

A Review of the Determinants that Influence the Use of Eye Care Services

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Abstract

Poor eyesight and blindness are major public health problems across the world. In many countries, eye healthcare treatments are difficult to get and excessively costly, resulting in a high rate of vision impairment. However, several things might deter using readily available, easily accessible, and reasonably priced eye care services. People don't know how to get services, don't realize how eye disorders might affect people's lives, and don't know who to go to for treatment of eye problems. Other variables that may impact or hinder eye care usage include demographic, personal, social, and cultural factors. This article focuses on several different aspects. If eye care services are underutilized, educational initiatives might help people better understand and use them. Early identification and therapy of eye illnesses should be prioritized to lessen the burden of visual disorders. So health care practitioners and managers in eye care need to be well-versed in the numerous aspects that might harm eye care usage.

Keywords: Accessibility, Blindness, Eyecare, Factors, Low vision.

I. INTRODUCTION

A person's ability to see may negatively influence every part of their life, including work. Unfortunately, many individuals in various areas of the globe are either visually impaired or completely blind. "The World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB)", which has a global affiliation of "non-governmental organisations (NGOs)", proficient relationships, vision care infrastructure, and corporate bodies, have developed a worldwide endeavour to eliminate avoidable blindness by 2020. The effort, dubbed "Vision 2020: The Right to Vision," "includes three primary components that serve as goal activities: specific illness control, human resource development and infrastructure development, and the creation of suitable technologies for each of these components" [1]. According to Ntsoane, M. D.,

and Oduntan, O. A [2], significant investments in "staff level advancement, infrastructure, and community activities will be required to accomplish Vision 2020 objectives". Based on their findings, Fotouhi et al. [3]. Believe that eye care services and use are the essential aspects of reaching the targets of Vision 2020. In addition to human resource and facility development, these findings show that community programs are required to guarantee that eye care services are used.

Although surgery and refractive error repairs may prevent or manage most blindness cases in many areas of the globe, "the existing resources cannot keep up with the demand for eye care. As a result, in many countries, eye care services are not widely accessible due to a lack of adequately educated individuals or because eye care practitioners are often concentrated in

metropolitan areas, making it difficult for people to have their eyes checked" [4].

"Eye diseases such as cataracts, glaucoma, and diabetic retinopathy are among the most common causes of visual impairment in people around the world. 33 percent of individuals with vision less than 6/18 in India have uncorrected refractive error; only 36 percent of children with decreased visual acuity use glasses to correct their eyesight"[5]. There is a dearth of commonly available, affordable, and easily accessible treatments for visual impairment, which leads to blindness and other visual impairments. Although vision healthcare treatments are readily available and moderately priced in rural South Africa, only 39 percent of the study participants had their eyes examined in the last five years [6]. People aren't having their eyes tested because of a variety of reasons, including excessive costs, a lack of knowledge, cultural attitudes, and individual preferences. Since the interval between eye examinations was long enough for certain avoidable or curable ocular conditions to cause irreversible sight loss or blindness, which was a cause for concern, the lack of usage was highlighted.

2. Factors affecting the use of eye care services:

The availability, affordability, & accessibility of eye healthcare services throughout the world may have an impact on the prevention of visual impairment. There may be other barriers to eye healthcare services, such as socioeconomic & demographic factors, that prevent people from getting these treatments. As per Huysmans, E. et al. (2020)[7], socioeconomic, health-care institutions, and individual characteristics impact the consumption of medical healthcare services. The need, enabling circumstances, and predisposing factors all play a role. Combining these distinct variables influences a person's chance of using medical services. Eye care services may be affected by these considerations, as well. A mix of predisposition, promoting, and need variables may be used to explain eye care service consumption. The availability of resources within one's own family and the broader community is one example of an enabling factor. Those predisposed to seek medical attention have characteristics that exist before they become

sick; these characteristics encompass "age, gender, marital status, race/ethnicity, occupation, beliefs (such as attitudes toward medical treatment), knowledge of the disease, and personal values"[8].

The requirement for eye healthcare services is higher for those who are predisposition to or have been treated with an elevated likelihood of establishing eye problems, such as diabetes. As a result, they are more likely to use the service than individuals who do not believe they need it. Health insurance, urban life, proximity to eye care service centers, and spoken language all impact eye care usage. Gender, family size, rural/urban residency, and other personal characteristics have impacted eye care usage. Eye care service usage may be hindered by many variables explored in this paper. In addition, a short review of factors that may increase service consumption is included. Eye care managers and providers must be aware of and take steps to avoid the many obstacles that restrict people from using eye care services.

