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## **An Understanding the Knowledge and Belief about Developmental Dyslexia among Indian Residents**

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### **ABSTRACT**

**Introduction:** Dyslexia is a specific learning disability that is neurological in origin. The prevalence of dyslexia has been estimated at 5% to 15% of school-aged children depending on the language and culture (American Psychiatric Association, 2014). Dyslexia will primarily affect the skills involved in accurate and fluent word reading and spelling and decoding abilities. It can occur across a range of intellectual abilities. People with dyslexia tend to have socio-emotional problems and poor self-esteem. **Aims and Objectives:** The aim of the study is to understand the public awareness of developmental dyslexia. The objectives were to understand the level of knowledge and belief on dyslexia, to understand the level of knowledge (logical, semantic and systemic) on dyslexia and level of belief (perception, opinion and prediction) on dyslexia. **Materials and methods:** The study was conducted in quantitative research approach with the help of snowball sampling. 188 responses were analysed which included both men and women from the age group of 15 years and above. The data were analysed using the SPSS 20.0 version. **Results:** The results showed that more than half the sample population had a moderate level of knowledge and belief on dyslexia. Regarding the level of knowledge on dyslexia majority of the population had semantic knowledge on dyslexia. Most of the respondents had opinion belief when it came to the level of belief. **Conclusion:** There is an increasing need to improve the level of knowledge and belief on dyslexia. Misconceptions and false beliefs on dyslexia also prevail in the society which needs to be removed and more social action should be brought in for spreading awareness on dyslexia.

**Keywords:** Dyslexia, Awareness, Knowledge, Beliefs, logical, Semantic, Systemic, Opinion, Prediction and Perception.

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### **1.INTRODUCTION**

Learning disabilities are complex and are lifelong neurobiological disorders. Dyslexia is a language-based disorder that falls under the classification of specific learning disabilities (Prasanna Robinson). According to the dyslexia centre of Utah 15%-20%, of the population has a language-based learning disability out of which dyslexia is the most common one. Dyslexia is an invisible handicap since it cannot be readily seen or noticed but will interfere with a person's ability to acquire competency in oral language, reading, writing, mathematics, executive functioning and socialization. Based on its causes dyslexia is classified into three. Trauma dyslexia is due to brain trauma or permanent injury in the area of the brain that controls reading and writing. Primary dyslexia is the result of dysfunction of the left side of the brain which does not change with age. People with primary dyslexia will not be able to read above a fourth-grade level. It can be hereditary and is commonly found in boys than girls. Developmental dyslexia is caused by hormonal development or malnutrition during the early stage of foetal development. It can be caused due to poor nutrition, abuse, neglect or poor parenting during the early years of life. This type of dyslexia is also more common in boys and it will gradually diminish with the maturing of the child. Developmental dyslexia is the most common neurobehavioral disorder affecting children but the prevalence data on this condition are poor (Chiara Barbiero, 2019). There exist a low negative correlation (0.000) among the level of spiritual belief and rationale it is sometimes appropriate for a social worker to share his/her religious/spiritual belief with a client as overall respondents and among the respondents belonging to the academic year 2014-15 there exist a low negative correlation (0.001) at 0.01 level of significance while the respondents belonging to the academic year 2016-17 showed low negative correlation (0.007) at 0.05 level of significance.

A range of intellectual abilities can be affected if a person is dyslexic. Difficulty in phonological awareness, verbal memory and verbal processing speed are the characteristics features of dyslexia. Along with it learning and speaking disabilities, poor handwriting, motor coordination, mental calculation, concentration and personal organisation are markers of dyslexia (Barbara Pavey, 2013).

According to Irum Mumtaz a remedial dyslexic therapist, timely intervention and inclusive classrooms can lead to success of 90% of dyslexic children. Lack of dyslexia awareness and a friendly environment result in them suffering in all spheres of life. People with dyslexia may have average or above-average intelligence but they may fail in academics. They are commonly labelled as dumb and lazy which results in poor self-esteem and irritation.

Multisensory style of teaching with hands-on experiences, experiments, observations and audio-visual aids can help dyslexics in learning. Early intervention is of extreme importance for appropriate intervention from an early age. Delayed milestones, difficulty in rhyming, short attention span, disinterest in going to school, difficulty in tying shoelace, buttoning up shirt, exhibiting dislike and tiredness while reading etc., are early indicators of dyslexia<sup>[6]</sup>. It is important to empathise with dyslexic children and help them out through understanding their viewpoint and assisting them with multisensory methods of teaching. Dyslexic people will have strong areas of talents like art, drama, music, Sports, designing, and mechanics since they are more doers than learners. "Awareness about dyslexia and its impact on their children" is the most important treatment of dyslexia (Elbro and Peterson, 2004). To ensure the sustainable development of children around the world, it is important to have public awareness on this common disorder. "A Study on Public Awareness on Developmental Dyslexia" is an attempt to understand the level of knowledge about dyslexia in Public.

