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Focused attention, social maturity and behavioural problems among intellectually impaired children

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Abstract

With significant sub-average general intellectual function, accompanied by significant deficits in social functioning in areas such as social skills, communication, difficulties in attaining personal independence and social responsibility are notorious as Intellectual impairment. The case series represent the presence of focused attention, behavioural problems and social maturity of children with moderate Intellectual impairment. Colour trails test, Vineland Social Maturity Scale and Vanderbilt ADHD parent rating scale were administered on five children with Mental retardation and the cases collected from the special school. Results indicated that moderate intellectually impaired children have difficulty in focused attention, predominantly inattention behaviours and moderate deficits in social and adaptive functioning. There are so many interventions available to help them. However, this study showed that there is need to deal the children with Intellectual impairment and associated difficulties.

Keywords: Intellectual impairment, Focused Attention, Social Maturity and Behavioural Problems.

Introduction:

Attention is selective focus or concentration over something that involves certain cognitive and behavioural process. Daily life is full of distractions and people are influenced with all kinds of stimuli throughout a normal day. Focussed attention is a state of concentration on one stimulus to the exclusion of others. The purpose of focussed attention is to actively focus on one thing without being distracted by other stimuli. Most of the attention problems emerge from childhood itself. Children with Attention Deficit Disorder, Attention Deficit Hyperactivity Disorder, Learning disability and depression, might be having the problem in focussing attention towards stimuli or unable to filter out the distractions and focus on one thing. Behaviour includes all activities and actions that we perform towards others. Attention is one of the major components that greatly influence behaviour. Thus problem in attention will result in a problematic behaviour. Social Maturity is the expression of behaviour that is in coincidence with standards and norms for a person of that age. Children are usually not aware of how immature they may seem to peers. Social Maturity of children with attention problems have difficulty in reading verbal and physical social information and often mistake a game or a joke. So their responses and reactions are often inappropriate and it may be difficult to make relationship with peers.



30% of the mental retardation had clinically significant behaviour problems. Initial levels and changes over time in behaviour problems predicted changes in maternal well-being, or vice versa in the son or daughter (Andrew S Rowland, Catherine A Lesesne & Ann J Abramowitz, 2002). Children rated high on ADHD, mentally retarded children rated high on ADHD. Mentally retarded children were found to be more anxious than their normal peers (Fee VE, Matson JL, & Benavidez DA, 1994). Individuals with Down's syndrome had significantly fewer behaviour disturbances and those with autism and pervasive developmental disorder had significantly more behaviour disturbances than other subjects (Grizenko, Natali; Cvejic, Helen; Vida, Stephen; & Sayegh, Lianc, 1991).

Higher prevalence of behaviour problems is having in children with moderate mental retardation than in children with mild mental retardation. Common behaviour problems reported were 'impulsive or acts without thinking', 'cannot concentrate' & 'sudden changes in mood or feelings'. The most common behaviour problems in children with moderate retardation were 'can't concentrate', 'bites fingernails', (Jyoti Prakash, S. Sudarsanan, H.R.A. Prabhu, 2007). Increasing severity of retardation, social development also decreases and age does not have any effect on social development (Indrabhushan Kumar, Amool R. Singh, and S. Akhtar, 2009). Social development as well as adjustment levels was showed significant difference for mild and moderately mentally challenged children whereas social maturity and different areas of adjustment implying that low social development is predictive of poor adjustment (Madhu Anand, Anjali Malik, & Karmvir Singh, 2012). Generally, people also have difficulty in focused attention. However, commonly the intellectually impaired children have difficulty in attention, behavioural problems and difficulty in social and adaptive functioning. There is a need to assess and intervene them as earlier as possible. So the purpose of the present study is to explore focused attention among intellectually impaired children and assess their social maturity and behavioural problems.

Methodology:

Aim:

To explore focused attention among intellectually impaired children and assess their social maturity and behavioural problems

Objectives:

- To estimate the focused attention among intellectually impaired children
- To assess the social maturity and behavioural problems among intellectually impaired children.



Sample:

5 special school going children in the age group of 6 years were selected randomly from the special school in Coimbatore city. Children with any health problems, neurological problems which interfered in taking the test were excluded.

Tools:

1. Socio demographic datasheet: This sheet was prepared by the investigator and is intended to gather information regarding the name of the subject, age, education and other demographic details.

