

Glaucoma awareness in Sub Saharan Africa region: Review and strategies

Gessese GW, Mulugeta A, Giorgis AT, Ayele FA

Corresponding author: Dr Girum W Gesesse, P. O. Box 124012, Addis Ababa, Ethiopia.

Email: girumgw@yahoo.com

ABSTRACT

There is low level of awareness on glaucoma among the public in the region and there is a need for more research. Raising glaucoma awareness has multiple impacts that ultimately contribute to early detection, management and avoiding blindness due to the disease. There are various strategies for raising awareness on glaucoma and the experience in Ethiopia has shown the importance of raising glaucoma awareness in terms of early detection of disease, compliance to glaucoma management, acceptance of surgery, mobilizing stakeholders, and getting due attention to glaucoma as a public health problem.

Key words: Glaucoma, Africa, Primary open angle glaucoma, Blindness, Awareness

INTRODUCTION

Glaucoma is the leading cause of blindness after cataract¹. It refers to a group of eye disease, in which optic nerve damage is the common pathology that leads to vision loss. An estimated 3% of the global and 4.5% of sub-Saharan African (SSA) countries population over 40 years of age currently have glaucoma. With growing elderly population, the prevalence is increasing globally and it was expected that 79.6 million people will have glaucoma by 2020^{1,2}.

According to WHO, 8% of all blindness worldwide is caused by glaucoma and these figure rises to 15% in SSA countries². Glaucoma tends to be detected at later stage of the disease when it has advanced into vision impairment. It is characterized by distinctive peripheral visual field loss; patients may have “tunnel vision” but have normal central vision. Furthermore, of people living with glaucoma, 50% in developed and 90% in developing countries do not know they have the disease³. The fundamental factor in the prevention of vision loss caused by glaucoma is being able to identify it in its early stage. This is often problematic in SSA countries as the majority of people do not routinely visit eye care centers unless an eye problem become evident.

Patients with glaucoma are reported to have poorer quality of life, with decline of social function and mental health⁴. In low resource settings, managing patients with glaucoma has unique challenges. Inability to pay, treatment rejection, poor compliance, and lack of education and awareness are all barriers to good glaucoma care. Most patients are unaware of glaucoma disease, and the time they present many have lost significant vision³.

Poor knowledge of glaucoma by the public may adversely influence individuals having regular sight tests. Individual's risk of vision loss could be reduced if those at risk of blinding eye diseases obtain a comprehensive ophthalmic examination on a regular basis⁵.

Research and evaluation of the use of mass media in health promotion have shown that mass media can raise

consciousness of public about some health issues and change behavior. Mass media intervention by themselves or in combination with other programs can significantly influence the health behaviors of population.

LEVEL OF AWARENESS ON GLAUCOMA

Studies done in Africa on glaucoma awareness among the general public, and glaucoma patients themselves showed low levels of awareness about the disease. Even among health professionals, awareness and understanding of glaucoma is low. There is a need to undertake more research in the region on awareness of the disease that will help in understanding the burden of the problem and to devise strategies for effective intervention.

(i) Awareness among glaucoma patients

In a study among Primary Angle Closure Glaucoma (POAG) patients in Lagos, Nigeria, 80% of respondents knew they were being managed for a disease called glaucoma while 20% of the respondents did not know they were being managed for a disease called glaucoma. Among those who had the knowledge, 37.5% lacked information about the fact that it could be heritable, 30.2% had not informed their families that they had been diagnosed to have glaucoma and 46.9% had first degree relatives who had not been screened for glaucoma⁶.

In a study using Focus Group Discussions (FGDs) with glaucoma patients with advanced disease in northern Nigeria, many of the participants said they heard the term “glaucoma” for the first time during the study, despite the patients having late stage disease⁷.

In a qualitative investigation among glaucoma patients in Tanzania, participants knowledge of glaucoma, particularly knowledge of the symptoms, diagnosis and treatments was limited to patients own individual experiences. Patients also had a poor understanding of the hereditary nature of POAG and inherent increased risk

for their families. Even those who knew of the risk were found to be unsure what action they should take⁸.

In a study among glaucoma patients attending Kenyatta National Hospital, 53 (67.9%) patients were classified as having some knowledge about glaucoma. Patients also had wrong expectation of both treatment and surgery with 29.5% and 32.5% expecting cure from medical and surgical treatment respectively⁹.

(ii) Awareness among the community

There is scarcity of data on awareness on glaucoma in a community setting. In a community-based study an adult rural population of Osun State, Southwest Nigeria; only 41 (15.8%) participants had ever heard of glaucoma. Responses to the causes of glaucoma included 48.8% participants who said 'I don't know' and 24.4% of participants who responded 'curse-from-God'. Responses to questions on treatment included 48.8% participants who responded 'I don't know how it can be treated' and 36.6% said 'medically'¹⁰.

