

Attitude of Primary School Teachers towards Children with Attention Deficit and Hyperactivity Disorder (ADHD)

Chintal. Siva Sankar*

Department of Education, Rajiv Gandhi University (CU), Itanagar-791112, Arunachal Pradesh, India

*Corresponding author: chintalsivasankar@gmail.com

Abstract Attention Deficit Hyperactivity Disorder (ADHD) is a common childhood mental health disorder. It is a specific learning disability in connection with heritable neuro-developmental disorder. It also influences social, academic, and/or occupational functioning. It is characterized by inattention, distractibility, hyperactivity and executive dysfunctions. It is caused by an interaction of a child's inherent biology and his/her environment. It is widely agreed that medication alone is never a sufficient treatment. Positive learning environment is to be provided for children with ADHD. Fundamentally, primary school teachers need positive attitude on children with ADHD in order to create positive learning environment. Thus, the present investigator insightfully made the objective of the study as: to find out significant differences if any, in the attitude of primary school teachers towards children with ADHD due to variation in gender, educational qualification, teaching experience and locality. Null hypothesis was formulated in connection with objective. A sample of 160 teachers was drawn for this present study. Among the 160 teachers, male teachers ($n_1 = 80$; 50%) & female teachers ($n_2 = 80$; 50%); Rural teachers ($n_1 = 87$; 54.37%) & Urban teachers ($n_2 = 73$; 45.63%); teachers of Under Graduate qualification ($n_1 = 89$; 55.62%) & teachers of Post Graduate qualification ($n_2 = 71$; 44.38%); teachers having teaching experience of Below 10 Years ($n_1 = 86$; 53.75%) & teachers having teaching experience of 10 years & above 10 years ($n_2 = 74$; 46.25%); were drawn randomly. The study also followed normative survey method. Attitude Scale on Attention Deficit and Hyperactivity Disorder (ASADHD) was constructed and developed using Likert method. Reliability and validity of the tool were 0.86 & 0.92 respectively. Data was collected and analyzed quantitatively with Mean, SD and t-test. The results of the study were: As per differential analysis, the calculated t-value (0.89) with regard to overall attitude ($M_1 = 180.94$, $SD_1 = 17.06$; $M_2 = 178.73$, $SD_2 = 13.85$), $P \leq 0.01$ is insignificant. It revealed that that male and female teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD) did not differ in relation to concept, characteristics, causes, strategies and assessment of ADHD. It also revealed that there were no significant differences in primary school teachers' positive attitudes towards attention deficit and hyperactivity disorder due to variation in gender, educational qualification, teaching experience and locality. As per mean values, male primary school teachers' positive attitude towards children with ADHD ($M_1 = 180.94$) is higher than female primary school teachers' positive attitude towards children with ADHD ($M_1 = 178.73$). Similarly, UG qualified primary school teachers' positive attitude, primary school teachers' of below 10 years teaching experience and rural primary school teachers' positive attitude on children with ADHD were higher than the counter parts.

Keywords: attention deficit/hyperactivity disorder (adhd), positive attitude & primary school teacher

Cite This Article: Chintal. Siva Sankar, "Attitude of Primary School Teachers towards Children with Attention Deficit and Hyperactivity Disorder (ADHD)." *American Journal of Educational Research*, vol. 5, no. 9 (2017): 977-983. doi: 10.12691/education-5-9-9.

1. Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is child hood onset, heritable neuro developmental disorder [1]. It is complex syndrome of developmental impairments of executive functions [2]. It is characterized by inattention, distractibility, hyperactivity, low impulse control, executive dysfunctions such as problems with planning, organizing, initiating and completing the activities [3]. The DSM IV-TR labels three subtypes of

ADHD namely; Predominantly Inattentive type (ADHD-I), predominantly Hyperactive-Impulsive type (ADHD-H) and a Combined Type, (ADHD-C), where an individual displays elements of both inattention and hyperactivity. Children with ADHD of the predominantly hyperactive-impulsive type may show aggressive behaviors, while children with ADHD of the predominantly inattentive type may be more withdrawn and can go unrecognized and unassisted. Both types of children with ADHD may be less cooperative with others and less willing to wait their turn or play by the rules [4]. Different studies have reported that the rate of ADHD during the pre-pubertal

stage is 3% to 5% in primary school children. Attention Deficit/Hyperactivity Disorder (ADHD) has significantly impact upon social, academic, and/or occupational functioning.

