

A review of factors influencing the utilization of eye care services

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Abstract

Visual impairment (low vision and blindness) is a major health concern all over the world. Three main reasons for the high prevalence of visual impairment are non-availability, non-accessibility and non-affordability of eye care services. However, there are several factors that may act as barriers to the use of available, accessible and affordable eye care services. These include the lack of knowledge of the services, lack of knowledge of the possible impact of an eye disease and lack of knowledge of who to consult for management of eye diseases. Also, demographic, personal, social and cultural factors may influence or act as barriers to eye care

utilization. These various factors are reviewed in this article. Where there is poor utilization of available services, educational campaigns would lead to better understanding and promote greater utilization of eye care services. Early detection and management of eye diseases would reduce the burden of visual impairment and disability. Therefore, eye care providers and health care managers must have good knowledge of the various factors that would negatively influence utilization of eye care services and be responsive to them. (*S Afr Optom* 2010 **69**(4) 182-193)

Key words: Eye care utilization, eye care services, low vision, blindness

Introduction

Visual impairment can negatively impact on every aspect of life of an individual. Unfortunately, in many parts of the world, many people have low vision or are blind. In view of this, the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB) with an international membership of Non-governmental Organizations (NGOs), Professional Associations, Eye care

institutions and Corporations have developed a global initiative for the elimination of avoidable blindness by the year 2020¹. The initiative called “Vision 2020: The Right to Vision” has three major components as target activities: Specific disease control, human resource development and infrastructure and appropriate technology development². According to Lewallen and Courtright³, major staff level development, infrastructure and community programmes will be necessary to achieve Vision 2020 goals. Fotouhi *et al*² are of the opinion

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that the key factors in achieving the goals of Vision 2020 are eye care services and utilization. These imply that apart from manpower and infrastructure development, community programmes are needed to ensure utilization of eye care services.

In many parts of the world, most cases of blindness are preventable or manageable by surgery and or refractive error corrections³⁻⁸, however, the available resources cannot cope with the level of demand for eye care. This is because in many countries, eye care services are not readily available due to inadequacy of trained personnel or due to the fact that eye care practitioners are usually concentrated in the urban areas^{8,9}.

Refractive errors and eye diseases such as cataract, glaucoma, and diabetic retinopathy are common causes of visual impairment worldwide¹⁰. In Chile, for example, uncorrected refractive error accounts for 33% of those with vision under 6/18 and only 36% of children with reduced acuity use spectacles¹¹. Lack of awareness that causes of visual impairment are preventable, non-availability of accessible and affordable services are the main causes of blindness and visual impairment. Oduntan and Raliavhegwa¹² found that only 39% of the respondents in a rural community survey in South Africa had their eyes examined within five years or more despite the accessible and affordable eye care services. Factors such as cost, lack of awareness, cultural beliefs and personal factors were identified as barriers to eye care utilization¹². The poor utilization was highlighted as a concern because the time interval between eye examinations was high enough for certain avoidable or curable ocular diseases to cause irreversible visual loss or blindness.

Factors influencing utilization of eye care services

There are three primary factors namely, availability, affordability and accessibility of eye care services which could influence the prevention of visual impairment worldwide. Also, there are several secondary factors such as demographic, personal and socio-economic factors which may act as barriers to utilizing the available, accessible and affordable eye care services. According to Andersen¹³, health care

services use is determined by societal, health service system and individual factors. Individual factors include the need, enabling factors, and predisposing factors. These various factors interact to influence the likelihood of an individual's utilizing health care services^{13, 14}. These factors can also apply to the use of eye care services. According to Keeffe *et al*¹⁵, utilization of eye care services can be explained by a combination of predisposing, enabling, and need characteristics. Enabling factors encompass family and community resources and accessibility to those resources. The predisposing factors are those that exist before an illness and describe the propensity of an individual to use health care services, and they include age, gender, marital status, race/ethnicity, occupation, beliefs (such as attitudes towards health services), knowledge about disease, and values¹⁵.

