



Original Research Article

Utilization of trachoma eye care services in central division of Kajiado County, Kenya

Received 2 January, 2016

Revised 26 January, 2016

Accepted 30 January, 2016

Published 22 March, 2016

Arthur Saitabau Ng'etich^{1*},
Claudio Owino²
and
Ahmad Juma¹

¹Department of Epidemiology and Biostatistics, School of Public Health-Moi University, P.O. Box 7470-30100, Eldoret-Kenya.

²Department of Surgery and Anesthesiology, School of Medicine-Moi University, P.O. Box 4606-30100, Eldoret-Kenya.

*Corresponding Author

Email: arthursaitabau@yahoo.com

Tel: +254710 890 400

This study sought to investigate communities' utilization of the available trachoma eye care services and the factors affecting utilization of these services. Community members aged eighteen and over participated. Descriptive cross-sectional study design was used. Stratified and simple random sampling was used to select respondents and eleven eye care personnel purposively sampled. Study tools used were questionnaires, interview schedules and observational checklists. Data analysis was performed using Stata. Categorical variables were summarized as frequencies and corresponding percentages while the continuous variables were summarized as the median and the corresponding lower and upper quartiles. The association between categorical variables was assessed using the Pearson's Chi Square test. Approval by Institution Research and Ethics Committee and informed consent from the study participants was sought. The results indicated that low (36%) utilization of trachoma eye care services. The only statistically significant factor affecting utilization of the services was the respondents' gender. The main barriers affecting utilization of the eye care services were accessibility and affordability. The study concluded the need for intensive awareness campaigns in the region on the available eye care services and addressing the local barriers to uptake of these services through community participation in education and outreach services.

Key words: Trachoma, eye care services, utilization, accessibility, affordability, availability

ABBREVIATIONS: AMREF: Africa Medical and Research Foundation; CHMB: County Health Management Board; DHMB: District Health Management Board; DHMT: District Health Management Team; ICTC: International Coalition for Trachoma Control; IREC: Institutional Research and Ethics Committee; IQR: Inter Quartile Range; KDH: Kajiado District Hospital; KNBS: Kenya National Bureau of Statistics; LF: Lymphatic Filariasis; MoPHS: Ministry of Public Health and Sanitation; NGOs: Non-Governmental Organizations; NTDs: Neglected Tropical Diseases; PHMB: Provincial Health Management Board; SAFE: Surgery, Antibiotics, Face-washing and Environmental Change; SCHMB: Sub County Health Management Board; SCHMT: Sub County Health Management Team; STH: Soil Transmitted Helminthiasis; WHO: World Health Organization.

INTRODUCTION

Neglected Tropical Diseases (NTDs) are one of the key areas of concern for our society. These communicable diseases affect an estimated one billion people globally, primarily poor populations living in

tropical and subtropical climates, with children being the most vulnerable to infection (WHO, 2014). In Kenya, the NTDs of great public health importance include: Lymphatic Filariasis (LF), Schistosomiasis, Soil Transmitted

Helminthiasis (STHs), Trachoma and Leishmaniasis (MoPHS, 2011). Although these diseases are not a direct cause of mortality, they are known to cause immense suffering and often life-long disabilities to those afflicted within the endemic areas. These diseases are also known to impair growth and development in children.

Trachoma is one of the neglected tropical infectious diseases and a leading cause of preventable blindness found among the poorest of the communities in the world. Globally, more than two million people are either blind or suffer from a very painful disability because of trachoma. A further 4.6 million have got to the stage of the disease where they are in need of surgery to stop them from going blind. Trachoma blinds four people every hour which translates to every fifteen minutes someone going blind from the disease (International Coalition for Trachoma Control, 2011).

Trachoma prevalence in Kenya varies widely from region to region. It is considered the second leading cause of avoidable blindness in Kenya, accounting for 19% of the blind. About 7 million Kenyans live in 39 suspected trachoma endemic districts and baseline surveys have been conducted in 22 out of the 39 suspected trachoma endemic districts. From these surveys an average prevalence of over 20% active trachoma was revealed in children 1-9 years. The average prevalence of trichiasis (potentially blinding trachoma) in adults 15 years and older was over 3%. There are approximately 270,000 blind persons in Kenya, of which 51,300 (19%) of these have blindness attributed to trachoma (Ministry of Public Health and Sanitation, 2011). The World Health Organization defines trachoma as a district-wide public health problem when active disease and trichiasis prevalence are above 10% and 1%, respectively (WHO, 2010a; WHO 2010b; MOPHS, 2008).

In an effort to eliminate trachoma in Kenya, the Ministry of Health with support from Africa Medical Research Foundation (AMREF), initiated the Trachoma Integrated Project in the Kajiado County in 2007. The SAFE (Surgery, Antibiotics, Facial Cleanliness and Environmental Improvement) strategy was implemented in order to decrease the impact of trachoma on the local community. The goal was to reduce the overall prevalence of active trachoma among children aged 1-9 from 23% to less than 10% by the year 2010 but according to a recent survey carried out in Kajiado County by AMREF in the year 2013, the prevalence of active trachoma was found to be 17.4%. Therefore, this shows the need for enhanced interventions to ensure effective control and treatment of the eye disease to bring down the prevalence to levels below the WHO threshold of less than 10% (WHO, 2006).

