



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

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Dyslexia

What is Dyslexia?

Dyslexia is a common learning difficulty that mainly affects the way people read and spell words. The World Federation of Neurology defines dyslexia as "a disorder manifested by difficulty in learning to read despite conventional instruction, adequate intelligence and sociocultural opportunity".

Signs and symptoms

Dyslexia is a spectrum disorder, with symptoms ranging from mild to severe. People with dyslexia have particular difficulty with:

- phonological awareness
- verbal memory
- rapid serial naming
- verbal processing speed

These terms are explained in more detail below.

Phonological awareness

Phonological awareness is thought to be a key skill in early reading and spelling development. It is the ability to identify how words are made up of smaller units of sound, known as phonemes. Changes in the sounds that make up words can lead to changes in their meaning.

For example, a child with a good level of phonological awareness would understand that if you change the letter "p" in the word "pat" to "s", the word becomes "sat".

Verbal memory

Verbal memory is the ability to remember a sequence of verbal information for a short period of time.

For example, the ability to remember a short list such as "red, blue, green", or a set of simple instructions, such as "Put on your gloves and your hat, find the lead for the dog and then go to the park."

Rapid serial naming

This is the ability to name a series of colors, objects or numbers as fast as possible.

Verbal processing speed

Verbal processing speed is the time it takes to process and recognize familiar verbal information, such as letters and digits.

For example, someone with a good verbal processing speed has the ability to quickly write down unfamiliar words when they are spelled out, or write down telephone numbers they are told.

Dyslexia and intelligence

Dyslexia only affects some skills and abilities, and is **not linked to a person's general level of intelligence.**

Children of all intellectual abilities, from low to high intelligence, can be affected by dyslexia.

Similarly, the difficulty a child with dyslexia has with reading and spelling is not determined by their intelligence, but by how severe their dyslexia is. Children with average intelligence and mild dyslexia are likely to be more skilled at reading and writing than children with high intelligence and more severe dyslexia.

Epidemiology

The prevalence of dyslexia is unknown; with estimations varying greatly between 1% to 33% of the population. It is often estimated that the

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WEEKLY SRI LANKA - 2013

prevalence of dyslexia is around 5–10 percent of a given population although there have been no studies to indicate an accurate percentage. Internationally, there are differing definitions of dyslexia, but despite the significant differences between the writing systems, Italian, German and English speaking populations suffer similarly from dyslexia. Dyslexia is not limited to difficulty in converting letters into sounds, but Chinese dyslexics have difficulty in extracting shapes of Chinese characters into meanings.

What causes Dyslexia

The exact cause of dyslexia is unknown, but it's seen more commonly in families. Six genes have been identified that may be responsible for the condition, four of which affect the way the brain is formed during early life. Specialist brain scans (functional magnetic resonance imaging (MRI) scans) also show there is reduced function of one area towards the back of the brain, called the occipito-temporal cortex.

Score less than 45 - probably non-dyslexic.

Research results: no individual who was diagnosed as dyslexic through a full assessment was found to have scored less than 45 and therefore it is unlikely that if you score under 45 you will be dyslexic.

Score 45 to 60 - showing signs consistent with mild dyslexia.

Research results: most of those who were in this category showed signs of being at least moderately dyslexic. However, a number of persons not previously diagnosed as dyslexic (though they could just be unrecognised and undiagnosed) fell into this category.

Score Greater than 60 - signs consistent with moderate or severe dyslexia.

-Dyslexia Test-

Associated Conditions

- Dysgraphia
- ADHD
- Auditory processing disorder
- Developmental coordination disorder

Treatment

Although dyslexia is a lifelong problem, a range of educational programmes and interventions are often effective in improving reading and writing skills in many children with the condition. Research has shown that the earlier appropriate interventions are adopted, the better.

Most children respond well to educational interventions and go on to make progress with reading and writing, although some children continue to find reading and writing difficult and will require more intensive support and long-term assistance to help them learn strategies for managing their difficulties.

Children with dyslexia face challenges on a day-to-day basis, but even children who have severe dyslexia can go on to lead full and productive lives.

Sources

- <http://www.nhs.uk/conditions/dyslexia/Pages/Introduction.aspx>
- <http://www.bdadyslexia.org.uk/screening>

Compiled by Dr.C U D Gunasekara of the Epidemiology Unit

		Rarely	Occasionally	Often	Most of the time	Total
1	Do you confuse visually similar words such as cat and cot?	3	6	9	12	
2	Do you lose your place or miss out lines when reading?	2	4	6	8	
3	Do you confuse the names of objects, for example table for chair?	1	2	3	4	
4	Do you have trouble telling left from right?	1	2	3	4	
5	Is map reading or finding your way to a strange place confusing?	1	2	3	4	
6	Do you re-read paragraphs to understand them?	1	2	3	4	
7	Do you get confused when given several instructions at once?	1	2	3	4	
8	Do you make mistakes when taking down telephone messages?	1	2	3	4	
9	Do you find it difficult to find the right word to say?	1	2	3	4	
10	How often do you think of creative solutions to problems?	1	2	3	4	
		Easy	Challenging	Difficult	Very Difficult	Total
11	How easy do you find it to sound out words such as e-le-phant?	3	6	9	12	
12	When writing, do you find it difficult to organise thoughts on paper?	2	4	6	8	
13	Did you learn your multiplication tables easily?	2	4	6	8	
14	How easy do you find it to recite the alphabet?	1	2	3	4	
15	How hard do you find it to read aloud?	1	2	3	4	

