The Fred Hollows Foundation

Information Sheet

3 February 2014
For internal and external use

Issues of Ageing and Blindness

in Low and Middle Income Countries*

Research Unit, The Fred Hollows Foundation

"Sight remains as valued and important in later life as at any other age and its loss is one of the things older people fear most."

– Sarah Polack, International Centre for Eye Health [1]

Summary

This paper outlines the relationship between ageing and vision loss including the impacts of vision loss on the aged and the unique barriers faced by the elderly in accessing eye health care. Facts and figures on the prevalence and causes of vision loss in the aged are provided. Key facts include:

- *Vision loss is the most common disability among the aged world-wide and also in low and middle income countries (LMICs).* [6] [7] [8]
- *While eye disease is more common as people age, blindness is not inevitable – 80% of blindness is caused by eye diseases that could have been prevented or could be treated, to avoid vision loss and blindness.* [2]
- *Blindness and visual impairment can reduce the life expectancy of older people. Restoring sight through cataract surgery has been shown to improve the longevity of older people.* [5]
- *Avoidable blindness disproportionally affects the aged in LMICs.* [9]

The relationship between ageing and vision loss

- Many eye diseases are known to be "age-related" where the incidence of the disease increases with age, that is, eye disease is more common as people grow older.
- Ageing is a significant "risk factor" for eye diseases such as cataract, refractive error and age-related macular degeneration. Age is also a risk factor for diabetes and its vision related complication, diabetic retinopathy.
- While those aged 50 years and older represent the majority of people who are blind today, particularly in LMICs, around 80% of this blindness could have been prevented or could still be treated. [2] [3] The issue is the lack of accessible and affordable eye health services in many countries, in order to meet the eye health needs of their ageing populations.
- Vision is an important part of a healthy and active ageing as the loss of vision is associated with poor health outcomes, less social participation and increased anxiety and depression. [4] [1] Older people with good vision are more able to continue their productivity in employment, community and family life. [4]
- Vision impairment is associated with decreased life expectancy among older people, even in high income countries. [5]

*** Low and Middle Income Countries** (LMICs) are sometimes referred to as "developing countries".

Prevalence of vision loss and ageing

- Vision loss is the most common disability among the aged worldwide and also in low and middle income countries (LMICs). [6] [7] [8] See figure 1
- Of the world's estimated 32.4 million blind population, 84.6% are aged 50 years or older. For the 191 million people with moderate to severe visual impairment, 77.5% are aged 50 years or older. [9]
- Thus, an estimated 27.5 million older people (50+ years) are affected by blindness and 148 million are affected by moderate and severe visual impairment. [9]
- The burden of eye disease is greatest on the elderly in LMICs. When measured by the number of years of healthy life lost to living with a disability (YLD), the burden of disease from vision loss among older people in LMICs is 3 times that among older people in high-income countries. [6] [7]
- The prevalence of blindness rises sharply in people aged 50+ [9] and increases 3-fold in each decade over 50 years.
- The prevalence of blindness amongst older adults (≥50) is greater than 4% in regions throughout Africa and South Asia. This compares to a prevalence of just 0.4% in high-income regions. [9]
- The prevalence of moderate-severe visual impairment amongst older adults (≥50) is around 16% in regions of Africa and 24% in South Asia, compared to less than 5% in high-income regions. [9]
- The global prevalence of blindness has decreased over the period 1990-2010, when the figures are adjusted for the ageing world population. Globally, the age-standardised prevalence of blindness in the older population (≥50 years) has fallen from 3% in 1990 to 1.9% in 2010. This represents a fall of 0.5% per decade. [9]

Causes of vision loss and ageing

- Refractive error and cataract are the leading causes of blindness and visual impairment amongst the elderly in LMICs, despite each being easily treated with glasses or in-expensive surgery. [6] See figure 2
- The risk of visual impairment and blindness rises with the number of years of living with diabetes and around 75% of people who have had diabetes for 20 years or more will experience some form of diabetic retinopathy. [10]

Figure 1 [6]