Individuals with eye problems or systemic conditions such as diabetes have a need for eye care services and would use them more frequently than those without perceived or diagnosed risk of eye problems. Therefore, they are likely to have higher utilization rate than those without perceived need. Enabling factors like health insurance, urban residence, living close to eye care service centres and language spoken can also influence the utilization of eye care services. Predisposing and personal attributes such as gender, family size, rural/ urban residence have been found to influence the utilization of eye care services. The primary and secondary factors which may act as barriers to eye care service utilization are discussed in this review article. Factors that may enhance utilization of the services are also briefly discussed. It is important for eye care managers and eye care providers to be conversant with the various barriers to utilization of eye care services, and prevent them.

Availability, accessibility and affordability of eye care services are important issues in the prevention of visual impairment. Obviously, a service that is not available rules out utilization. If the client lives very far from the available service, then the service may not be accessible to the patient, and if because of the long distance, the patient has to spend a large sum of money which he or she cannot afford; then the service is not affordable. This interdependence of availability,

accessibility and affordability needs to be recognized in providing eye care services. Besides improving eye care infrastructure and manpower, a major challenge to eye care will be to address the barriers preventing a large proportion of the population from utilizing existing services^{2, 16}. The ability to identify the factors affecting utilization of eye care services is important for policy makers, given the relationship between blindness and the postponement of timely eye examination, and the high social and personal cost associated with blindness¹⁷.

Availability of eye care services

Availability of eye care services varies from country to country in many regions of the world, and the number of eye care providers per million-population in the richest countries may be nine times more than in the poorest countries¹¹. Even within a country, availability of services may vary from province to province, from district to district, even from one community to another. Poor practitioner-to-patient ratios, absence of eye-care personnel, inadequate facilities, poor state funding and lack of educational programs have been considered as the hallmarks of eye care in Africa, with preventable and treatable conditions being the leading cause of blindness¹⁸. Also, the disproportionate distribution of optometry and ophthalmological services between rural and urban areas in many developing countries may increase the rate of visual impairment in the rural areas.

Ophthalmological services are not available in many part of the Africa, and presumably in the rural areas of the developing countries. As at 2003, there were about five ophthalmologists in the Limpopo Province of South Africa, suggesting an estimated ophthalmology/population ratio of 1:82 000.⁸ This means that blinding eye diseases such as cataract, glaucoma, and diabetic retinopathy cannot be managed on time, which may lead to low vision or even blindness. Poor people often rely on government hospitals for their eye care services including refractive corrections. However, in many countries, public hospitals do not have optometric services; therefore refractive conditions

which could be corrected often lead to low vision and blindness.

Lack of trained personnel and infrastructure has been identified as barrier to refractive error corrections in Southern India¹⁹. Severe inadequate eye care services have been reported in Jamaica²⁰. The total eye care provider/ population was only 2.04/100 000 and only 1.32/100 000 when optometrists are excluded. Over 43% of the population had never had an eye examination²⁰. Obviously this will result in low utilization rate and high prevalence of eye and vision disorders. Non-availability of low cost, good quality low vision services and lack of experts or training to support services have hindered provision of low vision care services in the developing countries²¹. In Afghanistan, eye care services have been reported to be insufficient in quantity and quality²². The ratio of ophthalmologist to population has been estimated at 1:200 000 and this inadequacy is compounded by poor distribution, there being 87% in the urban and 13% in the rural areas²². In Nigeria, non-availability of low vision devices in the country and lack of training in low vision were cited by ophthalmologists as major barriers to low vision care²³. Wang and Javitt²⁴ identified that fewer ophthalmologists was related to a lower rate of eye care use among elderly Americans with diabetic mellitus.

It should be emphasized, however, that non-availability is not the only barrier to utilization of eye care services. According to Lewallen and Courtright²⁵, cataract surgery coverage is low in many places for obvious reasons such as lack of trained manpower and supplies; even in places where services are available, there are many barriers which prevent patients from using the services. In countries like India, Brazil and Malawi, it has been shown that 33-92% of cataract blindness patients remain cataract blind, even when surgery is available²⁵. Therefore, factors other than non-availability need to be considered in dealing with issues of poor utilization.