Current literature indicates that Obsessive-compulsive disorder (OCD) and attention-deficit and hyperactivity disorder (ADHD) frequently coexist. More severe anxiety and higher impulsiveness will take place, if childhood ADHD symptoms are associated with an earlier age of OCD. Even remitted ADHD may be a risk factor for OCD in later life [5]. Public health organizations have to take care to deal with both exercise and nutrition issues in children with ADHD disorder for the achievement of peak Bone Mineral Density (BMD) [6]. A key avenue for impulsivity in children with ADHD is inappropriate language expression [7]. Dialectical behavior therapy (DBT)-based skills training program as voluntary intervention for adults with ADHD in combination with substance use disorder (SUD) in compulsory care [8]. Prior awareness on ADHD (via past history/media/friends) leading to self/clinician referral to rule out ADHD [9]. The applicability of employing Direct Instruction flash card procedures gives progressive results for high school students with attention deficit hyper-activity disorder (ADHD) and oppositional defiant disorder (ODD) [10]. Approximately 40–60 percent of children with ADHD have at least one coexisting disability such as disruptive behaviors disorders, mood disorders, anxiety disorders, and learning disabilities which are more common than others [11]. Children with ADHD have educational and relationship problems; they are at considerable risk for alcohol and substance abuse, marital disturbances, anti-social behaviors, car accidents, and earlier uncontrolled sexual relationships [12].

Children with ADHD may experience difficulty in reading, math, and written communication [13]. Children may display elements of distractibility and destructiveness, yet a child diagnosed with ADHD will display such behaviours more frequently and persistently than is regularly seen in a child at the same developmental level. Children with ADHD have been identified with the risk of experiencing poor academic performance, problems with social integration, and emotional difficulties during childhood and adolescence [14]. People with undiagnosed ADHD are often dismissed as incompetent, disorganized, aggressive, disruptive, lazy, untrustworthy, neglectful, selfish, accident prone, anti-social and asocial. There is strong evidence to suggest that school students with ADHD are likely to perform at far lower levels academically than their scores on standardized tests of cognitive ability would predict [15].

ADHD is caused by an interaction of a child's inherent biology and his/her environment [16]. Genetic abnormalities may result ADHD [17]. ADHD is disorder as genetic and biological in nature, and discounts that it is caused by environmental and cultural factors [18]. ADHD is understood to be "triggered by the interaction between biological and social factors" [19] (p.13). ADHD is related to environmental stressors, such as poor and inconsistent parenting styles and "oppressive school and community environments" [20]. Parental stress, issues of low self-esteem in mothers and the blaming behaviours of fathers may lead to the development of ADHD symptoms in

children. ADHD is a resultant of a complex interplay between these factors [21].

ADHD is a clinical diagnosis based on interview and normed rating scale data that take into consideration relevant history and current daily functioning. The most effective treatment for most patients with ADHD is medication, usually stimulant medication [22]. It is widely agreed that medication alone is never a sufficient treatment, but where it is used; it should always be part of a multi-model intervention approach which employs behavioral, psycho-social, cognitive and environmental interventions [23]. The three main components of a successful strategy for educating children with ADHD are academic instruction, behavioral interventions, and classroom accommodations [24]. By creating positive learning environment, following appropriate instructional and classroom management practices, teachers could improve both the academic performance and the desirable behavior of the children with ADHD. To do all these activities, basically primary school teachers need positive attitude towards children with ADHD. Hence, the present investigator has thought to do research for knowing at what level the primary school teachers having positive attitude towards children with ADHD due to variation in different selected variables. Thus, the present researcher has stated the problem as given below.

1.1. Statement of the Problem

"Attitude of Primary School Teachers towards Children with Attention Deficit and Hyperactivity Disorder (ADHD) in Papumpare District of Arunachal Pradesh in India"

1.2. Objectives of the Study

1. To find out significant difference if any, in attitude of primary school teachers towards children with ADHD due to variation in gender.
2. To find out significant difference if any, in attitude of primary school teachers towards children with ADHD due to variation in educational qualification.
3. To find out significant difference if any, in attitude of primary school teachers towards children with ADHD due to variation in teaching experience.
4. To find out significant difference if any, in attitude of primary school teachers towards children with ADHD due to variation in locality.

1.3. Hypotheses of the Study

In view of the nature of the objectives of the present study, the investigator formulated the following hypotheses in order to achieve the objectives of the study.

1. There is no significant difference in the attitude of primary school teachers towards children with ADHD due to variation in gender.
2. There is no significant difference in the attitude of primary school teachers towards children with ADHD due to variation in educational qualification.
3. There is no significant difference in the attitude of primary school teachers towards children with ADHD due to variation in teaching experience.