2. Colour Trails Test (Llorente AM, Voigt RG, Williams J, Fralley JK, Satz P and D'Elia LF, 2009): The Children's Color Trails Test (CCTT) is a neuropsychological test that measures focused attention, divided attention, and speed of mental processing. It has two forms, Form-A and Form-B. The test-retest reliability in the moderate range, which may be considered modest ($r(tt) = 0.46-0.68$).

3. Vanderbilt ADHD Diagnostic teacher rating scale (VADTRS): It was developed by Wolraich M.L., Feurer I., Hannah J.N., Pinnock, T.Y., Baumgaertel, A in 1998. This scale not only to make a diagnosis, if present but also it categorizes into various subtypes. They are inattentive, hyperactive/impulsive, or combined. The scale also looks symptoms for frequent co-morbidities, such as oppositional defiance, conduct disorder, anxiety, and depression.

4. Vineland Social Maturity Scale: This scale was developed by Doll E.A in 1935. This scale consists of 117 items which is divided into 9 dimensions: Self-help general, Self-help eating, Self-help dressing, Self-direction, Occupation, Communication, Locomotion and Socialization. It measures the maturity of the subject under the 9 dimensions by the appropriate age given.

Procedure:

The special schools and childcare homes in Coimbatore city were approached for getting permission to collect data from the children over there. The age of the children who were the participant of this survey was 6. Informed consent was taken from the parents and institute authorities. After getting consent, the investigator were collected the personal details, from the parents as well as special educators. Colour Trails test was administered individually. The Vanderbilt ADHD Diagnostic Teacher Rating Scale and Vineland Social Maturity Scale were administered to children along with their teacher's or the respective concern who is taking care of the child.

Results:

5 Intellectually impaired children aging 6 selected from special school were taken as subjects for this research. All 5 subjects are having moderate deficits in intellectual functioning. Commonly, all 5 cases have problems of anger, distractions and hyperactivity. Case-II was not



able to mingle with others and kept quiet. All the cases were partially cooperative except case-III – Comprehensive capacity was found to be inadequate so colour trails test could not be completed. Further results are as follows:

Table- 1 shows the basic demographic details of the case series

Variables	Case-I	Case-II	Case-III	Case-IV	Case-V
Age	6 Years				
Gender	Female	Male	Female	Male	Female
Education	1 st Standard				
Family Type	Nuclear	Nuclear	Nuclear	Nuclear	Nuclear
Siblings	0	1	0	1	0
Residence	Urban	Urban	Urban	Rural	Rural

Table-1 shows that all the five cases aged 6 years, 2 males and 3 females, studying 1st standard and all 5 cases belongs to nuclear family and urban background. Case –II and Case-IV have one sibling and other three cases do not have siblings.

Table-2 shows the profile of abilities (Social maturity dimensions) (in years) of the case series

Abilities / Dimensions	Case-I	Case-II	Case-III	Case-IV	Case-V
Self Help General	2.10	2.10	2.10	2.10	2.10
Self Help Eating	1.10	1.7	1.6	1.7	1.3
Self Help Dressing	3.10	4.7	3.10	4.7	4.7
Locomotion	3.3	3.3	3.3	3.1	3.3
Occupation	2.0	1.5	2.0	1.5	1.5
Communication	1.8	0.11	1.5	1.8	1.8
Socialization	1.6	3.3	1.6	3.3	3.3
Social Age	2.5	2.5	2.3	2.10	2.6
Social Quotient	40.27	42.45	38.88	35.11	43.44

Table-2 shows that among the profile of abilities of social maturity. Self-help general age is similar to all the cases. The self-help eating is range from 1 year 3 months to 1 year 10 months, self-help dressing = 3years 10 months to 4 years 7 months, locomotion = 3 years 1 month to 3 years 3 months, occupation = 1 year 5 months to 2 years, communication = 11 months to 1 year 8 months and socialization = 1 year 6 months and 3 years 3 months. The Social Age (SA) and Social Quotient (SQ) of the Case-I; SA = 2 years 5 months, SQ = 40.27, Case-II; SA = 2 years 5 months; SQ = 42.27, Case-III; SA = 2 years 3 months, SQ = 38.38, Case-IV; SA = 2 years 10 months, SQ = 35.11 and Case-V; SA = 2 years 6 months, SQ = 43.44. Hence, Self-help dressing is high for all the five cases which indicate that dressing ability is adequate compare to all other abilities. Average social age of all five cases is 2 years 4 months. Social Quotient score (Mean = 40.03) indicates that all cases are having moderate deficits in social and adaptive functioning.