Prevention of visual impairment is dependent on the availability, accessibility, and price of eye care treatments. If a service is unavailable, it cannot be used. Unless the patient resides in close proximity to the provided service, they may not be able to access it. Traveling long distances will cost the patient money they do not have [9]—this dependency on service availability in eye care. Eyecare has several challenges, not the least of which is ensuring that the present eye care system is accessible to the broadest possible segment of the population. Since delayed eye checkups are connected with a higher risk of blindness and a higher personal and societal cost, policymakers must be able to understand the variables that influence the use of eye care services [10].

2.1. Availability of eye care services:

As the world's wealthiest nations have nine times more eye doctors per million people than the poorest, it's no surprise that vision health care services vary significantly from nation to nation[11]. Service availability may differ from province to province or even from district to district within the same nation. Preventable and curable illnesses are the most common reasons for blindness in Africa. "The lack of eye-care professionals, insufficient facilities, and low governmental financing have been cited as the

characteristics of eye care in Africa” [12]. In many developing nations, optometry and ophthalmology services are disproportionately distributed between rural and urban regions, which might contribute to an increase in rural blindness.

Many parts of Africa and rural regions in developing nations lack access to ophthalmology services. “Limpopo Province in South Africa is expected to have five ophthalmologists by 2020, with an ophthalmology/population ratio of 3:6015000”[13]. If eye illnesses that impair vision, such as cataracts, Glaucoma, and diabetic retinopathy, are not treated promptly, vision loss or blindness will increase. The poor often depend on government facilities when it comes to eye treatment. As a result of the lack of optometric services in public hospitals in many countries, people with correctable refractive errors end up with permanent visual impairment or blindness.

In Southern India, “a lack of qualified professionals and infrastructure has been recognized as impediments to refractive error treatment” [14]. “Eye care services in Jamaica have been found to be very lacking. When optometrists are omitted, the overall eye care provider/population ratio is just 2.04/100 000”. More than a third of the population has never had an eye checkup [15]. Because of this, eye and vision problems will be more common, and use will be lower. It has been challenging to provide poor vision care in developing nations because of “a lack of low-cost, high-quality services and lack of expertise or training to assist them. The quality and quantity of eye care services in Afghanistan have been noted to be lacking. The number of ophthalmologists per 100,000 people is projected to be 1:200,000. This shortage is exacerbated by a lopsided distribution, with 87% of the population living in cities and just 13% in rural regions” [16]. Ophthalmologists highlighted obesity and a lack of low vision training in Nigeria as critical obstacles to low vision treatment. Findings from Wang and Javitt [17] show that senior diabetics who have fewer eye doctors had a lower incidence of eye care utilization.

However, it’s important to remember that the lack of accessibility isn’t the only thing keeping people from using eye care services. “For obvious reasons such as a shortage of skilled

personnel and resources, even in regions where services are accessible, various obstacles hinder patients from using them” [18]. A staggering 33-92 percent of people with cataracts cannot see despite treatment being accessible in places like India, Brazil, and Malawi [19]. As a result, addressing problems of inadequate use necessitates taking into account reasons other than a lack of availability.

2.2 Accessibility to eye care services:

The length of time it takes to go to an eye doctor’s office may be used to measure eye care accessibility. The high frequency of blinding eye illnesses has been linked to a lack of cost and accessibility to eye care treatments [20]. Ilechie, AA et al. (2013)[21] claim “that the absence of accessible eye and vision care throughout the world is a significant obstacle to the effective eradication of avoidable blindness. Services that are successful in preventing or identifying asymptomatic illnesses or risk factors at an early, treatable stage are needed for people”. The preponderance of eye care facilities in western Nigeria is situated in metropolitan regions, out of reach of rural residents, and as a result, many rural communities are underserved. While urban facilities remain unused, individuals in rural areas are left to suffer from preventable and curable eye problems [22]. As a consequence of this situation, many rural populations are still reliant on “traditional healers and patent medicine salesmen, who function as front-line health providers. It is difficult to get eye care services in rural regions of the globe because of the poor state of the roads”.

One of the biggest obstacles to wearing glasses in Tanzania has been the inability to find a reputable local optometrist [23]. A lack of transportation and an escort were the most often mentioned impediments to cataract surgery uptake in the Gambia [24]. Patients who live near the district hospital in Malawi are the most likely to seek eye treatment from ophthalmic help [25]. “According to Chandrasekhar et al. [26], one of the factors for the low usage of government eye care services in India was the distance between hospitals and rural areas. As Dhaliwal and Gupta [27] observed, the distance from the hospital or the main road and lack of transportation were barriers to accessing eye care services for cataract patients in India”.

