For multiple comparisons of more than two numerical variables, ANOVA is used. Correlation among variables was studied using Pearson's correlation coefficient.

Results

In our study it was observed that 37.5 % subjects were from below 13 years, 47.5% were from 14- 15years and 15% were from 16 years of age in total study sample. There was no significant difference between the cases and controls with respect of age (p value < .888).

Also in our study it was found that 50% of cases and 55 % of controls were males, remaining 50% of cases and 45% of controls were females. There was no significant difference in between cases and controls groups with respect of gender (p < .654).

Regarding educational status it is observed that 40 % of cases and 35% of controls were from below 8th standard, 45% of cases and 52.5% of controls are from 9th and 10th standard. It was also found that 82.5% of cases and 80% of controls were from Lower middle socio economic class and remaining 17.5% of cases and 20% of controls were from upper lower socio economic class.

Table 1: Modified Adolescent Stress Questionnaire Scores

S. No	Factors	Case			Control			Stat Result
		N	Mean	Sd	N	Mean	Sd	
1	Home Life	40	47.36	9.92	40	33.29	8.93	P<.01 Sig
2	School Performance	40	65.17	16.52	40	34.50	8.15	P<.01 Sig
3	Attendance	40	36.33	12.35	40	25.33	7.58	P<.01 Sig
4	Peer Pressure	40	39.58	7.59	40	35.17	6.49	P<.01 Sig
5	Body Image	40	44.00	8.71	40	42.99	10.03	P<.86 Ns
6	Teacher Interaction	40	49.29	9.10	40	35.43	6.93	P<.01 Sig
7	Future Uncertainty	40	53.75	17.79	40	37.75	12.50	P<.01 Sig

8	School/Leisure Conflict	40	56.83	15.25	40	43.17	8.27	P<.01 Sig
9	Financial Pressure	40	46.50	10.27	40	45.25	10.52	P<.57 Ns
10	Total Score	40	46.70	5.80	40	34.76	4.34	P<.01 Sig

Table 1 shows comparison of Modified adolescent stress questionnaire scores in between cases and controls, which shows significant difference of stress levels in all domains except body image and financial pressure domains. There was significant difference between cases and controls in total stress level ($p < .01$).

Table 2: SDQ Scores

S. No	Factors	Case			Control			Stat Result
		N	Mean	Sd	N	Mean	Sd	
1	Emotional Symptoms Scale	40	50.25	20.06	40	22.25	19.01	P<.01 Sig
2	Conduct Problem Scale	40	27.00	11.59	40	25.77	11.62	P<.39 Ns
3	Hyperactivity Scale	40	39.75	15.44	40	20.00	11.55	P<.01 Sig
4	Peer Problem Scale	40	28.50	12.52	40	13.50	8.93	P<.01 Sig
5	Prosocial Scale	40	52.75	15.85	40	53.25	10.71	P<.69 Ns
6	Internalizing Problems	40	43.27	14.46	40	28.41	12.34	P<.01 Sig
7	Externalizing Problems	40	32.64	11.84	40	31.53	11.26	P<.62 Ns
8	Total Difficulty Score	40	36.38	8.47	40	17.69	7.32	P<.01 Sig

Table 2 shows comparison of Strength and Difficulties Questionnaire Scores between cases and controls which shows significant difference in 3 domains except conduct problems and prosocial scale. There was also significant difference found in internalizing problem scores and total difficulties score between two groups ($p < .01$).

From the above results, it is inferred that cases were having high level of internalizing problems like emotional symptoms and peer problems than externalizing behavioral problems.

Our study also shows significant difference of stress level in between three age groups in domains of school attendance and peer pressure. It was also observed that there was significant difference of total scores of stress level in between three age groups ($p < .004$). It is found that the stress levels were high in the age group of 16 years and above.

Modified Adolescent Stress Questionnaire

In our study group the distribution of modified adolescent stress questionnaire scores of cases based on gender. It was

noted that there is no significant difference in level of stress in all domains and also in total stress level in between male and female cases ($p < .287$).

Also it shows that there was significant difference of stress level in domains of school attendance and peer pressure. It is also noted that there was significant difference in total stress level between three groups based on standards ($p < .004$). It is noted that stress level found to be increased when standard of education increases.

When compared with socio economic class. It is observed that majority of study population belongs to class III (lower middle) and IV (upper lower). There was no significant relationship found between stress level and socio economic class of study population.

Strength and Difficulties Questionnaire

In our study when we analyzed distribution of strength and difficulties questionnaire scores of cases based on age. It is observed that there was no significant difference found between the three age groups. It was inferred that there was no significant relationship between age of the

study population and emotional and behavioral problems.

Also, the mean of total difficulty scores in SDQ for male is 37.38 and female is 35.38. There was no significant difference found between the two groups in any domains of strength and difficulties questionnaire and also in total difficulty score. It is inferred that there was no significant relationship found between gender of study population and emotional and behavioral problems.

From our study it was noted that the mean of total difficulty score of SDQ for cases studying below 8th class is 36.88, for who are in 9th and 10th class is 36.39 and for the 11th class and above, is 35.00. It was observed that there was no significant difference present between the three groups in any domains of strength and difficulties questionnaire and also in total difficulty score. It is inferred that there was no significant relationship found between studying standard of study population and emotional and behavioral problems.