4. There is no significant difference in the attitude of primary school teachers towards children with ADHD due to variation in locality.

2. Methods

The present study is descriptive in nature. So, the investigator has adopted the survey method to collect the data. This method helps to predict the results based on collected information. In the present study, sample was selected from primary level teachers of Papumpare District of Arunachal Pradesh in India. A sample of 160 teachers was drawn for this present study. Among the 160 teachers, male teachers ($n_1 = 80$; 50%) & female teachers ($n_2 = 80$; 50%); Rural teachers ($n_1 = 87$; 54.37%) & Urban teachers ($n_2 = 73$; 45.63%); teachers of Under Graduate qualification ($n_1 = 89$; 55.62%) & teachers of Post Graduate qualification ($n_2 = 71$; 44.38%); teachers having teaching experience of Below 10 Years ($n_1 = 86$; 53.75%) & teachers having teaching experience of 10 years & above 10 years ($n_2 = 74$; 46.25%); were drawn randomly.

2.1. Instrumentation

Attitude Scale on Attention Deficit and Hyperactivity Disorder (ASADHD) was constructed and developed for primary school teachers. The present attitude scale was developed as per the Likert's method for the construction and standardization of the scale. The investigator collected various statements from different sources (dissertations, reference books, journals, periodicals, E-learning, M-learning, personal experience etc.) relating to the concept, characteristics, causes, strategies and assessment of ADHD by consulting experts and the educationists relating to the field. The investigator prepared 60 statements. All these statements got edited by the content and language experts. On the basis of the opinions of the content and language experts, 10 statements were rejected and remaining 50 statements were kept in the preliminary draft of this attitude scale. The preliminary draft of 50 statements was tried-out on a sample of 30 primary school teachers in form of pilot study. Each statement, in this attitude scale was followed by five responses such as Strongly Agree (SA), Agree (A), un-certain (U), Disagree (D), and Strongly Disagree (SD). The respondent was to put the tick (\checkmark) mark on any one of the alternative options as per his/her willingness. The scoring for positive statements was given 5, 4, 3, 2 and 1 points to SA, A, U, D and SD respectively and for negative statements 1, 2, 3, 4 and 5 points to SA, A, U, D and SD respectively. Selection of item was done by following item analysis technique. For this, investigator selected 27% of top (high) and 27 % of bottom (low) group students and applied t-test. The 't' values of all 50 statements were found greater than critical value (2.06) at 0.05 level and critical value (2.78) at 0.01 level. Therefore, all 50 statements of the attitude scale were retained for the final draft. Out of 50 statements in sequential order, 1-10 statements were related to concept of ADHD, 11-20 statements were related to characteristics of ADHD, 21-30 statements were related to causes of ADHD, 31-40 statements were related to strategies and, 41-50 were related to Assessment.

In this scale, the positive and negative items were classified with regard to dimensional components. In the first dimension (viz., concept), the statements: 1, 2, 3, 4, 6, 7, 8 & 9 were treated as favourable (positive). The 5th and 10th statements were non-favourable (negative) statements. In the second dimension (viz., characteristics), the statements: 11, 12, 13, 14, 16, 17, 18 & 19 were treated as favourable. The 15th and 20th statements were non-favourable. In the third dimension (viz., causes), the statements: 21, 22, 23, 24, 26, 27, 28 & 29 were treated as favourable. The 25th and 30th were non favourable. In the fourth dimension (viz., strategies), the statements: 31, 32, 33, 34, 36, 37, 38 & 39 were considered as favourable. The 35th and 40th were non-favourable. In the fifth dimension (viz., assessment), the statements: 41, 42, 43, 44, 46, 47, 48 and 49 were considered as favourable statements. The 45th and 50th were treated as non-favourable items in the attitude Scale of ADHD. The investigator has taken consideration for establishing the reliability and validity of the attitude scale. For computing the reliability of the attitude scale, the investigator used the Split- Half Method. The coefficient of reliability (r_{tt}) came out to be 0.86, which indicates a quite high amount of reliability of the constructed scale. The content validity was reflected by making consideration of the opinions of the content experts. The intrinsic validity of the tool was 0.93.

