WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
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Eye care, vision impairment and blindness

Prevalence

Eye conditions are immensely common and affect the population of all ages around the world. (E.g., from retinopathy of prematurity to age-related macular degeneration) However, the majority of people with vision impairments are over 50 years of age.2.2 billion persons worldwide have a distance or near vision impairment, and half of these conditions could have been prevented by timely detection and proper management. This problem is more prevalent in law and middle-income societies due to their access to eye care preventive and treatment interventions being comparatively low. For example, vision impairment due to cataracts is more prevalent in low- and middle-income countries whereas glaucoma and age-related macular degeneration are common in high-income countries.

Personal and social impact

Untreated vision impairments not only impact people's quality of life affecting their education, productivity and economy but also causes a financial burden to society. It is estimated that there is an annual loss of US $ 244 billion and the US $ 25.4 billion globally due to uncorrected myopia and presbyopia respectively as a result of productivity loss. Children with low vision can show delayed motor, language, cognitive and social development leading to lifelong consequences. School children with vision impairment can have lower levels of educational performance. The adult population is greatly affected by vision impairment by reduced workforce participation resulting in lower productivity. Elderly people have a greater risk of getting morbidities like falls, and fractures and they can become socially isolated earlier.

Causes for vision impairments

The main causes of vision impairments worldwide are near and distance vision impairments due to unaddressed refractory errors (both in adults and among children) and cataracts, whereas glaucoma, age-related macular degeneration, diabetic retinopathy, ocular infections and inflammatory diseases with or without corneal opacities and traumatic eye injuries being other causes. Also, there are some congenital eye conditions causing vision impairment.

Classification

According to the international classification of diseases 11 (2018), vision impairments can be divided into two groups. They are distant and near presenting vision impairments. Distance vision impairment can be categorized into mild, moderate, severe and blindness according to the severity of the visual acuity. Near vision, impairment is called when near visual acuity is worse than N6 at a 40cm distance.

Refractory errors take place because of not bending light correctly due to the shape of the eye, resulting in a blurred image. There are four types of refractory errors.

1. Myopia (nearsightedness).
2. Hyperopia (farsightedness)
3. Presbyopia (gradual loss of eyes' ability to focus on nearby objects due to loss of elasticity of the lens of the eye with ageing)
4. Astigmatism (imperfection of the curvature of the cornea of the lens of the eye causing blurred vision at any distance)

Preventive Strategies

The onset of myopia can be delayed and its progression can be slowed among children by lifestyle changes such as increasing the time spent outdoors and decreasing near-work activities. This will reduce the risk of developing high myopia and complications of it like floaters and retinal detachments later in life. Prevention and optimizing the control of non-communicable diseases like hypertension and diabetes mellitus will reduce the risk of developing diabetic and hypertensive retinopathy. Prevention of rubella and measles through immunization and prevention of vitamin A deficiency by vitamin A supplementation are effective strategies to prevent those diseases and corneal opacities which result in complications of them. Occupational ocular injuries which can take place during industrial and agricultural activities and certain sports can be prevented by promoting wearing protective goggles, masks etc
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Treatments

Spectacles are used worldwide as a cost-effective intervention for refractive errors, whereas contact lenses and refractive surgeries such as LASIK and PRK are other options. Cataract surgery is the effective intervention commonly done for cataracts which is the other leading cause of vision impair-

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ment. All these improve the quality of life of persons remarkably.
Follow-up monitoring and timely intervention are required for eye conditions like diabetic retinopathy, glaucoma, amblyopia, pterygium etc. Some common eye conditions such as blepharitis, dry eye, and conjunctivitis do not cause vision impairment usually but need proper management to treat the causes to prevent complications as well as for the discomfort and pain.

Examination of eyes with the slit lamp

Rehabilitation

Rehabilitation measures are required for permanent vision impairments such as blindness or low vision. Low vision is a visual impairment which cannot be corrected with glasses, contact lenses, surgery or pharmaceuticals and people with low vision find it difficult to do everyday tasks even with them. Like all other vision impairments, it can affect people of all ages but the majority of them are over the age of 60 years of age. Low vision aids are designed to improve the vision of people with low vision enabling them for social and academic adaptation. There are two types of low vision aids. They are optical and electronic aids. Magnifiers like single vision spectacle magnifiers, hand-held magnifiers, stand magnifiers, dome magnifiers and also binoculars, spectacles and telescopes like extra short focus monocular telescopes are used as optical aids. Projectors, tablets, screen readers and video magnifiers are examples of electronic low vision aids.

