

## Review Article

# Chronic Impediment in Utilization of Eye-Care Services

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### Abstract

The visual impairment affects living in every aspect of life. Organizations (W.H.O. IAPB, NGOs) have initiated a campaign to eradicate preventable blindness under the program Vision 2020: “The Right to Sight”. There are three main considerations: qualities, reliability, and efficiency of eyecare

facilities. Poor practitioner-to-patient ratio, shortage of eye-care staff, insufficient infrastructure, weak state support and lack of medical specialist, or training program are the hallmarks of obstacles to the usage of eyecare services in India. Significant obstacles to such programs for visually impaired people in rural areas are poor road infrastructure,

transit facilities, and distance from remote communities influencing surgery and eyecare systems. Factors such as age, education, preferences, and psycho-social challenges influence the usage of healthy, affordable, and efficient eyecare facilities. To prevent avoidable blindness, the advancement of eye treatment and understanding of appropriate eye care resources must be intense and the consequences of inadequate eyecare must be acknowledged. Rural communities' beliefs and cultural traits need to be analysed to provide appropriate education thus reducing blindness. eyecare providers need to start educating people at an early stage about the role and use of health care resources.

**Keywords:** Visual impairment; Obstructions, and Dissatisfaction in Services; Eyecare Facilities

## **Introduction**

Visual disability impacts any part of life. Unfortunately, in many parts of the world, people have severe visual impairment leading to low vision or blindness. Due to this, World Health Organization (WHO), International Agency for the Prevention of Blindness (IAPB), International membership of Non-governmental Organizations (NGOs), Professional Associations, and eyecare institutions, and Corporations have developed a global initiative for the elimination of avoidable blindness by the year 2020 [1]. This initiative is termed as "Vision 2020: The Right to Sight". This could be achieved by the utilization of workforce personnel, infrastructural development, and community-based programs in the rural areas. Worldwide, most cases of blindness are preventable or manageable by surgery and or refractive error corrections [2]. Though, the available resources cannot manage with the level of demand for eyecare. Eyecare services are not readily available

in many countries, either due to the inadequacy of trained personnel or the concentration of eyecare practitioners in urban areas [2,3].

## **Factors Influencing Utilization of Eye Care**

There are three primary factors namely, availability, affordability, and accessibility of eyecare services which could influence the prevention of visual impairment worldwide. Also, there are several secondary factors such as demographic, personal, and socio-economic factors that may act as barriers in utilizing the available, accessible, and affordable eye care services. All these factors interact to influence the likelihood of an individual utilizing health care services [4,5]. Factors such as cost, lack of awareness, cultural beliefs, and personal factors have been identified as barriers to eyecare utilization [6]. Lack of awareness that causes visual impairment is preventable. Non availability of accessible and affordable services are the main causes of blindness and visual impairment.

## **Availability of Eye Care Services**

The availability of eyecare services varies globally, and the number of eyecare providers per million-population in the richest countries may be nine times more than in the poorest countries [7]. Even within a country, availability of services may vary from region to region, from district to district, even from one community to another. Poor practitioner-to-patient ratios, absence of eyecare personnel, inadequate facilities, poor state funding, and lack of educational programs have been considered as the hallmarks of impediments in the utilization of eye care services in India. 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 rural areas. Lack of trained personnel and infrastructure has been identified as a barrier to refractive error corrections. Over 43% of the population never had an eye examination [8]. Non-availability of low cost, good quality low vision services, and lack of experts or training to support services have hindered the supply of low vision care services within the developing countries [9]. In Afghanistan, eyecare services are reported to be insufficient both in quantity and quality. The ophthalmologist to population ratio has been estimated as 1: 200 000 and this inadequacy is compounded by the poor distribution among urban (87%) and in rural areas (13%) [10]. In Nigeria, the unavailability of low vision devices, and lack of awareness in low vision services were found to be the major barriers to low vision care [11]. It should be emphasized, however, that non-availability is not the only barrier to the utilization of eyecare services. According to Lewallen and Courtright [12], the number of cataract surgeries is low in many places due to the deficit skilled manpower and supplies even in places where services are available. About 33-92% (India, Brazil, and Malawi) of people with the cataract remain blind, even when the services are available [12].

### **Accessibility to Eye Care Services**

Accessibility to eyecare services can be calculated by the time required to reach the nearest eyecare provider. Non-affordability and poor accessibility of the services among rural areas are identified as an important indication for the high prevalence of blindness [7]. Proper access to the preventive services are essential for asymptomatic detection, disease prevention, and identifying risk factors at an early treatable stage [13]. The underutilized eyecare settings located in urban areas avert the eyecare

services necessary for the underserved and unattended rural residents. Major barriers to these services among visually impaired patients in rural areas are the poor conditions of the roads, transportation facilities, and distance from the rural areas that impact on the surgeries and the eyecare services [7,14-18], resulting in poor accessibility. Similar evidence collected from the various studies on the poor accessibility for utilization of eyecare services in rural areas [5,8,19]. Ophthalmic services in Malawi are more likely to be practiced in the areas near district hospitals [20].