2.3. Data Collection

After having the completion of selection of sample and preparation of tool, the investigator as a first step of his research study established contacts with the principals/headmasters of the selected primary schools in order to get effective co-operation and smooth conducting of the research study. With the approval from the principal/headmasters concerned schools, the investigator visited the selected schools for collecting data from the primary school teachers. For administrating the scale, the investigator took every care so that the teachers were not to find any difficulty in attempting the tools of the study. To begin with, the instructions relating to the positive attitude scale was explained to the teachers by the investigator. The procedure for attempting the scale was explained with some examples. Furthermore, the teachers were asked to follow the instructions given and attempt all the questions of the scale within 20 minutes as it was found sufficient for the teachers to complete this scale. As per the directions and requirements of the scale, teachers completed this scale within the stipulated duration. There were 50 items in the scale. The minimum score of a teacher on this positive attitude scale could be 50 ($50 \times 1 = 50$), whereas the maximum score on this positive attitude scale could be 250 ($50 \times 5 = 250$).the investigator applied necessary statistical techniques (mean, standard deviation and t-test) to test the significant difference between the sample means.

3. Results

From the [Table 1](#), it is clear that the calculated t-value (1.66) with respect to concept ($M1 = 37.10$, $SD1 = 6.80$; $M2 = 35.39$, $SD2 = 6.23$), $P \leq 0.01$ is insignificant. It

indicates gender does not differ in relation to concept of ADHD. The calculated t-value (0.69) with respect to characteristics (M1 =44.11, SD1=7.28; M2= 42.29, SD2 = 6.41), P≤ 0.01 is insignificant. It reveals that male and female teachers' positive attitudes don't differ with regard to characteristics of ADHD. The calculated t-value (0.66) with respect to causes (M1 = 50.43, SD1=6.98; M2= 49.65, SD2 = 8.11), P≤ 0.01 is insignificant. It denotes that male and female teachers' positive attitudes don't differ with regard to causes of ADHD. The calculated t-value (1.63) with respect to strategies (M1 =31.61, SD1=6.47; M2= 33.14, SD2 = 5.33), P≤ 0.01 is insignificant. It denotes that gender does not differ with regard to strategies of ADHD. The calculated t-value (0.65) with respect to assessment (M1 =17.79, SD1=4.78; M2= 18.26, SD2 = 4.26), P≤ 0.01 is insignificant. It denotes that gender does not differ in relation to assessment of ADHD. The calculated t-value (0.89) with regard to overall (M1 =180.94, SD1=17.06; M2= 178.73, SD2 =13.85), P≤ 0.01 is insignificant. It reveals that male and female teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD) don't differ in relation to concept, characteristics, causes, strategies and assessment. Statistically, the null hypothesis is accepted. It is clear that there is no significant difference in the positive attitude of primary school teachers towards children with Attention Deficit and Hyperactivity Disorder (ADHD) due to variation in gender.

Table 1. Showing calculated scores of Mean, Standard Deviation and t-value with regard to gender followed by dimensions of ADHD positive attitude scale

Sl. No	Dimensions of ADHD	Gender				t-values
		Male (n1=80)		Female (n2=80)		
		Mean	SD	Mean	SD	
1	Concept	37.10	6.80	35.39	6.23	1.66 NS
2	Characteristics	44.11	7.28	42.29	6.41	0.69 NS
3	Causes	50.43	6.98	49.65	8.11	0.66 NS
4	Strategies	31.61	6.47	33.14	5.33	1.63 NS
5	Assessment	17.79	4.78	18.26	4.26	0.65 NS
6	overall	180.94	17.06	178.73	13.85	0.89NS

Note: NS= Not Significant.

From the mean values, it is evident that male primary school teachers' positive attitude mean score (37.10) on concept of ADHD is higher than the female primary school teachers' mean score (35.39). Male primary school teachers' positive attitude mean score (44.11) on characteristics of children with ADHD is higher than the female primary school teachers' mean score (42.29). Male primary school teachers' positive attitude mean score (50.43) on causes of ADHD is slightly higher than the female primary school teachers' mean score (49.65). Male primary school teachers' positive attitude mean score (31.61) on strategies to deal children with ADHD is lower than female primary school teachers' positive attitude mean score (33.14). Male primary school teachers' positive attitude mean score (17.79) on assessment related to ADHD is slightly lower than rural primary school teachers' positive attitude mean score (18.26). Male

primary school teachers' positive attitude mean score (180.94) on overall dimensions of ADHD is higher than the female primary school teachers' positive attitude mean score (178.73).

Table 2. Showing calculated scores of Mean, Standard Deviation and t-value with regard to educational qualifications followed by dimensions of ADHD positive attitude scale

Sl. No	Dimensions Of ADHD	Educational Qualification				t-values
		Under Graduate (n1=89)		Post Graduate (n2=71)		
		Mean	SD	Mean	SD	
1	Concept	35.89	6.40	34.60	6.33	1.28 NS
2	Characteristics	43.59	7.17	42.71	6.62	0.81 NS
3	Causes	49.70	7.85	50.38	7.29	0.57 NS
4	Strategy	31.84	6.07	32.91	5.83	1.14 NS
5	Assessment	17.43	4.96	18.63	3.97	1.69 NS
6	overall	183.44	16.23	179.23	14.87	1.71 NS

Note: NS= Not Significant.