Kajiado District Hospital (KDH) is the main Level Four facility in Kajiado County and it is situated in Kajiado Township (Central Division). The eye clinic at the hospital is the main public facility of its kind in Kajiado, serving a great part of the county's population together with other private facilities and humanitarian organizations providing

eye care services in the region. Health care facilities are centralized within Central division of Kajiado County and those living in the remote areas of the county have to travel long distances to access eye care services.

Trachoma eye care services and interventions including intensive awareness campaigns about the eye disease, personal hygiene programmes, mass antibiotic treatment, surgical care and on environmental sanitation have been put in place to curb this eye condition in the region. Despite this being done, there is still limited knowledge about the level of utilization of these eye care services and factors that affect utilization of the available services in the region.

Therefore, to decrease the consequences of trachoma disease in the area, this study intended to bridge the gap between the available trachoma eye care services and the factors influencing utilization of these services. This will be pertinent towards prevention and control of the eye condition and eventually bringing down its prevalence towards meeting the Vision 2020 goal of eliminating the disease.

The Vision 2020 initiative has three major components as target activities; specific disease control, human resource development and infrastructure and appropriate technology development (Fotouhi et al., 2006). Vision 2020 seeks to eliminate the main causes of avoidable blindness in order to give all people in the world, particularly the millions of needlessly blind, the right to sight. The goal is to eliminate avoidable blindness by the year 2020. In the long term, the initiative seeks to ensure the best possible vision for all people, thereby improving their quality of life. This goal should be achieved through the establishment of a sustainable, comprehensive eye-care system as an integral part of every national health system (Vision 2020, 2009). The key factor in achieving the goals of Vision 2020 is the availability of eye care services and their utilization. This implies that apart from manpower and infrastructure development, community programmes are needed to ensure utilization of eye care services (Fotouhi et al., 2006).

There is inadequate literature on whether the available trachoma eye care services are being utilized, especially by the marginalized communities or whether those for whom these services are provided for were satisfied with them. This study intended to bridge this gap of knowledge and assist in improving the strategies and interventions currently in place so as to enhance use of the available trachoma eye care services. The data will provide a broad understanding of community's perception towards the available eye care services and enable the concerned stakeholders establish intervention strategies taking into account the factors affecting utilization of the available trachoma eye care services. The ability of health care providers to identify the factors affecting utilization of eye care services is important for policy makers, given the relationship between blindness and the postponement of timely eye care, and the high social and personal cost associated with blindness. This will go a long way to

reducing the prevalence of the eye condition and to ease the suffering of the masses in endemic regions as well as improve the socio-economic status of the communities and boost the county's economic growth.

MATERIALS AND METHODS

Study area

The study was carried out in Central Division of Kajiado County in August 2014. The County is divided into six administrative divisions. Kajiado Central constituency consists of three (3) divisions, namely; Central, Mashuru and Namanga while Kajiado North constituency also consists of three (3) divisions, namely; Isinya, Magadi and Ngong. According to projections from 2009 National Population and Housing Census, the population for Kajiado Central Division was 162,278 with males being 80,354 and females 81,924. The division's total number of households was 35,403 with a population density of 20 people/km² (Kenya National Bureau of Statistics, 2009).

At the County level, curative services are provided by the district and mission hospitals. Preventive services are provided by the Sub-County Health Management Team (SCHMT) formerly referred to as District Health Management Team (DHMT) and the public health unit of the district hospital. Modalities exist for Ministry of Health supervision and monitoring of Non Governmental Organizations (NGOs) in the County for example AMREF, World Vision, Fred Hollows Foundation, Sight Savers International and private facilities among others. NGOs and private facilities work with the community in collaboration with the SCHMT. Community programmes report to the Sub-County Health Management Board (SCHMB), which in turn reports to the headquarters through the County Health Management Board (CHMB) former Provincial Health Management Board (PHMB).

Kajiado District Hospital (KDH) is the main Level Four facility in Kajiado County and it is situated in Kajiado Township (Central Division). The eye clinic at the hospital is the main public facility of its kind in Kajiado, serving a great part of the county's population together with other private facilities and humanitarian organizations providing eye care services.

Study population

The study population comprised of the community members in Central division of Kajiado County aged 18 years or older. Other study participants were eye care personnel working in health care facilities providing trachoma eye care services within the study area.

Study design

A descriptive cross sectional study design was used.

Sample size determination

The sample size was determined in accordance with the Fisher's Formula (Mugenda and Mugenda, 2003). The formula was deemed appropriate for this study because the target population in Central Division was greater than 10,000 i.e. 13,120 households (KNBS, 2009). The sample size was determined using the formula below;

$$n = Z^2 P Q / D^2$$

Where:

n- is the desired sample size, Z- is the Z-score for a 95% confidence interval in a normal distribution table, P- is the proportion in the target population estimated to be suffering from active trachoma i.e. prevalence of Active Trachoma in Kajiado County is 28.1% (Karimurio, 2006), Q -is the compliment of P, thus (1-P), D -sampling error which is taken to be 0.05.

$$n = 1.96^2 (0.281) (0.719) / (0.05)^2 = 310 \text{ respondents}$$

(translates to 310 households heads)

The sampling unit for the study was the community households and this translated to the number of people interviewed in the community since only the household heads or a representative aged eighteen years and over were interviewed. Therefore, the minimum sample size for the study was three hundred and ten (310) respondents within Central division but up to a maximum of three hundred and twenty one (321) respondents were interviewed to cover for non-response.