Also, we observed that the mean of emotional symptoms in socioeconomic class III was 47.27 and for class IV was 64.28. Total difficulty mean score for class III was 35.38 and class IV was 42.85. There was statistically significant difference found between class III and class IV groups in domain of emotional symptoms and also in total difficulty scores. It was inferred that there was high level of emotional and behavioral problems found in class IV socio economic class.

Our study shows correlation of stress and emotional & behavioral problems in cases. It was also observed that stress levels positively correlated with the emotional symptoms, conduct problems, Hyperactivity, peer problem and Total difficulty scores in strength and difficulty questionnaire and stress levels negatively correlated with prosocial behaviors.

Discussion

The study was done to assess and compare the level of stress, emotional and behavioral problems among adolescents with and without specific learning disorder. The present study included 40 patients with specific learning disorder and 40 normal adolescents without any learning disorder.

Subjects in the group of cases and controls were administered the modified adolescent stress questionnaire and the resultant scores were compared. On applying the student T test to the data, there was significant difference present in most of the domains and total stress level in between the two groups. In our study we found that cases were experiencing high level of stress than controls.

Previous study done by Alexander –Passe [5] with the School Situation Survey measure, investigate both the sources and manifestations of stress amongst dyslexic pupils and non-dyslexic sibling controls. Results suggested that significant differences between groups, pupil with dyslexia experiencing higher stress levels, specifically in interactions with teachers, worries over academic examinations, and performance testing causing emotional and physiological manifestations. Studies done by Geisthardt and munsch[4] found that children with learning disabilities exposed to more risk factors for stress and they also have fewer supports to cope with them compared to children without learning disabilities.

As per our study the prevalence of emotional and behavioral problems were high in patients with specific learning disorder than in control group. There was also significant difference present in the total difficulties score in between two groups. As per our study students with specific learning disorder experiencing more emotional and behavioral problems than controls. This is supported by previous study done by Willicut and

Pennington [6] in that study, parents reported significantly more internalizing and externalizing behavior for dyslexics than in controls.

In our study we found that cases were experiencing more level of emotional symptoms comparing than controls. Emotional symptoms include social withdrawal, depressive traits, anxiety and somatic complaints. This is supported by previous studies by Boetsch et al[7] and Maughan et al[8] found more depressive traits in children and adolescents with dyslexia. In a study of McConaughy and Ritter[9], Depression scales completed by parents and teachers have been found to show a relatively higher depression mean score, for pupils with specific learning difficulties compared with pupils without specific learning difficulties.

In our study we have found that increased level of peer problems in patients with learning disorder than controls. This finding is supported by other studies by Kavale and Forness[10], Greenham[11] and Kuhne M & Wiener[12].

As per our study mean scores of hyperactivity found to be increased in patients with specific learning disorder than controls. This is supported by previous studies, Willcutt and Pennington[6] found ADHD in the dyslexia group, but not in the control group. They reported a stronger relation between dyslexia and ADHD in males than females. Higher levels of ADHD symptoms in dyslexia was also reported by Boetsch et al[7].

As per our study overall patients with specific learning disorder suffering from internalizing type of emotional and behavioral disorder. This finding was supported by other study Backer and Neuhauser[13] which indicated behavioral problems for children with dyslexia were four times higher than in the standardization data. This group had more

internalized behavior problems than externalized behavior problems.

In our study we tried to find out the relationship between the socio demographic variables and stress level. In our study the mean of total stress score in age group below 13 years was 44.09, for cases in age group 14-15 years was 46.93 and in the age group for 16 and above was 52.97. It was observed that the stress level is increasing with age increases. As per our study it is also noted that the level of stress found to be high in patients who are studying in higher classes. In our study there was no significant relationship between variables like gender, socioeconomic class and stress level.

In our study we have found that the occurrence of emotional and behavioral problems do not differ with regard to sociodemographic variables like age, gender, studying class except socio economic class. In contrast a study Maag & Reid [14] found high level of depression in girls with learning disorder in junior high school. It was found that high level of emotional symptoms and total difficulties scores of SDQ found in the group of upper lower (Class IV) economic group. This finding is not comparable with other studies because they have not seen the relationship between emotional and behavioural problems with socioeconomic class.

In our study we tried to find the relationship between stress level and emotional & behavioural problems in cases. We found that the stress levels were positively correlated with Hyperactivity, Emotional symptoms, Conduct problems, Peer problem domains of strength and difficulty questionnaire and negatively correlated with pro social behaviours. From this it was inferred that higher stress levels were associated with increased emotional & behavioural problems and decreased pro social behaviours. This findings was similar with

previous studies by Geisthardt and Munsch[4] who found that the adolescents with learning disorders experience more stress in the school environment, may manifest more internalising problems than students without learning disabilities.

Conclusion

Our study finding reveals that Adolescents with specific learning disorder have high level of stress in comparison with normal adolescents. The level of stress is found to be increased with age and level of schooling. Prevalence of emotional and behavioral problems are high in adolescents with Specific learning disorder in comparison to normal adolescents. The level of stress has direct relationship with the emotional and behavioral problems. Adolescents with specific learning disorders found to have high risk of internalizing type of emotional and behavioral problems.

Based on the findings in our study, it is understood that adolescents with specific learning disorder experiencing high level of stress and they have a high risk of emotional and behavioral problems comparing with adolescents without specific learning disorder. Early diagnosis and intervention of emotional and behavioral problems in patients with learning disorder makes a substantial improvement in self-confidence and social competency, which in turn leads to improvement in their ability of learning.

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