In a study among 340 people attending ophthalmic outreach services in Southwestern Ethiopia, only eight people (2.4%) were aware of glaucoma¹¹. In a recent study among 300 residents of Abokobi, Greater Accra region, Ghana, 39% (118/300) of respondents indicated they had heard about the eye condition glaucoma. Majority (99.1%) of respondents aware of glaucoma also agreed the disease can result in blindness with only 28% affirming that blindness from glaucoma is irreversible. Nearly half (49.7%) of the respondents perceived themselves to be at risk of developing glaucoma. Approximately, 20.7% of the respondents have had their eye screened with just a few (4.3%) screening for glaucoma¹². In a study among new ophthalmic patients in Ethiopia, 28.4% were found to be aware of glaucoma and 75.8% of them had some knowledge of glaucoma as well¹³.

(iii) Awareness among health professionals

In a study among workers in a Nigerian tertiary hospital, a total of 148 (68.6%) participants had heard of glaucoma comprising all participants from the clinical directorate and 28 (29.2%) participants from the administrative directorate. Eighteen (63.4%) from the administrative directorate had the knowledge that glaucoma would result in blindness without treatment, while eight (28.6%) felt that visual loss from glaucoma could be restored¹⁴.

Among final year health science university students in Ghana, all 273 respondents were aware of glaucoma but only 37.7% had knowledge of it. Only 28.6% respondents had previously undergone glaucoma screening¹⁵.

Among workers at the University of Benin Teaching Hospital in Nigeria, 168 (74.3%) were aware of glaucoma. The knowledge of glaucoma was good among 31% of

those who were aware of glaucoma, fair in 31.5% and poor in 37.8%¹⁶.

Among health workers in Federal Medical Birnin Kebbi, Kebbi State, Nigeria 204 (76.1%) of the hospital workers had heard about glaucoma; 202 (75.4%) of the workers believed that glaucoma causes irreversible blindness¹⁷.

Experience on glaucoma awareness, Ethiopia

Activities of glaucoma awareness creation started in 2007 by the Glaucoma Group of the Ophthalmological Society of Ethiopia (OSE). Since then a number of activities have been conducted to raise awareness and knowledge among the general public and glaucoma patients. Television, radio and newsletters have been the major means used to transfer educational message and to conduct live discussion on glaucoma. The mass media have been found to be the best means to access millions of population at a time all over the country and beyond. Brochures, posters and glaucoma guide, written in English and five local languages and distributed to all regions through the Federal Ministry of Health were the other methods of education used. The World Glaucoma Week and World Sight Day have been used as appropriate times to conduct screening and to held glaucoma health education programs at hospital outpatient waiting areas by trained nurses, and most of the aforementioned activities.

The impact of the awareness activates has been reflected by raising level of awareness from 4% in 2006 to 28% among ophthalmic patients at a tertiary center in 2011¹⁸, which could be much higher at present time. Studies among community have identified the level of glaucoma awareness to be raised to 33% in 2015, which was 2.4% in 2009¹¹. Glaucoma patients have become more attentive about their disease and medications, and improvement on acceptance of surgery has been noticed as well. People with family members with glaucoma are coming to ophthalmic attention and they are keen to know their level of intraocular pressure and status of their optic nerve heads. Besides, many of patients coming for other eye problems ask their doctors whether they have glaucoma or not. Ophthalmologists and residents have become more interested in glaucoma. Availability and variety of anti-glaucoma drugs has been increasing, though, affordability remains as a limitation for utilization. Better awareness among the health decision makers has also resulted in getting due attention to glaucoma as a public health problem.

The Ethiopia experience on raising glaucoma awareness among the public in general and the affected individuals, in particular, has tremendous effect in early case detection and improving compliance to glaucoma management and follow-up, and hence in prevention of the irreversible blindness from glaucoma.

IMPACT OF RAISING GLAUCOMA AWARENESS

Among many factors contributing to the burden of glaucoma related blindness, awareness about the disease in the general public is a critical factor for early recognition and management of glaucoma. Raising public and health professionals' awareness and knowledge about glaucoma has multiple impacts that ultimately contribute to avoiding blindness due to the disease.

(i) Public and health professionals'

It is a common experience for practitioners to see some people confusing trachoma from glaucoma. Defining glaucoma in a simple language that people are able to understand can improve the knowledge and perception of the public towards the disease. As the level of awareness increases, it is expected that there will be an increase flow of people to eye centers for glaucoma screening, and those who visit eye centers for various reasons could also ask to be checked for glaucoma. Eye care providers could be more aware of glaucoma and become knowledgeable as a

result of increased flow of patients for glaucoma evaluation and management. Awareness creation among other health professionals will also help for early referral of patients at risk to eye care providers/ophthalmologists.

(i) Improving the knowledge and perception of glaucoma patients about the disease

Appropriate management of glaucoma usually requires lifelong follow-up of patients. Improved awareness, knowledge and better perception of glaucoma patients are key to the development of a positive outlook. A positive outlook can motivate patients to improve adherence and persistence to treatment and proper follow up as well as accepting surgery, if needed. It can also ensure that family members undergo glaucoma screening regularly thereby enhancing prompt diagnosis and reducing the risk of blindness from glaucoma. As the family members get better knowledge about the visual impacts of glaucoma, the affected patient is more likely to get the necessary psychological and social support.