From the Table 2, it is clear that the calculated t-value (1.28) with respect to concept (M1 =35.89, SD1=6.40; M2= 34.60, SD2 = 6.33), P≤ 0.01 is insignificant. It indicates educational qualification does not differ in relation to concept of ADHD. The calculated t-value (0.81) with respect to characteristics (M1 =43.59, SD1=7.17; M2= 42.71, SD2 = 6.62), P≤ 0.01 is insignificant. It reveals that teachers' positive attitudes in relation to UG and PG educational background don't differ with regard to characteristics of ADHD. The calculated t-value (0.57) with respect to causes (M1 = 49.70, SD1=7.85; M2= 50.38, SD2 = 7.29), P≤ 0.01 is insignificant. It denotes that teachers' positive attitudes in relation to UG and PG educational background don't differ with regard to causes of ADHD. The calculated t-value (1.14) with respect to strategies (M1 =31.84, SD1=6.07; M2= 32.91, SD2 = 5.83), P≤ 0.01 is insignificant. It denotes that educational qualification does not differ with regard to strategies of ADHD. The calculated t-value (1.69) with respect to assessment (M1 =17.43, SD1=4.96; M2= 18.63, SD2 = 3.97), P≤ 0.01 is insignificant. It denotes that educational qualification does not differ in relation to assessment of ADHD. The calculated t-value (1.71) with regard to overall (M1 =183.44, SD1=16.23; M2= 179.23, SD2 =14.87), P≤ 0.01 is insignificant. It reveals those teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD in connection with UG and PG educational back ground don't differ with respect to concept, characteristics, causes, strategies and assessment. Statistically, the null hypothesis is accepted. It is clear that there is no significant difference in the positive attitude of primary school teachers towards children with Attention Deficit and Hyperactivity Disorder (ADHD) due to variation in educational qualification.

From the mean values, it is evident that under graduate primary school teachers' positive attitude mean score (35.89) on concept of ADHD is higher than the post graduate primary school teachers' mean score (34.60). Under graduate primary school teachers' positive attitude mean score (43.59) on characteristics of children with ADHD is higher than the post graduate primary school

teachers' mean score (42.71). Under graduate primary school teachers' positive attitude mean score (49.70) on causes of ADHD is slightly lower than the post graduate primary school teachers' mean score (50.38). Under graduate primary school teachers' positive attitude mean score (31.84) on strategies to deal children with ADHD is slightly lower than post graduate primary school teachers' positive attitude mean score (32.91). Under graduate primary school teachers' positive attitude mean score (17.43) on assessment related to ADHD is lower than rural primary school teachers' positive attitude mean score (18.63). Under graduate primary school teachers' positive attitude mean score (183.44) on overall dimensions of ADHD is higher than the post graduate primary school teachers' positive attitude mean score (179.23).

Table 3. Showing calculated scores of Mean, Standard Deviation and t-value with regard to teaching experience followed by dimensions of ADHD positive attitude scale

Sl. No	Dimensions of ADHD	Teaching Experience				t-values
		Below 10 Years (n ₁ =86)		10 Years & above (n ₂ =74)		
		Mean	SD	Mean	SD	
1	Concept	36.51	6.95	35.96	6.17	0.53 NS
2	Characteristics	42.14	7.44	44.16	6.18	1.87 NS
3	Causes	49.91	8.14	50.16	6.98	0.21 NS
4	Strategy	31.73	5.96	33.03	5.92	1.38 NS
5	Assessment	17.26	4.54	18.79	4.39	1.87 NS
6	overall	177.55	16.22	182.11	14.56	1.88 NS

Note: NS= Not Significant.

