

## **Awareness of Riyadh's elementary school teachers about reading disability (dyslexia).**

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### **Abstract**

**Objective:** To assess the awareness of elementary school teachers about dyslexia in Riyadh city.

**Materials and method:** This cross-sectional study of a convenient sample included 500 of elementary public and private school teachers in Riyadh city. A questionnaire that assessed the awareness and knowledge about dyslexia was distributed in the month of February 2017 and teachers were given two days to respond. The questionnaire asked about demographic data, knowledge of the diagnostic criteria of dyslexia and previous exposure to children with dyslexia.

**Results:** A total of 600 questionnaires were distributed, 200 of which were given to boys' schools. Response rate was 83%. Two thirds of the responses were from public schools and 61% of the responders were females with highest rate between the ages of 31-40 years and those with 1-10 years of teaching experience for both gender. Although the majority of responders documented that they were aware of the term dyslexia, they showed fair knowledge of its diagnostic criteria, a result that did not vary with any of the demographic variables or the years of teaching experience.

**Conclusion:** The study reveals that awareness and knowledge among elementary school teachers is fair to poor regarding the diagnostic symptoms of dyslexia. We recommend that all teachers have mandatory education programs about various learning disabilities specifically dyslexia.

**Keywords:** Dyslexia, Knowledge, School.

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### **Introduction**

Dyslexia is the most common learning disorder in children but it has not received adequate attention in developed countries such as KSA [1]. Many researches done in the developed countries such as the US suggest that the prevalence of children with dyslexia has increased throughout a period of 12 years (1997-2008). Although resources are more focused on infections and nutritional disorders. A prosperous economy and rapidly rising literacy rates have resulted in increasing recognition of this debilitating educational and social disability [2]. A study done in Saudi Arabia to measure the prevalence of dyslexia among a sample of Saudi primary students in different regions of the country revealed that Riyadh region had the highest rate of dyslexia spread (30.6%) [3]. The British Dyslexia Association defines dyslexia as a learning difficulty that primarily affects the skills

involved in accurate and fluent word reading and spelling [4]. A Cochrane review revealed that around 5% of English speakers have significant problems with learning to read words [5]. A French study conducted in 1062 children from 20 schools in Paris concluded that 12% had reading impairment. Paucity of statistical data determining the extent of learning disabilities and the spread of dyslexia among Saudi population led to marginalization of these groups and the failure of providing them with the necessary education needed from a young age.

The knowledgeable elementary school teachers are very important. Weak classroom instruction and low literacy levels of elementary school students are often associated with teachers who lack a basic understanding of the literacy constructs related to the English language [6].

Screening millions of students and identifying children with specific learning disabilities by educational system is a major logistics difficulty. Therefore, awareness and knowledge about learning disorders among school teachers may play a major role in early identification and management of children with these disorders. There are very few studies on the link between teachers having specific knowledge and awareness about the symptoms of dyslexia. Teacher-student relationships and academic achievement are important in children's working memory [7].

### Methodology

A self-reported questionnaire was given to 600 elementary school teachers in 28 schools in Riyadh city. The teachers have bachelor degree of education. There was variety of specialty participated in research such as language teaching, mathematics, science and social study among male and female schools in variety regions in Riyadh city. First, the questionnaire started with socio-demographic data to evaluate the distribution between literature, science and mathematics teachers. As well as evaluating the age of experience of teachers involved in the study. Secondly, the teachers were asked if they ever had heard of the term dyslexia. Then, the main concept of questionnaire that was assign the awareness of dyslexia among elementary

school teachers was organized in table manner with three answer options were the high score for positive answer and lowest for negative one. The table included 11 signs and symptoms of dyslexia such as, difficulty in learning, reading and communication. For accuracy desire there was two misleading questions that were about hyperactivity and sociophobes that were not part of the diagnostic symptom of a child with dyslexia. The second page of questionnaire concern about the source of knowledge the teachers got about dyslexia. The aim was to understand and evaluate the education systems. Moreover the filling time was about an hour in there break time and the duration of distribution and collecting was 8 workday. Lastly, the teachers were informed about contacting us any time during the study for their perspective and suggestion.

### Results

In our study only 197 of the 500 respondents were male which reflects the distribution of questionnaires between schools, hence gender as a variable influencing knowledge was assessed .the teaching experience ranged from 1 years to more than 30 years, the majority of teaching experience years were nearly equal between one year to thirteen years and only nine teachers had more than thirty years of experience. Figure 1 shows the major source of information on dyslexia. Personal knowledge's were the