Sampling technique

The study subjects in Central division were selected by stratified sampling by locations and simple random sampling was used to select the households in each location until the desired sample size was reached. All the thirteen locations within Central division of Kajiado County were selected and the sample size proportionately allocated to the thirteen strata. Unique identifiers (i.e. the name of household heads) used during the 2009 National Population and Housing Census were used to generate a sampling frame of all the households in each of the thirteen locations and if a random number generated using Microsoft excel matched a household's unique identifier, that household was automatically added to the list of selected households. Only the household heads were interviewed but in their absence, a household member aged 18 years or older was interviewed. Eleven health care personnel were purposively sampled from the health facilities and organizations providing trachoma eye care services in the region.

Data Collection

Data was gathered with the aid of a combination of data collection tools. Interviewer-administered questionnaires were used to obtain information from the community

respondents and this tool was used to assess utilization of the eye care service and obtain information on factors affecting utilization of the services by the community. Interview schedules were used to conduct face-to-face interviews with the health care personnel and information obtained using this tool gave an in-depth understanding of the knowledge health workers had regarding utilization of the services they provided and on factors influencing their utilization. Additionally, observation checklists were filled out for the health care facilities providing trachoma eye care services in the region and for the community households. These checklists were used to assess the attributes of the health facilities which would affect utilization of the available trachoma eye care services. Scores were awarded for the various attributes observed at the health facilities. Direct observations at the household level provided information on attributes of the household environment that influenced risk factors for trachoma disease.

Ethical Consideration

Approval from Institutional Research and Ethics Committee (IREC), an ethics and research body in Moi University Eldoret, Kenya, was sought. Ethical approval number is 000934. The following ethical issues were put into consideration:

- i) The aim of the study was explained in detail before gaining informed consent from participants.
 - ii) All the information from participants was treated with utmost confidentiality.
 - iii) Participation in the study was entirely voluntary.
 - iv) Respect and dignity was upheld during data collection.
- Informed consent was sought from community respondents and health care personnel involved in the study.

Prior to commencing the study, clearance was sought from the institution of study and authority to conduct the study was sought from the concerned authorities in Kajiado County.

Data Analysis

Data was entered in Microsoft Access database software and later exported to Stata version 12 for analysis. Categorical variables were summarized as frequencies and corresponding percentages while the continuous variables were summarized as the median and the corresponding lower and upper quartiles, here denoted as Inter Quartile Range (IQR). The test for normality was done using the Shapiro-Wilks test for normality. The association between categorical variables was assessed using the Pearson's Chi Square test at 95% Confidence Interval.

Validity and Reliability

To ensure reliability and validity of data collected, training

of the research assistants was done to familiarize them on the research tools and procedures. The training on the research tools targeted standardizing data collection procedures. The questionnaires, interview schedules and observation checklists were piloted and reviewed before use in the actual study to establish their accuracy in generation of required information. Checks for errors and inconsistencies were done at all stages of the study to ensure that the outcomes were factual.

A pilot study involving thirty three (33) community respondents and three (3) health care personnel was conducted in Isinya division of Kajiado County to test and refine the research instruments. The sample size for the pilot study was 10% of the study sample size (Mugenda and Mugenda, 2003). This pilot study tested if the proposed main study was feasible.

RESULTS

Socio-demographic characteristics of the respondents

The mean age of the respondents was thirty seven and a half (37.5) years and the response rate was at 97.8%. Of the 321 participants included in the study, 64(20%) were aged 18-24 years, 219(68%) were aged 25-59 years. The rest were aged 60 years and over. There were significantly higher female participants, 205(65%, p -value<0.001), in the study compared to the male respondents. Among the female respondents, 43(21%) were aged 18-24 years, 140(68%) were aged 25-59 years, and 22(11%) were aged 60 years and over. Similarly, among the male participants, 19(17%) were aged 18-24 years, 74(68%) were aged 25-59 years, and 16(15%) were aged 60 years and over. The Chi Square test for differences in gender distribution across the age groups was not statistically significant (p -value=0.504). Other baseline socio-demographic characteristics of the respondents are shown in Table 1. Data was collected in all the thirteen locations of Central Division. Township location had the highest number of respondents 104(32%) followed by Sajiloni location with 40(12%) respondents. Loodokilani location had 25(8%) respondents while Elang'ata Wuas, Enkorika, and Ildamat locations each had 22(7%) respondents. The rest of the locations had less than 20 respondents as indicated in Table 2.