From the Table 3, it is clear that the calculated t-value (0.53) with respect to concept (M₁ =36.51, SD₁=6.95; M₂= 35.96, SD₂ = 6.17), P ≤ 0.01 is insignificant. It indicates that teaching experience does not differ in relation to concept of ADHD. The calculated t-value (1.87) with respect to characteristics (M₁ =42.14, SD₁=7.44; M₂= 44.16, SD₂ = 6.18), P ≤ 0.01 is insignificant. It reveals that teachers' positive attitudes in connection with teaching experience don't differ with regard to characteristics of ADHD. The calculated t-value (0.21) with respect to causes (M₁ = 49.91, SD₁=8.14; M₂= 50.16, SD₂ = 6.98), P ≤ 0.01 is insignificant. It denotes that teachers' positive attitudes in connection with teaching experience don't differ with regard to causes of ADHD. The calculated t-value (1.38) with respect to strategies (M₁ =31.73, SD₁=5.96; M₂= 33.03, SD₂ = 5.92), P ≤ 0.01 is insignificant. It denotes that teaching experience does not differ with regard to strategies of ADHD. The calculated t-value (1.87) with respect to assessment (M₁ =17.26, SD₁=4.54; M₂= 18.79, SD₂ = 4.39), P ≤ 0.01 is insignificant. It denotes that gender does not differ in relation to assessment of ADHD. The calculated t-value (1.88) with regard to overall (M₁ =177.55, SD₁=16.22; M₂= 182.11, SD₂ =14.56), P ≤ 0.01 is insignificant. It reveals that teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD) in connection with teaching experience don't differ in relation to concept, characteristics, causes, strategies and assessment. Statistically, the null hypothesis is accepted. It is clear that there is no

significant difference in the positive attitude of primary school teachers towards children with Attention Deficit and Hyperactivity Disorder (ADHD) due to variation in teaching experience.

From the mean values, it is evident that primary school teachers' of below 10 years teaching experience positive attitude mean score (36.51) on concept of ADHD is higher than the primary school teachers' of 10 years and above 10 years teaching experience positive attitude mean score (35.96). primary school teachers' of below 10 years teaching experience positive attitude mean score (42.14) on characteristics of children with ADHD is lower than the urban primary school teachers' of 10 years and above 10 years teaching experience mean score (44.16). Primary school teachers' of below 10 years teaching experience positive attitude mean score (49.91) on causes of ADHD is slightly lower than the primary school teachers' of 10 years and above 10 years teaching experience positive attitude mean score (50.16). Primary school teachers' of 10 years and above 10 years teaching experience positive attitude mean score (31.73) on strategies to deal children with ADHD is lower than primary school teachers' of below 10 years teaching experience positive attitude mean score (33.03). primary school teachers' of 10 years and above 10 years teaching experience positive attitude mean score (18.79) on assessment related to ADHD is higher than primary school teachers' positive attitude mean score (17.26). Primary school teachers' of below 10 years teaching experience positive attitude mean score (177.55) on overall dimensions of ADHD is lower than the primary school teachers' of 10 years and above 10 years teaching experience positive attitude mean score (182.11).

Table 4. Showing calculated scores of Mean, Standard Deviation and value with regard to locality followed by dimensions of ADHD positive attitude scale

Sl. No	Dimensions	Locality				t-values
		Rural (n ₁ =87)		Urban (n ₂ =73)		
		Mean	SD	Mean	SD	
1	Concept	38.19	6.15	36.30	6.40	1.91NS
2	Characteristics	44.16	6.56	42.14	7.10	1.87NS
3	Causes	49.78	7.29	50.30	7.85	0.43NS
4	Strategies	31.98	6.16	32.78	5.75	0.85NS
5	Assessment	17.50	4.78	18.75	4.15	1.76NS
6	overall	181.40	16.12	178.26	14.85	1.28NS

Note: NS= Not Significant.

From the Table 4, it is clear that the calculated t-value (1.91) with respect to concept (M₁ =38.19, SD₁=6.15; M₂= 36.30, SD₂ = 6.40), P ≤ 0.01 is insignificant. It indicates locality does not differ in relation to concept of ADHD. The calculated t-value (1.87) with respect to characteristics (M₁ =44.16, SD₁=6.56; M₂= 42.14, SD₂ = 7.10), P ≤ 0.01 is insignificant. It reveals that male and female teachers' positive attitudes don't differ with regard to characteristics of ADHD. The calculated t-value (0.43) with respect to causes (M₁ = 49.78, SD₁=7.29; M₂= 50.30, SD₂ = 7.85), P ≤ 0.01 is insignificant. It denotes that rural and urban teachers' positive attitudes don't differ with regard to causes of ADHD. The calculated t-value (0.85)

with respect to strategies ($M1 = 31.98$, $SD1 = 6.16$; $M2 = 32.78$, $SD2 = 5.75$), $P \leq 0.01$ is insignificant. It denotes that locality does not differ with regard to strategies of ADHD. The calculated t-value (1.76) with respect to assessment ($M1 = 17.50$, $SD1 = 4.78$; $M2 = 18.75$, $SD2 = 4.15$), $P \leq 0.01$ is insignificant. It denotes that locality does not differ in relation to assessment of ADHD. The calculated t-value (1.28) with regard to overall ($M1 = 181.40$, $SD1 = 16.12$; $M2 = 178.26$, $SD2 = 14.85$), $P \leq 0.01$ is insignificant. It reveals that teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD) don't differ in relation to concept, characteristics, causes, strategies and assessment. Statistically, the null hypothesis is accepted. It is clear that there is no significant difference in the positive attitude of primary school teachers towards children with Attention Deficit and Hyperactivity Disorder (ADHD) due to variation in locality.

