

PREVALENCE OF DEVELOPMENTAL COORDINATION DISORDER SUSPECTED CHILDREN IN SOUTH INDIA CONTEXT- 2018-2019

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Abstract:

Object: To find out the prevalence rate of Developmental Coordination Disorder (DCD) at Kattankulathur among 5 – 10 years of age group. **Method:** door to door survey was conducted at kattankulathur. 800 children (N=800) participated in the study. The Developmental Coordination Disorder Questionnaire (DCDQ) was used to identify DCD children at Kattankulathur. **Results:** 50 children were identified as DCD and it revealed that the prevalence rate was 6.2%. There was no statistically significant difference in prevalence rate among genders. **Conclusion:** The study concluded that there is prevailing of Developmental Coordination Disorder among the age group of 5-10 years at Kattankulathur. The prevalence DCD suggests a need for awareness and education program for parents and teachers for early identification and intervention.

Key words: Developmental Coordination Disorder, DCDQ, Prevalence, kattankulathur

I.INTRODUCTION

DCD is often an overlooked developmental problem by the clinical practitioners. There is extensive evidence that focuses on the difficulties that these children face to organize ADL, they experience highest trouble to plan and organize themselves in accordance to a new and unfamiliar as well as familiar environment. They commonly affect the child both in school and at home, and when these children compared with the same age peer group they experience difficulty to acquire skills which has been acquired easily by other children with no effort.

In 1925, Dupre referred motor coordination difficulty as *debilite motrice* (motorically deficient). Clumsiness is their major prominent feature and this terminology has been used often by Orton to describe a group of children with motor coordination deficit. In 1940, who have defined the clumsy side as

'... awkward in movements, poor at games, hopeless in dancing and gymnastics, a bad writer and defective in concentration. He is inattentive, cannot sit still, leaves his shoelaces untied, does buttons wrongly, bumps into furniture, breaks glassware, slips off his chair, kicks his legs against the desk, and perhaps reads badly.'

By 1960 many Pioneering contributions to the scientific society has been initiated by many researcher. In 1962, *British Medical Journal* had published an article on clumsy children and surprisingly no author have been cited for this study and referred to an earlier paper in the 1940s by Annell. There is a huge number of unsolved mystery exist in the past

By 1994, American psychiatric association described DCD as a chronic and usually a permanent condition found in children and is characterized by motor impairment that interferes with the child's activities of daily living and academic achievement.

Developmental Coordination Disorder is not diagnosed before age of 5 years due to variation in the age at which children develop their motor skills. Children must rule out the possibility of a physical medical condition or learning disability. The prevalence of DCD is high among school going children and research found that there is at least one child have DCD problem in every classrooms.

GanapathySankar& Saritha found that prevalence of DCD at Kattankulathur village in Tamilnadu was 1.37% by the year 2011. The prevalence of DCD in USA is 5-8%, 5.7% in Greek, 1.8% in United Kingdom, 5-9% in Canada and 6% in worldwide^{15, 16}. Early identification of Developmental coordination disorder is necessary to The Prevalence of Developmental Coordination Disorder at Kattankulathur. 50 prevent poor academic performance, play and Activities of Daily Living skills in children. The purpose of this study was to identify prevalence rate of

Developmental Coordination Disorder at Kattankulathur, Tamilnadu, India in the year 2018-2019

II.METHODOLOGY

Participants: This is cross sectional study-survey design. Door to door survey was conducted by using Developmental Coordination Disorder Questionnaire. Eight hundred Children (n=800) were participated in the study. Both boys and girls between the ages of 5-10 years (Mean age=7.8 years with standard deviation of 1.4 years) were included and this study was a review study and has been conducted by the same author over the similar geographical area in a entirely different time frame. The time frame the study has been initially conducted is 2011 after 9 years, again in 2019 the prevalence estimate has been calculated at Kattankulathur.

III. INSTRUMENT USED

Developmental Coordination Disorder Questionnaire (DCDQ): The Developmental Coordination Disorder Questionnaire (DCDQ) is a parent report measure and it is developed to assist early identification of Developmental Coordination Disorder (DCD) in children. Parents are asked to compare their child's motor performance to that of his/her peers using a 5 point Likert scale. This questionnaire provides a standard method to analyze a child's coordination in everyday functional activities. It consists of 15 items, which group into three distinct factors. The first factor contains a number of items related to motor control while the child was moving, or while an object was in motion, and is labelled "Control during Movement". The second factor contains "Fine Motor and Handwriting" items and the third factor relates to "General Coordination". It takes about 10-15 minutes to complete. These item – total correlations ranged from $r = 0.40$ to $r = 0.76$, with all significant at the probability level of .0001. The total score of the DCDQ was significantly correlated with the four complete scores of the BOTMP17 ($r = .46$ to $.54$).

Data collection procedure: The Purpose of the study was explained to panchayat union leader and primary investigator collected details about number of street and houses at Kattankulathur village. Door to door survey was conducted at Kattankulathur village, Chennai and consent forms were obtained from concerned parents. The Developmental Coordination Disorder Questionnaire (DCDQ) was distributed to concerned parents and primary investigator explains the DCDQ in details and clarifies their doubts. Data was collected for further analysis by using descriptive statistics.

IV.RESULTS

Eight hundred children (n=800) were participated. The age range was 5 years to 10 years. Descriptive statistics was done to analyze the data. The result of this study revealed that 50 children met the criteria for a diagnosis of Developmental Coordination Disorder (DCD). It indicates that prevalence rate at Kattankulathur is 6.2% and it has been increased significantly from the year 2011. By 2011 the prevalence estimate in Kattankulathur is 3.22% of children.

Table 1. The prevalence of Developmental Coordination Disorder (DCD) among the age group of 5-0 years at Kattankulathur

AGE	TOTAL SAMPLE	NUMBER OF CHILDREN WITH DCD	PERCENTAGE
5.00- 5.11	150	20	3
6.00-6.11	110	5	0.5
7.00-7.11	120	5	0.5
8.00-8.11	200	10	1.2
9.00-9.11	220	10	1
5.00-9.11	800	50	6.2%

The results of this study found that 6.2% of children have Developmental Coordination Disorder at Kattankulathur.

V. DISCUSSION

Developmental Coordination Disorder (DCD) is commonly affects children handwriting, reading and mathematics calculation in academics, play and self care activities. Research found that there was strong relationship with learning disorder and psychiatric disorder in adolescence. The pediatrician and family physician do not identify

the DCD. The present study was carried to identify prevalence rate of DCD at Kattankulathur. Results revealed that twenty nine children (622%) were screened as DCD and further analysis also done to confirm the DCD. The prevalence of DCD in USA is 5-8%, 5.7% in Greek, 1.8% in United Kingdom, 5-9% in Canada and 6% in worldwide. but in India GanapathySankar & Saritha reported that the prevalence DCD is 1.26% at Kattankulathur, Tamilnadu by the year 2011. The current study findings concluded that DCD prevalence rare is increased in India. Further study should be conducted in other geographical areas of India. Because in worldwide prevalence rate is increased. If the child perform more physical activity it might reduce DCD problem.

VI. CONCLUSION

The current study found that the prevalence rate is 6.2% at Kattankulathur in Tamilnadu. It depicts that prevalence rate is increased. Awareness program and screening program should be conducted periodically in school and parental education, teacher education is recommended for early identification of DCD.

CONFLICT OF INTEREST: NIL

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