

# **The Level of Stress among Children with Movement Disorders and the Impact of Age, Gender, and Level of Movement Disorders on Stress**

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## **ABSTRACT**

Among people exposed to major psychological stressors in early life, there are elevated rates of morbidity and mortality from chronic diseases of aging. The most compelling data come from studies of children raised in poverty or maltreated by their parents, who show heightened vulnerability to vascular disease, autoimmune disorders, and premature mortality. Movement disorders are common neurologic disturbances in childhood. There are two major types of movement disorders. For the purpose of the study, the investigator selected 142 children's with movement disorders between the age of 10 to 15. The present study is designed to discover the nature, broaden and correlates of stress experienced by the individuals with movement disorders.

**Keywords:** Stress, psychological, Movement disorder, Children.

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## **INTRODUCTION**

### **Problem of Movement disorders**

Movement disorders are common neurologic disturbances in pediatric neurology and are one of the most common reasons for referral to pediatric neurology clinics. Childhood movement disorders are different in terms of etiology, timing, treatment, and prognosis toward adulthood movement abnormalities.

These disorders are characterized by impaired voluntary movements, the presence of involuntary movements, or both. They are dynamic disorders and their severity and distribution may shift over time. Some involved children are unable to perform skilled motor plans and may be suffered from physical/social outcomes.

Traditionally, movement disorders are classified to hyperkinetic and hypokinetic disorders. Hyperkinetic movement disorders are determined with abnormal repetitive involuntary movements (chorea, dystonia, athetosis, myoclonus, stereotypies, tics, and tremor). On the contrary, hypokinetic movement disorders revealed with reduced voluntary movements and akinesia.

### **Stress among children**

Childhood stress can be present in any setting that requires the child to adapt or change. Stress may be caused by positive changes, such as starting a new activity, but it is most commonly linked with negative changes such as illness or death in the family.

Anxiety, sadness, schizophrenia, and substance abuse are all examples of mental health problems. Many mental health issues are linked to adversity, although stress is not a necessary condition for the development of mental illness. Sub-threshold mental illnesses, often known as poor mental health that falls short of the threshold for diagnosis as a mental disease, affect a large percentage of the population. Numerous people in the world deal with diagnosable or sub-diagnosable mental illnesses. Depression, anxiety, schizophrenia, and bipolar disorder are all included under the umbrella term "mental disease," which is less widely used. It is time for governments all over the globe to change their focus from treating current mental health illnesses to preventing them via work on the socioeconomic determinants of health. Many of the causes and triggers of mental illness may be found in everyday social, economic, and political settings and hence need intervention.

The effects of stress are not universally consistent either; they depend on the individual and their immediate surroundings. Prior psychiatric history, neuroticism, female gender, and other sociodemographic characteristics are personal risk factors for the development of depression, anxiety, or PTSD following a significant life event, tragedy, or trauma. Some research suggests a two-way street between one's character and the challenges they face in life. Poor social connections and "event proneness" are all linked to high levels of neuroticism, emotionalism, and reactivity. The ability to cope with adversity, access to helpful resources, and the pursuit of meaning are only some of the protective variables that have been found.

### **LITERATURE REVIEW**

**Faust, Jessica & Soman, Teesta. (2011).** Psychogenic movement disorders are defined as hyperkinetic or hypokinetic movement disorders associated with underlying psychological disorders. Psychogenic movement disorders account for 1% to 9% of all neurologic diagnoses. The assessment and treatment of psychogenic movement disorders can be complex. We report patients seen over the past 5 years, diagnosed with psychogenic movement disorder. We discuss in this article some patient characteristics and some strategies that are effective in the management of this group of patients. The case examples presented in the current article demonstrate the importance of two factors, a multidisciplinary approach and engaging the family, that are essential components in the treatment of psychogenic movement disorders.