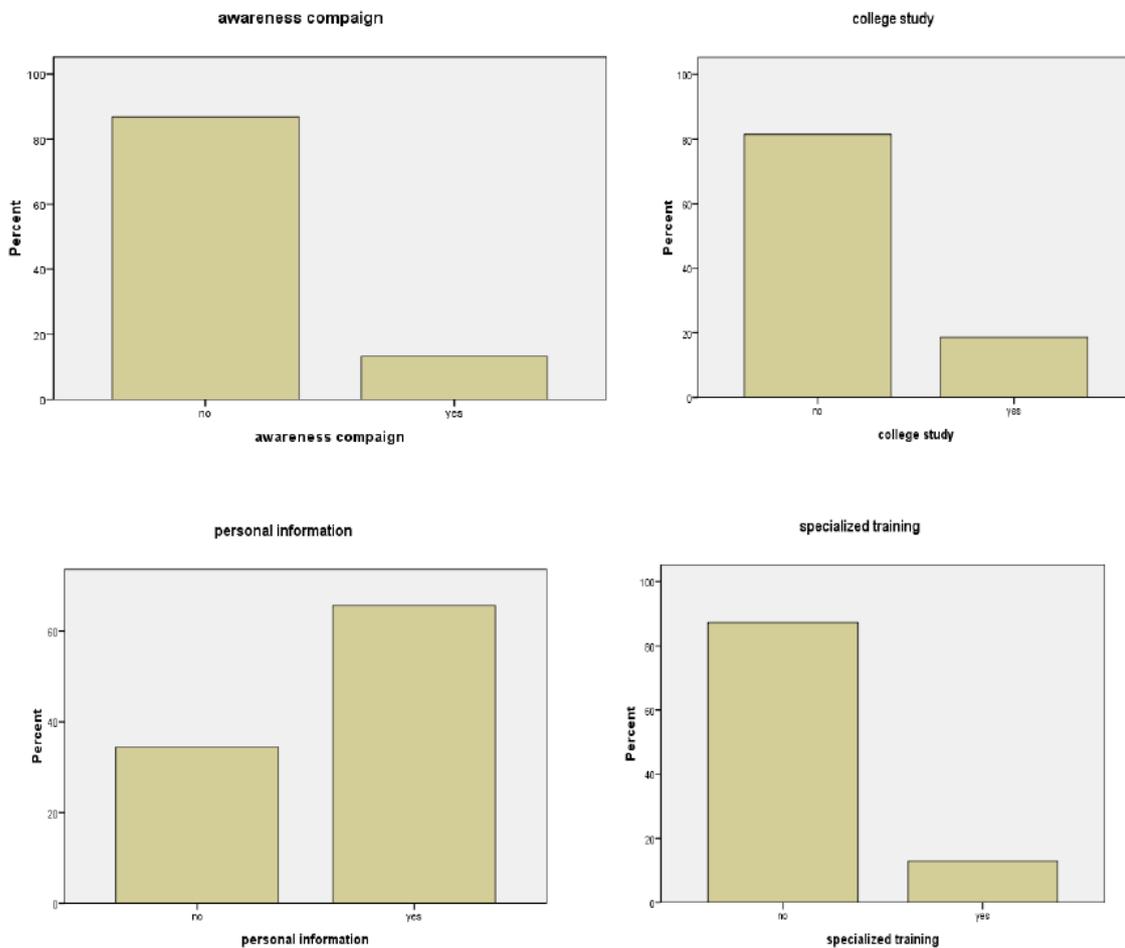


Figure 1. Source of knowledge

major source of information about dyslexia cited by 430 teachers, and the rest cited special training about dyslexia and educational campaign.

Table 1 represents self-reported questions that were used to assess the teacher’s knowledge and awareness regarding diagnostic criteria of dyslexia which has been written with the assistance of pediatrician. This questionnaire including 13 questions describing signs and symptoms of dyslexia, 2 of these Questions was intentionally misleading Q (6-10). Based on their responses they have been categorized into three groups: score 1-6 poor, 7-10 fair, above 10 good. The highest percent was "fair" accounting for 44.2%, concluding teachers had “fair” knowledge regarding the diagnostic criteria of dyslexia

Table 2 shows the knowledge level that did not vary with any of the demographic variables or the years of teaching experience.

**Discussion**

The primary purpose of this paper is to study the awareness and knowledge of dyslexia among elementary school teachers in Riyadh. The term dyslexia is described as difficulty in learning to read or interpret words, letters and other symbols but that do not affect general intelligence. There are many doubts regarding the prevalence of dyslexia

in Saudi Arabia as international studies reveals that at least 5-10% of school-age children suffer from dyslexia, however less than 30% are identified and diagnosed in elementary schools of Riyadh.

In our study 451 teachers were aware of the term “dyslexia”, regarding its diagnostic criteria 377 teachers had fair knowledge in the ability to diagnose child with dyslexia, however two misleading questions were added intentionally to the diagnostic criteria and unexpectedly these two questions had the highest present of unawareness which represent 38% among the rest [8]. These findings are varied from the result obtained in study which was conducted in India, these which stated that only 7% out of 314 elementary school teachers were aware of dyslexia diagnostic criteria, this reflect that teachers in Riyadh elementary schools are having a wider level of knowledge and awareness about reading difficulty [9]. Another study was done that measured the awareness of secondary school teachers of dyslexia and comparing between both rural and urban ,result shows There is no significant difference among the rural and urban located secondary school teachers on the awareness of Dyslexia of Papumpare District of Arunachal Pradesh” [10]. There is study was done in the US and UK to measure the knowledge of dyslexia in one hundred pre service teachers, the teachers displayed the same common misunderstanding.