### **Affordability of Eye Care Services**

The eyecare services are also affected by the monetary impact. Evidence suggests on the financial issues influencing eye services in developed and developing countries [21]. Poverty can be a major concern among the rural areas around the globe because people are not able to afford the expense of eyecare services and so issues that should have been dealt at an early stage are not attentive resulting in low vision and blindness [2,12]. The reason for not using eyecare services could also be personal or socio-economic issues [22]. According to Naidoo and colleague, the affordability of optometric services should be considered in a wider context against the cost of the spectacle, because even a free pair of spectacles could prove inexpensive if the patient has to go back to the clinic many times to collect [23]. The biggest obstacle was the indirect costs of the services [24]. Habte and colleagues indicated that the indirect cost of surgery was one of the key obstacles to surgical care for trachomatous trichiasis in northern Ethiopia [25]. Rabiou and Mpyet stated that the cost was the most common reason not to seek cataract surgeries in parts of Nigeria [26,27]. Nedgwa and colleagues similarly stated that the lack of money

was one of the main obstacles in the eye care services in Kenya [33,28], and the barrier to cataract surgery was most frequently seen in the Gambia [16]. Chandrashekhar et al found that the most common reason not to undergo cataract surgery among visual acuity patients less than 6/60 in rural South India was an inability to afford surgery [17]. Similarly, Dhaliwal and Gupta also found that cost, and affordability is associated with barriers to surgery in India [28]. Kovai et al also found that approximately half of rural Andhra Pradesh's populations, South India, cited economic reasons for not seeking care even after a decreased sight had been observed [29]. Nepal alone reported that non-surgical expenses are one-fifth of the rural patient's annual income [30], and finance described by the Sapkota et al as one of the obstacles to cataract surgery in the Gandaki Zone of Nepal [31]. The cost of cataract surgery in Pakistan was described as a significant barrier [32]. Palagyi et al reported that low utilization of eyecare services among rural dwellers in Timor-Leste was the inability to afford transport to eyecare service center. Affordability is, therefore, one among the major barriers to eyecare utilization [14].

### **Factors Influencing Available, Accessible and Affordable Services**

Several factors that may influence utilization where accessible and affordable eyecare services are available. Given the available eyecare services, there has been an under-use of available eye care services in the Iranian population [31]. About one-third of the survey participants had never had an eye test, and two-fifths of the visually impaired population had never received an eyecare service [33]. In some villages in India where eye camps have taken place, only 7% of people with eye problems prefer eyecare [34]. In India, despite current sustained eyecare

services having doubled of cataract output to 3.5 million in 2000, more than 40% of those with bilateral blindness had never visited an eye doctor [35]. Factors such as demographic profiles, awareness, needs, and psychosocial issues impacting the use of safe, effective, and reliable eyecare services as discussed below.

### **Age**

In South India, Kovai and colleagues found a substantial correlation between age and vision loss and indicated this could be due to health preferences for age in rural areas as age affects follow-up health choice [29]. In a study of glaucoma sufferers in rural South India, Robin and colleagues found that the use of eyecare increased dramatically with age, and this was due to the very fact that most eye diseases occurred during adulthood [2]. Besides, Schaumberg et al stated that the probability of using eyecare services increased with advancing age due to a higher prevalence of diseases such as diabetes, hypertension, cataract, and associated maculopathy. He also recorded that older American women were more likely to have frequent eye examinations as compared to younger women [36]. Other authors found a correlation between older age and the use of eyecare facilities, which was linked to adult health issues [37,38].

### **Gender**

Foutouhi and colleagues reported that ladies in Iran were more likely to follow eyecare services than men [33]. Other studies reported older African American males with diabetes were less likely to use eyecare services than females. Such studies indicate that women are more vigilant about their eye health than men, and that gender affects the use of eyecare. Males listed waiting for the cataract to mature more

than females, while females (24.9 Percent) recorded "no one to accompany" almost twice as much as males (14.2 Percent) in other studies [7].

### **Level of Education**

Fotouhi and colleagues stated that the probability of eyecare in Iran was related to higher education [33]. This relationship was due to increased knowledge and, therefore, to more reasonable behaviour. It was also assumed that because educated people are members of a higher socio-economic class, they could have greater access to eyecare services and find them more affordable. Barraza and colleagues reported a positive association between education and eyecare use; higher education, the more likely and timely eye examinations are performed, and therefore the less likely blindness is to occur [39]. Robin et al found among people with glaucoma in rural South India, the utilization of eyecare increased with increasing education [21]. Foran et al found that people with qualifications after high school were less likely to have an uncorrected visual impairment [40]. Kovai et al studied in rural Andhra-Pradesh found that most of the rural population was illiterate and blind and did not seek eyecare services [29].