**Harris, Susan. (2019).** This short communication provides an update on childhood psychogenic movement disorders (PMD), focusing on descriptive studies and case reports from 2008 to 2018. Known also as functional movement/motor disorders, PMD diagnoses are relatively common in adults but less so in children. In group studies over the past decade, sample prevalence of childhood PMD ranged from 2.8 to 23.1%, with a higher percentage of girls in most studies (consistent with adult PMD literature). Common types of PMD included tremor (32.4%),

dystonia (29.5%), and myoclonus (24.3%). Precipitating events for PMD onset included H1N1 influenza vaccinations, family/child stressors, anxiety/depression in the child or parent, panic attacks, behavior disorders, injury or accident, sexual abuse of the child or family member, death of a close relative, parental discord, domestic violence, school-related problems, medical illness/surgery, sleep disturbance, and participation in competitive sport or dance. The most frequently mentioned treatments were cognitive behavioral therapy, psychotherapy, relaxation techniques, and physiotherapy. Although additional cases of childhood PMD have been published over the past decade, little new information has appeared. There is still no “diagnostic gold standard,” making an accurate estimate of prevalence virtually impossible and contributing to confusion among pediatricians when trying to identify children with PMD.

**Mohammad, Shekeeb & Nosadini, Margherita & Brilot, Fabienne & Dale, Russell. (2015).**

Autoimmune movement disorders are important to recognize when they are treatable, and early treatment improves outcomes. We present the recent paradigms identified in autoimmune encephalopathy including diagnostic guidelines, autoantibody pathogenesis, and therapeutic considerations. We describe the autoimmune encephalitides associated with movement disorders such as N-methyl d-aspartate receptor encephalitis and basal ganglia encephalitis, the autoimmune movement disorders (nonencephalitic) such as opsoclonus-myoclonus-ataxia syndrome and Sydenham chorea, and movement disorders associated with systemic autoimmune disorders. In all these disorders, recurrent therapeutic themes are as follows: early immune therapy improves outcome, adequate immune therapy should be used to achieve complete remission, and relapse prevention reduces disability.

## **METHODOLOGY**

The investigator received irregular sampling technique to ensure the right representation of the populace. For the direct of the study, the investigator selected 142 children's with movement disorders between the age of 10 to 15. The sample comprised of 82 male and 60 female children's from both urban and country zone.

### **Tools**

The following tools were used for the present study.

- Proforma of Movement Disorders
- Activities of Daily Living inventory for children's with Movement Disorders (ADLI)
- Movement Disorders Stress Scale (MDSS)
- Adjustment to Movement Disorders Scale (AMDS)

### **Movement Disorders Stress Scale (MDSS)**

Stress is an inescapable piece of regular day to day existence especially for children's with illnesses. Movement disorders may constrain the useful degree of the influenced children's which may prompt raised levels of stress. The MDSS was created by the investigator to measure the stress among children's with movement disorders.

### **Adjustment to Movement Disorders Scale (AMDS)**

Adjustment means suitable adjustment or maintains balance in the earth. Adjustment to movement disorders implies the adjustment of a children's with movement disorders with their conditions caused by the disorder. ADMS was designed to measure the degree of adjustment of a children's with movement disorders in various situations. The AMDS provides the most uniform, legitimate and dependable measure of adjustment of children's with movement disorders.

## ANALYSIS & RESULTS

Level of Stress for the Socio-Economic (SE) aspect in MDSS among children's with movement disorders based on gender.

The test of significance of stress in SE score based on sexual orientation were subjected to 't' esteem analysis and organized as shown underneath.

**Table 1** The results of test of significance of stress w.r.to SE aspect based on gender.

Gender	Mean	SD	N	t
Male	29.8	6.0	82	6.02**
Female	34.7	2.5	60	

The results of the comparison of stress related to socioeconomic status based on gender uncovered that, among males, the mean and SD is 29.8 and 6.0 and that of females are 34.70 and 2.50. The free 't' test (6.02,  $p < 0.01$ ) shows that the mean score of stress identified with socioeconomic status significantly differs among male and female. It is induced that the female and male children's with movement disorder were significantly varied in their socioeconomic aspect of stress. This indicates females with movement disorders have more stress identified with socioeconomic status than their male counterparts.