*Table 1. Knowledge score*

Aware of the term ‘Dyslexia’	Aware		Unaware
	451 (90.2 %)		49 (9.8 %)
Knowledge category	Poor	Fair	Good
	137 (27.4 %)	221 (44.2 %)	142 (28.4 %)
Diagnostic Criteria	Aware		Unaware
Difficulty in learning to write the alphabet correctly in sequence	377 (75.4 %)		123 (24.6 %)
Difficulty in learning and remembering printed words	368 (73.6 %)		132 (26.4 %)
Reversal of letters or sequences of letters, or mirror writing	346 (69.2 %)		154 (30.8 %)
Difficulty in learning to read	406 (81.2 %)		94 (18.8 %)
Difficulty in reading comprehension	369 (73.8 %)		131 (26.2 %)
Difficulty in communicating with other children	219 (43.8 %)		281 (56.2 %)
Repeated erratic spelling errors	383(76.6 %)		117(23.4 %)
Delay in spoken language	330 (66 %)		170(34 %)
Difficulty in pronouncing words in a right way	293(41.4 %)		207(58.6 %)
They are hyperactive	162 (32.4 %)		338 (67.6 %)
Maybe late in establishing preferred hand for writing	232 (46.6 %)		268 (53.6 %)
May be late in learning right and left and other directionality components	216 (43.2 %)		284 (56.8 %)
Problems in learning the concepts of time and temporal sequencing	204 (40.8 %)		296 (59.2 %)

**Table 2. Effecting factors**

Factors	Chi-square tests (T-tests)	Knowledge score		
		Good	Fair	Poor
<b>Age</b>				
21-30	24.424	15 (14.6%)	43 (41.7%)	45 (43.7%)
31-40		65 (29.1%)	100 (44.8%)	58 (26%)
>41		62 (35.6%)	78 (44.8%)	34 (19.5%)
<b>Gender</b>				
Male	0.775	52	88	57
Female		90	133	80
<b>Specialty</b>				
Scientific	1.565	52	81	42
Humanity		90	140	95
<b>Years of experience</b>				
10-Jan	16.111	46 (22.2%)	87 (42%)	74 (35.7%)
20-Nov		55 (30.4%)	84 (45.4%)	42 (23.2%)
21-30		38 (36.9%)	45 (43.7%)	20 (19.4%)
>31		3 (33.3%)	5 (55.6%)	1 (11.1%)
<b>School</b>				
<b>Governmental</b>	10.17	109	141	82
<b>Private</b>		33	80	55
<b>Student have been diagnosed</b>				
<b>No</b>	16.609	25 (18%)	60 (43.2%)	54 (38.8%)
<b>Yes</b>		117 (32.4%)	161 (44.6%)	83 (23%)

### Conclusion

Lastly we have asked teachers if they think they need to know more about dyslexia, despite having fare knowledge, 92% of them thought they need to know more. Consequently, we are looking forward for the ministry of education to have a more intensive workshops and training programs as a part of teacher's preparation programs.

### References

- Boyle C, Boulet S, Schieve L, et al. Trends in the prevalence of developmental disabilities in US children, 1997-2008. *Pediatrics* 2011; 127: 1034-1042.
- Al Amry A. The effect of using technology-based teaching to remedy dyslexic Saudi elementary stage pupils. King Salman Center for Disability Research 2009.
- Habib M, Giraud K. Dyslexia. *Handb Clin Neurol* 2013; 111: 229-235.
- Rose J. Identifying and teaching children and young people with dyslexia and literacy difficulties. *Natl Arch* 2009.
- Fluss J, Ziegler JC, Warszawski J, et al. Poor reading in French elementary school: The interplay of cognitive, behavioral and socioeconomic factors. *J Dev Behav Pediatr* 2009; 30: 206-216.
- Sheldon M, Eslami ZR, Joshi RM, et al. Barr perceptions and knowledge of literacy constructs by

elementary school teachers of ELLs. *Educ Forum* 2015:61-78.

- Vandenbroucke L, Verschueren K, Desoete A, et al. Crossing the bridge to elementary school: The development of children's working memory components in relation to teacher-student relationships and academic achievement. 2017; 42: 1-10.
- Joshi RM, Binks E, Hougen M, et al. Why elementary teachers might be inadequately prepared to teach reading. *J Learn Disabil* 2009; 42: 392- 402. 6
- Acharya P. A study on the awareness of secondary school teachers towards language learning difficulties of students. *Scholarly Research Journal for Interdisciplinary Studies* 2015; 2893: 2278-8808.7
- Joshi RM, Binks E, Hougen M, et al. Why elementary teachers might be inadequately prepared to teach reading. *J Learn Disabil* 2009; 42: 392-402.8

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