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## 2.LITERATURE REVIEW

Many researches had been done on different dimensions of dyslexia and its awareness. An article on the topic has pointed out that one in ten people are dyslexic around the world. 15 to 20 percentage of students in every class has some form of learning disability. The parents of most dyslexic children are in denial and schools do not provide a dyslexia-friendly environment. It is important for parents to understand the indicators of dyslexia in early childhood. Emotional Intelligence helps in building ability to understand emotions and emotional knowledge; and to reflectively regulate emotions so as to promote emotional and intellectual growth. (Shefali Mohanty, 2019). Parents and teachers have to involve in the child's life to motivate and empathise with such children and utilise multisensory methods of teaching to help them. It is important to understand that dyslexia has no cure since it is not a disease. Proper instruction and support can help in their success academically and for their future. In a study carried out in Italy on 9964 children in the age group of 8-10 years, 3.5 per cent were identified with dyslexia. The disorder was diagnosed for the first time in every 2 out of 3 children in the study. Through the study, it was concluded that dyslexia was widely underestimated and reliable data is required for ensuring timely support for children and families. A research on the need of parental awareness on dyslexia points out that parental awareness is the first intervention that needs to be done for appropriate intervention. Parental awareness and social supportive model help children to deal with the difficulties of learning disability. It is essential for the well-being of both parties (Khalid Haruna).

In Cognitive competence, majority (48%) had moderate level and very near to that (40%) had lower cognitive competence, most of the (68%) respondents have moderate level of Social competence and half of the respondents (52%) have moderate level of Motivational competence. (Sathyamurthi. K, 2019). A study conducted in selected teachers in Punjab among 110 showed that 35.5% had average knowledge in dyslexia, 29.1% had below-average knowledge, 27.3% had good knowledge and 8.2% had excellent knowledge on dyslexia. The researcher has added that it is important for teachers to understand about dyslexia, to provide quality education for the students and hence it should be added as a topic in teachers' training curriculum (Gopal Singh Charan, 2017).

The same scale of knowledge and belief about dyslexia was utilised for a study to investigate the knowledge and misconception of Peruvian pre-service teachers and in-service teachers. In the study, in-service teachers proved to be more knowledgeable and had lesser misconceptions when compared to pre-service teachers. The common misconceptions found through the study were the following. Primarily, that dyslexia is due to poor visual perception and that it is not due to phonological deficit. Secondly, many believed that letter and word reversal are the most important criterion in the identification of dyslexia. There was a misconception that dyslexia can be cured and it is not hereditary (Soriano Ferrer, 2018). There exist a low negative correlation (0.000) among the level of spiritual belief and rationale it is sometimes appropriate for a social worker to share his/her religious/spiritual belief with a client as overall respondents. And among the respondents belonging to the academic year 2014-15 there exist a low negative correlation (0.001) at 0.01 level of significance while the respondents belonging to the academic year 2016-17 showed low negative correlation (0.007) at 0.05 level of significance (Nandhini & Saraswathi, 2017). A Study on Public Awareness on Developmental Dyslexia has hence been conducted to understand the knowledge and belief existing about this particular disorder considering the importance of it.

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## 3.MATERIALS & METHODS

A quantitative research approach is adopted in the study. The sampling technique utilised was snowball sampling. The study population included both male and female from the age group of 15 years and above. A total of 188 responses were collected for the study. An existing "Scale of Knowledge and Beliefs about Developmental Dyslexia"<sup>[8]</sup> was utilised as the tool for the study. Five-point scale was used for all the questions of the scale and demographic details were also included in the study. Information has been gathered under the categories of age, gender, educational qualification, marital status, nationality, area of residence, religion and source of information under demographic details. It was followed by the knowledge and belief on developmental dyslexia scale which had a set of 36 questions estimating the knowledge and beliefs about developmental dyslexia in individuals.

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## 4.RESULTS & DISCUSSION

The primary part of the study involves the demographic details of the individuals who participated in the study. The statistical package for social sciences (SPSS) has provided the following tabulation of the demographic details of the participants of the study. Frequency and percentage of each category were provided specifically in separate tables for demographic data.

The study was predominantly to understand the knowledge and belief about dyslexia in public according to the scale by Echegaray Joyce and Soriano

Manuel. The 36 set of questions available in the scale has been divided into two sets out of which half deals with knowledge about dyslexia and the rest about the beliefs about dyslexia. Primarily, the level of knowledge and belief on dyslexia on a scale of low, moderate and high. Secondly, there was on level of knowledge on dyslexia which had been classified into logical, semantic and systemic. Level of Belief was the third category which had also been classified as perception, opinion and prediction. Logical knowledge under the broad classification of knowledge is the understanding of relationship of ideas to one another. Semantic knowledge is the knowledge attained as a result of learning the meaning of the words. Systemic knowledge is the result of learning a system of words, or symbols and how they relate to one another and the rules of operating in that system. Similarly, beliefs have also been classified into three, in which, perception is the belief about how the world seems to be based on the evidence. Opinion is the belief about how one should interpret reality. What should be valued and how to act in response to what exists and also society should be structured in order to enable the best experience for the individuals according to an individual. Perception is the belief about how one thinks things will end up in the future based on knowledge.

