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Utilization of eye care services by elderly persons in the northern Ethekwini district of KwaZulu-Natal province, South Africa

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Abstract

Although most of the causes of visual impairment and blindness in the developing world are treatable, many people do not receive eye care attention. The appropriate use of eye care services is a key factor to reducing visual impairment and blindness in any community. However, eye care services are not always provided, accessible or utilized and do not always meet the needs of specific groups; one such group is older adults. The purpose of this study was to evaluate the use of eye care services in adults aged 60 years and older living in the eThekwini district of KwaZulu-Natal, South Africa. Information regarding the use of eye care services was collected from 1008 participants through a questionnaire interview using items derived from the World Health Organization multi-country World Health Survey administered by trained field workers. The participants included 77.3% females and 22.7% males. Their mean age was 68.9 ± 7.4 years (range = 60 to 103 years). Less than half (38.7%) of the participants thought that they should have their eyes tested every year. Although many (57.4%) knew where to go to get treatment for eye problems or to have their eyes tested, a significant proportion (42.5%) did not know. Almost a third (32.8%) felt that they need to get treatment for an eye problem or to have their eyes tested. Less than one third (25.2%) indicated that they last visited a health facility for an eye test 2-5 years ago. Above one third (38.3%) reported that they were told they could not see at distance, 22% reported that they were told that they had reduced capacity to see at near, while 23.4% and 9.2% respectively were told they had had eye infections or cataracts. Of these, 59.7% stated that new glasses were recommended to them as treatment, 22.7% were recommended eye drops and 7.8% had cataract surgery recommended. Most (80.5%) reported that they received the recommended treatment while 19.5% reported that they did not. Of those who reported not receiving the treatment, 36.4% stated that it was due to inability to afford the treatment recommended while 29.1% stated that they were unable to get the treatment due to long waiting times. The majority of participants (86.9%) agreed that the treatment they received solved their eye problems. Knowledge about regular eye examinations and available eye care services was poor among

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participants in this study. This suggests the need for awareness campaigns and early intervention programmes. Furthermore, cost of services had a significant influence on the affordability of eye care services among participants. (*S Afr Optom* 2011 **70**(4) 175-181)

Key Words: Eye services, access to eye services, affordability of eye services, ageing, eye examination.

Introduction

The World Health Organization (WHO) estimates that there are 180 million people who have severe visual impairment and 45 million people who are blind globally[1]. There is a further estimated eight million new cases of blindness each year[1]. The majority (90%) of blind people live in poor communities and 60% of their blindness is treatable while 20% is preventable[1]. According to Holden[2], 90% of the people seeking eye care in Sri Lanka had previously not accessed such services. Similarly, in a recent study, Chang *et al*[3] found that over two thirds of adults over the age of 40 years in a rural Indian population with low vision had never sought eye care. With the increasing number of older persons in many countries[4], there is an associated rise in chronic diseases and therefore, the prevalence figures of visual impairment and blindness are likely to increase causing a major public health challenge.

The impact of visual impairment has important health, socio-economic and quality of life implications[5]. The direct costs include treatment of diseases, care and adaptive aids and costs of medical services[5]. Indirect costs due to vision impairment and blindness include loss of earnings, lost earnings for caregivers, equipment and home modification, rehabilitation and welfare payments[5]. Conservative analysis, considering only the personal productivity loss, the annual global economic impact of unaccommodated low vision and blindness in 2000 was 42 billion US dollars[5]. This global figure was expected to be 110 billion dollars[5] by the year 2010. However, with the successful implementation of the Vision 2020 initiative, the overall global saving over 20 years was estimated at 223 US billion dollars[5].

