

Full Length Research Paper

Community perceptions of eye diseases among 14-40 year olds in Chiota, Zimbabwe

Geraldine Nyasha Chipendo^{1*}, James January¹, Roy Tapera² and Blessing Dube³

¹Department of Community Medicine, University of Zimbabwe,

²University of Botswana, School of Public Health, P Bag UB 0022 Botswana

³Tulane University, USA

Abstract

It is estimated that 1% of the Zimbabwean population is blind with half of these cases being attributed to causes other than cataracts and that 80% of these causes are avoidable. A cross sectional survey was carried out in Chiota, Zimbabwe aiming to investigate the factors leading to an increase in the prevalence of eye diseases in the 14-40 years age group. A total of 53 males and 47 females took part in the study. The mean age was 28 years (SD 6.24). 85% of the participants earned a monthly income less than USD 100. 71% of the participants reported having a history of eye disease. There was an association between occupation and belief of being at risk of eye diseases ($p=0.0008$). Losing one's job (83.3%) and the belief that healthy eyes were the basis for survival (82.9%) were the major reasons why eye diseases were viewed as severe. A significant association between reporting to the hospital and sex was observed ($p=0.003$). Both males and females resorted to self treatment. There was an association between employment status and having had an eye disease ($p=0.014$) with farmers (69%) and artisans (14.1%) being the most affected. An association existed between workplace and having had an eye disease in the past four months ($p=0.05$). There is need for a multisectoral approach in the fight to curb eye diseases in Chiota communal lands guided by the three main components of the Ottawa charter of 1986.

Keywords: Eye diseases, Risk Perception, Health Promotion.

INTRODUCTION

Severe conjunctivitis symptoms and other eye diseases can be very distressing and can cause serious damage that can threaten eyesight. Approximately 27 million people in sub Saharan Africa are visually impaired, of these 6.8 million are blind (W.H.O. 2004). Nearly 80% of visually impaired people live in the low-resource countries of Africa and Asia, mostly in rural areas with few underutilized eye care facilities (Komolafe et al., 2009).

According to the Ministry of Health and Child Welfare (2009), it is estimated that 1% of the Zimbabwean population is blind with half of these cases being attributed to causes other than cataracts. It is further estimated that some 80% of these causes of blindness are avoidable. According to the Zimbabwe National

health profile of 2004, eye impairments constituted 3% of disability cases. Whilst evidence exist that there is an increase in the prevalence of lifestyle related diseases inclusive of preventable blindness, not much effort is being undertaken in Zimbabwe to ensure communities understand the role of social or personal determinants on health (Ministry of Health and Child Welfare, 2009).

METHODS

A cross-sectional survey was utilised to describe and quantify the distribution of the study variables in Chiota communal lands, a largely rural area in Mashonaland East province of Zimbabwe. The major economic activities in the area included subsistence farming and home industries.

The PRECEDE-PROCEED (see Green and Kreuter, 1999) model's constructs were used to guide the study.

*Corresponding Author E-mail: gerachipendo@gmail.com;
Tel: +263 772 555047

The model provides a comprehensive structure for assessing health and quality of life needs and for designing, implementing and evaluating health promotions programmes to meet those needs. PRECEDE (Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation) outlines a diagnostic planning process to assist in the development of targeted and focused public health programmes. PROCEED (Policy, Regulatory, and Organisational Constructs in Educational and Environmental Development) guides the implementation and evaluation of the programmes designed using PRECEDE.

Participants were 100 consenting men and women within the 14-40 years age group who were conveniently sampled. Quantitative data was collected using self-administered questionnaires. The questionnaire was designed in Shona, the local language. The questions were derived from the PRECEDE Constructs in Educational Diagnosis and Evaluation (Predisposing, Reinforcing and Enabling constructs).

Participants', rights to privacy, confidentiality and anonymity were observed throughout the study and no names of participants appeared on any of the research documents. Right to self determination was observed through provision of full information and obtaining informed consent. Participants were given the liberty to choose to voluntarily participate or refuse participation and withdrawal even after voluntary enrolment at any point in time if they so wish without any penalty. The right to self dignity was addressed through reassuring participants that any information given in the course of the study was not to be used to undermine their dignity and that refusal to participate was in no way going to affect the way they were to be treated. The Institutional Review Committee of the College of Health Sciences, University of Zimbabwe reviewed and approved the research.

Data were sorted, categorised and coded before it were fed into Epi Info version 3.5.3. Chi squared tests were run to test for associations between the dependent and independent variables.

RESULTS

Questionnaires were administered to 100 participants, 53 males and 47 females. Respondents were of the 14-40 years age group with the majority (89%) above 20 years and mean age 28 years (SD 6.24). A majority (60%) attained form four as the highest level of education. Of the participants, 85% earned a monthly income of less than USD 100.

