

## Primary School Teacher's Knowledge towards Attention Deficit/Hyperactivity Disorder (ADHD) and its Associated Factors in Nekemte Town, Oromiya Region, Western Ethiopia

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Abstract	Article Information
<p>The work of the teacher becomes much more demanding when some learners have Attention-Deficit/Hyperactivity Disorder (ADHD), as their problems with attention span, impulse control and activity level frequently interfere with activities in the classroom and socially. This study revealed the teachers good knowledge about ADHD but about 43.7% of primary school teachers had poor knowledge. The objective of the study was to assess the primary school teacher's knowledge and misconceptions of ADHD and associated factors in Nekemte Town, Oromiya region Western Ethiopia. This study was conducted in Nekemte full Cycle Primary Schools. Nekemte Town, the capital city of East Wollega zone is found 331 km from the capital Addis Ababa to the West. There are 10 government and 20 private full cycle primary schools in the town. Institution based descriptive cross-sectional study were applied. All primary teachers in the selected schools and fulfilling the inclusion criteria were included in this study. Non probability convenience sampling technique was utilized to recruit study participants. The period of the study is from December 2015 to January 2016. The collected data were entered into computer using Epi data version 3.5 and analyzed using SPSS for Windows version 21.0. The Binary logistic regression was fitted to assess possible association and the strength of association was measured using odds ratio with 95% CI. The <math>P &lt; 0.05</math> were considered as statistically significant. The results of the study showed that among 206 primary school teachers majority were in the age group of <math>\leq 40</math> years of age (62.6%) were 50.5 % are female. Most of the participants are teaching general education (96.6%) and 3.4% were teaching special education. For the 41 items knowledge score was computed and the mean value of 15.4 and standard deviation of 6.9 was calculated. Accordingly 15 score was used to categorize the knowledge level of the study participants. Based on the mean value 56.4 % of study participants have good knowledge and the rest participants have poor or inadequate knowledge. Binary logistic analysis showed no association between knowledge and socio-demographic variables. Lack of reading any books [AOR=1.96; CI 0.60-6.44; p-value=0.26], lack of reading any articles [AOR=1.24, 95% CI= 0.31-4.95; p-value= 0.76], lack of reading any pamphlet [AOR=1.99; 95% CI= 0.52-7.57; p-value=0.31], lack of television watching [AOR=0.73; 95% CI= 0.35-1.54; p-value=0.42], lack of internet browsing [AOR=0.21; 95% CI= 0.04-1.04; p-value=0.05]. were the most important predictors found associated with primary school teacher's knowledge and misconceptions in this study about ADHD.</p>	<p><b>Article History:</b></p> <p><b>Received</b> : 14-02-2016</p> <p><b>Revised</b> : 27-03-2016</p> <p><b>Accepted</b> : 29-03-2016</p> <hr/> <p><b>Keywords:</b></p> <p>Attention Deficit</p> <p>Hyperactivity Disorder</p> <p>Knowledge</p> <p>primary school teacher</p> <p>Western Ethiopia</p> <p>Nekemte</p>
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### INTRODUCTION

Knowledge deficit and Hyperactivity Disorder (ADHD) is a diagnostic and statistical tool to analyse the mental health problem that usually diagnosed in children. Children's in school basis are inattentive, impulsive and hyperactive are named as ADHD. Children with ADHD often exhibit social problems including poor peer relations and low self esteem (Barkley, 1998; DuPaul and Stoner, 1994). Common disorder occur about 3% school age children's. Therefore teachers may have more difficult to teach those students. Teachers play an vital role in the identification and assessment of children's difficulties and have been considered one of the most valuable sources

of information with regard to attention deficit hyperactivity disorder (ADHD) diagnoses. About 50% of students with ADHD do not qualify for special education services and are accommodated full-time in the general education classroom (Reid *et al.*, 1994). A study conducted on teachers and psychological service providers reveals 85% of respondents reported teaching a child with ADHD, only 39% had received training in ADHD, and only 16% of the trained respondents had actually been taught to use a variety of intervention techniques by Gardill, DuPaul, and Kyle, (1996). Most of the Canadian and American samples reported either receiving little or no instruction

regarding ADHD during their college years, and 89% of the Canadians and 92% of the Americans reported receiving little training after graduation. (Liu *et al.*, 1991). A study conducted in Greece suggested that special education teachers are more knowledgeable of issues related to ADHD in comparison to general education teachers. Both general and special educators were found to be most knowledgeable of the definition and characteristics of ADHD and least knowledgeable of its etiology and treatment (Agaia Stampoltzis and Katerina Antonopoulou, 2013). Also in Saudi Arabia teachers reveal overall percentage score of correct responses was 17.2% which reflect good knowledge of ADHD. The majority of ADHD children evidence some degree of poor school performance in the elementary school years which signify that only less than the third of the teachers knew that most children with ADHD have difficulty with academic performance (Keetam and Alkahtani, 2013). A study done by Airiin Oim the comparison between Estonia and Norway showed, teacher's work experience, quality of teacher's education, having special training, interests and child's gender are the factors associated with knowledge (Öim and Airiin, 2004). In this study we discussed about primary school teachers knowledge and misconceptions for ADHD children's activities and the factors reasoning the increase in development of mood stabilities and the training.