**Table No. 1 Demographic Profile of the Respondents**

Demographic Profile (N=188)		Frequency	Percent	Std. Deviation
Age	15-25	167	88.8	.593
	26-35	13	6.9	
	36-45	4	2.1	
	46-55	3	1.6	
	Above 55	1	.5	
Gender	Male	53	28.2	.451
	Female	135	71.8	
Education	Higher Secondary	39	20.7	.759
	Graduate	77	41	
	Post Graduate	71	37.8	
	Above Post Graduation	1	.5	
Marital Status	Married	19	10.1	.302
	Unmarried	169	89.9	
Nationality	Indian	176	93.6	.245
	Foreign	12	6.4	
Area of Residence	Rural	53	28.2	.451
	Urban	135	71.8	
Religion	Christian	131	69.7	.570
	Hindu	48	25.5	
	Muslim	9	4.8	

Table No. 1 carries details about the demographic profile of the participants. According to table 1, the results show that the majority of the respondents (88.8%) belong to the age group of 15-25 years, followed by (6.9%) from 26-35 years. From the age category of 36-45 years, there were 2.1% respondents and 1.6% from 46-55 years of age. From the age group above 55, there was 0.5% response. It can be observed from table 1 that the majority of the respondents were females of 71.8% followed by 28.2% of male respondents. The educational qualification of the participants shows that 0.5% of the respondents are at the level above postgraduation, 37.5% were postgraduates, and 41% of graduates and 20.7% completed higher secondary education. The above table also portrays the data about the marital status of the participants of the study. The maximum respondents (89.9%) belonged to the unmarried category and 10.1% belonged to the married category out of the 188 respondents in total. Looking into the nationality of the respondents, 93.6% are Indian nationals and 6.4% of the participants are foreign nationals. Area of residence of the participants can be inferred from the table. There was maximum participation (71.8%) from the urban population, followed by 28.8% of the rural population. The religion of the participants of the study is as follows. 69.7% of the respondents were Christians followed by 25.5% of Hindus and 4.8% of Muslim population.

**Table No. 2 Level of Knowledge and Belief about Dyslexia**

Level of Knowledge and Belief about Dyslexia		Frequency	Percent
Source of Information on Dyslexia	Mass Media	91	48.4
	Seminar/Conference	5	2.7
	Educational Curriculum	54	28.7
	None of the above	38	20.2
Level of Knowledge	Low	57	30.3
	Moderate	97	51.6
	High	34	18.1
Level of Belief	Perception	65	34.6
	Opinion	93	49.5
	Prediction	30	16

When enquired on the source of information of Dyslexia, table no. 2 shows that most of the respondents (48.4%) were from mass media, followed by (28.7%) from educational curriculum. 20.2% of the respondents had information from other sources and 2.7% from seminars or conferences. Table 2 also shows the consolidated data on all the available data from the total of 188 respondents based on knowledge and belief. It can be inferred that (51.6%) more than half of the respondents had moderate knowledge about dyslexia. 30.3% of respondents had low knowledge level of dyslexia. 18.1% of the respondents had high knowledge about dyslexia. Table compiles data about the knowledge on dyslexia under the three classifications of logical, semantic and systemic. The table shows that 30.9% of the respondents possess logical knowledge on dyslexia. Semantic knowledge on dyslexia is conceived by 54.8% of the respondents and 14.4% of them has systemic knowledge on dyslexia. Table has tabulated the level of belief on dyslexia which has been classified as perception, opinion and prediction. Almost half the participants (49.5%) have opinion belief on dyslexia, 34.6% has perception belief on dyslexia and 16% of the respondents have prediction belief on dyslexia.

**Table No. 3 Age wise classification of Level of Knowledge and Belief about Dyslexia**

Age		15-25 Years		26-35 Years		36-45 Years		46-55 Years		55+ Years		Total	
Level of Knowledge and Belief	Low	46	24.5%	6	3.2%	2	1.1%	2	1.1%	1	0.5%	57	30.3%
	Moderate	93	49.5%	2	1.1%	1	0.5%	1	0.5%	0	0%	97	51.6%
	High	28	14.9%	5	2.7%	1	0.5%	0	0%	0	0%	34	18.1%
Level of Knowledge on Dyslexia	Logical	50	26.6%	3	1.6%	2	1.1%	2	1.1%	1	0.5%	58	30.9%
	Semantic	93	49.5%	7	3.7%	2	1.1%	1	0.5%	0	0%	103	54.8%
	Systematic	24	12.8%	3	1.6%	0	0%	0	0%	0	0%	27	14.4%
Level of Belief on Dyslexia	Perception	53	28.2%	6	3.2%	2	1.1%	3	1.6%	1	0.5%	65	34.6%
	Opinion	88	46.8%	4	2.1%	1	0.5%	0	0%	0	0%	93	49.5%
	Prediction	26	13.8%	3	1.6%	1	0.5%	0	0%	0	0%	30	16%
	<b>Total</b>	<b>167</b>	<b>88.8%</b>	<b>13</b>	<b>6.9%</b>	<b>4</b>	<b>2.1%</b>	<b>3</b>	<b>1.6%</b>	<b>1</b>	<b>0.5%</b>	<b>188</b>	<b>100%</b>

