WEEKLY EPIDEMIOLOGICAL REPORT

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Blindness (Part 1)

According to WHO estimates:

- ***Approximately 314 million people worldwide live with low vision and blindness***
- ***Of these, 45 million people are blind and 269 million have low vision***
- ***145 million people's low vision is due to uncorrected refractive errors (near-sightedness, far-sightedness or astigmatism). In most cases, normal vision could be restored with eyeglasses***
- ***Yet 80% of blindness is avoidable - i.e. readily treatable and/or preventable***
- ***90% of blind people live in low-income countries***
- ***Restorations of sight, and blindness prevention strategies are among the most cost-effective interventions in health care***
- ***Infectious causes of blindness are decreasing as a result of public health interventions and socio-economic development. Blinding trachoma now affects fewer than 80 million people, compared to 360 million in 1985***
- ***Aging populations and lifestyle changes mean that chronic blinding conditions such as diabetic retinopathy are projected to rise exponentially***
- ***Women face a significantly greater risk of vision loss than men***
- ***Without effective, major intervention, the number of blind people worldwide has been projected to increase to 76 million by 2020***

Visual impairment and blindness

One of the finest gifts that has been given to human by mother nature is the eye sight. But around the world millions of people lose their gift of vision fully or partially due to congenital anomalies, acquired eye diseases or injuries to eye. The visual impairment has four levels i.e.

1. Normal vision
2. Moderate visual impairment
3. Severe visual impairment
4. Blindness

Global trends

Global trends since the early 90s show reduced rates of visual impairment worldwide and a shift in the causes. Visual impairment and blindness caused by infectious diseases have been greatly reduced (an indication of the success of international public health action), but there is a visible increase in the number of people who are blind or visually impaired from conditions related to longer life expectancies.

Globally about 314 million people are visually impaired; 45 million of them are blind.

Presbyopia, the inability to read or perform near work that occurs with ageing, causes visual impairment if it is not corrected. The scope of the problem is not known, but preliminary studies indicate that the problem could be vast, especially in developing countries.

Epidemiology

About 82% of all people who are visually impaired are age 50 and older. Increasing numbers of people are at risk of age-related visual impairment as the global population grows and demographics shift to a higher proportion of older people, even in developing countries. Child blindness remains a significant problem globally. An estimated 1.4 million blind children below age 15 will live in blindness for many years. In addition, more than 12 million children ages five to 15 are visually impaired because of uncorrected refractive errors (near-sightedness, far-sightedness or astigmatism): conditions that could be easily diagnosed and corrected with glasses, contact lenses or refractive surgery.

Studies consistently indicate that females have a significantly higher risk of being visually impaired than males, in every region of the world, and at all ages.

Visual impairment is not distributed uniformly throughout the world. Approximately 87% of visually impaired people live in developing countries.

Causes of blindness

Globally, the leading causes of blindness, in order of frequency, are:

- Cataract (a clouding of the lens of the eye that impedes the passage of light),
- Uncorrected refractive errors (near-sightedness, far-sightedness or astigmatism),
- Glaucoma (a group of diseases that result in damage of the optic nerve),

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Age-related macular degeneration (which involves the loss of a person's central field of vision).
Other major causes include corneal opacities (eye diseases that scar the cornea), diabetic retinopathy (associated with diabetes), blinding trachoma, and eye conditions in children such as cataract, retinopathy of prematurity (an eye disorder of premature infants), and vitamin A deficiency.

Prevention

Globally, about 85% of all visual impairment and 75% of blindness could be prevented or cured worldwide.

Since the 90s, areas of significant prevention progress on a global scale include:

- Further development of eye health care services, which has led to increased availability and affordability
- Increased commitment to prevention and cure from national leaders, medical professionals and private and corporate partners
- Higher awareness and use of eye health care services by patients and the general population
- Implementation of effective eye health strategies to eliminate infectious causes of vision loss

According to the WHO following conditions are listed as priority eye conditions those can be lead to visual impairment or blindness. Many of them are easily prevented as primary prevention or easily treated as secondary prevention. Some of these diseases, such as trachoma and river blindness, are prevalent primarily in less developed areas of the world where there are also specific environmental hazards.

In many middle income and industrialized countries, three other eye conditions have emerged as potential threats to the status of sight of their populations. The increase of diabetes among many population groups has caused diabetic retinopathy to be added to the priority list, while glaucoma, an eye disease known for centuries, remains on the public health agenda due to difficulties in its early diagnosis and frequent necessity of lifelong treatment. Age-related Macular Degeneration (AMD) ranks third among the global causes of visual impairment with a blindness prevalence of 8.7%. It is the primary cause of visual deficiency in industrialized countries. Emerging important causes of visual impairment are uncorrected refractive errors.