Table 1: Selected notifiable diseases reported by Medical Officers of Health 31st - 06th Feb 2015 (06th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**			
Colombo	299	2089	3	30	0	1	0	7	2	10	5	25	0	1	1	8	0	1	6	43	0	3	0	0	94	6	
Gampaha	74	840	0	8	0	2	0	3	0	2	1	32	0	2	2	19	0	0	0	11	1	3	0	0	47	53	
Kalutara	38	313	1	12	0	1	0	6	1	4	3	45	0	0	0	5	1	1	2	24	0	5	0	0	77	23	
Kandy	28	280	0	25	0	0	2	7	0	0	2	12	2	14	7	40	0	0	1	29	0	2	0	1	74	26	
Matale	10	173	1	6	0	0	0	1	0	0	0	12	0	1	0	1	0	0	0	1	0	1	1	1	69	31	
NuwaraEliya	6	40	2	31	0	0	0	3	0	0	0	5	1	3	0	20	0	0	6	7	0	4	0	0	85	15	
Galle	14	164	0	13	0	0	1	1	0	6	0	30	2	8	0	1	0	0	7	39	0	11	0	0	90	10	
Hambantota	4	50	0	5	0	0	0	3	0	0	0	16	0	4	0	6	0	0	2	7	1	2	15	36	100	0	
Matara	10	91	1	9	0	0	0	2	0	19	5	24	2	6	0	6	0	0	3	34	0	7	3	10	100	0	
Jaffna	53	667	14	100	0	3	6	60	0	3	1	6	27	283	0	3	0	0	1	16	0	1	0	0	92	8	
Kilinochchi	1	17	0	10	0	0	0	2	0	25	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	75	25
Mannar	6	56	0	1	0	0	0	3	0	1	3	5	1	6	0	0	0	0	0	0	0	0	0	0	0	80	20
Vavuniya	6	38	0	4	0	2	0	5	1	2	0	8	1	8	0	0	0	0	1	2	0	0	0	0	0	75	25
Mullaitivu	1	36	0	5	0	0	0	1	0	1	0	2	0	1	0	0	0	0	0	0	0	1	0	1	60	40	
Batticaloa	71	392	3	20	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	4	0	2	0	0	86	14	
Ampara	0	10	1	13	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	23	0	3	0	0	100	0	
Trincomalee	13	136	1	3	0	0	1	6	0	22	0	4	0	1	0	0	0	0	0	4	0	0	0	0	0	83	17
Kurunegala	26	342	5	29	0	1	0	2	0	0	8	53	1	8	0	7	0	0	12	43	0	3	3	13	93	7	
Puttalam	15	270	0	9	0	0	0	0	0	0	0	9	1	3	0	1	0	0	2	6	0	2	0	0	77	23	
Anuradhapura	11	132	2	11	0	0	0	0	0	3	4	58	0	3	0	3	0	0	1	15	0	5	4	27	89	11	
Polonnaruwa	6	53	0	7	0	0	2	3	0	0	1	27	0	0	0	1	0	0	4	17	0	8	1	7	86	14	
Badulla	15	210	3	27	0	0	0	1	0	0	3	6	0	9	5	18	0	0	2	17	1	8	0	0	88	12	
Monaragala	7	50	5	27	0	0	0	3	0	1	0	52	0	11	1	5	0	0	5	16	0	1	0	5	91	9	
Ratnapura	23	186	2	68	0	3	2	6	0	1	3	41	2	12	15	55	0	0	0	4	1	4	0	3	94	6	
Kegalle	8	112	1	10	0	2	0	15	0	0	2	34	0	2	0	18	0	0	3	23	1	7	0	0	55	45	
Kalmune	29	249	5	23	0	0	0	0	0	5	0	1	0	0	0	0	0	0	4	23	0	0	0	0	62	38	
SRI LANKA	774	6996	50	506	0	16	14	141	4	105	41	509	40	389	31	217	1	2	62	408	5	83	27	104	83	17	

Source: Weekly Returns of Communicable Diseases (WRCD).
 *T=Timeliness refers to returns received on or before 06th February, 2015. Total number of reporting units 337. Number of reporting units data provided for the current week: 283. C**=Completeness

Table 2: Vaccine-Preventable Diseases & AFP

31st - 06th Feb 2015 (06th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2015	Number of cases during same week in 2014	Total number of cases to date in 2015	Total number of cases to date in 2014	Difference between the number of cases to date in 2014 & 2015
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	01	00	00	00	00	00	00	01	00	07	08	-12.5%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Mumps	01	00	00	01	01	00	01	00	00	04	17	43	117	-63.3%
Measles	04	03	03	00	02	03	03	02	00	20	66	157	541	-71.1%
Rubella	00	00	00	00	00	00	00	00	00	00	00	02	01	+100%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Tetanus	00	00	00	00	00	01	00	00	00	01	00	02	02	%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	02	02	11	82.1%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	09	07	+28.5%
Tuberculosis	27	28	09	05	05	00	00	09	18	101	260	1082	1380	-22.1%

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
 RDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS** =Congenital Rubella Syndrome

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

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ON STATE SERVICE

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