Table 3 shows the data of age-wise classification of the level of knowledge and belief; level of knowledge and level of belief on dyslexia. In the age group who constituted the largest percentage of respondents (88.8%) of 15-25 years, 24.5% has low knowledge, 49.5% has moderate and 14.9% has high knowledge and belief about dyslexia. Between the age group of 26-35 years were 6.9% of the total respondents in which 3.2% of respondents have low level of knowledge and belief, 1.1% has moderate level and 2.7% has high level of knowledge and belief on dyslexia. Out of the 4 participants under the age group of 36-45 years, 1.1% has low level of knowledge and belief, 0.5% moderate level of knowledge and 0.5% with high level of knowledge on dyslexia. Under the classification of 46-55 years of age, 1.1% has low level of knowledge and 0.5% has moderate level of knowledge and belief on dyslexia. In the category of 55 and above age, 0.5% has low level of knowledge and belief on dyslexia. Under the age group of 15-25 years, semantic knowledge was highest (49.5%). Logical knowledge was 26.6% followed by systemic knowledge of 12.8%. In the second category of 26-35 years, semantic knowledge was highest (3.7%) and 1.6% of both logical and systemic knowledge. In the third category of 36-45 years, 1.1% of logical and semantic knowledge was shown and no systemic knowledge. The fourth category of 46-55 years of age had 1.1% of respondents with logical knowledge and 0.5% of semantic knowledge and none with systemic knowledge. In the final categorization of respondents above the age of 55 years, 0.5% had logical knowledge and there was no systemic and semantic knowledge shown in this category.

Under the category of 15-25 years of age, opinion belief was the highest with 46.8%. Followed by opinion was perception belief of 28.2% and then by prediction belief of 13.8%. The second age category of 26-35 years of age showed perception belief predominantly (3.2%). 2.1% has opinion belief and 1.6% had prediction belief on dyslexia. Out of the total of 2.1% of respondents of 36-45 years of age, 1.1% had perception belief on dyslexia and 0.5% each of opinion and prediction belief. Under the classification of 46-55 year old participants, there was 1.6% of participants who had all perception belief on dyslexia. 0.5% was participation from the age group above 55 years of age, which showed 0.5% of perception belief itself.

**Table No. 4 Gender wise distribution of Level of Knowledge and Belief on Dyslexia**

Gender		Male		Female		Total	
Level of Knowledge and Belief	Low	12	6.4%	45	23.9%	57	30.3%
	Moderate	24	12.8%	73	38.8%	97	51.6%
	High	17	9%	17	9%	34	18.1%
Level of Knowledge on Dyslexia	Logical	10	5.3%	48	25.5%	58	30.9%
	Semantic	29	15.4%	74	39.4%	103	54.8%
	Systematic	14	7.4%	13	6.9%	27	14.4%
Level of Belief on Dyslexia	Perception	15	8%	50	26.6%	65	34.6%
	Opinion	23	12.2%	70	37.2%	93	49.5%
	Prediction	15	8%	15	8%	30	16%
	<b>Total</b>	<b>53</b>	<b>28.2%</b>	<b>135</b>	<b>71.8%</b>	<b>188</b>	<b>100%</b>

Table 4 shows the of knowledge and belief; knowledge and belief on dyslexia with gender. Out of the 71.8% of female respondents, 38.8% has

moderate value on dyslexia, 23.9% with low and 9% with high level of knowledge and belief on dyslexia. Out of the 28.2% of male respondents, moderate level of knowledge and belief were exhibited by the majority (12.8%), followed by 9% with high level and 6.4% with low level of knowledge and belief on dyslexia. Coming to the level of knowledge on dyslexia, 39.4% were having semantic knowledge, followed by 25.5% of logical knowledge and 6.9% of logical knowledge out of the 71.8% of total female respondents. In the 28.2% of total male respondents again there was high percentage (15.4%) of semantic knowledge followed by 7.4% of systemic knowledge and 5.3% of logical knowledge. From the table, it can be inferred that semantic knowledge was high for both male and female populations.

In the 71.8% of female population, opinion belief was the highest (37.2%) followed by 26.6% of perception belief and 8% of prediction belief. In the 28.2% of the male population, the highest was opinion belief (12.2%). 8% had perception belief and the rest of the 8% had prediction belief.

