



Near vision testing in a rural community. TANZANIA

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related tasks. For example, research in India showed that presbyopic factory workers were less productive than their co-workers (personal communication with Praveen K Nirmalan, LV Prasad Eye Institute, Hyderabad, India). After correction, their productivity improved significantly, which made the investment in corrective spectacles very beneficial. Also, as more transactions are done in writing, adults with poor reading vision will be at an economic disadvantage.

Finally, uncorrected presbyopia can hamper development. The World Health Organization (WHO) has placed increasing emphasis on adult literacy to improve attainment of development goals, but people require good near vision to be able to benefit from programmes to improve literacy.

Interventions

While new treatments are being developed for presbyopia, spectacles represent an effective, economic option for low- and middle-income countries. However, there is little research on the determinants of, and barriers to, the use of near-vision spectacles. We are still awaiting data on the availability and affordability of near-vision refractive error services, including a system for efficient dispensing of high-quality, affordable spectacles.

In our study in Tanzania, 92 per cent of people with presbyopia reported using the near-vision spectacles we gave them. Almost half of the people we studied were using them a few times a week. This gave us an indication of the usefulness of adequate near vision in rural Tanzania, where many subjects did not routinely read or write. Better near vision resulted in reported

improvements in overall quality of life. An appreciation of the usefulness of having adequate near vision made subjects willing to pay for spectacles and obtain replacements if the need arose. A high proportion of people (69 per cent) were able to afford spectacles at a price that covered the cost and shipping of the spectacles. Men were more likely to be able to afford spectacles, whereas a higher proportion of women needed to rely on another person to help them afford spectacles.

The majority of people in our study did not know where to get spectacles. Among those who knew where to go, ten per cent were misinformed about where they were available and a third could not afford to travel to a location where spectacles could be obtained. In general, lack of knowledge about refractive services, poor accessibility, and additional costs (such as transport) raise further challenges for intervention programmes.

Our experience in Tanzania also suggested that many subjects were not aware that correction could return adequate near vision to them. Because presbyopia is a gradual process, others had forgotten the value of having good near vision. Refractive error correction programmes need to recognise this, and community awareness of presbyopia needs to be promoted.

Our data suggest that it is very difficult to obtain reading spectacles for persons in rural villages and small towns in Tanzania.¹⁵ In southern India, Nirmalan et al. showed that a major proportion of people with presbyopia who had spectacles (93 per cent) had obtained their spectacle prescriptions from ophthalmologists, who work primarily in large cities.⁴

In general, assessment and correction of

presbyopia require modest expertise and can be undertaken independently of fixed optical services. The ScoJo Foundation, which works in Africa, Latin America and Asia, has demonstrated a sustainable model to distribute high-quality, low-cost reading spectacles in rural areas. This organisation trains women to start their own small business to prescribe and dispense presbyopic spectacles at low prices. Such an approach can be an independent but integrated part of a comprehensive eye health solution, as it may be the first point of contact for those with other eye problems and could identify those in need of further eye care services (see box on page 44).

The future

Further research should be conducted to determine why women and persons who live in urban environments have more presbyopia. As low- and middle-income countries undergo the demographic transition towards an ageing population, the number of people with presbyopia will increase. The impact on quality of life for older persons is now clear and presbyopia should be part of the WHO refractive error agenda. Clearly, presbyopia poses an important public health challenge, because it affects older people's ability to maintain their economic independence. We need to start working towards effective solutions.

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