Owsley et al. found that transportation was the most often stated obstacle “by both patients and eye care providers in a study of the potential barriers to eye care and attitude amongst older black Americans. This suggests that eye care facilities are not readily accessible. Owsley et al. found that transportation was the most often stated obstacle by both patients and eye care providers in a study of the potential barriers to eye care and attitude amongst older black Americans. This suggests that eye care facilities are not readily accessible” [28].

2.3 “Affordability of eye care services”:

“Income levels and the cost of eye care services impact the affordability of eye care services. A study by Sommer, A., et al”. [29]. This shows that a person’s financial situation influences access to ophthalmic treatment in developing and developed countries. Poverty is a big problem in many rural regions of the globe. Consequently, individuals “cannot afford the costs of eye care services, leading to conditions that might have been addressed early on and perhaps resulting in vision loss or blindness for residents. As per Dandona et al”. [30], personal and economic factors may influence whether or not people seek eye treatment.

In certain areas, the expense of cataract surgery may be prohibitive for the poor, according to Lewallen and Courtright [31]. In addition to the operation, additional expenditures include the patient’s or the caregiver’s transportation to the hospital, time away from work, and the career’s living expenses while the patient is in the hospital. Optometric service affordability should be addressed in a larger context than just the price of the glasses, according to Naidoo et al. [32]. “Even a free pair of spectacles might become pricey if the patient needs to visit the clinic several times to pick them up”.

Despite Ethiopia’s large population and high prevalence of vision impairment, the country’s eye care system is underutilized due to high indirect expenses [33]. Surgical therapy for trachomatous trichiasis may be hindered in the North of Ethiopia because of the high indirect costs associated with surgery, according to a study conducted by Habte et al. [34]. In some areas of Nigeria, Rajak, S. N. et al. [35]. Adafrie, Y et al.[36],and found that the high expense of cataract treatment was the most prevalent deterrent to obtaining it. Another study found

that in Kenya, lack of money was a significant obstacle to eye care utilization. At the same time, in The Gambia, the most common barrier to cataract surgery uptake was cost [37]. “In rural South India, Chandrasekhar et al”. [38]. The most prevalent cause for not having cataract surgery was the inability to fund it. Similarly, Dhaliwal and Gupta [39] discovered that surgery’s cost and affordability in India were significant obstacles to its adoption.

Several variables may impact the use of eye care treatments that are easily available and reasonably priced. “Despite the availability of eye care facilities in Iran”, just a fraction of the country’s population took use of them. According to a recent study, two-fifths of those who are blind or visually impaired have never had an ocular checkup [40].

Only 7% of persons with eye issues who attended eye camps in India received eye treatment [41]. “More than 40% of patients with bilateral blindness in India had never been seen by an eye doctor, despite the recent continuous eye care services that saw a doubling of cataract output to 3.5 million in 2000”[42]. Following are some factors that influence the usage of readily available, easily “accessible”, & inexpensive vision health care services, so as demographics, education level, perceived need, and other psychological issues.

2.4. Demographic variables:

2.4.1 Age:

There is a strong correlation between Age and eyesight loss in rural regions of South India. This may be attributable to rural populations’ tendency to prioritize health care based on their age [43]. Researchers in “rural South India discovered that the usage of eye care grew dramatically with Age since most eye disorders begin to show up in old age, and this was related to the fact that most eye diseases appear old” [44]. As people become older, they are more likely to develop eye “diseases such as diabetic retinopathy, hypertension, cataract, and associated maculopathy”, according to a study by Schaumberg et al. [45]. According to a survey by Schaumberg et al., older women in the United States are more likely than younger women to undergo more regular eye exams. According to other research, there is a link between becoming older and needing eye care,

which has been related to the health issues that come with being older.

2.4.2. Gender:

According to Foutouhi et al. [46], “Iranian women are more likely to seek eye treatment than Iranian males. According to Palagyi et al”. [47] “women in Timor-Leste with impaired eyesight or blindness were more likely to seek medical attention than males. According to Schaumberg et al., women had more eye exams than males” [48], Morales et al.[49]and Bylsma et al.[50]. Researchers observed “that older black American men with diabetes were less likely than women to seek eye care treatments. According to these studies, because women are more concerned about their eye health”, they use eye care services higher.