Of growing concern is the impact that visual impairment has on functional activities such as the physical functions and activities of daily living. Several studies[6-10] have shown that difficulty in performing the usual activities increases with age. The Vision 2020 initiative: the right to sight campaign has set goals to eliminate avoidable blindness by the year 2020. However, achieving these goals will require great effort and resources such as services and manpower. Even when services are available, there are barriers which keep people from accessing and using eye services[11]. The primary barriers include non-availability, non-accessibility and non-affordability[12]. In a study by Okoye *et al*[13], non-availability of low vision devices and lack of trained personnel in low vision care have been identified as barriers to low vision care services in Nigeria. Chandrasheka *et al*[14] and Dhaliwal and Gupta[15] reported that lack of transport and the long distances from villages to hospitals were the main barriers to utilization of eye care services in India while cost of eye care services was reported by Kovai *et al*[16] as a major reason for not uptaking eye services among the visually impaired populations in rural Andhra Pradesh, South India. Similarly, other studies[17-22] reported the lack of financial resources as the main barrier to eye care use. Other factors that may act as barriers to the uptake of eye care services are lack of knowledge about such services, the possible impact of an eye disease and of who to consult to manage these diseases[23-25]. For example, there is a high prevalence of diseases such as glaucoma and diabetes worldwide[26]. Furthermore, many people who have glaucoma are unaware that they have it[27]. Similarly, half of those with diabetes do not receive the recommended two-yearly eye examinations[27]. These diseases usually present with no symptoms until late and people may only be aware of them when loss of vision is irreversible[27]. Knowledge of eye care services, awareness of regular and timely eye examinations can prevent this unnecessary vision loss. Countries such as Australia have recognized the importance of public health programmes aimed at promoting consistent eye care messages and raising awareness of the importance of eye care in order

to prevent avoidable blindness by establishing an organisation called The Vision Initiative[27]. This organisation is a coordinated public eye health programme that aims to prevent avoidable blindness and reduce the impact of severe vision loss[27]. This initiative raises the awareness of the importance of eye health among the general public[27]. Demographic, personal, social and cultural factors have also been reported to influence eye care utilization[22, 28]. For instance, people with more education were significantly more likely to seek eye care services[22]. Understanding why people do not utilise eye care services is important in order to remove these barriers if the goals of Vision 2020 of eliminating avoidable blindness across the world are to be met[29].

The provincial Department of Health in KwaZulu-Natal (KZN DoH) has implemented the building of health care facilities in the Inanda, Ntuzuma, KwaMashu (INK) and surrounding areas. These facilities include four community health centres (KwaMashu Polyclinic, Newtown, Inanda and Phoenix community centres) and the Osindisweni hospital. Another hospital (Mahatma Gandhi) was completed in 2008 in the neighbouring Phoenix area. The four community health centres and Osindisweni hospital provide eye care services staffed by ophthalmic nurses and optometrists, while the neighbouring Mahatma Gandhi hospital offers ophthalmological services such as cataract surgery. Despite these health and eye care services in the INK area, there is no available data concerning their use. Such information is important as greater eye service use results in better treatment and prevention of vision problems. Furthermore, providing such information will help design strategies to increase their use by those who are underutilizing them. The aim of this study therefore was to evaluate the use of eye care services two years after the provision of hospitals and community health centres in the area by the provincial KZN DoH.

Methods

The study was conducted in the INK area of the province of KwaZulu-Natal, South Africa which is a geographically contagious part of the eThekwini municipality consisting of urban, peri-urban to rural areas. The area varies in the provision of and access to services and resources, and little is known about how this affects the elderly. Using the 2001 census data and a study population of 18812 persons aged 60 years and older, a sample size of 1008 was determined with a 95% CI and a precision level of 3%. A stratified sampling method was used at the street or track level to identify respondents who met the inclusion criteria. Ethical approval to conduct the study was obtained from the Biomedical Research Ethics Committee of the University of KwaZulu-Natal (UKZN), and informed consent was obtained from all participants prior to them completing the questionnaire. The study took place after consulting with and approval from the local authorities and civil society. A pilot study was undertaken to critically evaluate the questionnaire, assess the execution of the questionnaire by the field workers, and perform preliminary data analysis. Information on demography and the use and quality of eye care services were based on self-reports with the use of items derived from the WHO multi-country World Health Survey questionnaire . Interviews were conducted by trained field workers and the data analysed by a UKZN statistician. Questionnaires were coded to ensure anonymity of the respondents, and the data was double captured onto Epi-info 2000 and analysed descriptively in the SPSS programme, version 15.0 (SPSS Inc., Chicago, Illinois).