1. Cataract

Cataract is clouding of the lens of the eye which impedes the passage of light. Although most cases of cataract are related to the ageing process, occasionally children can be born with the condition, or a cataract may develop after eye injuries, inflammation, and some other eye diseases.

According to the latest assessment, **age related cataract is responsible for 48% of world blindness**, which represents about 18 million people. Although cataracts **can be surgically removed**, in many countries surgical services are inadequate, and cataract remains the leading cause of blindness. As people in the world live longer, the number of people with cataract is growing. Cataract is also an important cause of low vision in both developed and developing countries. Even where surgical services are available, low vision associated with cataract may still be prevalent, as a result of the long period spent waiting for operations and barriers to surgical uptake, such as cost, lack of information, and transportation problems.

Comprehensive prevention of cataract development is not known yet. Reduction of cigarette smoking, ultraviolet light exposure, and alcohol consumption may prevent or rather delay the development of cataract. Diabetes mellitus, hypertension and high body mass index are identified as additional risk factors.

The treatment of cataract is an operation, which is very successful in restoring sight. The opaque lens is removed and replaced by an artificial intraocular lens. In many remote parts of the developing world, people remain blind from cataract, due to a lack of access to quality eye care at an affordable cost. Cataract surgery has placed among the first 5 most cost-effective health interventions.

2. Trachoma

Trachoma is one of the oldest infectious diseases known to mankind. It is caused by *Chlamydia trachomatis*, a microorganism which spreads through contact with eye discharge from the infected person (on towels, handkerchiefs, fingers, etc.) and through transmission by eye-seeking flies. After years of repeated infection, the inside of the eyelid may be scarred so severely that the eyelid turns inward and the lashes rub on the eyeball, scarring the cornea. If untreated, this condition leads to the formation of irreversible corneal opacities and blindness.

Trachoma affects about 84 million people of whom about 8 million are visually impaired. It was once endemic in most countries. It is responsible, at present, for more than 3% of the world's blindness but the number keeps changing due to the effect of socio-economic development and current control programmes for this disease. In spite of this, trachoma continues to be hyperendemic in many of the poorest and most remote poor rural areas of Africa, Asia, Central and South America , Australia and the Middle East. The sequelae of active trachoma appear in young adulthood and in middle-aged persons. In hyperendemic areas active disease is most common in pre-school children with prevalence rates as high as 60-90%. It often strikes the most vulnerable members of communities women and children. Adult women are at much greater risk of developing the blinding complication of trachoma than are adult men. This increased risk has been explained by the fact that women generally spend a greater time in close contact with small children, who are the main reservoir of infection.

Environmental risk factors are water shortage, flies, poor hygiene conditions, and crowded households. A prolonged exposure to infection throughout childhood and young adulthood appears to be necessary to produce the complications seen in later life. A single episode of acute Chlamydial conjunctivitis is not considered sight threatening as there is virtually no risk of prolonged inflammation or blinding complications.

3. Onchocerciasis (river blindness)

Onchocerciasis is an insect-borne disease caused by a parasite *Onchocerca volvulus* and transmitted by blackflies of the species *Simulium damnosum*. Onchocerciasis is often called "river blindness" because the blackfly which transmits the disease abounds in fertile riverside areas that frequently remain uninhabited for fear of infection. *O. volvulus* is almost exclusively a parasite of man. Adult worms live in nodules in a human body where the female worms produce high numbers of first-stage larvae known as microfilariae. They migrate from the nodules to the sub-epidermal layer of the skin where they can be ingested by blackflies. They further develop in the body of the insect from which more people can be infected. Eye lesions in humans are caused by microfilariae. They can be found in all internal tissues of the eye, except the lens, where they cause eye inflammation, bleeding, and other complications that ultimately lead to blindness.

Onchocerciasis is a major cause of blindness in many African countries. As a public health problem, the disease is most closely associated with West and Central Africa, but it is also prevalent in Yemen and six countries in Latin America. Onchocerciasis has in the past greatly reduced the economic productivity in infected areas and left vast tracts of arable land abandoned. It is estimated that there are about half a million blind people due to river blindness.

Much progress has been made in fighting the disease in several countries through control of the blackfly, however, the disease can now also be treated with an annual dose of the drug ivermectine, Mectizan, which also relieves the severe skin itching caused by the disease.