From the mean values, it is evident that rural primary school teachers' positive attitude mean score (38.19) on concept of ADHD is higher than the urban primary school teachers' mean score (36.30). Rural primary school teachers' positive attitude mean score (44.16) on characteristics of children with ADHD is higher than the urban primary school teachers' mean score (42.14). Rural primary school teachers' positive attitude mean score (49.78) on causes of ADHD is slightly lower than the urban primary school teachers' mean score (50.30). Urban primary school teachers' positive attitude mean score (32.78) on strategies to deal children with ADHD is slightly higher than rural primary school teachers' positive attitude mean score (31.98). Urban primary school teachers' positive attitude mean score (18.75) on assessment related to ADHD is slightly higher than rural primary school teachers' positive attitude mean score (17.50). Rural primary school teachers' positive attitude mean score (181.40) on overall dimensions of ADHD is higher than the urban primary school teachers' positive attitude mean score (178.26).

4. Discussion

From the results, it is clear that male and female teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD) don't differ in relation to concept, characteristics, causes, strategies and assessment. It means there is no significant difference in the positive attitude of primary school teachers towards children with Attention Deficit and Hyperactivity Disorder (ADHD) due to variation in gender. Male primary school teachers' positive attitude on children with ADHD is higher than the female primary school teachers' positive attitude on children with ADHD. Teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD) in connection with UG and PG educational background don't differ with respect to concept, characteristics, causes, strategies and assessment. It means that there is no significant difference in the positive attitude of primary school teachers towards children with Attention Deficit and Hyperactivity Disorder (ADHD) due to variation in educational qualification. Under Graduate primary school teachers' positive attitude on children with ADHD is higher than the post graduate primary school teachers' positive attitude on children with ADHD.

Teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD) in connection with teaching experience don't differ in relation to concept, characteristics, causes, strategies and assessment. It means that there is no significant difference in the positive attitude of primary school teachers towards children with Attention Deficit and Hyperactivity Disorder (ADHD) due to variation in teaching experience. Primary school teachers' of below 10 years teaching experience have positive attitude on children with ADHD, which is lower than the primary school teachers' of 10 years and above 10 years teaching experience towards children with ADHD. Rural and Urban teachers' positive attitudes on Attention Deficit Hyperactivity Disorder (ADHD) don't differ in relation to concept, characteristics, causes, strategies and assessment. It is clear that there is no significant difference in the positive attitude of primary school teachers towards children with Attention Deficit and Hyperactivity Disorder (ADHD) due to variation in locality. Rural primary school teachers' positive attitude on children with ADHD is higher than the urban primary school teachers' positive attitude on children with ADHD.

5. Conclusion

Teachers basically need awareness on children with Attention Deficit and Hyperactivity Disorder in Arunachal Pradesh of India. They should cultivate rational and responsible behavior towards children with attention deficit and hyperactivity disorder. In order to cultivate responsible behavior, they require positive attitude in relation to different independent variables towards those children in classroom situations. Teachers having positive attitude, certainly provide positive learning environment where students can follow challenging behavior with reasonable outlook and put efforts to attain learning goals. Teachers with positive attitude towards children with attention deficit and hyperactivity disorder can plan instructional variety, task-based and criterion based environment and also make the students engaging actively in learning process. Teachers with positive attitude learn through reflective thinking and experience. They solicit feedback from students. They align their behavior with new knowledge and strong beliefs. They remain open for alternative choices. They try to diagnose learning disabilities associated with attention deficit and hyperactivity disorder and follow necessary remediation to overcome such demerits, and also, assess student's achievement in comprehensive and continuous manner. Thus, they should try to cultivate positive attitude towards children with attention deficit and hyperactivity disorder.

References

- [1] Larsson H, Chang Z, D'Onofrio B, Lichtenstein P., The heritability of clinically diagnosed attention deficit hyperactivity disorder across the lifespan. *Psychol Med* 44(10): 2223-2229, 2014.
- [2] Thomas E. Brown., *A New Understanding of ADHD in Children and Adults: Executive Function Impairments*, Routledge publications, USA, 2013.