Utilization of the available trachoma eye care services

There were 33(10%) respondents who claimed to have sought trachoma eye care services in a health facility. Of this number, 7(21%) sought eye examination, 23(70%) antibiotic treatment while 2(6%) of the respondents claimed to have undergone eye surgery and also received antibiotic treatment while another respondent claimed to have undergone eye surgery only. The most predominant language of communication between those who had sought trachoma eye care services and the healthcare providers

Table 1. Summary of Socio-Demographic Characteristics of the Respondents (n=321)

Variables	Levels	N (%)
Age	18 – 24 years	64 (20%)
	25 – 59 years	219 (68%)
	60 and over	38 (12%)
Gender	Males	109 (34%)
	Females	212 (66%)
Employment Status	Unemployed	144 (45%)
	Employed	36 (11%)
	Self-Employed	141 (44%)
Education Level	None	70 (22%)
	Primary	128 (40%)
	Secondary	88 (27%)
	Tertiary (College/ University)	35 (11%)
Marital Status	Single	62 (19%)
	Married	226 (70%)
	Divorced	8 (3%)
	Widow/Widower	25 (8%)

Table 2. Distribution of Respondents in Locations within Central Division, Kajiado County (n=321)

Locations	n (%)
Elangata wuas	22(7%)
Enkaroni	16(5%)
Enkorika	22(7%)
Ildamat	22(7%)
Kikuro	9(3%)
Kilonito	12(4%)
Loodokilani	25(8%)
Nkoile	18(6%)
Olbelibel	6(2%)
Olontulungum	6(2%)
Sajiloni	40(12%)
Township	104(32%)
Torosei	19(6%)
Total	321

was Kiswahili (55%) while the others claimed to have communicated using a combination of other languages shown in Table 3. The most common mode of transport to the health facilities was public service vehicles. There were 84(26%) other respondents who were aware of someone else other than themselves who had visited the health facilities seeking trachoma eye care services and the most sought trachoma eye care service was antibiotic treatment, 70(83.3%). Only 22(7%) respondents in this study had ever sought trachoma eye care services but failed to be served with most of them claiming unavailability of eye specialists, 8(62%) while the rest gave other reasons as indicated in Table 3. There was a significantly higher proportion of female participants who had sought trachoma eye care services in a health facility compared to their male counterparts, ($p=0.035$). There were no apparent associations between utilization of trachoma eye care services in a health facility by age, education level, marital

status, and employment status with p-values equal to 0.452, 0.276, 0.081, and 0.655 respectively. There were various barriers that respondents claimed hindered them from seeking the available trachoma eye care services. A majority 88(28%) of them cited proximity or distance to the health facility as being the main barrier to utilization of these services while 44(14%) of the study respondents cited affordability/cost of seeking these eye care services. Other barriers cited by respondents included; lack of awareness on the presence of trachoma disease, not seeing the need for the eye care services and long waiting queues at the health facilities.

Household Attributes

The community household attributes were also assessed and there were 49(15%) households located a kilometer away from the bus stage and another 44(14%) households

Table 3. Utilization of Trachoma Eye Care services

Variable	Levels	Sample size	n (%)
Have you visited a health facility seeking any trachoma eye care services?	Yes vs. No	315 ^a	33(10%)
Trachoma eye care services sought	Eye Examination	33	7(21%)
	Antibiotic Treatment		23(70%)
	Antibiotic & Eye surgery		2(6%)
	Eye surgery		1(3%)
Language of communication	English & Kiswahili	33	2(6%)
	Kiswahili		18(55%)
	Kiswahili & Maasai		12(36%)
	Maasai		1(3%)
Means of transport to travel to the facility	Walking	33	6(18%)
	Walking & public service vehicle		3(9%)
	Private vehicle		2(6%)
	Public service vehicles		18(55%)
	Public service vehicles & Motor bicycle		4(12%)
Do you know of anyone who has ever visited a health facility seeking any trachoma eye care services?	Yes vs. No	321	84(26%)
Trachoma eye care services sought	Eye Examination	84	1(1.2%)
	Eye Examination and Antibiotic treatment		2(2.4%)
	Antibiotic treatment		70(83.3%)
	Antibiotic treatment & Eye surgery		9(10.7%)
	Eye surgery		1(1.2%)
	No idea		1(1.2%)
Have you ever sought trachoma eye care services and failed to be served?	Yes vs. No	317 ^a	22(7%)
Reasons for failing to get the services	Unavailability of eye specialists	22	10(45%)
	Lack of financial support		3(14%)
	No health worker on duty		4(18%)
	Health workers too busy for patients		5(23%)

a - The minimum sample size for the study was 310 but up to 321 study participants were interviewed, hence, the variation in sample size in the different questions depending on the availability of the study participants

located a kilometer away from the health facility (Reference point - Kajiado District Hospital). Two hundred and thirty seven (74%) households had a water holding receptacle present for bathing or face washing within their homesteads. There were 196(61%) households that had latrines within 6 meters. One hundred and thirty nine (71%) of these households had lockable doors provided for the latrines. There were 56(17%) households that had livestock corrals located away from the households and 123 (38%) households that had impermeable floors/sprinkled earthen floors. One hundred and eight (34%) households had a garbage/animal waste disposal pit present within the household compound. It was also observed that 156(49%) households had a low fly (*Musca sorbens*) population within the household surroundings.

The household attributes assessed were scored and the median sum of the scores was computed. The maximum score was 8 and the minimum score was zero. The median

score for the household attributes was 4(IQR: 2-5) for all the 321 households sampled in the study.