### **Socioeconomic Status**

The socio-economic status has been found to influence the use of eyecare services. Zhang et al found that eyecare facilities were more likely to be used by people with voluntary insurance and people with higher incomes [41]. Robin and colleagues recorded higher the subject's salary, the chances of utilizing eyecare dramatically increased. Several other authors also reported a less likely eye examination in individuals with lower socioeconomic status [17,37,42-47]. Foran and colleagues found a link between the use of eyecare, good Job, and

homeownership [40]. However, Laitinen et al did not find such an association.

### **Awareness about Eye Diseases and Services**

If the eyecare services are available, affordable, and accessible, the services will not be used by the target population. In a study conducted in Melbourne, Australia, & India, it was found that low utilization of eyecare services was due to lack of knowledge of available eyecare services [8,18]. In a study on the use and barriers to cataract surgical services in rural South India, Chandrashekar et al found that the reason for the underuse of eyecare services among the agricultural population was lack of awareness of the prevailing free-of-cost services. Offered by non-governmental organizations and low-cost eye surgical services [17]. Bhagwan et al found that inadequate knowledge about eye disorders such as cataracts was reported, and respondents were ignorant of the possibility of recovering their sight by surgery [34]. One of the reasons for the under-use of eyecare facilities in the rural population of South Africa was lack of understanding of the services [6]. Lack of information on resources [20], became the most reported hurdle to the initiation of cataract surgery. Better education in the prevention of blindness can help to reduce the prevalence of visual impairment. Research showed that awareness of available eyecare resources improved the utilization of eyecare services [14,17,34,49]. Muller and colleagues found that, after a public health initiative using metropolitan and regional television, radio, and newspaper in Australia, there has been an increase in the use of eyecare facilities, particularly for people with diabetes [50]. Health education actions will be expressly tailored to improve understanding of and early diagnosis of symptom-free diseases [51]. The need for unfulfilled refractive error correction among

school-aged children has been identified as necessary in China for parental education and an enhanced school-based screening program [52]. Kovai and colleagues suggest that the predominance of personal factors, such as lack of information among respondents, has demonstrated that a greater understanding of the value of pursuing help for visual disability is required to promote the availability of eyecare services [29].

### **Referral**

Lack of awareness on the referral criteria about low vision services among eyecare professionals was the major barrier for referral of patients of low vision, which affected the uptake of low vision care services primarily [8].

### **Need**

There is a consensus that the utilization of eyecare services varies with needs. Keefe and colleagues reported that the likelihood of using eyecare services increased significantly with symptoms and overall health status [53]. Schaumberg and colleagues indicated that the risk of eye treatment increased with eye disorders such as cataract, age-related maculopathy, and autoimmune diseases such as diabetes, hypertension, and rheumatoid arthritis [36]. Patients with vision disabilities with a greater percentage of co-morbidities are most likely to receive eyecare [54]. Palagyi and colleagues found that patients with a gradual loss in vision due to the cataract or refractive error are less likely than those with sudden onset or debilitating problems like eyes accidents to seek medication [14]. Laitinen and colleagues found that people with mild visual impairments (VA 0.1 to 0.25 Log-MAR), while optical low vision aids are more likely to help, have less eye therapy, magnifying glasses, or other poor

vision devices than individuals with extremely impaired vision (VA < 0.1) [48]. This is because the need was greater among those with poorer vision. Fong et al found higher eyecare utilization among older Australians, particularly those with correctable visual impairment [55]. Similarly, Tay et al found a relatively high need for and high utilization rate of eyecare services in the subgroup of older Australians seeking aged care services [56].

### **Psychosocial Factors**

While blindness is avoidable or curable in most developing countries [52,57,59]. There are many obstacles to overcome, including social and cultural beliefs [58-61]. Patel et al reported that the main barriers to eyecare services are social attitudes to visual health problems [62]. Dhaliwal and Gupta indicated that the main barriers to the use of eyecare have much to do with the habits of the individual, such as ability to do every day work given despite poor vision or cataract not matured. The anxiety of surgery and the risk of surgery causing death were other obstacles [18]. Such barriers have been identified more frequently than accessibility and cost [18]. One of the most common reasons for not being subjected to cataract surgery has been fear of intervention [16]. Several studies reported that (70.69%) needed surgery when unable to visualize the things [21]. Rabiou et al reported the principal obstacles to cataract surgeries were service expenditure (61%) and improved vision (18%) [4]. Snellingen et al reported economic (48%) and logistical (44.8%) constraints followed by fear of surgery (33.3%) and lack of time (18.8%), to be the most frequent factors for lack of acceptance towards surgery [22]. In this bilateral blind (24%) and unilateral blind (33%) wait for the cataract to mature. According to Ashaye et al large number of people are