Results

One thousand and eight interviews ($N = 1008$) were completed. Above half (57.5%) resided in formal settlements and 42.5% in informal settlements. More than three quarters (77.3%) were females and 22.7% were males. Participants' ages ranged from 60 to 103 years, mean = 68.9 ± 7.4 years and included 99.4% Blacks and 0.6% Coloureds. Many (73.9%) reported having some form of formal schooling (Standard 3 to post school qualification) while a few (26.1%) had no schooling at all. These tallied with the report that 73.9% could read and write while 26.1% could not. The majority (97.1%) reported that they were pensioners, 1% were unemployed while 1.9% were employed in either the formal or informal sectors. Monthly income varied from R801-R1600 (64%), R1601-R3200 (24.7%), R3201-R6400 (7.7%), R6401-R12800 (1.9%), R401-R800 (0.5%), R12801-R25600 (0.1%),

and 1.1% did not know, refused to answer or had no income at all.

With regards to the frequency of eye examinations, approximately half (50.5%) thought that they should have their eyes tested when they have a problem, 38.7% thought every year, 6.7% every 5 years and 4.1% reported that they did not know how often they should have their eyes tested. Above half (57.4%) knew where to go to get treatment for eye problems or to have their eyes tested and 42.6% did not know. Approximately two-thirds (67.2%) of the participants reported never having needed to get treatment for an eye problem or to have their eyes tested and 32.8% reported that they have needed treatment or an eye test. Of this latter group, 29.4% last visited an eye health facility for their eye problems less than a year ago while 20.3% reported that they last visited the facility between 1-2 years ago as shown in Figure 1.

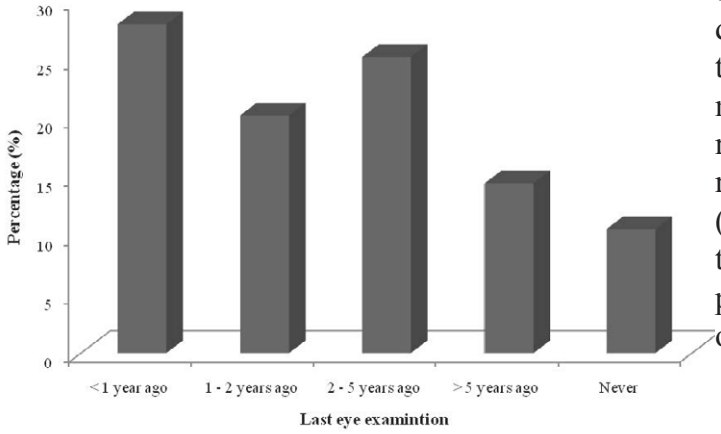


Figure 1: The participants' time since last visit to a heath facility for eye problems or for an eye test. Few, (25.2%) and (14.5%) respectively reported that they last visited a health facility for eye examinations between 2-5 years ago or more than 5 years ago while 10.6% never had an eye examination.

Among those participants who visited a health facility for eye problems or to have their eyes tested, 38.3% and 22% respectively were told they could not see at distance or at near, 23.4% had an eye infection or injury, 9.2% had cataracts, 2.4% could not remember what they were told they had, 3.7% were not told anything while 0.3% reported that they had elevated blood and intraocular pressures. More than half (59.7%) reported that new glasses were recommended as treatment for their vision problems, 22.7% reported that eye drops were recommended to them while 7.8% had cataract surgery recommended for their vision problems as shown in Figure 2.