Accessibility to eye care services

Access to eye care service can be measured by the travel time required by public transportation to reach



the nearest eye care provider¹¹. Non-affordability and poor accessibility of the services have been identified as important causes of the high prevalence of blinding eye diseases¹¹. According to Di Stefano²⁶, the lack of accessible eye and vision care globally is a critical barrier to the successful elimination of avoidable blindness. People need access to preventative services that are effective in the prevention of disease or in the detection of asymptomatic diseases or risk factors at early, treatable stage²⁶. In a part of the western Nigeria, the majority of eye care services are located in the urban areas and far from reach of the rural dwellers; therefore leaving many rural areas underserved. Consequently, people in the rural areas with avoidable and treatable eye conditions are largely unattended while city facilities remain underutilized^{27, 28}. This has resulted in many rural communities still relying on alternative sources of care including traditional healers and patent medicine sellers, who serve as frontline health workers²⁷. A major barrier to eye care services in the rural areas of the world is poor conditions of the roads^{11, 29, 30} and this results in poor accessibility.

Difficulties in accessing good local optical services have been identified as one of the main barriers to spectacle use in Tanzania³¹. Also, in the Gambia, it has been reported that the most frequently identified barriers to uptake of cataract surgery was transportation difficulties and lack of an escort³². In Malawi, patients living near the district hospital have been found to be most likely to present to the ophthalmic assistance for eye care services³³. According to Chandrasheka *et al*,³⁴ one of the reasons for poor utilization of government facilities for eye care in India was the distance of the hospitals from rural villages. Similarly, Dhaliwal and Gupta³⁵ reported that the barrier to utilization of eye care services among cataract patients in India included distance from the hospital, or from the main road and lack of transport.

Issues relating to accessibility of eye care services are not peculiar to developing countries. In a study in Melbourne, Australia, O'Connor *et al*,³⁶ reported that proximity and convenience were listed as main facilitators to eye care use and contrarily, issues relating to transport, needing an accompany person were barriers to utilization of low vision services. Wang *et al* ³⁷ reported that barriers to treatment of glaucoma and cataract among African American Medicare beneficiaries included limitations in access

to the eye care system. Also, Gold *et al* ³⁸ reported that more than 5% of the USA population reported unmet need for eye glasses, presumably due to poor access. In a study of the perceived barriers to eye care and attitude among older black Americans, Owsley *et al* ³⁹ reported that the most frequently cited barrier by both the patients and eye care providers was transportation, suggesting that the eye care facilities are not easily accessible.

Affordability of eye care services

Affordability of eye care services is influenced by income levels and cost of the services. Robin *et al* ¹⁶ states that, in both the developing and developed nations, finances can definitely influence the utilization of ophthalmic health care. In many rural areas of the world, poverty is a major issue, hence residents are not able to afford the cost of eye care services and therefore conditions which could have been treated at an early stage are not attended to and may result in low vision and blindness¹⁰. According to Dandona *et al* ¹⁹, reasons for not utilizing eye care services may be personal or socioeconomic related.

Lewallen and Courtright²⁵ reported that the cost of cataract surgery varies widely and in some places, it may be more than what poor people can afford. Also, in addition to the surgery, there are other costs such as transportation to the hospital, loss of work to the patient or to the caregiver accompanying the patient and living expenses for the carer while the patient is in the hospital²⁵. According to Naidoo *et al* ¹⁸, affordability of optometric services should be considered within a broader context than the cost of the spectacle because, even a free pair of spectacles could prove to be unaffordable, if the patient has to return to the clinic many times in order to collect it¹⁸. Prevalence of visual impairment is high in Ethiopia and eye care services utilization is limited, the main barrier has been attributed to the indirect costs of the services⁴⁰. Habte *et al* ⁴¹ suggested that indirect cost of surgery was one of the main barriers to uptake of surgical treatment for trachomatous trichiasis in the North of Ethiopia. Rabi⁴² and Mpyet *et al* ⁴³ reported that cost was the most common reason for not seeking treatment for cataract in parts of Nigeria. Similarly, Nedgwa *et al* ⁴⁴ reported that lack of money was one of the main barriers to eye care use in Kenya; and in



the Gambia, the most frequently identified barrier to uptake of cataract surgery was cost³².

