The Burden of Ocular Morbidities Among Elderly Patients Visiting a District Healthcare Facility in Malawi

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Research Article

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Abstract

Background: The population of older adults is growing dramatically. Sadly, this populace is highly prone to develop various ocular morbidities, which if left unattended can lead to blindness.

Aim: To determine the distribution of ocular morbidities among older adults at a secondary hospital in Malawi.

Methods: This was a retrospective cross-sectional study conducted at Mzimba North District Hospital in Malawi. We retrieved 314 patient records from the hospital’s ophthalmic outpatient registry from August 2020 to July 2022 using a non-probability census sampling technique. Data entry and analysis were done employing SPSS (v.26).

Results: More females 164 (52.2%) than males 150 (47.8 %) had ocular morbidities. Cataract 108 (34.4%) was the most common ocular morbidity followed by allergic conjunctivitis 104 (33.1%), then pingueculae 44 (14%), and glaucoma 8 (2.5%) Cataract showed a statistically significant difference between males and females (p<0.05). And Glaucoma portrayed a statistically significant variation according to age groups (p<0.05). According to the time of the year, most cases were attended to in March compared to August.

Conclusion: The majority of blinding conditions among the elderly in Malawi are preventable. Thus elderly Malawians above 50 years are encouraged to get a routine eye exam at least once a year.

Introduction

The elderly population denotes a precious asset for any country [1]. Nevertheless, they have a unique health and socio-economic background which differs markedly from those of the general population [2]. However, this populace represents a neglected group in terms of healthcare service delivery, and data for planning, especially as it pertains to ocular morbidities [3]. Unfortunately, the proportion of the world's population over 60 years will nearly double from 12–22% from 2015 to 2050 [4]. This could place the elderly among a high-risk population group, especially concerning eye health.

In recent years, ocular disorders have emerged as a major public health concern with enormous adverse impacts on the human health, productivity, and economy of the individual, family, and nation [5]. Globally, 65 percent of people above 60 years are visually impaired, while 4 percent are blind. In Malawi, the prevalence of blindness among adults aged above 40 is estimated at 3.7 percent [6]. This heralds a need for quality eye care right from the primary to the tertiary level as primary eye care is the essential building block for the prevention of blindness in all communities and in the world [5]. Unfortunately, healthcare grapples with the development of proper assessment techniques and intervention strategies including rehabilitation therapy that best suits the visual needs of the elderly [7]. Consequently, this population constitutes the majority of the patients that may be seen in eye clinics [8].
Currently, the health care system in Malawi is constrained [9]. Yet the number of Malawians aged over 60 will be > 1 million by 2030 and > 2 million by 2050 [10]. Despite these remarkable statistics, there is scanty information on the extent of ocular morbidity among Malawian older adults. Ocular morbidity is the main cause of diminished independence, social seclusion, and falls among adults [11].

The Pattern of ocular disease among the elderly differs according to ethnicity such that cataract is common among African ancestry compared to Age-related Macular degeneration which is much more common among whites [11]. In order to provide baseline information for eye care planning and as a response to one of the fastest emerging public health concerns, this study aims at describing the pattern of ocular morbidities among older adults attending a secondary hospital in Malawi. Apparently, the burden of disease in a nation is a reflection of the level of access to health care and access is crucial for health-seeking behavior and the achievement of development goals [12].

**Methods**

This was a cross-sectional retrospective review of patient records obtained from Mzimba North District Hospital. We selected files using the census sampling technique. At this facility, patients are attended to by Optometrists and Ophthalmic Clinical Officers.

We included patient files from August 2020 to July 2022. As an exclusion criterion, we excluded files with missing variables. We recorded the patients’ age, sex, the month of diagnosis, and diagnosis on a preform. Age was recoded into age groups for analysis. To allow for further analysis, we recoded all other ocular conditions into a variable called “others” which consisted of the least frequent conditions.

**Data analysis**

We entered the data in SPSS version 26. We conducted descriptive statistics employing mean, standard deviation, percentages, and frequency. Furthermore, we illustrated the data diagrammatically using pie charts and graphs. Next, we used an independent t-test and a Chi-square test to depict gender differences. We considered the value of p < 0.05 statistically significant.

**Ethics**

The Mzuzu University Faculty of Health Sciences approved the study. Furthermore, we obtained permission to access the patient records from the hospital director and facility in charge. We maintained anonymity by utilizing codes to identify patient files. No patient was harmed during the study.

**Results**

We reviewed 314 files, out of which 150 (47.8 %) were males while 164 (52.2%) were females (Figure 1). The mean age was 69.26 (SD=8.216). According to sex, the mean age was 69.44 (SD= 8.249) among males and 69.10 (SD=8.208) among females. An independent t test depicted that the age difference between gender was not statistically significant t (312) = 0.362, p = 0.840.
DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO GENDER

FREQUENCY OF EYE DISEASES AMONG STUDY PARTICIPANTS

The top four common diagnosis included cataract 108 (34.4%) seconded by allergic conjunctivitis 104 (33.1%) then pingueculae 44 (14%) and glaucoma 8 (2.5%). One of the least occurring conditions included Age Related Macular Degeneration (ARMD) 1 (0.1%) (Figure 2).