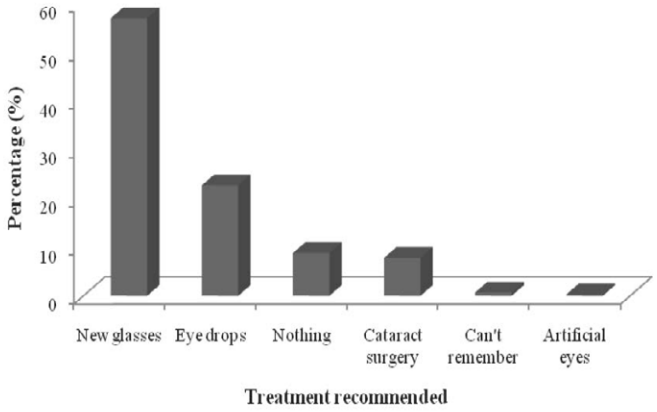


Figure 2: Recommended treatment among participants requiring eye care services. The most commonly recommended treatment was glasses (59.7%) and the least was artificial eyes (0.1%).

Over three quarters (80.5%) reported that they received the treatment recommended when they visited the eye health facility and 19.5% reported that they did not. Of those who reported that they received the treatment recommended, 86.9% agreed that the treatment received solved their eye problems and 13.1% reported that it did not. Among those who did not receive treatment for their eye problems, nearly half (46.4%) reported that they were unable to afford the treatment recommended. Other additional reasons reported for not receiving treatment despite being recommended are shown in Figure 3.

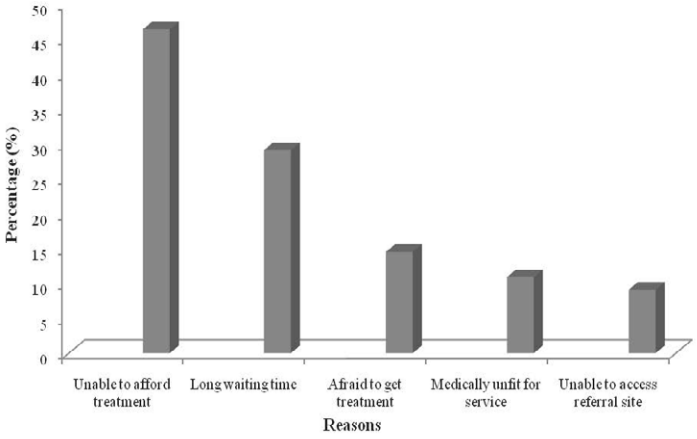


Figure 3: Reasons provided by the participants who did not receive treatment for their vision problems. Unable to access referral site refers to the long distance between the participant and the referral centre (such as hospitals) in this study.

Discussion

Ageing and growth of the global population over the next 20 years is expected to lead to a large in-

crease in the number of blind persons[5]. However, visual impairment and blindness can be reduced if there is appropriate use of existing services and additional resources are made available to cater for those who currently do not have access[5]. Few (38.7%) participants reported that they should have their eyes examined every year. Of even greater concern is the fact that almost half (50.5%) thought that they should have their eyes examined only when they have a problem. This is a negative result since ageing is associated with an increased rate of visual impairment and eye conditions, some of which are potentially blinding. The study indicates that many elderly people have poor knowledge about the importance of annual eye examinations in order to prevent unnecessary visual impairment and blindness. Eye health promotion campaigns are therefore needed to inform them about the importance of regular eye examinations and the implications of delayed eye care requirements. This is particularly important as many of the visual problems that affect the elderly, particularly those of gradual onset (such as specific types of glaucomas) are usually free of symptoms.