yet blind because of obstacles, such as belief and attitude, especially in developing countries. The authors found that the beliefs and attitudes of the predominantly rural population are still major barriers to the utilization of eyecare services in Nigeria [51]. This was identified as a major contributor to the lack of use in rural Canadian communities of health services [62]. The most common reason for the non-cataract surgery was fear of surgery and the feeling that such surgery was not necessary [17]. Strabismus (tropical or squint) has not been considered treatable in some areas of India and is not considered to be a sign of good luck due to vision loss [54]. In most of such cultures, children under four years of age still felt it was not appropriate to wear spectacles, Others felt the vision of children could not be tested regularly. They felt the vision of children had to be checked only if there was a problem for the parents or caregiver or if a child complains [55]. Owsley et al report on the importance of preventive strategies and available treatment, and the fact that older African Americans do not make eyecare a priority as other aspects of health [63,64]. Elliot et al found that not having any symptoms and being too busy were a part of the frequently mentioned reasons for not seeking eye care [65]. Oduntan and Raliavhegwa found in South Africa that traditional and personal beliefs regarding Western eyecare services include barriers to the use of eyecare in rural communities [6]. Instead of seeking eyecare from government hospitals, the authors found that fifty of the research population would consult traditional healers with eye problems even if public eye services were readily available and accessible [7]. The use of remedial shows was deemed particularly unorthodox, and the fear of being mocked was followed by blindness [6]. Peer pressures and parental worries regarding the health of

show use have been established in Tanzania as an obstacle to spectacles use by children in high school. Therefore, skepticism of local opticians prescribing procedures and the desire for complementary to conventional vision impairment diagnosis are among the most barriers to the use of eyecare services [19].

### **Perception**

Consumer satisfaction is an important factor in sustainable utilization of health care, and it has been reported that dissatisfaction is a barrier to eyecare utilization [23]. One reason for inadequate use of Indian government health facilities were the fact that general nurses offer care at primary health centers, and these centers, are not necessarily fitted with the requisite services [18]. A study reported dissatisfaction with treatment was one of the key barriers to eyecare utilization and satisfaction with treatment from private services was higher than that for government and emigrant service providers [24]. To ensure equals, appropriate, and efficient eye treatment, surgeries must be increased and efficiency set, along with an improvement in expenses. One mechanism through which this can be achieved is by the development, implementation, and monitoring of standards procedures for treatment and clinical guidelines.

### **Other Factors**

The obstacles to the use of eyecare, including low vision care, have been identified as factors such as language barriers and poor systemic health [24,29,30,65]. Social involvements and lack of support may be a barrier to eyecare. The main reasons for not having surgery to treat trachomatous trichiasis in Northern Ethiopia included the burden of chores [33] and one of the common reasons for not undergoing cataract surgery among patients with VA

less than 6/60 in rural South India was the inability to find someone to accompany the patient to surgery [18]. The planning and policy making could improve the utilization of services and surgeries. However, even when surgery is free and transport facilities are available, the rates of cataract acceptance are low as indicated in the population database of India [53]. In the last few decades, the availability of services has increased significantly in the prevention of blindness. However, the lack of affordability remains an issue and a major barrier. Recent studies from Andhra Pradesh also reported economic reasons as one of the leading barriers to the uptake of services [53]. Affordability was the leading barrier (41%) like that found in Tamil Nadu (78.2%) and another urban area study of Andhra Pradesh [4,13,15]. Tamil Nadu and Karnataka reported fear of surgery or visual results post-surgery.

### Conclusion

Many factors may serve as obstacles to the use of eye care services. Such factors must be familiar to healthcare administrators and practitioners. Eye care services must be made available, accessible, and affordable. Factors may then be found and addressed which may act as barriers to their use. Routine planning for rural eyecare services must address the eyecare barriers perceived by communities to enhance the use of eyecare demand and services. Sufficient advertising, good patient performance, and efficient overall performance of the eye. To prevent avoidable blindness, the promotion of eyecare and awareness of available eyecare services must be intensive, and the implications of delayed eyecare must be emphasized. The attitudes and cultural factors in the rural communities must be studied to provide adequate education and reduce blindness. Eye care providers need to start educating people in

early life about the role and use of health care resources its utilization.

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### Conflict of Interest

The authors declare that there is no conflict of interest related to this review.

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