Table-3 shows the Behavioural Problems of the cases

Behavioural Problems	Case-I	Case-II	Case-III	Case-IV	Case-V
Inattention	15	13	15	16	14
Hyperactivity/Impulsivity	09	10	12	08	05
Combined	24	23	27	26	19
Oppositional defiant Disorder & Conduct Disorder	03	09	11	11	09
Anxiety / Depressive Symptoms	0	05	04	07	08
Total Score	51	60	69	68	55

Table-3 shows that among all the behavioural problems of case series. The common problem is inattention ranging from 13 to 16. The second significant problem is hyperactivity/impulsivity ranging from 08 to 12 except case-V. Oppositional defiant disorder and conduct disorder found to be significant in the range of 03 to 11. Lastly, anxiety/depression symptoms scores are also significant (04 to 08) except case -I. Thus, all five cases have co-morbidity of behavioural problems.

Table- 4 shows the time and errors of Colour Trails Test (Focused attention) with the help of investigator

Focused Attention	Time (in minutes)		Errors	
	Form-A	Form-B	Form-A	Form-B
Case-I	7	8	0	5
Case-II	4	6	0	4
Case-III	NC	NC	NC	NC
Case-IV	8	7	3	8
Case-V	5	6	2	5
Total	24	27	5	22

NC = Not completed

Table -4 denotes the time taken and errors by children to complete colour trails test. The case-III was not able to complete the test due to anger, inadequate comprehension capacity and partial cooperation. The error score were found to be high in all the five cases which clearly reveal that they have problems in focused attention.

Discussion:

This study documents the focussed attention of intellectually impaired children and relates it to the social maturity and the behavioural problems of the case series. The children who were selected for the research were all moderately intellectually disabled aged 6. Those children were moderately cooperative with others. All five cases made high errors and took long time to complete the colour trails test. This shows clearly that they have difficulty in focused attention. This may be because of their Social Age and Social Quotient. Though their chronological age is 6 years, social age mean is 2 years 4 months and Social Maturity mean value is 40.03. So, all 5 cases are coming under the category of moderate deficits in intellectual functioning. Among behavioural problems the score was high in hyperactivity and inattention. They also have



depression, anxiety and conduct problems but their score were very low when compared to hyperactivity and attention problems.

Learning Disability was strongly associated with ADHD. The Children with LD has increased rates of other psychiatric disorders like behavioural disorders, mood disorders and anxiety disorders (Dennis P Cantwell, Joseph Campbell, Lorian Baker, 1991). In contrast to the nonaggressive peers aggressive preschool boys tend to focus their attention on aggressive social interactions in their environment (Karen R Gouze, 1987). There was higher prevalence of behaviour problems in children with moderate mental retardation than in children with mild mental retardation. Common behaviour problems reported were 'impulsive or acts without thinking', 'cannot concentrate' & 'sudden changes in mood or feelings'. The most common behaviour problems in children with moderate retardation were 'can't concentrate', 'bites fingernails' (Jyoti Prakash, S. Sudarsanan, H.R.A. Prabhu, 2007). Prevalent estimate of ADHD are as wide as 2% - 18%. The diagnosis of ADHD is complicated by the frequent occurrence of co-morbid conditions such as Learning Disability, Conduct and Anxiety Disorder (Andrew S Rowland, Catherine A Lesesne and Ann J Abramowitz, 2002). This research finding indicated that moderate intellectually disabled children have difficulty in focused attention, predominantly inattention behaviours and mild to moderate deficits in social and adaptive functioning. There are so many interventions available to help the intellectually disabled children. However, this study showed that there is need to deal the children with intellectual disability and associated difficulties.

The profile of abilities / dimensions of social maturity for all five cases are as follows;

Self-Help General: All five children is having adequate abilities in terms of avoiding simple hazards such as comes in out of rain, literally and figuratively. Show some caution to strangers and also with animals, shows some danger of such articles as matches, sharp utensils and glass ware etc., but cannot able to care for self at toilet or perform any other necessary operations with own self. have adequate self-help dressing. And also they have poor in self-help eating and communication.

Case-i

Self-Help Eating: This child unwraps the given candy or food enclosed in wrapping without help but the child cannot eat food by using fork without spilling or eats any solid food which does not require cutting.