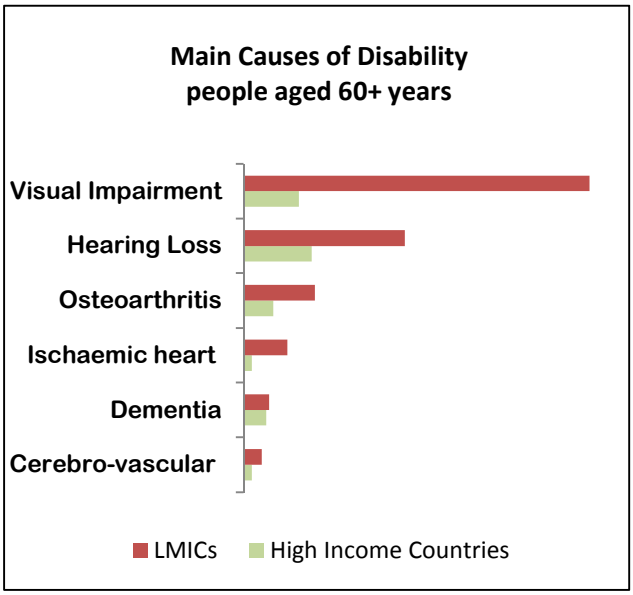
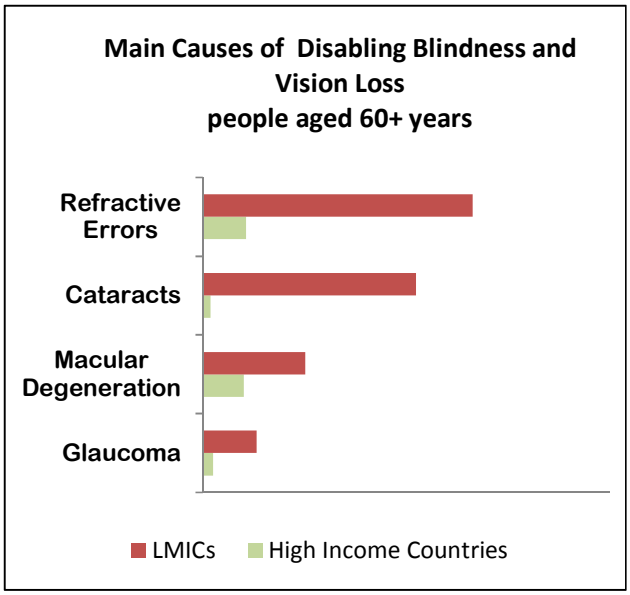


Figure 2 [6]



What age is aged?

In most high income countries, "aged" tends to be associated with the retirement age, often around 60-65+ years. However, WHO recognises that neither 60 nor 65 years is suitable for many low-income countries where life expectancy is lower. WHO has therefore used 50+ years as a definition of elderly or aged in many countries in Africa. (4) (20)

The vast majority of people with visual impairment are aged 50+ and many of the studies referred to in this paper are based on this age group.

Ageing world population and blindness

- The need for eye care services for the aged is greatest in low and middle income countries (LMICs), because of the sheer size of the older populations in these countries combined with a backlog of treatable blindness and an undersupply of eye care services. Already, around 554 million people aged 60+ years live in LMICs. By 2050, this will rise to 1.6 billion people aged 60+ years. (11)
- National trends towards ageing populations (due to increased life expectancy and falling birth rates) will further contribute to the need for eye care services in those countries. (4) While populations in many LMICs are still relatively youthful with only 9% aged 60+ years compared to 23% in high-income countries, the population structure in LMICs is changing. The proportion of people aged 60+ years is growing rapidly in LMICs and is expected to double to 19% by 2050. (11)
- The potential impact of the ageing population trend can be seen in recent global blindness figures. While the global prevalence of blindness amongst older adults has declined in all regions since 1990, the growing world population, of which an increasing proportion is older, has meant that the global number of blind has been fairly stable. (9)
- Ageing world populations will contribute to shifts in the main causes of eye disease with cataract, diabetic retinopathy, glaucoma and age-related macular degeneration becoming more prevalent as the numbers of aged people increase. (12)

Impact of blindness on the elderly, their families and communities

Vision loss and blindness are known to have an accumulative negative impact on quality of life of older people. (8)

- Blindness and vision loss adversely affect the productivity of older people through premature retirement or inability to work and reduced ability to contribute to family life such as cooking and caring for grandchildren. (1) For many, this loss of vision and productivity starts from the relatively young age of 50-60 years.
- In lower income countries, the elderly tend to live with their extended family and thus the role of caring for a disabled aged relative, along with the financial costs, falls largely on to family members. (4) The costs include the lost earnings of carers and the disrupted education of child aged carers.
- Blindness and vision loss are associated with a decreased life expectancy, even in high income countries. (5)
- Ageing and vision loss have a compounding impact to reduce an elderly persons quality of life, including through:
    - co-morbidity with other chronic diseases and reduced ability to access health services (4) (13) (14)
    - increased risk of depression and loss of self esteem (1) (15) (16)
    - loss of independence for self-care, daily activities and mobility (1) (16)
    - reduced social interaction (1) (16)
    - greater likelihood to have pain and discomfort. (8).

Unique barriers faced by the elderly in accessing eye health care

There are numerous barriers that inhibit people from accessing eye health in LMICs, (see the Information Sheet – *Barriers to Accessing Eye Health Care*), however, some barriers are experienced differently or to a greater extent by the elderly, particularly the very elderly and older women. (4)

Co-existence of other health problems is an important barrier to elderly people accessing eye health care. (17) This is true both in LMICs as well as in high-income countries. Co-morbidity of visual impairment and blindness with other illness or physical disabilities works as a barrier in several ways: (4) (17) (18)

- further adds to the difficulty for mobility and the need for assistance to attend eye health care clinics
- can reduce an elderly person's strength and physical capacity to undergo surgery or treatment and to self-administer eye-drops or other medications
- may change the priority of eye health for an individual and loss of vision may not be regarded as important for treatment, compared to other health issues or the effort of having the treatment.