- [3] Thomas E. Brown., Growing Up with ADHD: Clinical Care Issues, *Psychiatric Times*, January 29, 2016.
- [4] American Psychiatric Association., *Diagnostic and statistical manual of mental disorders (DSM-5)* Author, Washington, D.C., 2015.
- [5] Oguz Tan., Baris Metin., Sinem Metin., Obsessive-compulsive adults with and without childhood ADHD symptoms, *ADHD: Attention Deficit and Hyperactivity Disorders*, pp 1-9, First online: 07 April, 2016.
- [6] Arab Ameri, Elahe., Dehkoda, Mohammad Reza., Hemayattalab, Rasool., Bone Mineral Density Changes after Physical Training and Calcium Intake in Students with Attention Deficit and Hyper Activity Disorders, *Research in Developmental Disabilities: A Multidisciplinary Journal*, v33 n2 p594-599 Mar-Apr, 2012.
- [7] Engelhardt, Paul E., Ferreira, Fernanda., Nigg, Joel T., Priming Sentence Production in Adolescents and Adults with Attention-Deficit/Hyper-Activity Disorder. *Journal of Abnormal Child Psychology*, v37 n7 p995-1006, Oct, 2009.
- [8] Bihlar Muld B, Jokinen J, Bölte S, Hirvikoski T., Skills training groups for men with ADHD in compulsory care due to substance use disorder: a feasibility study, *Atten Defic Hyperact Disord*. Apr 8, 2016.
- [9] Bengi Semerci., Sarper Taskiran., Evren Tufan., Işın Şanlı., Factors predicting treatment adherence in patients with adult attention-deficit/hyperactivity disorder: a preliminary study, *ADHD: Attention Deficit and Hyperactivity Disorders*, pp 1-9, First online: 07 April 2016.
- [10] Brasch, Tera L., Williams, Randy Lee; McLaughlin, T. F., The Effects of a Direct Instruction Flashcard System on Multiplication Fact Mastery by Two High School Students with ADHD and ODD, *Child & Family Behavior Therapy*, v30 n1 p51-59 Feb 2008.
- [11] Jensen, P. S., Shertvette, R. R., Zenakis, S. N., & Ritchters, J. "Anxiety and depressive disorders in attention deficit disorder with hyperactivity: New findings". *American Journal of Psychiatry*, 150, 1203-1209. 2001.
- [12] Sadock, B. J., Sadock V. A., Kaplan & Sadock., *Comprehensive Text Book of Psychiatry*, 9th ed, Lippincott Williams & Wilkins, New York, 2009, pp: 3560-3579.
- [13] Barkley, R. A., *ADHD: A handbook for diagnosis and treatment*. Guilford Press, New York, 2006.
- [14] Gewirtz, S., Stanton-Chapman, T. L., and Reeve, R. E., "Can inhibition at preschool age predict attention-deficit/hyperactivity disorder symptoms and social difficulties in third grade?" *Early Child Development and Care*, 179. 2009.
- [15] Hinshaw, S., *Attention deficits and hyperactivity in children.*: Sage Press, New York, 1994.
- [16] Kendall, P.C., *Clinical psychology- a modular course: childhood disorders*, Psychology Press Ltd, United Kingdom, 2000.
- [17] Levy, F. and Hay, D., *Attention, genes and ADHD*, Brunner-Routledge Press, Hove , 2001.
- [18] Barkley, R. A., "Adoption study of ADHD," *The Journal of Child and Adolescent Psychiatry*, 41. 1389- 1397. 2002.
- [19] Mowbray, C., "Time to pay attention," *Junior Education*, 27 (12), 12-13, 2003.
- [20] Lloyd, G., Stead, J., and Cohen., *Critical new perspectives on ADHD*, Routledge, USA, 2006.
- [21] World Health Organisation (WHO), International consensus statement on ADHD. *Clinical Child and Family Psychology Review*, 5, 89-111, 2002.
- [22] *Attention Deficit Disorder: The Unfocused Mind In Children And Adults*. Yale university press, Yale, 2005.
- [23] National Institute of Clinical Excellence (NICE)., *Guidance on the use of methylphenidate for ADHD*, NICE Press, London , 2000.
- [24] Palmer, E., & Finger, S., "An early description of ADHD: Dr. Alexander Crichton and mental restlessness," *Child Psychology and Psychiatry Review*, 6(2), 66-73, 2001.