Source : World Health Organization

to be continued No:29

Table 1: Vaccine-preventable Diseases & AFP

03rd - 09th July 2010(27th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2010	Number of cases during same week in 2009	Total number of cases to date in 2010	Total number of cases to date in 2009	Difference between the number of cases to date in 2010 & 2009
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	01	00	00	01	00	00	00	00	00	02	02	47	43	+ 09.3 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	00	00	01	00	00	00	00	00	00	01	00	55	65	- 15.4 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	13	15	- 13.3 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	02	14	31	- 54.8 %
Tuberculosis	81	08	16	12	37	21	09	01	11	196	377	4915	5278	- 06.9 %

Table 2: Newly Introduced Notifiable Disease

03rd - 09th July 2010(27th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2010	Number of cases during same week in 2009	Total number of cases to date in 2010	Total number of cases to date in 2009	Difference between the number of cases to date in 2010 & 2009
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	05	01	07	02	00	06	05	01	03	30	190	1952	10548	- 81.5 %
Meningitis	03 CB=1 KT=2	01 ML=1	01 GL=1	01 KN=1	05 TR=3 AM=1 KM=1	05 KN=5	00	05 BD=2 MO=3	01 RP=1	22	17	999	541	+ 84.6 %
Mumps	02	04	03	00	01	01	03	01	00	15	31	544	1011	- 46.2 %
Leishmaniasis	00	00	00	00	00	01 KN=1	04 AP=4	00	00	05	09	165	456	- 63.8 %

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.

DPDHS 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, Whooping Cough, Chickenpox, Meningitis, Mumps.

Dengue Prevention and Control Health Messages

You have a duty and a responsibility in preventing dengue fever. Make sure that your environment is free from water collections where the dengue mosquito could breed

Table 4: Selected notifiable diseases reported by Medical Officers of Health

03rd - 09th July 2010(27th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	334	3272	19	173	0	14	2	39	3	28	8	354	0	6	2	35	0	1	**85**
Gampaha	100	2524	6	74	0	14	0	27	0	10	4	229	1	8	1	56	0	4	**67**
Kalutara	58	1081	12	135	0	11	1	13	8	73	5	201	0	1	0	17	0	1	**67**
Kandy	46	960	3	200	0	1	0	17	0	3	1	57	2	91	1	35	0	1	**87**
Matale	13	431	4	216	0	3	1	21	0	67	1	66	0	4	1	29	0	0	**92**
Nuwara	11	106	11	236	0	0	0	82	1	84	1	17	2	46	0	26	0	0	**85**
Galle	30	632	4	148	0	3	1	3	0	12	2	50	0	6	0	7	0	3	**89**
Hambant	15	456	2	44	0	4	0	1	1	10	2	62	1	53	0	5	0	0	**82**
Matara	17	275	13	118	0	5	1	5	0	43	3	191	2	82	1	15	0	0	**100**
Jaffna	29	2402	16	161	0	3	2	380	1	6	0	1	2	108	1	43	0	2	**75**
Kili-	0	5	0	4	0	0	0	3	1	1	0	0	0	0	0	0	0	0	**75**
Mannar	19	192	1	29	0	0	0	33	0	10	0	0	0	0	2	14	0	0	**40**
Vavuniya	7	519	3	26	0	2	3	37	0	8	0	2	0	1	0	10	0	1	**50**
Mullaitivu	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**20**
Batticaloa	8	1094	5	90	1	3	0	16	0	28	0	10	0	2	1	4	0	2	**71**
Ampara	3	84	0	47	0	1	0	6	0	6	0	30	0	0	1	10	0	0	**43**
Trincomal	11	822	3	103	0	11	0	3	0	9	0	17	0	10	0	13	0	1	**90**
Kurunega	43	809	9	174	0	14	2	21	0	9	5	212	0	31	1	68	0	3	**65**
Puttalam	7	712	8	58	1	6	0	40	0	124	0	57	0	0	1	20	0	1	**56**
Anuradha	11	808	2	40	0	3	0	8	4	37	0	54	0	22	2	30	0	3	**79**
Polonnar	2	295	2	49	0	1	0	4	0	7	0	47	0	1	0	33	0	0	**86**
Badulla	37	494	5	118	0	1	0	60	0	13	1	45	2	52	3	72	0	0	**67**
Monaraga	53	436	2	120	0	1	1	28	0	4	0	27	3	37	1	59	0	2	**73**
Ratnapur	64	1575	7	322	0	4	0	10	0	22	3	253	0	38	0	63	0	2	**61**
Kegalle	12	568	0	88	0	9	0	32	0	19	4	141	0	10	4	54	0	0	**73**
Kalmunai	0	473	1	145	0	1	0	5	0	2	0	0	0	0	1	9	0	1	**85**
SRI LANKA	**930**	**21026**	**138**	**2919**	**02**	**115**	**18**	**859**	**19**	**635**	**40**	**2123**	**15**	**609**	**24**	**727**	**00**	**28**	**75**

Source: Weekly Returns of Communicable Diseases WRCD).
*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.
**Timely refers to returns received on or before 09th July, 2010 Total number of reporting units =311. Number of reporting units data provided for the current week: 240
A = Cases reported during the current week. B = Cumulative cases for the year.

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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.

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