Owsley *et al*³⁹ and McGwin *et al*⁴⁵ reported that one of the main barriers to the use of eye care services among elderly Americans was the cost. Schaumberg *et al*⁴⁶, found that American women with high annual income were likely to have an examination within two years compared to women with lower income; and those with higher household incomes were particularly likely to have more frequent eye examinations. Elliot *et al*⁴⁷ reported that the cost and having no insurance coverage for eye care were the two most commonly cited reasons why women with eye diseases do not visit an eye care provider. Owsley *et al*³⁹ found that cost and lack of insurance were common barriers to eye care use among old black Americans. Zhang *et al*⁴⁹ reported that Americans without health insurance had the lowest use of eye care services compared to those with health insurance. Possession of health care insurance and urban residence were also associated with greater use of eye care services^{47, 50}.

In Latin America and the Caribbean, affordability was found to be an important barrier to utilization of services by the poorest segments of the population¹¹. In Trinidad and St. Vincent, the cost of eye care may be up to 15 days of salary; and in Honduras and Jamaica, it may be up to 30 days of salary or even more¹¹.

Chandrashekhar *et al*³⁴, found that the most common reason for not undergoing cataract surgery among patients with visual acuity less than 6/60 in rural South India was inability to afford the operation. Similarly, Dhaliwal and Gupta³⁵ found that barriers to the uptake of Surgery in India were related to cost and affordability. Also, Kovai *et al*⁵¹ found that among the visually impaired populations in the rural Andhra Pradesh, South India, about half cited economic reasons for not seeking treatment even after having noticed decreased vision. In Nepal, non-surgical expenses alone have been estimated to be one fifth of the annual income of a rural patient²⁵ and Sapkota *et al*⁵² identified finance as one of the barriers to uptake of cataract surgery in Gandaki Zone, Nepal. In Pakistan, cost was identified as a major barrier to cataract surgery uptake⁵³. Palagyi *et al*²⁹ reported that low utilization of eye care services among rural dwellers in Timor-Leste was inability to afford transport to eye care service centres. Affordability

is therefore, one of the main barriers to eye care utilization.

Factors influencing available, accessible and affordable services

Where there are accessible and affordable eye care services, there are several factors that may influence utilization. In an Iran population, despite the available eye care services, there was under-utilization of available eye care services². Over one third of a survey participants had never had an ophthalmic examination and two fifth of the visually impaired population never received any eye care service². At some villages in India where there were eye camps, only 7% of people having eye problems go for eye care⁵⁴. In India, despite the relatively recent sustained eye care services that has seen a doubling of cataract output to 3.5 million in 2000; still more than 40% of those with bilateral blindness had never visited an eye doctor¹⁶. Factors such as demography, knowledge, need and psychosocial problems influencing the use of available, accessible and affordable eye care services are discussed below.

Demographic characteristics

Age

In South India, Kovai *et al*⁵¹ found a significant association between age and noticeable decrease in vision and suggested that this might be due to the health seeking priorities in relation to age in rural areas, as age influences the decision to seek health. In a study among persons with glaucoma in rural South India, Robin *et al*¹⁶ found that the use of eye care increased significantly with age and this was attributed to the fact that most eye diseases manifest themselves during old age. Also, Schaumberg *et al*⁴⁶ reported that the likelihood of using eye care services increased with advancing age due to the higher prevalence of disease such as diabetes, hypertension, cataract, and related maculopathy. Schaumberg *et al*⁴⁶ reported that older American women were particularly likely to have more frequent eye examinations than younger ones. Other authors^{50, 55} found an association between older age and utilization of eye care services and attributed this to old age health problems.



Gender

Foutouhi *et al*² reported that women in Iran were more likely to seek eye care services than men. Also, Palagyi *et al*²⁹ reported that women in Timor-Leste with either low vision or blindness were more likely to seek treatment than men. Schaumberg *et al*⁴⁶, Morales *et al*⁵⁰ and Bylsma *et al*⁵⁶ also reported that women tended to have eye examinations more frequently than men. Wang and Javitt²⁵ found that older black American males with diabetes were less likely to use eye care services than women. These reports suggest that women are more careful about their eye health than men, hence gender has influence on eye care utilization.