## METHODS AND MATERIALS

This study was conducted in Nekemte full Cycle Primary Schools. Nekemte town, the capital city of East Wollega zone is found 331 km from the capital Addis Ababa to the West. There are 10 government and 20 private full cycle primary schools in the town among selected no of Government full cycle primary school 4 and 10 private full cycle primary school. Institution based descriptive cross-sectional study were applied. A total of 206 students were included in the study. All primary teachers in the selected schools and fulfilling the inclusion criteria were included in this study. Non probability conviniance sampling technique was utilize to recruit study participants. The period of the study is from December 2015 to January 2016.

### Inclusion and Exclusion Criteria

Teachers in the age group of 21 to 65 years of age and teachers those are teaching in the primary school were included in the study. Teachers suffering from or treated for any medical disorder and teachers who attend any training or seminar on ADHD were excluded in the study.

### Data Collection Instrument and Procedure

The data was collected by using Knowledge of Attention Deficit Disorders Scale (KADDS) (Sciutto *et al.*, 2000).

### Data Processing and Analysis

After data collection, each questionnaire was checked for completeness and code had given before data entry.

Data was entered and analyzed using SPSS version 20 statistical packages. Different frequency tables, graphs and descriptive summaries were used to describe the study variables. Regression had performed to see the existence of association between dependent and independent variables.

### Ethical Consideration

The proposal was approved by Ethical Review Committee of College of Health and Medical Sciences, Wollega University (Ref No: NMW/75/2008 E.C) and letter of permission was obtained from each school. Verbal and written consents was obtained from the study subjects after explaining the study objectives and procedures and their right to refuse to participate in the study any time they want to. For this purpose, a one-page consent letter was attached to the cover-page of each questionnaire stating about the general purpose of the study and issues of confidentiality which was discussed by data collectors before filling the questionnaire and proceeding with the interview.

## RESULTS AND DISCUSSION

Among 206 primary school teachers majority were in the age group of <=40years of age (62.6%) were 50.5 % are female. Most of the participants are teaching general education (96.6%) and 3.4% were teaching special education given in Table 1.

Majority (52.4%) of the primary school teachers learn about ADHD during their teacher training period and after identifying ADHD child, 81.6% primary school teachers do not spoke to medical professionals regarding control the symptoms. 68.4% participants have incorrect beliefs regarding ADHD child should deal with full time special education.

For the 41 items knowledge score was computed and the mean value of 15.4 and standard deviation of 6.9 was calculated. Accordingly 15 score was used to categorize the knowledge level of the study participants. Based on the mean value 56.4 % of study participants have good knowledge and the rest participants have poor or inadequate knowledge (Table 2).

### Factors Associated with Knowledge towards ADHD

Teachers asked for the factors that lead to poor knowledge. Binary logistic analysis showed no association between knowledge and socio-demographic variables. But it is claimed that lack of reading books [AOR=1.96; CI 0.60-6.44; p-value=0.26], lack of reading any articles [AOR=1.24, 95% CI= 0.31-4.95; p-value= 0.76], lack of reading any pamphlet [AOR=1.99; 95% CI= 0.52-7.57; p-value=0.31], lack of television viewing [AOR=0.73; 95% CI= 0.35-1.54; p-value=0.42],lack of internet browsing [AOR=0.21; 95% CI= 0.04-1.04; p-value=0.05], were the most important predictors found associated with primary school teacher's knowledge and misconceptions in this study about ADHD.

**Table 1:** Socio-demographic characteristics of participants among primary school teachers, Nekemte, Oromia, Western Ethiopia (n=206)

Demographic variable	Frequency	Percentage
<b>Age Group(Yrs)</b>		
<=40	129	62.6
>41	77	37.4
<b>Total</b>	<b>100</b>	<b>100.00</b>
<b>Gender</b>		
Male	102	49.5
Female	104	50.5
<b>Total</b>	<b>100</b>	<b>100.00</b>
<b>Highest degree attained</b>		
Degree	125	60.7
Diploma	81	39.3
<b>Total</b>	<b>100</b>	<b>100.00</b>
<b>Grade levels you currently teach</b>		
>=5	103	50
6-8	103	50
<b>Total</b>	<b>100</b>	<b>100.00</b>
<b>Classes you currently teach</b>		
General education	199	96.6
Special education	7	3.4
<b>Total</b>	<b>50</b>	<b>100.00</b>
<b>Total number of years of teaching experience</b>		
<=15	119	57.8
>16	87	42.2
<b>Total</b>	<b>206</b>	<b>100</b>