Health facility attributes

Observation checklists were also filled on the attributes that would regard the health facilities providing trachoma eye care services as client-friendly. Observations were made on the time the patient/client would have to wait before he/she was attended to by a health professional. Eight health facilities were observed, with six (6) representing 75% recording waiting time for the patient/client as less than an hour while the other two facilities recording waiting time of between one and two hours. Only six (6) of the eight health facilities had referral systems for trachoma cases in place. The location of two (2) health facilities was found to be convenient. Convenience meant that the health facilities were located within a

kilometer from the public transport drop off point. The conditions of the waiting bays were assessed. Five (5) health care facilities had adequate lighting (that is, they had an adequate number of windows to allow in natural light or electric lights providing artificial lighting), adequate ventilation (that is, there were windows and doors to allow proper air circulation), they were generally clean, and had enough sitting accommodation.

The operational time during which the community could access trachoma eye care services was 8am to 5pm as observed in six (6) of the health facilities. Two (2) health facilities operated 24 hours a day.

From the displayed meeting schedules in four (4) of the health facilities, it was observed that regular meetings with other stakeholders (other facilities or organizations) to discuss issues on provision trachoma eye care services in the region were periodically undertaken.

Only two (2) health facilities observed had a functional surveillance system for community eye health related conditions. The total scores from the observation checklists for each facility was obtained. The individual total scores ranged from zero to 14 with a median score of 10.5(IQR: 8.5 -12.5) for all the health facilities.

Health personnel interviews

Among the eleven health personnel interviewed, 6(55%) were from the public health facilities, 2(18%) from the mission or private health facilities. The rest worked in organizations (governmental or non-governmental). The trachoma eye care services available in these health facilities/organizations according to the health personnel were eye examinations, antibiotic treatment, eye surgery and health education. However, three (3) of them reported that there were no trachoma eye care services available in their facilities/organizations.

Seven (64%) admitted that their facilities had trained personnel on trachoma eye care. Of the four (4) who said that there were no trained personnel, one was from a non-governmental organization and the other three (3) worked in the public health facilities. Three of these four were those who reported that there were no trachoma eye care services available to the community in their health facilities. The areas of trachoma eye care they were trained in according to the six (6) of the respondents were antibiotic drug dispensation, eye surgery and on health education.

On average the number of clients seen by the health personnel per day in those health facilities that offered trachoma eye care services were in the range of 1-5 according to 6(75%) of the health care personnel interviewed. Five out of eleven health personnel did not see any client and among them were two health facilities that offered trachoma eye care services.

All the health personnel interviewed were in total agreement that their health facilities carried out

sensitization or provided information to the community about the available trachoma eye care services, including those health facilities that had claimed not to offer these services. These were done through health education and mass awareness campaigns.

Health personnel interviewed also reported that their facilities have been working with the community to improve measures aimed at safeguarding their eye health. Some of the measures put in place included offering outreach services; health education, mass awareness campaigns and provision of antibiotics.

The trachoma eye care educational materials available to the community at these facilities included posters, booklets, pamphlets, and flip charts. Only two (2) health personnel working in public health facilities reported that their health facilities did not have these materials.

Of the nine (9) health facilities that had the educational materials available only three (3) of the health personnel in their respective facilities reported that the materials were being adequately utilized.

In order to increase the availability and accessibility of the trachoma eye care services to the community all the eleven (11) health facilities and organizations reported they offered community based outreach services. Some of these outreach services included; health education, antibiotic treatment, eye screening and referral of progressed cases of trachoma disease to the health facilities.

Only four (4) of the eleven health personnel interviewed felt their facilities were adequately equipped and staffed to meet the trachoma eye care needs of the community in the area. Two (2) of them were from NGOs, one working in a mission hospital while another in a public health facility.

DISCUSSION

Utilization of available trachoma eye care services

Uptake of both preventive and curative trachoma eye care services by the community was low. Health education, eye examinations, antibiotic treatment and eye surgery formed part of the preventive and curative services offered to the community in the study region. History of an eye care visit to seek any of the available trachoma eye care services was considered a determinant of eye care service utilization. Utilization of trachoma eye care services was low (36%) in the study area, this being a combined proportion of the respondents claiming to have sought various trachoma eye care services from the health facilities and those who claimed to know of someone else other than themselves who had sought these services. Comparing this to a study done in South Africa where it was found that a bigger proportion of respondents (62.7%) had used eye care services provided in the health facilities in the past indicating a higher level of utilization (Ntsoane et al., 2012).

There was a significantly higher proportion of female respondents (13%) who sought trachoma eye care services than the male respondents (5%). Women were more likely to be seen seeking eye care services given their tendencies of visiting health care facilities while bringing children for immunizations or while attending ante-natal and post-natal clinics as opposed to their male counterparts. This was in contrast to a study done in South Africa where it was found that gender was an insignificant predictor of utilization of eye care services. Female and male utilization levels were not significantly different statistically, presumably due to the higher proportion of female participants in the study, as this reduced the intra-gender percentage of utilization (Ntsoane et al., 2012). The case was the same for a study done in an urban population in southern India, where there was no significant difference found in the utilization of eye care services between the two sexes (Dandona et al., 2000).