Self -Help Dressing: The child washes own hands without help and dries same without soiling towel but the child cannot wash face without help

Locomotion: The child walks downstairs unassisted, one step per tread but does not able to go about neighbourhood unattended.

Occupation: The child can initiate own play activities involving simple suggestions such as drawing, colourings, building blocks etc., But the child does not able to use blunt scissors for cutting papers or cloth

Communication: The child uses names of familiar objects (not including person) for particular purposes but the child cannot able to talk in short sentences



Socialization: The child played with other children but the child does not play co-operatively at kindergarten level.

Case-ii

Self-Help Eating: The child discriminates edible substances such as avoids eating trash, may bite objects but does not require watching in this respect but the child is unable to wrap candies or food enclosed in wrapping

Self -Help Dressing: The child can able to wash face (except ears) and dries same without help but the child does not dresses self-excepting tying such as laces, ribbons etc.,

Locomotion: The child walks downstairs unassisted, one step per tread but does not able to go about neighbourhood unattended.

Occupation: The child can fetch or carry familiar objects such as bringing named objects to or from nearby places or carries simple messages to or from nearby persons

Communication: The child can able to follow simple instructions such as points to particular objects in pictures when asked, comes when called etc., But the child does not uses names of familiar objects.

Socialization: The child plays cooperatively at kindergarten level but does not "Performs "for others such as singing, dancing etc.,

Case-iii

Self-Help Eating: The child can able to eats with spoon without help and without appreciable spilling but the child does not discriminate edible substances such as avoiding eating trash, biting hard objects etc.,

Self -Help Dressing: The child washes own hands without help and dries same without soiling towel but the child cannot wash face without help

Locomotion: The child walks downstairs unassisted, one step per tread but does not able to go about neighbourhood unattended.

Occupation: The child can initiate own play activities involving simple suggestions such as drawing, colourings, building blocks etc., But the child does not able to use blunt scissors for cutting papers or cloth

Communication: The child uses names of familiar objects (not including person) for particular purposes but the child cannot able to talk in short sentences

Socialization: The child played with other children but the child does not play co-operatively at kindergarten level.

Case-iv

Self-Help Eating: The child discriminates edible substances such as avoids eating trash, may bite objects but does not require watching in this respect but the child is unable to wrap candies or food enclosed in wrapping

Self -Help Dressing: The child can able to wash face (except ears) and dries same without help but the child does not dresses self-excepting tying such as laces, ribbons etc.,

Locomotion: The child walks downstairs unassisted, one step per tread but does not able to go about neighbourhood unattended.

Occupation: The child can fetch or carry familiar objects such as bringing named objects to or from nearby places or carries simple messages to or from nearby persons



Communication:The child uses names of familiar objects (not including person) for particular purposes but the child cannot able to talk in short sentences

Socialization:The child plays cooperatively at kindergarten level but does not "Performs "for others such as singing, dancing etc.,

Case-v

Self-Help Eating: The child can able to eats with spoon without help and without appreciable spilling but the child does not discriminate edible substances such as avoiding eating trash , biting hard objects etc.,

Self -Help Dressing:The child can able to wash face (except ears) and dries same without help but the child does not dresses self-excepting tying such as laces, ribbons etc.,

Locomotion:The child walks downstairs unassisted, one step per tread but does not able to go about neighbourhood unattended.

Occupation: The child can fetch or carry familiar objects such as bringing named objects to or from nearby places or carries simple messages to or from nearby persons

Communication:The child uses names of familiar objects (not including person) for particular purposes but the child cannot able to talk in short sentences

Socialization: The child plays cooperatively at kindergarten level but does not "Performs "for others such as singing, dancing etc.,

Conclusion:

The moderate intellectually impaired children have difficulty in focused attention, predominantly inattention behaviours and moderate deficits in social and adaptive functioning. However, the cases have hyperactivity, oppositional defiant disorder and anxiety/depression. There are so many interventions / remediation's available to help them. Based on the present study findings, the neuro cognitive remediation module also will be developed and helpful for intellectually impaired children.

Implications:

This study showed that there is a need to deal the children with Intellectual impairment and associated difficulties. Colour trail making test was difficult for assessing focussed attention for moderate intellectually disabled children. Feel difficult in doing the colour trail making test as it involves more cognitive ability, so some other test would have been used for assessment of focused attention.

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