**Table 2:** Overall mean, standard deviation, knowledge cut-off score, frequency and percentage of primary school teachers on ADHD according to their level of Knowledge, Nekemte, Ethiopia (n=206)

Knowledge level	Score	Primary School Teachers		Cut of Score	Mean	Standard Deviation
		No	%			
Good	15-41	116	56.4	15	15.4	6.9
Poor	0-14	90	43.7			

**Table 3:** Association of knowledge with socio demographic variables among primary school teachers, Nekemte, Oromia, Ethiopia (n=206)

Experience with ADHD Variables		Good Knowledge	Poor Knowledge	OR	Confidential Interval (95%)	P-value	AOR	95%CI	P-value
In-service	Yes	11(64.7)	6(35.3)	1.46	0.52-4.13	0.46	1.04	0.29-3.74	0.94
	No	105(55.6)	84(4.4)	1	1	1	1	1	1
Read any books	yes	27(71.1)	11(28.9)	2.17	1.01-4.67	0.04	1.96	0.60-6.44	0.26
	No	89(53)	79(47)	1	1	1	1	1	1
Read any articles	Yes	17(68)	8(32)	1.73	0.71-4.23	0.22	1.24	0.31-4.95	0.76
	no	99(55)	81(45)	1	1	1	1	1	1
Read any pamphlet	Yes	20(71.4)	8(28.6)	2.13	0.89-5.10	0.08	1.99	0.52-7.57	0.31
	No	96(53.9)	82(46.1)	1	1	1	1	1	1
Watched television	Yes	30(56.6)	23(43.4)	1.01	0.54-1.90	0.96	0.73	0.35-1.54	0.42
	No	86(56.2)	67(43.8)	1	1	1	1	1	1
Searched the internet	Yes	4(40)	6(60)	0.50	0.13-1.82	0.29	0.21	0.04-1.04	0.05
	No	112(57.1)	84(42.9)	1	1	1	1	1	1

**DISCUSSION**

Only about 74.8% of teachers had no information about ADHD. About 25.2% obtained information about ADHD from television (25.7%), books and magazines (31%) and from internet (4.9%). This is low when compared with study done at Egypt which 31% of the teachers had no information about ADHD, and most of them gained their knowledge about ADHD from television (26%), books and magazines (20%) and friends and the internet (10%). This study found that about 56.4 % of

study participants have good knowledge. This indicates that teachers have good knowledge when compared with study done in Saudi Arabia which was 17.2% reflected poor to knowledge of ADHD. When compared with the study done at Canada and America it is less knowledgeable with their understanding of basic concepts about ADHD was good the Canadian sample got 78% correct and the American sample got 77% correct. Their knowledge might be attributed to learn about ADHD during their teacher training, since the majority have work experience of less than fifteen years and are also degree

holders. Regarding poor knowledge, 43.7% participants have poor or inadequate knowledge. This reveals near to half instructors lacks of knowledge when compared with study done at Canada and America, and high with study done at Saudi Arabia. This may be due to lack of awareness regarding the disorder (Jerome, Gordon and Hustler, 1994; Woodward, Taylor and Dowdney, 1998).

The study suggests short comings in teacher training practices as well as in the diagnostic and treatment process was psychologists/medical practitioners together with the teachers should be involved. The main value of this study was identifying areas where there is a lack of knowledge among teachers and suggesting ways of providing support and the necessary knowledge in a constructive way. Still 43.7% of primary school teachers had poor knowledge about ADHD. Factors like do not learn about ADHD during teacher training, lack of in-service presentation, books, articles, pamphlets/handouts on ADHD. Teachers asked for the factors that lead to poor knowledge. Binary logistic analysis showed no association between knowledge and socio-demographic variables. But it is claimed that teacher training, lack of communication between teachers and medical professionals, lack of in service training on ADHD, lack of reading materials like handouts, pamphlets, articles, books, magazines in the school's library. Those factors are in line with the factors stated in Estonia and Norway which were teacher's work experience, quality of teacher's education, having special training, interests and child's genders are the factors associated with knowledge (Piccolo-Torsky, and Waishwell, 1998).

## CONCLUSIONS

This results of the study found that, about 56.4 % of primary school teachers have good knowledge and 43.7% of had poor knowledge about ADHD. Lack of training about ADHD, lack of in-service presentation, books, articles, pamphlets/handouts on ADHD were the factors that affects knowledge and perception of the teachers. Teachers should be offered in-service training in school, formal education by incorporating in curriculum, and leaflets should regularly disseminated for teachers to increase knowledge by schools.

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## Conflict of Interest

None declared.

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