As nearly half did not know where to go to access eye care services, more information needs to be provided about the health services available to the elderly in general, but eye care services in particular. The peri-urban study area has community centres, offering health services including eye care services provided by ophthalmic nurses and optometrists. This low utilization of available eye care services concurs with results of a study done by Oduntan and Raliavhegwa[30] in 2001 in the Northern Province of South Africa. They reported that a lack of knowledge of available eye care services among rural dwellers was the most frequent reason for the low utilization of eye care services[30]. In a recent study in Australia, O'Connor *et al*[31] in 2008 also reported that underutilization of eye care services was due to lack of awareness of the available eye care services. These findings all indicate the need to improve awareness about available eye care services in this population in order to improve greater utilization of these services. The fact that many, (67.2%) reported not ever needing to get treatment for an eye problem or to have their eyes tested may suggests that they have symptomless eye conditions and therefore they did not feel the need to have their eyes examined. However, this age group have a high prevalence of eye diseases, most of which are free of symptoms, but potentially blinding. Therefore, messages that increase the awareness of symptomless eye diseases should be emphasised in order to detect them early and manage them appropriately in order to reduce the burden of visual impairment and blindness[32]. A significant proportion (39.7%) of those who needed to have their eyes tested had their last eye examinations two and more years ago and 10.6% had never had their eyes tested. This means that a total of 50.3% of the participants were not adhering to the clinical recommendations of an eye test at least once every two years. Compliance rates with recommendations for annual eye examinations are therefore not adhered to. This could indicate that their knowledge about the importance of regular eye examinations was limited, indicating that there needs to be further encouragement for better education regarding the appropriate use of eye care services. This has important implications in this group due to their age and associated increased risks of eye complications.

The proportion of self-reported poor near vision was 38.3%; this could be attributed to uncorrected presbyopia. The main cause of visual impairment in South Africa is cataracts[33]. The present study showed that only 9.2% had cataracts. The reported low number of cataracts can be attributed to the recently established Mahatma Gandhi hospital in the neighbouring Phoenix area, which has the facility for cataract operations. Many participants (59.7%) reported that new glasses were recommended to them when they visited the eye care facility. This implies that many were diagnosed with refractive errors and were dispensed spectacles to correct their visual problems. The report that many participants (80.5%) were able to receive the treatment recommended is good. As these participants are poor and unemployed, non governmental organizations (NGOs) such as the International Centre for Eye Care Education (ICEE) supply them with glasses for free on condition they meet the stipulated criteria of presenting visual acuity of 6/12 or worse and/or are unemployed or pensioners. However, 46.4% reported that they did not get the recommended treatment because of lack of money. This implies that they may have fallen outside the qualifying criteria for free spectacles from NGOs. This could also imply that they needed services other than spectacles that were not provided at the community

health centre such as medication for eye diseases or cataract surgery. These other services are provided at the hospital through referral from the local community centre which is outside the INK area. Therefore, obtaining these services may have been prevented by a significant physical barrier in terms of transportation costs to the hospital to obtain services. This view is supported by the report that 9.1% reported that they were unable to access the referral site. The long waiting time reported by 29.1% as a barrier to the eye care utilization could be explained by the fact that the long waiting lists for cataract surgery is a lot longer than the turnaround for the provision of spectacles. The fear of treatment appeared to be a minor barrier in this study. This is good and may imply that only few participants had poor understanding of the treatment procedures and their implications. These results are a marked contrast to the findings of Geneau *et al*[34] in 2008 who reported that the fear of treatment was a major contributor to underutilization of cataract surgery services in Tanzania. The authors reported that the fear of pain or complications of cataract surgery was so profound among the participants that they were not willing to go for cataract surgery even though it was offered free of charge. Similarly, other studies[15, 31-32, 35-36] have reported fear of operation as reason for not uptaking cataract surgery. Few participants in this study did not meet the eligibility for cataract extraction as they were medically unfit for service in terms of their overall health.

This study provides a valuable insight into the poor utilization of available eye care services among the elderly in the INK area. As more participants demonstrated poor knowledge about regular eye examinations, current eye care services are not reaching many who could benefit from such services. Inability to afford treatment emerged as a barrier to eye care services. Public service announcements, radio commercials and billboards aimed at raising awareness of the importance of regular eye examinations and available eye care services in the area could be effective.

Possible limitations of this study are that the results are based on information obtained from older adults selected from only one district of KwaZulu-Natal. These results can therefore not be generalized for the province and country with regards to utilization of eye care services. It is recommended that further studies be done to evaluate utilization of eye care services in other provinces among the urban and rural population as well on younger adults so that comparative inferences can be drawn.

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