According to the world health organization, blindness is defined as visual acuity less than 3/60 or corresponding visual field loss in the better eye with the best possible correction. The common causes of blindness are cortical or cerebral visual impairment which is the most common cause of blindness in children, macular degeneration, retinitis pigmentosa and retinopathy of prematurity being other causes in both children and adults.

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For people with blindness, there are assistive measures for mobility such as service dogs, white canes and electronic mobility aids. Digital assistive technologies are the modern methods used for enhancing safe and independent self-care for them. The main assistive technologies for those with blindness are braille displays, screen readers and speech recognition software.

Commonly used low vision aids

Raising awareness of eye care

Education should be strengthened on the general awareness of eye care of the people since most cases of vision impairments can be prevented by early detection and proper time management. For example, it is important for a myopic patient to get regular eye examinations done, good compliance with spectacle wear and awareness of possible irreversible outcomes of myopia. Health promotion on eye care should be integrated into all levels of care especially at the community and primary care level Screening for undetected amblyopia, myopia especially among school children and other eye conditions run in the family like glaucoma should be promoted.

WHO recommendations

WHO world report on vision (2019) recommends integrated, people-centred eye care (IPEC) and it is expected to reduce the burden of eye conditions and vision impairments to achieve the sustainable development goals by the year 2030. They have developed tools for the assessment of services on diabetic retinopathy, glaucoma, refractive and rehabilitation services and mobile health tool kit for myopia to enhance awareness to aid the integration of eye care interventions into health care systems.

References
https://www.who.int/westernpacific/health-topics/blindness-and-vision-loss
https://guides.library.illinois.edu/c.php?g=526852&p=3602299
https://www.mayoclinic.org/departments-centers/low-vision/overview/ovc-20519042

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Table 1 : Water Quality Surveillance
Number of microbiological water samples January 2022

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	NR
Gampaha	15	90	NR
Kalutara	12	72	NR
Kalutara NIHS	2	12	NR
Kandy	23	138	NR
Matale	13	78	NR
Nuwara Eliya	13	78	NR
Galle	20	120	NR
Matara	17	102	NR
Hambantota	12	72	28
Jaffna	12	72	NR
Kilinochchi	4	24	NR
Manner	5	30	NR
Vavuniya	4	24	NR
Mullatvu	5	30	NR
Batticaloa	14	84	NR
Ampara	7	42	NR
Trincomalee	11	66	NR
Kurunegala	29	174	04
Puttalam	13	78	NR
Anuradhapura	19	114	NR
Polonnaruwa	7	42	22
Badulla	16	96	NR
Moneragala	11	66	NR
Rathnapura	18	108	NR
Kegalle	11	66	NR
Kalmunai	13	78	NR