DISTRIBUTION OF OCULAR DISEASES ACCORDING TO SEX

The prevalence of cataract was more among males than females and the difference was statistically significant (p<0.05) (Figure 3).

DISTRIBUTION OF OCULAR DISEASES ACCORDING TO AGE

Among all conditions, only the distribution of glaucoma is statistically different and significant among the age groups (p<0.05) (Figure 4).

TREND OF ELDERLY PATIENT INFLOW ACCORDING TIME OF YEAR

According to the time of the year, the least number of patients were attended to in August than other times of the year while the highest number was recorded in March (Figure 6).

Discussion

In the present study, more elderly females than males Accessed care at the eye hospital similar to the pattern observed in Ghana [9]. Conversely, other studies [13] have found that more males attended eye care services than females. The greater number of female patients in our study can be attributed to the fact that in general women use more healthcare services than men [14]. In part, it could also be because women spend a lot of time at the hospital for other reasons or health concerns than men [15] hence they could be preoccupied with other routine healthcare programs. On the other hand, it also could be due to the fact that men are nonchalant about their health [16]. Therefore, the results of our study call for the integration of eye services within the national health system and outreach programs targeting elderly men. Equity in access to eye health should be addressed if we are to attain Universal health coverage by preventing the systematic exclusion of vulnerable individuals [17].

Our study also found that cataract is the most common ocular disorder among the elderly population in Malawi, similar to previous studies [18]. However, the prevalence of cataracts was lower than reported in India [19]. However, it was higher compared to findings by other authors [20]. The variation could be due to different geographical settings and sample composition since the cataract differs with ethnicity [11]. The relatively higher prevalence of cataracts in our study is not surprising considering that in developing countries it is widely known as the commonest cause of blindness [4]. In Malawi, Cataract is the main cause of blindness among people aged 40 and above [6]. Consequently, cataract is regarded as an
independent marker of mortality and several studies have linked the presence of cataract to a higher risk of death [11]. Considering that only about 5% of the cataract patients self-refer in Malawi, [21] our study highlights the need for cataract case-finding strategies among senior citizens.

Not surprisingly, our study found lower proportions of Age-related Macular degeneration. Previous studies have confirmed that ARMD is more prevalent among Europeans unlike Africans [11].

In the present study, the prevalence of cataracts was significantly associated with the male sex than with females. On the contrary, other authors [11,25] found that cataract was more among females than males. Furthermore, others reported that there was no significant association between the prevalence of cataracts and sex [4]. We attribute the results of our study to the fact that more men than women smoke in Malawi [22]. Our study did not explore the association between behavioral risk factors and eye diseases, however, previous studies have found a strong association between smoking and cataract formation. [23]. More males being affected may in turn affect their families because these people may be active breadwinners despite their geriatric age [24].

In the current review, the prevalence of Glaucoma was lower compared to previous studies in India [25,26]. We attribute the low prevalence of glaucoma in our study to differences in the study population. The present study found that the prevalence of glaucoma was significantly associated with age. Similarly, a study by Pisudde and colleagues reported a significantly associated with increasing age [25]. Glaucoma is known to increase with growing populations [27].

According to the time of the year, the least number of patients were attended to in August while the highest number was recorded in March which is the start of the dry season in Malawi hence people can easily access hospitals either because they have leveraged their livelihoods crop harvests or roads are passable [28]. Although eye care services are free at the point of access, patients still incur out-of-pocket expenditures when accessing health care due to transport [29]. In general, 50% of Malawians live within 5 kilometers of a health facility. Nevertheless, Terrible terrain and pitiable road infrastructure make it challenging for Malawians to access health care, especially during the rainy season [30].

Limitations

Our study is not without drawbacks. First, the design of our study may be prone to selection bias since retrospective records were used. In addition, we were unable to find the association of ocular conditions with possible risk factors. Furthermore, due to the nature of our study, we could not estimate the prevalence of blindness and visual impairment among this high-risk population group. Nevertheless, this study provides baseline data for planning and resource allocation for eye health services in Malawi.

Conclusion

In the present study, the most common ocular disorders emphasized are major causes of preventable blindness. This heralds a need to prioritize these conditions when allocating eye care resources for the
elderly population. More resources should be allocated to detecting and treatment of cataracts for this population group. Again, there is a need to increase both awareness and access to eye care services for both sexes with a greater focus on men. Furthermore, our study suggests the integration of eye care services into the national health system to increase access.

Declarations

This study used retrospective study design hence consent was waived by the approving ethics committee. Permission to access the data was obtained from the Director of Health and Social Services, Mzimba North District Hospital.

Competing interests: The authors declare no competing interests

References


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**Figures**
Figure 1

Distribution of study participants according to gender
Figure 2

Distribution of common ocular
Figure 3

Distribution of ocular diseases between males and females
Figure 4

Distribution of ocular diseases among the age groups
Figure 5

Figure 6. Trend of ocular diseases across the time of visit