Of the 71 participants who reported that they have had a history of eye diseases, 45.1% were females and 54.9% were males. There was no association between sex and having had an eye disease ($p=0.350$). The majority (97%) of the participants were aware of eye

diseases. Stratified by sex, 97.9% of females and 96.2% of males had heard about eye diseases. More than half of the participants (63%) believed they were at risk of eye diseases. There was an association between occupation and belief of being at risk of eye diseases ($p=0.0008$). Eye diseases were viewed by 75.5%, 19.4% and 5.1% of the participants to be very severe, severe and not severe respectively. Losing one's job (83.3%) and the belief that healthy eyes were the basis for survival (82.9%) were the major reasons why eye diseases were viewed to be very severe. Although perception of severity of eye diseases was not associated with having had an eye disease ($p=0.306$), an association existed between awareness of eye diseases and one's perception of the severity of eye diseases. ($p=0.05$). The main sources of health information on eye diseases were peers/family (56.7%) followed by health workers who constituted (40.2%).

Among those who consulted a hospital for an eye condition, 69.2% were females and 30.8% were males. There was a significant association between reporting to the hospital and sex ($p=0.003$). Of those who reported at the hospital, 62.5% were not satisfied with the service, attributing this dissatisfaction to unavailability of ophthalmologists (31%) and eye treatments (11%).

Most of the participants (42%) stayed 0-3km from the health facility, 32% lived within 3.1-5km and 26% stayed more than 5.1 km away from the hospital. There was an association between distance from the hospital and eye diseases ($p=0.030$).

Both males and females resorted to self treatment. Even though more males (55%) than females (45%) reported to have used self treatment, there was no association between sex and self treatment ($p=0.176$). The most common medicines to be used were traditional eye medicines (60.7%).

There was an association between employment status and eye disease ($p=0.014$). Farmers were the most affected (69%) followed by artisans (14.1%), the unemployed (12.7%) and drivers (4.2%) respectively. More cases (77.5%) of having had an eye diseases reported to be working in a farm setting. There was an association between workplace and having had an eye disease in the past four months ($p=0.050$).

Of the 80 participants who were employed, 97.5% reported not using protective eye wear. 79.5% of those who did not use protective eye wear in their workplaces have had an eye disease in the past four months. There was an association between use of protective eyewear and having had an eye disease ($p=0.048$). All the participants who were employed highlighted that protective eye wear is not easily accessible in their work places and community.

DISCUSSION

Our results indicated that more men than females had eye diseases but there was no statistical association

between sex and eye diseases ($p=0.350$), therefore sex was not found to be a predisposing factor. This result could have been due to the fact that both men and women in our sample spent most of their time in comparable environments hence same exposures. This was contrary to Ajaiyeoba and Scott's finding in Nigeria (2002) as well as Ashaye (2009) also in Nigeria who found that men were more at risk of eye diseases than women. Courtright and Lewallen (2009) revealed that there has been increasing evidence that women are affected by blindness and visual impairments than men which contradicted with the findings of this study. These discrepancies between our study and these other studies could have been due to different geographical locations as well as the smaller sample size we used.

Persons above 20 years were at more risk than those below 20 years; this could have been a result of the former group constituting the economically active hence they are exposed to an array of occupational hazards that puts them at risk of eye diseases. Fouad et al. (2004) found out that age was a risk factor whereas Ajaiyeoba and Scott (2002) found out that no age was spared from eye diseases.

The majority of the participants in our study were aware of eye diseases and the respective risk factors. It is possible that staying in compound settings on farms facilitated sharing of information amongst these participants. The majority of the respondents had formal education such that they could read even though there was no association between educational level and awareness of eye diseases ($p=0.389$). Most of the participants knew what triggered their eye diseases. This was not the case in Canada, where Noertjojo et al. (2006) found that a few respondents knew risk factors for specific eye diseases. Results by Saw et al. (2003) showed that more than half of their respondents had no formal education and their awareness on glaucoma was very low indicating that educational level influenced awareness level.

Eye diseases were viewed by most of the participants as severe and very severe. The fear of losing one's job and the belief that healthy eyes were the basis for survival were the major reasons for viewing eye diseases as very severe. Chiota residents are mostly self employed and any disruption from work could affect their lives hence they rated eye diseases as very severe. This tallied with the findings from Ashaye et al. (2006) where their respondents viewed the eye as the gateway or light to human existence, if the eye is lost the next thing is to die. They believed the eye to be superior to other body parts.