Age of the respondents, their education level, marital status and employment status were found to have no apparent association with utilization of trachoma eye care services and this agrees with a study done in South Africa by Ntsoane et al.(2012) where age and educational level were found to be insignificant predictors of use of eye care services, but partly contrasts with a study by Morales et al.(2010) where it was found out that age, gender and marital status were significant predictors of eye care utilization amongst the Latino community. Age was found to be a significant factor determining eye care utilization, with subjects <60 years of age seeking treatment less compared with subjects >60 years of age. This was of importance because people in the younger age group are more likely to be economically productive (Dandona et al., 2000).

Majority (73%) of respondents thought that provision of trachoma eye care outreach services would improve utilization of these services and help meet their needs as a community. Another twenty percent of the respondents thought that provision of free trachoma eye care services would increase utilization of the services. In a study in rural South India, it was found that even though actual eye care was free for patients, underutilization of the available eye care services existed because patients were not aware they were being offered free of charge (Robin et al., 2004). Therefore, even though there might be free-of-cost trachoma eye care services being offered in the current study, the community might not be aware of these free services or might have a negative perception about them. Hence, this may result to under-utilization of the eye care services.

Factors affecting utilization of available trachoma eye care services

There were 44(14%) respondents who cited affordability or cost as being a factor affecting utilization of trachoma eye care services. Respondents looked at cost in terms of

affordability of transport costs to the health facilities while others had the assumption that the eye care services offered at the health facilities were too costly. They also claimed that eye care services were costly in terms of the forfeited profits in business while seeking these services. This was similar to studies done in Ghana and South India where cost emerged as a major barrier to seeking eye care and as a major reason for not up taking eye services among the visually impaired populations (Ilechie et al., 2013; Kovai et al., 2007). Studies done in various parts of Kenya have also shown cost to be a major barrier to utilization of eye care services (Karimurio et al., 2007; Kimani et al., 2007; Ndegwa et al., 2005).

According to Ndegwa et al. (2005) in addition to the cost incurred from eye surgery being a barrier to utilization of eye care services, there are other costs such as transportation to the hospital, loss of work to the patient or to the caregiver accompanying the patient and living expenses for the carer while the patient is in the hospital. In many developing countries, poverty is a major issue hence residents are not able to afford the cost of eye care services and therefore conditions which could have been treated at an early stage are not attended to and may result in low vision and blindness (Lewallen and Courtright, 2000).

Only one respondent cited long waiting times at the health facilities as being a factor affecting utilization of the available trachoma eye care services. Contrary to this, findings from the facility observation checklists indicated favorable waiting times (i.e. clients spending less than an hour before being attended to by health personnel) in most of the health facilities in the region. In a study done in South Africa and Ghana, it was reported that long queues and long waiting times was considered the main hindrance to seeking eye examination amongst those able to access eye care services (Ntsoane et al., 2012; Ilechie et al., 2013). Dissatisfaction at hospital level due to long waiting lists and poor communication with specialists and staff was considered a barrier to uptake of eye care services by the Indian population (Patel, Baker & Murdoch, 2006). Though in this study, the language between the health personnel and those who sought the trachoma eye care services was not found to influence utilization of these services.

Eighty eight (28%) respondents cited proximity or distance to the health facilities as a barrier to utilization of available trachoma eye care services and 29(9%) more respondents cited both affordability and accessibility as being a combination of barriers to utilization of these services. Results from the household standardized observation checklists also indicated a small proportion 15% and 14% of households located less than a kilometer away from the bus terminal and health facilities respectively. In agreement with these findings were studies by Chandrashekar et al.(2007) and Dhaliwal and Gupta (2007) where it was reported that lack of transport and the long distances from villages to the hospitals were the main

barriers to utilization of eye care services in India. According to Di Stefano (2002), the lack of access to eye care services globally is a critical barrier to the successful elimination of avoidable blindness as proposed by Vision 2020 and that people need access to preventive services that are effective in the prevention of eye disease or in the detection of asymptomatic diseases or risk factors at an early and treatable stage.

Household attributes

The household attributes observed, informed the study on the utilization of knowledge gained from the preventative services offered to the community. Observations were done on the household attributes which were regarded as indicators of utilization of the preventative services by the community in the study area. The observation checklists were used as impact evaluation tools of the preventative services (i.e. health education and mass awareness campaigns) implemented and ongoing in Kajiado County. This study tool focused on household attributes leading to the reduction in physical eye health risks and improvements to the physical environment to protect eye health. Health promotion programs may have a range of immediate effects on individuals or communities and on social and physical settings. Immediate effects may be in terms of improved health knowledge and changes to health actions and behavior.

Close to three-quarters (74%) of households observed had a water holding receptacle present within the homestead for bathing or face washing. This was a positive attribute given the association between unclean faces and active trachoma. The major cause of high prevalence of active trachoma in children aged one to nine years in most trachoma endemic areas is because children touch their eyes much more frequently than adults. They rub their eyes in an attempt to make them feel better and usually if they are painful or irritated by something. They tend to have more irritated eyes if their faces (particularly around the eyes and lashes) are dirty and if the environment is dry, sandy, or dusty. Because the Chlamydia bacteria are often present in the discharge from the eyes and mucus from the nose, these practices could ease transmission of the bacteria from one child to another child or to an adult. Therefore, good hygiene practices should be promoted by all trachoma control programs, especially in dry and dusty environments and where children lack facial hygiene (Emerson et al., 2006).