Race

Orr *et al*⁵⁷ reported that black Americans were significantly less likely than white Americans to consult any type of eye care provider, and this was attributed to non-affordability of health care services to many of the blacks. Ganz *et al*⁵⁸ found that black American children had lower levels of use of services and this was attributed to the fact that most of their parents did not have higher education and therefore, only earned meagre wages and hence fall below the Federal poverty level. Among American women, Schaumberg *et al*⁴⁶ found that, compared with the whites, Asian/Pacific Islanders were less likely, and blacks were more likely have eye examination within two years. Contrarily, Wang and Javitt²⁴ reported that, among elderly Americans with diabetes, blacks were less likely to use eye care services than whites.

Level of education

Fotouhi *et al*² reported that the likelihood of seeking eye care in Iran was associated with higher levels of education. This relationship was attributable to greater knowledge and therefore, more reasonable behaviour. It was also presumed to be due to the fact that educated people are members of the higher socioeconomic class, thus may have greater access to the eye care services and find them more affordable. Barraza¹⁷ reported a positive association between education and eye care use; the higher the level of education, the more likely and timely eye exams are performed, and the less likely that blindness will occur¹⁷. Schaumberg *et al*⁴⁶ found a significant association between educational level and having an

eye examination within two years among American women. Those with bachelor's degrees or master's degree were generally more likely to have had an examination than those with primary or high school level of training.

Morales *et al*⁵¹ and Orr *et al*⁵⁷ found that people with higher education were significantly more likely to seek eye care services and this was attributed to the fact that most people with higher education were higher earners and could afford health care services. Among persons with glaucoma in rural South India, Robin *et al*¹⁶ found that the use of eye care increased with increasing education¹⁶. Foran *et al*⁵⁹ found that people with qualifications after high school were less likely to have uncorrected visual impairment. In a rural Andhra Pradesh study, Kovai *et al*⁴⁷ found that the majority of rural population studied were illiterate and by definition blind (mainly due to cataract) and did not seek eye care services. This relationship was attributed to their lack knowledge of how to take care of themselves as most did not have higher education or were illiterates. Other authors^{16, 29, 44, 46, 49, 57} found that level of education was associated with eye care utilization.

Socioeconomic status

Socio-economic status has been found to influence the use of eye care services. Zhang *et al*⁴⁹ found that individuals with optional vision insurance and those with higher income levels were more likely to use eye care services. Robin *et al*¹⁶ reported that the odds of using eye care increased significantly with the higher the income of the subject. Also, Schaumberg *et al*⁴⁶ found that women with annual income exceeding US \$50 000 were twice as likely to have an eye examination within two years as compared with women with lower income. Also, those with higher household incomes were particularly likely to have more frequent eye examination. Several other authors^{34, 50, 57, 60-64} also reported that people with lower socioeconomic status are less likely to have eye examination. Foran *et al*⁵⁹ found an association between eye care utilization, good job and possession of home. However, Latinen *et al*⁶⁵ did not find such an association.

Knowledge of eye diseases and eye care services

If eye care services are available, affordable and



accessible, and the services are not known to the target population, the services will not be used. O'Connor *et al*,³⁶ in a study carried out in Melbourne, Australia found that low utilization of eye care services was due to lack of knowledge of the available eye care services. Chandrashekar *et al*³⁴, in a study on utilization and barriers to cataract surgical services in rural South India found that the reason for under-utilization of eye care services among the rural population was lack of awareness of the existing free-of-cost services offered by non-governmental organizations and low-cost eye surgical services. In a study of knowledge, attitude and practices regarding cataract surgery in parts of India, Bhagwan *et al*⁵⁴ found that poor knowledge regarding eye diseases like cataract were reported and respondents were unaware of the possibilities to get their sight restored through operations.

In agreement with other studies, Farmer *et al*⁶⁶ in a study of rural/urban differences in accounts of patients' initial decision to consult primary care; reported that knowledge of where to get services and also who to consult have a big impact on eye care service utilization. In a study among persons with glaucoma, Robin *et al*¹⁶ found that even though actual eye care was free, underutilization of the available eye care existed because patients were not aware they were free. Palagyi *et al*²⁹ reported that rural dwellers were almost four times more unlikely to seek eye care than their urban counterparts due to lack of awareness of the available eye care service. In a rural community of South Africa, one of the reasons for underutilization of eye care services was lack of awareness of the services¹². Other authors^{33, 53} found that the most frequently identified barrier to uptake of cataract surgery was lack of information about the services.