More females than males reported to the hospital with eye diseases. This could have been due to the fact that enduring pain is a macho characteristic; therefore men might have been reluctant to report to the hospital. Most women who participated in the study are of child bearing age therefore had other reasons for reporting to the

hospital such as immunization of the baby or antenatal care services. More than half of the participants reported dissatisfaction with eye services at Chiota rural hospital. Their reasons included unavailability of ophthalmologists and eye treatments at the local hospital. This tallied with the observation by Murthy and Raman (2009) that in Africa only 30% of people have access to eye care and the spread of resources is uneven across and within countries. The same situation was revealed in a study by Ntsoane and Oduntan (2010) when they found out that absence of eye care personnel and inadequate facilities are the hallmarks of eye care in Africa.

Barriers for not reporting to the hospital included financial constraints, not having a childminder, and not finding it necessary to report to the hospital. Most of these participants have made eye diseases part of their lifestyles hence do not view them as conditions necessitating hospital visit. Direct and indirect costs, family responsibilities among others were principal barriers to attending eye camps. Melese et al. (2004) in Ethiopia also found similar results namely lack of money to cover transport, food and lodging costs for the accompanying person. Women reported not having anyone to care for the children and some reported that they could not afford the medical costs. In Nigeria, Ashaye et al. (2006) also had similar results which included waste of time, not knowing whom to consult among similar reasons alluded to above. Hartnett et al. (2005) cited financial constraints; Owsley et al. (2006) cited transport and Kovai et al. (2007) also noted personal, economic barriers to use of eye care services as this study and other studies have revealed.

Both males and females resorted to use of self treatment. There was no association between sex and use of self treatment ($p=0.176$). Chiota is a rural community; oral tradition is still prevalent so they pass on the knowledge on herbs to the next generations. The fact that they are continuously being exposed to the triggers of the eye diseases, they get tired of going to and fro the hospital without a change in the eyes and some believe the causes to be supernatural hence they resort to other treatments besides those they get from the hospital. Bisika et al. (2009) in Malawi found factors associated with use of self treatments as sex, religion and low socio economic status which is not exactly the case in Chiota where most respondents who opted for self treatment used traditional eye medication. Ashaye (2009) noted that almost half of his respondents had obtained eye treatment from the chemist or used traditional eye medication. Courtright et al. (1996) revealed that patients living farther from the hospital continued to report the use of traditional eye medication more commonly than those living near the hospital. This was in contrast with what was noted in Chiota as the distance from the hospital was not associated with the use of traditional eye medication.

In our study, there was an association between occupation and eye diseases ($p=0.014$). Farmers were

the most affected followed by artisans (carpenters, welders, mechanics etc). Most of them worked on a farm setting and there was an association between work place and eye diseases. This could be due to the fact that farmers work with chemicals and are exposed to different vegetation whilst artisans are exposed to flash lights and chemicals as well. Most of them reported not using protective eye wear and there was an association between occupation and eye diseases. These results were also echoed previously (e.g., Ajaiyeoba and Scott, 2002; Quandt et al., 2001; Jaga and Dharmani, 2006; Ashaye, 2009). All the participants who were employed reported the unavailability of protective eyewear. This was similar with results from a study by Quandt et al. (2001) in USA where 98.4% reported not wearing sunglasses in the field and their reasons included unavailability of the sunglasses.

The main source of health information in this study was reported to be peers or family. This showed that not much is being done by health workers to increase the awareness of eye diseases in the community. Hartnett et al. (2005) revealed that the inadequacy of patient education has reinforced people not to use eye care services.

Implications for Health Promotion Practice

It was found from the study that most of the participants have made eye diseases part of their lifestyles hence do not view them as conditions necessitating hospital visits. When carrying out health promotion activities it should be emphasised that being healthy is living a life you enjoy, and the result is that you can do anything as long as you enjoy it. Therefore health promotion activities are intended to enhance health and foster a departure from the status quo toward an ideal state of health as yet unattained.

Health promotion messages should be targeted to persons above 20 years who are at more risk than those below 20 years; this could have been a result of the former group constituting the economically active hence they are exposed to an array of occupational hazards that puts them at risk of eye diseases

The majority of the participants in our study were aware of eye diseases and the respective risk factors. It is possible that staying in compound settings on farms facilitated sharing of information amongst these participants. Having knowledge alone is not a sufficient factor that can lead to realisation of the intended behaviours but we have to employ an array of techniques such as enabling factors which include availability of drugs and reinforcing factors which include waiver fees for those suffering from eye diseases.

The main source of health information in this study was reported to be peers or family. This showed that not much is being done by health workers to increase the

awareness of eye diseases in the community. The community and health workers have to be involved in the social diagnosis phase so that they both know that eye diseases are a major problem with serious consequences.

CONCLUSION

The continuous appearance of eye diseases on the top 5 reasons for outpatient department visits over the past ten years has become an issue of major concern, both nationally and at district level. 80% of the causes of blindness in Zimbabwe are avoidable (Ministry of Health and Child Welfare, 2009) hence programmes targeting risk, enabling and reinforcing factors for behaviours that puts people at risk of eye diseases should be implemented especially in the rural communities. Approximately 80% of the visually impaired people live in the low resource countries of Africa and Asia, mostly in rural areas with few underutilized eye care facilities (Komolafe et al., 2009).