**Table No. 5 Educational Qualification wise Level of Knowledge and Belief**

Educational Qualification		Higher Secondary		Graduate		Post Graduate		Above Post Graduation		Total	
Level of Knowledge and Belief	Low	10	5.3%	21	11.2%	26	13.8%	0	0%	57	30.3%
	Moderate	26	13.8%	37	19.7%	33	17.6%	1	0.5%	97	51.6%
	High	3	1.6%	19	10.1%	12	6.4%	0	0%	34	8.1%
Level of Knowledge on Dyslexia	Logical	15	8%	17	9%	26	13.8%	0	0%	58	30.9%
	Semantic	22	11.7%	44	23.4%	36	19.1%	1	0.5%	58	30.9%
	Systematic	2	1.1%	16	8.5%	9	4.8%	0	0%	27	14.4%
Level of Belief on Dyslexia	Perception	13	6.9%	27	14.4%	25	13.3%	0	0%	65	34.6%
	Opinion	22	11.7%	36	19.1%	34	18.1%	1	0.5%	93	49.5%
	Prediction	4	2.1%	14	7.4%	12	6.4%	0	0%	30	16%
	Total	39	20.7%	77	41%	71	37.8%	1	0.5%	188	100%

Table 5 deals with the level of knowledge and belief; level of knowledge and level of belief on dyslexia with educational qualification. 20.7% had the qualification of higher secondary education out of which 13.8% had moderate knowledge and belief on dyslexia. 5.3% had low level of knowledge and belief and 1.6% had high level of knowledge. 41% of the respondents were graduates out of which 19.7% had moderate knowledge on dyslexia, 11.2% had low and 10.1% had high knowledge on dyslexia. 37.8% of the respondents were with post graduate classification out of which 17.6% had moderate level of knowledge and belief on dyslexia, 13.8% had low and 6.4% had high knowledge on dyslexia. Under the fourth classification, 0.5% of respondents were there who had moderate knowledge on dyslexia. Out of the 20.7% of respondents with higher secondary education, 11.7% had semantic knowledge on dyslexia, 8% had logical knowledge and 1.1% had systemic knowledge. Under the 41% of respondents with undergraduate classification, 23.4% had semantic knowledge on dyslexia, 9% had logical knowledge and 8.5% had systemic knowledge. The 37.8% of post graduate respondents also had the highest systemic knowledge (19.1%). 13.8% had logical knowledge and 4.8% had systemic knowledge. In the 0.5% of the above post graduation classification, it was 0.5% of semantic knowledge. From table 9 it can be inferred that there is more of semantic knowledge in all categories of educational qualification. In 20.7% of respondents with a higher secondary level of education, 11.7% had opinion belief on dyslexia, followed by 6.9% of perception belief and 2.1% of prediction belief. Under the second classification of graduates who were 41%, 1% had opinion belief followed by 14.4% of perception belief and 7.4% of prediction belief. In post graduate level classification, there was 37.8% of response which again showed a majority of 18.1% of opinion belief, 13.3% of perception belief and 6.4% of prediction belief. In the above post graduation level of participants, there was 0.5% of opinion belief. From the table, it is hence clear that opinion belief is highest in all classifications of education.

**Table No. 6 Marital Status wise Level of Knowledge and Belief**

Marital Status		Married		Unmarried		Total	
Level of Knowledge and Belief	Low	10	5.3%	47	25%	57	30.3%
	Moderate	5	2.7%	92	48.9%	97	51.6%
	High	4	2.1%	30	16%	34	18.1%
Level of Knowledge on Dyslexia	Logical	8	4.3%	50	26.6%	58	30.9%
	Semantic	9	4.8%	94	50%	103	54.8%
	Systematic	2	1.1%	25	13.3%	27	14.4%
Level of Belief on Dyslexia	Perception	12	6.4%	53	28.2%	65	34.6%
	Opinion	4	2.1%	89	47.3%	93	49.5%
	Prediction	3	1.6%	27	14.4%	30	16%
	Total	19	10.1%	169	89.9%	188	100%

Table 6 consists of the level of knowledge and belief; level of knowledge and level of belief on dyslexia under the classification of marital status. Out of the 10.1% of married respondents, over half of the respondents (5.3%) had low level of knowledge and belief on dyslexia. 2.7% had moderate level and 2.1% had high level of knowledge and belief of dyslexia. The unmarried respondents constituted 89.9% of the respondents out of which 48.9% had moderate knowledge on dyslexia, 25% had low level and 16% had high knowledge and belief on dyslexia. The table shows that semantic knowledge is

once again high in married (4.8%), followed by 4.3% of logical knowledge and 1.1% of systemic knowledge out of the 10.1% of total married respondents. Under the classification of unmarried respondents constituting 89.9%, 50% had semantic knowledge followed by 26.6% of logical knowledge and 13.3% of systemic knowledge. From the table, it can be inferred that more systemic knowledge is found in both married and unmarried couples. Out of the 10.1% of total married respondents, 6.4% had perception belief of dyslexia followed by 2.1% of opinion belief and 1.6% of prediction belief. Among the 89.9% of the unmarried category, 47.3% has opinion belief, 28.2% of perception belief and 14.4% of prediction belief. From the table, it can be inferred that opinion belief is more when compared to perception and prediction.