Better education about prevention of blindness might help to minimize the prevalence of visual impairment. Schaumberg *et al*⁴⁶, Palagyi *et al*²⁹, Chandrashekar *et al*³⁴, Bhagwan *et al*⁵⁴ and Farmer *et al*⁶⁶ have reported that knowledge of available eye care services increased the utilization of eye care services. Improving provider-patient interaction and developing public health messages about eye diseases and preventive eye care can facilitate increased use of appropriate eye care services. Muller *et al*⁶⁷ found that following a public eye health campaign using the metropolitan and regional television, radio and

newspaper in Australia, there was an improvement in the utilization of eye care services, especially by the people with diabetes. According to Courtright *et al*,³³ men and women who either talked to someone about cataract surgery or knew another aphakic patients were more likely to accept surgery. Health education intervention must be designed specifically to increase awareness of symptomless diseases and to detect them at early stages²⁸. Parental education and an enhanced school-based screening programme have been identified as necessary to address the unfilled need for refractive error correction among school-age children in China⁶⁸. Kovai *et al*⁵¹ states that the predominance of personal reasons like lack of knowledge among respondents demonstrated that greater awareness regarding the importance of seeking treatment for visual impairment is needed to facilitate uptake of eye care services.

Need

There is a general consensus that utilization of eye care services varies with needs. Keffe *et al*¹⁵ reported that the odds of using eye care services increased significantly with the presence of symptoms and general state of health. Schaumberg *et al*⁴⁶ reported that the likelihood of using eye care services increased with the presence of eye problems like cataract, age-related maculopathy, and systemic diseases like diabetes, hypertension, and rheumatoid arthritis. Patients with visual impairment and greater number of co-morbidities are more likely to seek eye care³⁸. Palagyi *et al*²⁹ found that persons with gradual onset poor vision due to cataract or refractive error tended to be less likely to seek treatment than those with a more acute onset or painful problem, such as eye injuries. Latinen *et al*,⁶⁵ found that people with moderate visual impairment (VA 0.1 to 0.25 logMAR) were less likely to have received low vision rehabilitation, magnifying glasses, or other low vision devices compared with people with severe low vision (VA <0.1), even though they are more likely to benefit from optical low vision devices. This is because the need was greater among those with poorer vision. Fong *et al*⁶⁹ found higher eye care utilization among older Australians, particularly those with correctable visual impairment. Similarly, Tay *et al*⁷⁰ found a relatively high need for, and high utilization rate, of eye care services in the subgroup of older Australians seeking aged care services.



Psychosocial factors

Although blindness in most developing countries is preventable or curable³⁻⁷, barriers to usage are numerous and include social attitude and cultural beliefs^{5, 71, 72}. Patel *et al*⁷² reported that social attitude towards visual health issues were the principal barriers to uptake of eye care services. Dhaliwal and Gupta³⁵ reported that major barriers to eye care utilization were more related to patient's attitude such as 'ability to manage daily work in spite of the poor vision', 'cataract not matured', 'could see clearly with the other eye', and 'busy with work'. Other barriers were fear of surgery and possibility of surgery causing death. These barriers were reported more often than accessibility and cost³⁵. In the Gambia, one of the most frequently identified reason for not undergoing cataract surgery was fear of surgery³².

According to Ashaye *et al*,²⁸ many people, especially in the developing regions are still becoming blind due to barriers such as belief and attitudes. The authors²⁸ found that beliefs and attitudes of the predominantly rural population are still major barriers to utilization of eye care services in Nigeria. In Canada, over one-third of the population still faces a situation of inequality and cultural differences between health providers and users. This has been identified as a major contributor to the underutilization of health services in the Canadian rural communities⁷³. Chandrashekhar *et al*³⁴, found that one of the most common reasons for not undergoing cataract surgery among patients with visual acuity less than 6/60 in rural South India was fear of operation and the feeling that there was no need for such surgery. In some areas of India, strabismus (tropia or squint) was not considered treatable and was not considered related to loss of vision, in fact, it was considered a sign of good luck⁷⁴. Majority of respondents in those communities also felt that children below four years should not wear spectacles; most did not feel that children's vision should be checked periodically. They felt that children's vision should be checked, only if the parents or care-taker felt there was a problem or if a child complained⁷⁴. Palagyi *et al*²⁹ also reported attitudinal reasons like 'feel there was no need for eye care services' was cited by greater proportion of participants in Timor-Leste.