Level of stress for the aspect of socioeconomic status (SE) based age.

The test of significance of Stress in SE score based on age were subjected to 't' esteem analysis and organized as shown beneath.

**Table 2** The results of the test of significance of Stress w.r.to SE aspect based on age.

Age	Mean	SD	N	t
5 – 10	33.1	5.2	86	3.62**
10 – 15	29.9	5.1	56	

The results of the comparison of two groups of children's with movement disorders based on age in stress identified with socioeconomic status uncovered a significant contrast ( $t= 3.62$ ) between the age group 5-10 and 10-15. Children's with MD in the age group 5-10 is found to have a higher mean score (Mean = 33.1) than the children's with MD in the age group 10-15 (mean = 29.9). It is derived that children's with movement disorders among the age groups 5-10 and 10-15 had a significant distinction in stress identified with socio-monetary aspect. The higher mean score acquired for children's with MD in the age group 40-50 demonstrate a more elevated level of stress identified with the socio-financial aspect.

Level of stress for the aspect of socioeconomic status (SE) based on the degree of movement disorders

The test of significance of Stress in SE score based on degrees of movement disorder was subjected to ANOVA and post hoc test and classified as shown beneath.

**Table 3** Summary of ANOVA and Post hoc Test with Scheffe Multiple Comparisons of Socioeconomic status aspect based on Degree of movement disorders.

Degrees of movement disorders	Mean	SD	N	F	Scheffe Multiple Comparisons		
					Pair	F'	P
Mild (A)	35.5	3.0	53		A & B	17.2**	0.000
Moderate (B)	30.8	5.4	67	37.68**	A & C	33.8**	0.000
Severe (C)	26.4	3.4	22		B & C	8.4**	0.000

Different comparisons of the groups of children's with movement disorders based on the level of movement disorders were made to discover which groups vary from each other. The F-estimation of the mean score with respect to the socioeconomic aspect of stress ( $F=37.68$ ,  $p<0.01$ ) vary significantly among the level of movement disorders. From the table, it very well may be seen that the mean score in regards to SE aspect of stress is high among children's with a gentle level of MD (mean score = 35.5) trailed by moderate (30.8) and least among severe (26.4). The highest mean score for SE aspect of stress was gotten by the children's with gentle MD and the lowest mean score was acquired by children's with severe MD.

Scheffe various comparisons (Post hoc Test) was used to think about the mean scores in regards to SE aspect of the stress of MD among various groups taken two at once (pair wise) to assess whether a significant mean contrast exists. F' Value ( $F'=17.2$ ,  $p>0.05$ ) shows that the SE aspect of stress does vary between children's with a mellow and moderate level of MD. It can also be observed that the mean score of children's with moderate MD is significantly higher than the

severe ( $F'=33.8$   $p<0.01$ ) and the score is significantly high for children's with mellow MD than severe ( $F'=8.4$ ,  $p<0.01$ ). Thus, it very well may be surmised that the SE aspect of stress is significantly high for children's with mellow MD and moderate MD when contrasted with children's with the severe level of MD.

## CONCLUSION

Stress among children's with movement disorders is one of the not many psychological studies led in the territory. The findings of the study have given significant data about the stress, adjustment and activities of day by day living skills of children's with movement disorders. The present study is designed to discover the nature, broaden and correlates of stress experienced by the individuals with movement disorders. Hypothetically, the study is relied upon to create and supplement a target understanding about the stress and adjustment among children's and individuals with movement disorders in terms of their socio segment profile. The finding of the present study has contributed significantly to the territory of psychological research on stress, adjustment movement disorders.

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