**Table No. 7 Nationality wise Level of Knowledge and Belief**

Nationality		Indian		Foreign		Total	
Level of Knowledge and Belief	Low	51	27.1%	6	3.2%	57	30.3%
	Moderate	94	50%	3	1.6%	97	51.6%
	High	31	16.5%	3	1.6%	34	18.1%
Level of Knowledge on Dyslexia	Logical	54	28.7%	4	2.1%	58	30.9%
	Semantic	95	50.5%	8	4.3%	103	54.8%
	Systematic	27	14.4%	0	0%	27	14.4%
Level of Belief on Dyslexia	Perception	59	31.4%	6	3.2%	65	34.6%
	Opinion	89	47.3%	4	2.1%	93	49.5%
	Prediction	28	14.9%	1	1.1%	30	16%
	Total	176	93.6%	12	6.4%	188	100%

Table 7 gives the data inferred from the level of knowledge and belief; level of knowledge and level of belief according to the nationality of an individual. Out of the 93.6% of Indian nationals who responded, 50% has moderate knowledge on dyslexia, 27.1% has low level and 16.5% have high level of knowledge and belief of dyslexia. 6.4% of the respondents were foreign nationals out of which half of the respondents (3.2%) had low level of knowledge and belief, 1.6% of moderate and 1.6% of high level of knowledge and belief on dyslexia. Out of the total respondents, over half the population has moderate level of knowledge and belief and 30% has low level and 18.1% had high level of the same. Among the Indian nationals, 50.5% have semantic knowledge, 28.7% has logical level and 14.4% with systemic level of knowledge on dyslexia. Among the 6.4% of foreign nationals who responded, 4.3% had semantic knowledge and 2.1% had logical knowledge. There was no individual with systemic knowledge. Like the previous tables, systemic knowledge is the highest followed by logical knowledge on dyslexia. There was a maximum of opinion belief (47.3%) followed by perception belief of 31.4% and 14.9% of prediction belief. Among the foreign nationals, 3.2% had perception belief, 2.1% had opinion belief and 1.1% had prediction belief. The opinion belief is more in the above table when compared to perception and prediction.

**Table No. 8 Area of Residence wise Level of Knowledge and Belief**

Area of Residence		Rural		Urban		Total	
Level of Knowledge and Belief	Low	16	85%	41	21.8%	57	30.3%
	Moderate	29	15.4%	68	36.2%	97	51.6%
	High	8	4.3%	26	13.8%	34	18.1%
	Total	53	28.2%	135	71.8%	188	100%
Level of Knowledge on Dyslexia	Logical	16	8.5%	42	22.3%	58	30.9%
	Semantic	28	14.9%	75	39.9%	103	54.8%
	Systematic	9	4.8%	18	9.6%	27	14.4%
	Total	53	28.2%	135	71.8%	188	100%
Level of Belief on Dyslexia	Perception	18	9.6%	47	25%	65	34.6%
	Opinion	26	13.8%	67	35.6%	93	49.5%
	Prediction	9	4.8%	21	11.2%	30	16%
	Total	53	28.2%	135	71.8%	188	100%

Table 8 is the level of knowledge and belief; level of knowledge and level of belief on dyslexia inferred from the respondents based on their area of residence. Out of the 28.2% of total rural respondents, 15.4% has moderate knowledge and belief on dyslexia, 8.3% has low level and 4.3% has high level of knowledge and belief on dyslexia. The majority of the respondents were from the urban areas out of which 36.2% had moderate knowledge on dyslexia, 21.8% had low level and 13.8% had high level of knowledge and understanding on dyslexia. In total there is a maximum (51.6%) of moderate level, followed by 30.3% of low level and 18.1% of high level of knowledge and belief on dyslexia. There is a maximum of semantic knowledge (14.9%) followed by 8.5% of logical level and 4.8% of systemic level of knowledge on dyslexia. The maximum of respondents is from the urban areas of residence (71.8%). Out of the urban respondents, 39.9% had semantic knowledge on dyslexia followed by 22.3% of logical knowledge and 9.6% of systemic knowledge.

28.2% of total rural respondents with a maximum of opinion belief (13.8%) response followed by perception belief (9.6%) and prediction belief (4.8

%). In the urban population also more of opinion belief is shown 35.6%, followed by 25% of perception belief and 11.3% of prediction belief.