Table 1: Levels of intervention and expected impacts of raising glaucoma awareness

Level of Intervention	Impact
General public	1. Increase number of people presenting to eye centers for glaucoma screening
Health professionals	2. Early referral of patients at risk to ophthalmologists/ eye care centers 3. More interest in the field of specializing in glaucoma by residents and ophthalmologists
Glaucoma patients	4. Helps family members to undergo glaucoma screening 5. Increases possibility for family/social support of affected patients 6. Improves adherence to medications 7. Acceptance to surgery and proper postoperative follow up
Health institutions	8. Better attention to glaucoma evaluation 9. Improvement on the diagnostic and surgical facilities as well as human resource development

(ii) Impact on health institutions and professionals

As public awareness increases, demand for glaucoma services will be increased and as a result institutions will be enforced to be better prepared in terms of improving the diagnostic and surgical facilities as well as human resource development. Professionals will also be devoted to glaucoma, paying attention to glaucoma evaluation and management, and there will be a need for updating oneself and hands on training on glaucoma care. Residents and ophthalmologists will also show more interest in the field of specializing in glaucoma.

(iii) Policy makers

Improved glaucoma awareness will also help policy makers to give priority about the disease and incorporate

it into National strategic plans. This will lead to support to all activities targeted at raising awareness, management of the disease as well as human resource development. Similarly, including glaucoma drugs within the 'essential drug list' of the country will facilitate availability of medications for glaucoma care.

STRATEGIES FOR RAISING AWARENESS ON GLAUCOMA IN COECSA REGION

Public education involves utilizing most persuasive messaging to help proactively engage key audiences in the issue and asking them to respond to a specific call to action. This glaucoma awareness raising strategy outlines the key activities to be undertaken in order to effectively inform the public and engage stakeholders in the prevention of blindness due to glaucoma.

The strategy objectives

1. Increase public awareness on glaucoma
2. Mobilize stakeholders to combat blindness due to glaucoma

Key targets

The target audiences of glaucoma awareness-raising activities are all people, more emphasis to adult population who are older than 40 years.

Key messages

The success of glaucoma public awareness- raising program hinges on the public's improved understanding of glaucoma as a silent and irreversible cause of blindness that can be prevented by early detection and lifelong treatment. Thus, clear, consistent and coherent messages have to be communicated to the public in local languages.

The key messages should include

1. What is glaucoma and how is it different from other causes of blindness
2. Who is at risk to develop glaucoma
3. How the diagnosis of glaucoma is made
4. When should an individual get checked for glaucoma
5. How is glaucoma managed and the need for lifelong follow up

Methods and activities to launch public awareness activities

This has to be tailored based on the availability of resources, literacy status of key targets, culture and other factors, as what works so well in one region may not be feasible in another. Generally, combinations of the following methods are necessary for effective communications with the public.

- I. Leverage various media and opportunities
 - A. Traditional Media
 1. Post advertisement in national newspapers in local languages
 2. Distribute leaflets, brochures on glaucoma written in local languages
 3. Use of posters and banners in health institutions and public area
 4. Preparation of books on glaucoma in the local language
 5. Arranged advertisement on FM Radio and a quiz program with attractive awards to encourage the patients to learn more about the disease
 6. Exploit the opportunities on scheduled health related programs on TVs and radios including

live transmissions to convey message about glaucoma and answer questions from the public

7. Regular health education programs to general as well as ophthalmic patients(including glaucoma patients)
- B. Social media (Twitter, Facebook) - a glaucoma group account can be opened and messages on glaucoma can be posted to address the ever growing social network users
- II. Mobile phone short glaucoma messages can be sent to large number of people, encouraging to be checked even if they are not symptomatic or their eyes look normal. This can be aligned with World Sight day and World Glaucoma week activities.
- III. Utilize opportunities to address glaucoma when people gather for outreach cataract campaign, town hall meetings and other traditional meetings (in rural areas)
- IV. Use of key informants (patients with the disease, religious leaders, political leaders, celebrities) who are influential in their communities will improve the acceptance of the message by the general populations
- V. Organising conferences, press release, march with T- shirts with message on glaucoma, etc. (during the World Glaucoma week)

Activities expected from the glaucoma specialist group includes

1. Producing and disseminating public information materials in local languages
2. Making information on glaucoma accessible online and through social networks
3. Engaging with the media on a regular basis
4. Linking the awareness raising campaign to World Sight day and World Glaucoma week

Mobilizing stakeholders

Combating blindness due to glaucoma is a collective responsibility. All stakeholders including, glaucoma patients and their associations, ophthalmologists, optometrists, ophthalmic nurses and other treating physicians, government bodies (Ministry of Health and Ministry of Education), the private sector, professional societies, civil society organizations, community leaders and religious establishments should play their own role in raising the awareness of the public on this blinding disease to promote an early health seeking behaviour of the people.

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