More than half (62%) of the households lacked impermeable floors and the households with earthen floors were poorly sprinkled with water to prevent dusty conditions. Dust-free conditions prevent eyes-to-fingers transmission of the disease causing agent (Chlamydia bacteria). Presence of water in a dry environment including water spilt or sprinkled on the ground, would provide an alternative source of moisture to flies which would

otherwise seek it on peoples' eyes and faces (Cairncross, 1999). It was also reported in study in Mali that children living in cemented houses were less likely to suffer active trachoma compared to those who lived in earthen homes (Schemann et al., 2002).

It was also observed that up to 61% of households in the study area had latrines located at least six (6) metres from the households as is recommended by World Health Organization, as having latrines close to the household encourages their use (WHO, 2014). Most (71%) of the latrines had lockable doors provided, hence, giving the users of the facilities a good sense of privacy. This is known to encourage the use of these sanitary facilities amongst the Maasai community. Use of latrine facilities reduces fly population as opposed to indiscriminate defecation in the bushes, which results to an increase in the population of the disease-carrying vectors. In a study done in Ethiopia, it was reported that communities with a higher proportion of households using latrines were more likely to experience a reduction in the prevalence of ocular chlamydia. Specifically, for each 10% increase in latrine use, there was a 2% decrease in the community prevalence of ocular chlamydia over the subsequent year (Haile et al., 2013).

Among the households observed which reared livestock, close to three-quarters (71%) of them had livestock corrals located very close to the homesteads. This contributed to the increased population of the flies within the household surroundings. In another study done in Ethiopia, it was reported that there was an increased risk of severe trachoma and conjunctivitis when cattle were present around the homestead. In a Borana village rearing cattle, each family kept their herd in a corral about seven meters in diameter attached to the living quarters from sunset to sunrise. The corrals were filled with animal droppings and flies swarming. Flies were seen on children's faces far more often in the villages with cattle (3 out of four) than in villages without (one out of five). Therefore, the study concluded that neither cattle ownership nor the presence of cattle in the villages had a major role in the size of the fly population. Instead, the major determinant seemed to be the way in which cattle were kept (De Sole, 1987).

More than a half (66%) of the households observed lacked properly designated garbage/animal waste disposal pits within the homestead compound. This would lead to increased fly population within the households. But in a study done in Mali, there was no difference in trachoma prevalence observed between households with or without garbage disposal pits (Schemann et al., 2001).

It was further observed that close to a half (51%) of the households in the study area had a high fly (*Musca Sorbens*) population within their household surroundings. According to Emerson et al. (2006), *Musca sorbens* breeds in feces, most prolifically in human feces lying in the shade on the soil surface, but also in cow dung and dog feces. Therefore, where *Musca sorbens* are present, steps to minimize fly-to-eye contact and reduce breeding opportunities for flies by

disposing of feces properly should be taken. These attributes indicated that there were inadequate measures put in place by most households to control the fly population.

The median score for the observed household attributes was 4(IQR: 2-5) for all the 321 households sampled in the study. The maximum score was eight (8) and the minimum score was zero, with a half of the households scoring as low as two (2) points in terms of the observed household attributes and as high as five (5) points. This meant that the observed households were yet to meet most of the attributes likely to protect the inhabitants of the households from the risk factors of trachoma disease and help interrupt the pathways of transmission of the disease. This further illustrated the low utilization of the preventative services (i.e. health education and mass awareness campaigns) available to the community in Central division of Kajiado County.

Health facility attributes

Health facility attributes that would influence utilization of trachoma eye care services were also observed. The attributes would measure the client-friendliness of the health facilities in providing eye care services. A client-friendly facility would determine the utilization of the eye care services offered by it. Observation checklists were filled for eight health facilities in the area, six (6) being public health facilities and two (2) being private health facilities.

It was observed that clients took less than an hour before seeing the doctor in most (75%) of the health facilities while in other facilities it took patients 1-2 hours. This meant that in most health facilities clients did not experience long waiting queues before being attended to by health personnel. This observation complimented what was reported in the household questionnaires where only one respondent felt long waiting times at the health facilities was a factor influencing utilization of available trachoma eye care services. Similarly, in a study done in Nairobi's Kibera and Dagoretti areas, long queues did not seem to deter people from choosing health facilities as only 1% of respondents chose the particular facilities due to absence of long queues (Kimani et al., 2008). It was also observed that a good number (6) of the health facilities had referral systems in place for trachoma patients. A small proportion of the health facilities were conveniently (less than a kilometer) located from the public transport drop-off points. This distance was deemed appropriate in measuring accessibility of the health facilities, since most people travel from the various remote areas of the region to seek health care in the centres where the health facilities are mostly located. In a study in Melbourne, Australia, it was reported that proximity and convenience were listed as main facilitators to eye care use (O'connor et al., 2008).

Most of the health facilities were observed to have good

conditions at the waiting bay. Some of the conditions observed were; adequate lighting and ventilation, good general state of cleanliness and adequate sitting accommodation available at the waiting bay. Three-quarters of the health facilities observed operated between 8am-5pm with only two of the health facilities operating for 24 hours. A small proportion (25%) of the health facilities had a functional surveillance system for community eye related conditions. Most facilities had general disease surveillance systems in place rather than those that are disease-specific.