**Table No. 9 Religion wise Level of Knowledge and Belief**

Religion		Christian		Hindu		Muslim		Total	
Level of Knowledge and Belief	Low	35	18.6%	21	11.2%	1	0.5%	57	30.3%
	Moderate	70	37.2%	22	11.7%	5	2.7%	97	51.6%
	High	26	13.8%	5	2.7%	3	1.6%	34	18.1%
Level of Knowledge on Dyslexia	Logical	33	17.6%	24	12.8%	1	0.5%	58	30.9%
	Semantic	76	40.4%	21	11.2%	6	3.2%	103	54.8%
	Systematic	22	11.7%	3	1.6%	2	1.1%	27	14.4%
Level of Belief on Dyslexia	Perception	45	23.9%	19	10.1%	1	0.5%	65	34.6%
	Opinion	62	33%	25	13.3%	6	3.2%	93	49.5%
	Prediction	24	12.8%	25	13.3%	2	1.1%	30	16%
	Total	131	69.7%	48	25.5%	9	4.8%	188	100%

Table 9 has data on level of knowledge and belief; level of knowledge and level of belief on dyslexia under the classification of religion. There was a majority of Christian responses (69.7%) out of which 37.2% had moderate level of knowledge and belief, 18.6% had low level and 13.8% had levels of knowledge and beliefs on dyslexia. In the category of Hindu respondents (25.5%), 11.7% had moderate level, 11.2% had low level and 2.7% had high level of knowledge and belief on dyslexia. In the category of Muslim respondents, out of the total 4.8%, 2.7% had moderate level of knowledge and belief, 1.6% had high level and 0.5% had low level of knowledge and belief on dyslexia. Among the Christian respondents of 69.7%, the majority (40.4%) had semantic knowledge on dyslexia. 17.6% had logical knowledge on dyslexia and 11.7% had systemic knowledge. In the respondents following Hinduism, maximum number of respondents (12.8%) had logical knowledge of dyslexia, followed by 11.2% respondents with semantic knowledge and 1.6% with systemic knowledge. In the respondents following Islam also out of the 4.8% of total respondents, 3.2% had semantic knowledge followed by 1.1% of systemic knowledge and 0.5% with logical knowledge. It is clear that the maximum number of respondents (54.8%) has semantic knowledge followed by 30.9% of logical knowledge and 14.4% of systemic knowledge.

Opinion belief is highest (33%) in Christians followed by 23.9% of perception belief and 12.8% of prediction belief. Among Hindu respondents 13.3% has opinion belief, 10.1% has perception belief and 2.1% has prediction belief. Among Muslim respondents also the Opinion belief was the highest (3.2%) followed by prediction belief (1.1%) and minimum of (1.1%) prediction belief. In total around half of the respondents had opinion belief on dyslexia followed by perception (34.6%) and prediction (16%).

**Table No. 10 Source of Information wise Level of Knowledge and Belief**

Source of Information On Dyslexia	Level of Knowledge and Belief			Total
	Low	Moderate	High	
Mass Media	26	52	13	91
	13.8%	27.7%	6.9%	48.4%
Seminar/Conference	3	1	1	5
	1.6%	0.5%	0.5%	2.7%
Educational Curriculum	22	24	8	54
	11.7%	12.8%	4.3%	28.7%
None of the Above	6	20	12	38
	3.2%	10.6%	6.4%	20.2%
Total	57	97	34	188
	30.3%	51.6%	18.1%	100%
	Level of Knowledge on Dyslexia			Total
	Logical	Semantic	Systemic	
Mass Media	22	59	10	91
	11.7%	31.4%	5.3%	48.4%
Seminar/Conference	3	2	0	5
	1.6%	1.1%	0%	2.7%
Educational Curriculum	24	25	5	54
	12.8%	13.3%	2.7%	28.7%
None of the Above	9	17	12	38
	4.8%	9%	6.4%	20.2%
Total	58	103	27	188

	30.9%	54.8%	14.4%	100%
	<b>Level of Belief on Dyslexia</b>			<b>Total</b>
	<b>Perception</b>	<b>Opinion</b>	<b>Prediction</b>	
<b>Mass Media</b>	26	56	9	91
	13.8%	29.8%	4.8%	48.4%
<b>Seminar/Conference</b>	4	0	1	5
	2.1%	0%	0.5%	2.7%
<b>Educational Curriculum</b>	26	18	10	54
	13.8%	9.6%	5.3%	28.7%
<b>None of the Above</b>	9	19	10	38
	4.8%	10.1%	5.3%	20.2%
<b>Total</b>	65	93	30	188
	34.6%	49.5%	16%	100%