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 12th – 18th Feb 2022 (07th Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		Enteric Fever		Food Poi-		Leptospirosis		Typhus		Viral Hep-		Human		Chickenpox		Meningitis		Leishmania-		WRCD	
	A	B	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	12	1677	0	2	0	0	0	0	0	3	6	15	0	0	0	0	0	0	0	4	0	0	0	1	**2**	**100**
Gampaha	10	1515	0	0	0	0	0	0	0	0	2	12	0	0	0	0	0	0	0	4	0	2	0	0	**0**	**72**
Kalutara	36	446	1	4	0	0	1	1	0	5	6	48	0	1	0	1	0	0	1	9	1	6	0	0	**0.0**	**100**
Kandy	15	384	0	3	0	0	0	0	0	0	2	18	0	3	0	4	0	0	0	6	0	1	0	1	**1**	**96**
Matale	8	85	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	5	0	0	8	49	**4**	**100**
NuwaraEliya	2	34	0	3	0	0	0	0	0	0	1	8	0	2	0	0	0	0	0	1	0	0	0	0	**5**	**100**
Galle	30	402	0	0	0	0	0	0	0	0	9	74	0	3	0	0	0	0	3	7	2	5	0	0	**0**	**100**
Hambantota	12	150	0	20	0	0	0	0	0	0	3	25	0	5	0	1	0	0	0	1	0	1	1	66	**5**	**100**
Matara	24	151	0	1	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	2	0	1	15	47	**3**	**100**
Jaffna	57	583	1	6	0	1	7	22	1	8	3	11	44	195	0	2	0	0	3	19	1	3	0	0	**26**	**88**
Kilinochchi	1	31	0	1	0	0	0	0	0	6	0	1	0	3	0	0	0	0	0	0	0	0	0	1	**21**	**100**
Mannar	4	135	0	1	0	0	0	0	0	0	0	5	0	0	0	1	0	0	0	0	3	11	0	0	**28**	**83**
Vavuniya	3	27	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	**4**	**89**
Mullaitivu	2	16	0	0	0	0	0	2	0	0	1	7	0	2	0	0	0	0	1	3	0	0	0	0	**12**	**100**
Batticaloa	26	181	2	13	0	1	0	0	2	2	1	7	0	0	0	0	0	0	2	4	1	7	0	0	**20**	**100**
Ampara	1	34	0	2	0	0	0	0	0	0	1	19	0	1	0	1	0	0	1	10	0	3	0	4	**6**	**100**
Trincomalee	37	183	1	2	0	0	0	1	0	0	0	3	0	0	0	4	0	0	0	0	0	2	0	0	**22**	**92**
Kurunegala	80	807	0	2	0	1	0	0	0	0	2	22	3	10	0	0	0	0	0	8	2	6	2	72	**0**	**100**
Puttalam	78	603	0	0	0	0	0	0	0	0	0	6	0	2	0	0	0	0	0	0	0	8	0	1	**10**	**92**
Anuradhapur	7	87	0	0	0	0	0	0	2	2	5	48	1	4	0	1	0	1	1	5	0	2	10	72	**0**	**91**
Polonnaruwa	0	30	0	1	0	0	0	0	0	1	0	30	0	0	0	0	0	0	0	1	0	1	1	42	**0**	**88**
Badulla	10	290	0	4	0	0	0	0	0	0	6	40	2	8	2	16	0	0	0	3	0	1	1	5	**0**	**100**
Monaragala	4	55	0	0	0	0	0	2	0	1	3	67	1	4	0	8	0	0	1	6	1	7	4	16	**0**	**100**
Ratnapura	27	368	1	9	0	3	0	1	1	15	11	142	0	4	0	4	0	0	3	10	0	4	0	35	**1**	**95**
Kegalle	10	240	0	2	0	0	0	1	0	3	0	76	0	2	0	0	0	0	2	9	0	5	1	3	**0**	**100**
Kalmune	12	75	2	14	0	0	0	0	3	3	1	2	0	0	0	0	0	0	0	2	0	2	0	0	**19**	**100**
SRILANKA	**71**	**8589**	**8**	**90**	**0**	**7**	**8**	**30**	**9**	**49**	**63**	**716**	**51**	**249**	**2**	**43**	**0**	**1**	**19**	**121**	**11**	**78**	**43**	**415**	**5**	**95**

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk). T=Timeliness refers to returns received on or before 18th Feb , 2022 Total number of reporting units 361 Number of reporting units data provided for the current week: 343 **C****-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

12th – 18th Feb 2022 (07th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2022	Number of cases during same week in 2021	Total number of cases to date in 2022	Total number of cases to date in 2021	Difference between the number of cases to date in 2022 & 2021
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	01	09	11	- 18.1 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	00	00	00	00	00	00	00	00	00	04	05	13	- 61.5 %
Measles	00	01	00	00	00	00	00	00	00	01	00	05	03	66.6 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	01	01	01	0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	00	01	00	0 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tuberculosis	00	02	15	00	00	03	00	00	00	21	112	974	834	16.7 %

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

NA = Not Available

Influenza Surveillance in Sentinel Hospitals - ILI & SARI							
Month	Human				Animal		
	No Total	No Positive	Infl A	Infl B	Pooled samples	Serum Samples	Positives
February							
Source: Medical Research Institute & Veterinary Research Institute							

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

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