Other barriers experienced more or differently by the elderly in LMICs include:

- elderly people's expectations of their own health and abilities can be lowered with ageing and thus they may be less motivated to attend to their eye health (4) (19)
- elderly in LMICs are amongst the poorest and are often financially dependent on other family members (17) (15)
- lower levels of literacy and education among the elderly negatively impacts on their awareness of eye disease prevention and treatments (17)
- elderly are not seen as a priority for health care in poor households and they can be unwilling to use scarce family income to pay for their eye health treatment. Both direct costs of surgery and indirect costs, such as transport and the loss of income for a family member to accompany them, may discourage the elderly from seeking treatment (15) (17)
- belief that blindness is an inevitable part of ageing (8)
- the relationship between vision loss and reduced quality of life is often overlooked for the aged, as is the links between vision loss and depression (8)
- many of these barriers affect elderly women to a greater extent than elderly men due to their lower social support, reluctance to be a burden on their family and less decision making authority. (17) (15)

Bibliography

1. *Restoring Sight: how cataract surgery improves the lives of older adults.* Polack, Sarah. 66, June 2008, Community Eye Health Journal, Vol. 21, pp. 24-25.
2. *Global estimates of visual impairment 2010.* Pascolini, D and Mariotti, S. 1 December 2011, British Journal of Ophthalmology.
3. *Blindness prevention programmes: past, present, and future.* Resnikoff, Serge and Pararajasegaram, Ramachandra. 3, 2001, Bulletin of the World Health Organisation, Vol. 79, pp. 222-226.
4. *Eye care for older people.* Evans, Jennifer. 66, June 2008, Community Eye Health Journal, Vol. 21, pp. 21-23.
5. *Correction of Visual Impairment by Cataract Surgery and Improved Survival in Older Persons: The Blue Mountains Eye Study Cohort.* Sze-un Fong, Calvin, et al. 9, September 2013, Vol. 120.
6. World Health Organisation. *World Report on Disability 2011.* Geneva : s.n., 2011.
7. *Ageing in the Twenty-first Century: A celebration and a challenge.* UNFPA and HelpAge International. 2012.
8. International Federation on Ageing. *The High Cost of Low Vision: The evidence on Ageing and Loss of Sight.* 2012.
9. *Global Prevalence of Vision Impairment and Blindness Magnitude and Temporal Trends, 1990-2010.* Stevens, Gretchen A, et al. 11 July 2013, Journal of Ophthalmology.
10. World Health Organisation. *Prevention of Blindness from Diabetes Mellitus: a report of a WHO consultation in Geneva Switzerland.* 2006. A report of a WHO consultation in Geneva Switzerland 11 November 2005.
11. Population Division. *World Population Prospects The 2012 Revision: Key findings and Advance Tables.* Department of Economic and Social Affairs, United Nations. New York : s.n., 2013.
12. *Prevention of blindness and priorities for the future.* West, Sheila and Sommer, Alfred. 3, 2001, Bulletin of World Health Organisation, Vol. 79, p. 244.
13. Gooding, Kate. *Poverty and Blindness: a survey of the literature.* Sightsavers International. February 2006.
14. Nispen, Ruth, et al. Co-morbidity and visual acuity are risk factors for health-related quality of life decline: five-month follow-up EQ-5D data of visually impaired older patients. *Health and Quality of Life Outcomes.* s.l. : BioMed Central, 2009. Vol. 7, 18.
15. *The social and family dynamics behind the uptake of cataract surgery: findings from Kilimanjaro Region, Tanzania.* Geneau, R, et al. 2005, British Journal of Ophthalmology, Vol. 89, pp. 1399-1402.
16. *Impact of age related macular degeneration on quality of life.* Hassell, J B, Lamoureux, E L and Keeffe, J E. 2006, British Journal of Ophthalmology, Vol. 90, pp. 593-596.
17. *Helping older people get the eye care they need.* Nkumbe, Henry. 66, 2008, Community Eye Health Journal, Vol. 21, pp. 26-28.
18. *A holistic approach to eye care for older people.* Dey, AB, Lindfield, Robert and Goel, Ashish. 66, June 2008, Community Eye Health Journal, Vol. 21, pp. 31-32.
19. *Delivery of eye care to the elderly: practical considerations.* Wormald, Richard. 29, 1999, Community Eye Health Journal, Vol. 12, pp. 6-7.
20. World Health Organisation. Definition of an older or elderly person. *Health statistics and health information systems WHO.* [Online] Publication date unknown. [Cited: 5 September 2013.] http://www.who.int/healthinfo/survey/ageingdefnolder/en/.