Table 10 deals with the level of knowledge and belief based on the source of information on dyslexia. Among the respondents who attained information from mass media, maximum of respondents (27.7%) had moderate level of knowledge and belief, followed by 13.8% of respondents with low level and 6.4% of respondents with high level of knowledge and belief on dyslexia. Among the 2.7% of respondents who got information on dyslexia from seminars or conferences had maximum (1.6%) of low level of knowledge and belief on dyslexia. 0.5% of respondents had moderate level and the rest 0.5% had high level of knowledge and belief on dyslexia. 28.7% of the respondents had their source of information from the educational curriculum in which 12.8% had moderate knowledge on dyslexia, 11.7% had low level and 4.3% had high level of knowledge and belief on dyslexia. 20.2% of the respondents had information on dyslexia from other resources. They had a maximum (10.6%) of moderate knowledge and belief followed by 6.4% with high knowledge and 3.2% with low knowledge. Out of all the respondents under the classification of source of knowledge on dyslexia maximum had information from mass media and there was highest population of respondents (51.6%) with moderate level of knowledge and belief on dyslexia. 30.3% had low level of knowledge and belief and 18.1% had high level of knowledge. Above Table shows the of level of knowledge on dyslexia under the classification of source of knowledge. Maximum (31.4%) of the 48.4% of the respondents with information from mass media had semantic knowledge. 11.7% had logical knowledge and 5.3% had systemic knowledge. For the respondents who had seminar/conferences as their source of knowledge (2.7%) 1.6% had logical knowledge and 1.1% had semantic knowledge and none were identified with systemic knowledge in that category. For the respondents with the educational curriculum as the source of knowledge (28.8%) 13.3% had semantic knowledge, 12.8% had logical knowledge and 2.7% systemic knowledge. From the 20.2% of respondents who got information from neither mass media or seminar/conference or educational curriculum, 9% of respondents had semantic knowledge, 6.4% had systemic knowledge and 4.8% had logical knowledge on dyslexia.

The above table shows the data of level of belief under the classification of source of knowledge on dyslexia can be inferred. 48.4% having the source of information from mass media has maximum (29.8%) of opinion belief, followed by 13.8% of perception belief and 4.8% with prediction belief. 2.7% of respondents who had seminars or conferences as their source of information had 2.1% with perception belief, 0.5% with prediction belief and none with opinion belief. 28.7% of respondents with the educational curriculum as the source of knowledge had 13.8% of respondents with perception belief, 9.6% with opinion belief and 5.3% with prediction belief. Considering the last category of none of the above category 10.1% of respondents had opinion belief, 5.3% with prediction belief and 4.8% of respondents with perception belief. In the classification of source of knowledge about dyslexia also there was around half of the total respondents (49.5%) with opinion belief, 34.6% with perception belief and 16% with prediction belief.

## 5.FINDINGS AND SUGGESTIONS

Considering the objectives of the study, it was inferred that the level of knowledge and belief on dyslexia out of the 188 respondents (97 participants) were predominantly moderate (51.6%). Following the moderate category was the 57 participants who constituted 30.3% of the respondents who showed low level of knowledge on dyslexia. 37 participants (18.1%) of the total number of respondents were found with high level of knowledge and belief on dyslexia. There is a need for the increase of knowledge from the average level to high level of knowledge and belief on dyslexia. It is crucial for every individual to have a good understanding of the disorder, its symptoms, measures to cope up and ways to support individuals with dyslexia since it can only help in creating a dyslexia-friendly atmosphere. Government can bring in measures to have more inclusive education system for such students. It is a necessity to add information and coping strategies for dyslexic children in teachers' training curriculum since teachers have a huge role in incorporating dyslexic students and assisting them in the struggles that they undergo in the process of learning. On global and national-level programs can be brought forward for spreading awareness on dyslexia and assisting the community in removing their misconceptions on dyslexia.

The maximum number of participants showed semantic knowledge of dyslexia (54.8%) which is more of concepts, facts, ideas and beliefs. Following the semantic knowledge, 30.9% had logical knowledge on dyslexia and 14.4% has systemic knowledge on dyslexia. More of an empathetic approach and providing holistic knowledge on the functioning of dyslexics can create an inclusive environment and support system for people with dyslexia. Increasing general understanding of dyslexia and ways to overcome the difficulties can be added to everyone's curriculum

The level of belief was profoundly (49.5%) opinion belief among respondents. 34.5% had perception belief and 16% had prediction belief on dyslexia. The focus should be on beliefs on dyslexia not being misconceptions and false beliefs. This can result in improper intervention and can cause harm to



their development. Schools can take initiative in assessing children who show characteristics of dyslexia. Education can be provided for parents on how to manage the problem through schools or healthcare systems. A social support model can be developed in schools for the assistance of dyslexic children to help them improve their scholastic performance through remedial teaching, providing psychological support in the process of acquiring knowledge and helping individuals to improve on their area of expertise rather than pressurising them academically.

## 6.CONCLUSION

From the study on the “Awareness and Beliefs on Developmental Dyslexia” done on 188 respondents through snowball sampling, it was observed that the majority of the respondents had (51.6%) moderate knowledge and belief on dyslexia. The knowledge level of dyslexia is semantic (54.8%) for over half of the respondents. It was also found that almost half (49.5%) of the population had opinion belief on dyslexia in all the criteria of age, gender, educational qualification, marital status, nationality, area of residence, religion and source of information. There is an increasing need of increase of awareness on dyslexia. False beliefs and misconceptions about this disability can adversely affect the life of this vulnerable section despite having adequate intelligence, education and socio-economic background to learn.

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