Awareness of symptoms of eye diseases was high in the study population even though they do not know the specific eye diseases. The majority viewed eye diseases as very severe because they believe that the eyes are the basis for survival and could lose their jobs if they become blind. Major predisposing factors were occupation, not using protective eye wear, workplace, and smoking among others. Use of self treatment was very prevalent irrespective of sex or distance from the health facility.

REFERENCES

- Ajaiyeoba AI, Scott SCO (2002). Risk Factors Associated with Eye Diseases in Ibadan, Nigeria. *Afr. J. Biomed. Res.*, 5: 1-3.
- Ashaye AO, Ajuwon AJ, Adeoti C (2006). Perception of Blindness and blinding eye conditions in rural communities. *J. Nat. Med. Assoc.*, 98, (6): 887-93.
- Ashaye AO (2009). Eye Injuries in Children and Adolescents: A report of 205 cases. *J. Nat. Med. Assoc.*, 101, (01): 51-56.
- Bisika T, Courtright P, Geneau R, Kasote A, Chimombo L, Chirambo M (2009). Self Treatment of eye diseases in Malawi. *Afr. J. Trad. Complementary and Alternative Med.*, 6, (1), 23-29.
- Courtright P, Lewallen S (2009). Why are we addressing gender issues in vision loss? *Community Eye Health J.*, 22, (70) 17-19.
- Courtright P, Lewallen S, Kanjaloti S (1996). Changing patterns of corneal diseases and associated vision loss at a rural African hospital following a training programme for traditional healers. *British J. Ophthalmol.*, 80, 694-697.
- Fouad D, Mousa A, Courtright P (2004). Sociodemographic characteristics associated with blindness in a Nile Delta Governorate of Egypt. *British J. Ophthalmol.*, 88, 614-618.
- Green LW, Kreuter MW (1999). Health Promotion Planning: An Educational and Ecological Approach. Mountain View, CA: Mayfield Publishing Company.
- Hartnett ME, Key IJ, Loyacano NM, Horswell RL, Desalvo KB (2005). Perceived Barriers to Diabetic Eye Care. *Arch Ophthalmol.*, 123, 387-391.
- Jaga K, Dharmani C (2006). Ocular toxicity from pesticide exposure: A

- recent review. *Environmental Health Preventive Medicine*, 11, (3), 102-107.
- Kovai V, Krishnaiah S, Shamanna BR, Thomas R, et al. Provide other authors names (2007). Barriers to accessing eye care services among visually impaired populations in rural Andhra Pradesh, South India. *Indian J. Ophthalmol.* 55(5):365-71.
- Komolafe OO, Ashaye AO, Ajayi BGK, Bekibele CO (2009). Visual Impairment from Age-related Cataract among an Indigenous Population. *Eye J.*, 24, 53-58.
- Melese M, Alemayehu W, Friedlander E, Courtright P (2004). Indirect cost associated with accessing eye care services as a barrier to service use in Ethiopia. *Tropical Med. Int. Health*, 9, (3), 426-431.
- Ministry of Health and Child Welfare (2009). Equity and Quality in Health: People's right. Harare, Zimbabwe.
- Murthy G, Raman U (2009). Perspectives on primary eye care. *Community Eye Health J.*, 22, (69) 10-11.
- Noertjojo K, Moberley D, Bassett K, Courtright P (2006). Awareness of eye diseases and risk factors: identifying needs for health education and promotion in Canada. *Canadian J. Ophthalmol.*, 41, 617-23.
- Ntsoane MD, Oduntan AO (2010). A review of factors influencing the utilization of eye care services. *S Afr. Optom.*, 69, (4), 182-192.
- Owsley C, McGwin G, Scilley K, Girkin AC, Phillips MJ, Seacey K (2006). Perceived barriers to Care and Attitudes about vision and eye care: Focus Groups with older African Americans and eye care providers. *Investigative Ophthalmol. and Visual Sci.*, 47,(7) , 2797-2802.
- Quandt SA, Elmore RC, Arcury TA, Norton D (2001). Eye symptoms and use of eye protection among seasonal and migrant farm workers. *South Med. J.*, 94, (6), 603-7.
- Saw SM, Gazzard G, Friedman D, Foster PJ, Devereux JG, Wong ML, Seah S (2003). Awareness of Glaucoma, and Health beliefs of patients suffering primary acute angle closure. *Br. J. Ophthalmol.*, 87,446-449.
- World Health Organization (2004). Global data on visual impairment in the year 2002. *Bulletin of the World Health Organization*,82, 844-851.