2.4.3. Race:

An eye care provider was substantially less likely to be sought by African-Americans than by whites. The absence of health care services in the black community was cited as a factor in this disparity [51]. According to Ganz et al. [52], fewer black American children utilize services because of their parents’ lack of higher education, which means they make meager salaries and, as a result, live below the federal poverty line. As per to Schaumberg et al. 53], among American women, Asian/Pacific Islanders were less likely than whites to have an eye test within the next two years, whereas black women were more likely. “Blacks were less likely than whites to seek eye care services for diabetics, according to a study by Wang and Javitt” [54].

2.4.4. Education level:

Higher levels of education in Iran were linked to an increased chance of obtaining eye treatment, according to a study by Fotouhi et al. [55]. This correlation may be attributed to a better understanding of the subject matter, which leads to more rational behavior. People of higher socio-economic status, such as those with college degrees, were also assumed to be more likely to have better access to and pay for eye care services. A greater level of education was shown to be associated with more frequent and timely eye checkups and a lower risk of blindness, according to Livingston, P. M et al. [56]. “Among American women, Schaumberg et al. [57] 46 observed a strong correlation between

an educational degree and having an eye test within two years. There was a statistically significant difference between individuals with bachelor’s degrees or master’s” degrees and those with elementary or high school education.

Individuals who obtained post-secondary education and/or training were shown to be less likely to suffer from an uncorrected visual impairment, according to Foran et al. [58]. Researchers in rural Andhra Pradesh researched the prevalence of diabetes in rural populations. According to a study conducted by Kovai et al. [59], most rural residents were uneducated and, as a result, blind (mostly from cataracts), but they did not seek eye treatment. Since of their lack of education or illiteracy because they didn’t know how to take care of themselves. Eye care usage was reported to be linked with education level by other studies.

2.4.5. Socio-economic status:

The “utilization of eye care services has been proven to be influenced by socio-economic level. Zhang and associates” [60] showed that those “with optional vision insurance and those with higher incomes were more likely to seek eye treatment. According to Robin et al”. [41], the greater the wealth of the individual, the more likely they were to use eye care. A study conducted by Schaumberg et al. [41] indicated that women with yearly incomes of more than \$50,000 were twice as likely as women with lower incomes to have an eye test within two years. Another factor contributing to more frequent eye exams was greater family income. Eye examinations are less common among those with lower socio-economic positions than those with higher socio-economic status [33-37][52,58,60]. Suitable employment and residence were linked to higher rates of eye care consumption by Foran et al. [63]. On the other hand, Laitinen et al. [64] did not discover this correlation.

2.4.6. Perception:

Consumer satisfaction is a critical component in maintaining health-care usage, and unhappiness has been documented as a barrier to eye-care utilization [65]. Because the primary health centers in India are staffed by general nurses and lack essential equipment, inadequate usage of government health facilities has been recognized as a contributing factor to this problem [66]. “One of the impediments to eye

care use in Timor-Leste is dissatisfaction with treatment, and satisfaction from private services was more significant than that from government and expatriate service providers, according to Palagyi et al. [67]. An increase in service quantity is necessary to provide fair, acceptable, and effective eye care, but so is an improvement in intervention and service quality. One way to do this is by the creation, implementation, and monitoring of treatment and care standards/clinical guidelines”.

2.4.7. Other Factors:

Several factors have been identified as obstacles to receiving eye treatment, including low vision care, language challenges, and poor systemic health [12, 34, 47, 52]. The absence of social participation and support for eye care services may be a deterrent to their use. The difficulty of household activities was one of the primary causes of not getting “surgery to treat trachomatous trichiasis in Northern Ethiopia [68]. One of the principal reasons for not getting cataract surgery among patients with VA less than 6/60 in rural South India was the inability to locate someone to accompany the patient for the operation” [69].

3. Conclusion:

A variety of circumstances might hinder eye care adoption. Caretakers and administrators in the health care industry need to be aware of these issues. The availability, accessibility, and affordability of eye care must be ensured. As a result, it’s critical to identify and remove any potential roadblocks to widespread adoption. As part of a regular planning process for eye care services in rural regions, they address the perceived hurdles to accessing these treatments. Good public relations, positive patient perceptions, and general satisfaction with the work of the eye care team may raise awareness of the importance of receiving eye care. The consequences of delayed eye care must be underlined if we want to minimize avoidable blindness through promoting and raising knowledge of accessible eye care services. Low vision and blindness must be eradicated globally if attitudes and cultural factors can be studied and education supplied. The importance of health care resources and how to effectively use them must be taught to people early by eye care experts. Most vision disorders may be cured, and

blindness averted if people are educated about the need for early eye care services.

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