Owsley *et al*³⁹ reported that older African Americans do not make eye care a priority like other aspects of health and do not fully understand the importance of preventative strategies and available treatments. These attitudes were attributed to the fact that most of the older African-Americans were not literate and therefore, not knowledgeable of how best to care for themselves. In a study to examine knowledge, attitude, and beliefs about dilated eye examinations among African-Americans, Ellish *et al*⁴⁸ found that not having any symptoms and being too busy were part of the frequently mentioned reasons for not seeking eye care.

In South Africa, Oduntan and Raliavhegwa¹² found that barriers to the use of eye care services in a rural community included traditional and personal beliefs about the western type of eye care services. The authors¹² found that 5% of the study population would consult traditional healers for certain eye problems rather than seek eye care from the government hospitals even though, the public eye care services were readily available and affordable. The use of corrective spectacles was considered highly unconventional and was accompanied by fear of being ridiculed as being blind¹². In Tanzania, peer pressure and parental concerns about safety of spectacle use were identified as barrier to spectacle use among secondary school children³¹. Also, criticism of the prescribing practices of local opticians and preference of alternative and traditional treatment for visual impairment were part of the main barriers to the use of eye care services³¹. Ignorance, personal attitude such as 'problems not causing much discomfort', 'did not bother', 'could manage', and 'accepted the condition' were the reasons for not seeking conventional eye care in a survey population in Kenya⁴⁴.

Perception

Consumer satisfaction is an important factor in sustaining utilization of health care and it has been reported that dissatisfaction is a barrier to eye care utilization²⁸. It has been identified that one of the reasons for poor utilization of government health facilities in India was that the services at the primary health centres are provided by general nurses and these centres are usually not equipped to provide



necessary services³⁵. Palagyi *et al*²⁹ also reported that in Timor-Leste, dissatisfaction with treatment was one of the barriers to eye care utilization, and satisfaction with treatment from private services was higher than that for government and expatriate service providers. Therefore, in addition to an increase in service quantity, there needs to be an improvement in intervention and service quality, to facilitate equitable, acceptable and effective eye care. The development, implementation and monitoring of standards of care and treatment/ clinical guidelines is one mechanism by which this may be achieved

Others Factors

Factors such as language barrier and poor systemic health have been identified as barriers to up-take of eye care services including low vision care^{18, 38, 47, 51}. Social engagement and lack of support may act as barriers to the uptake of eye care services. The main reasons for not having surgery for the treatment of trachomatous trichiasis in Northern Ethiopia included the burden of household tasks⁴¹ and one of the common reasons for not undergoing cataract surgery among patients with VA less than 6/60 in rural South India was inability to find somebody to accompany the patient for the operation³⁵.

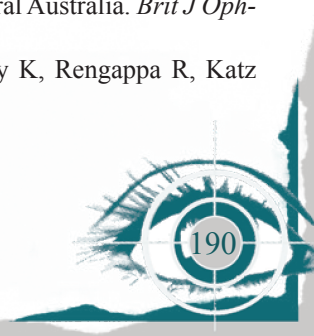
Conclusion

There are many factors that may act as barriers to eye care utilization. Health care managers and professionals must be conversant with these factors. Eye care must be made available, accessible and affordable. Subsequently, factors that may act as barriers to their use must be identified and addressed. Routine planning for eye care services in rural areas must address the barriers to eye care perceived by the communities to increase the utilization of eye care services⁵¹. Adequate publicity, patients' good perception and effective eye care team performance overall satisfaction can create awareness about the need to avail for eye care services⁷⁵. In order to prevent avoidable blindness, eye care promotions and awareness on available eye care services must be done intensively and the implications of delayed eye care need to be emphasized. Attitudes and cultural factors need to be investigated in the rural communities and appropriate education provided, if low vision and blindness are to

be reduced worldwide. Eye care providers must begin to educate individuals at an early age about the role of health care resources and how to better utilize them. People should be made aware that most vision problems can be corrected and blindness can be prevented by timely seeking eye care services.

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