Scoring of the individual attributes observed in all the health facilities, gave an overall median and mean scores of 10.5 (IQR: 8.5-12.5) and 10.4 (SD: 2.7) respectively. This meant that a half of the health facilities scored as low as 8.5 points to a maximum of 12.5 points with regards to the observed facility attributes, with the individual facility scores ranging from zero to a maximum of fourteen points. This showed that a majority of the health facilities observed had attributes that met the threshold for them to be regarded to as client-friendly facilities in terms of provision of trachoma eye care services. Hence, the facilities were likely to encourage utilization of the available eye care services by the community in the region.

Health personnel interviews

The interviews gave insight on the trachoma eye care services available to the community in Central division and on factors that affected utilization of these services. The health care personnel worked in the observed facilities and non-governmental organizations in the area. Of the eleven (11) health care personnel interviewed, six (6) of them worked in public health facilities, two (2) in mission and private health facilities and the rest (3) worked in non-governmental organizations in the region.

Majority (8) of health care personnel interviewed admitted that their facilities/organizations offered trachoma eye care services to the community (i.e. eye checkups, antibiotic treatment, eye surgery and health education programmes).

A good proportion (64%) of the health care personnel admitted to having trained personnel in trachoma eye care in their facilities but majority of the health personnel working in public health facilities claimed to lack health staff trained on the same. The main areas of training were on eye examination and surgery, antibiotic drug dispensation and health education facilitation.

Three-quarters (75%) of the health care personnel interviewed claimed to see 1-5 clients in a single day seeking trachoma eye care services in their facilities. Majority of health care personnel claimed to see at most one or two clients seeking these eye care services in a normal day.

All the health personnel interviewed claimed their facilities/organizations provided outreach services to the

community in the region. Some of the outreach services included health education and mass awareness campaigns, mass drug administration, eye examinations and referral of progressed cases of trachoma disease to the health facilities. This agreed with what was reported in the questionnaires. Amongst the respondents whose opinion was sought on how trachoma eye care services can be improved to meet the needs of the community, close to three-quarters (73%) of them thought outreach services would improve access and increase utilization of these services.

Most of the health personnel claimed their facilities provided educational materials on trachoma eye care including posters, pamphlets, booklets and flip charts. Of these health personnel, only three of them claimed that the educational materials were being utilized by the community. Utilization of the available educational materials was by the clients asking for and reading through the materials. According to (Kidd et al., n.d.), in a study done in Loitoktok district, of the respondents who claimed to have received verbal and written IEC (Information, Education and Communication) materials about trachoma, most were unable to identify even the most basic methods of trachoma prevention (i.e. face washing, keeping flies away, and latrine use). In many cases, respondents only had knowledge of “take a pill” and “go to the doctor/clinic” as methods of preventing and treating trachoma, respectively. The lack of eye health information, in certain cases, has been reported to affect prioritization of receiving eye care services relative to other health care services and personal responsibilities (Alexander Jr et al., 2008). Close to three-quarters of the health personnel thought their facilities were not adequately equipped and staffed to meet the trachoma eye care needs of the community in the region.

All the health personnel interviewed were of the opinion that more funds were needed in their facilities to improve provision of trachoma eye care services. They claimed that the funding would facilitate outreach services, trainings and supplement running costs of the facilities/organizations.

Conclusion

The overall utilization of the available trachoma eye care services in Central Division of Kajiado County was low (36%). The respondents' gender was the only socio-demographic characteristic found to be significantly associated with utilization of the available eye care services in the region. The main barriers to utilization of trachoma eye care services in the region were accessibility to health care facilities and the affordability of both transport and hospital service charges.

Recommendations

(1) To overcome under-utilization of trachoma eye care

services, stakeholders should address the local barriers to uptake of these services through community participation in education, use of community health workers, strengthening of first level health units and provision of outreach services. In addition, economic constraints in the treatment of trachoma disease and the other “indirect” costs of seeking trachoma eye care services would have to be understood better to optimize the utilization of these services.

(2) Need for utilization of verbal educational materials over written materials so as to increase the awareness of symptomless eye diseases such as trachoma, in order to detect them early and manage them appropriately so as to reduce the burden of visual impairment and blindness. Community health workers should be facilitated with their education efforts through provision of IEC materials and additional training on trachoma.

Acknowledgements

We extend our appreciation to the Medical Superintendent - Kajiado Sub County Hospital, AMREF's Trachoma Integrated Project Manager and Project Officer - Mr. Dikir and Mr. Ochieng' respectively, research assistants, the community members and all other individuals in Kajiado County who went out of their way to assist us undertake this research.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of the paper

REFERENCES

- Alexander Jr RL, Miller NA, Cotch MF, Janiszewski R (2008). Factors that influence the receipt of eye care. *Am. J. Health Behav.* 32:547–556. [Crossref](#)
- Ashaye A, Ajuwon A, Adeoti C (2006). Perceptions of blindness and blinding conditions in rural communities. *J. Nat. Med Assoc.* 98:887–893.
- Cairncross S (1999). Trachoma and Water. *Community Eye Health.* 12:58–59.
- Chandrashekhhar TS, Bhat HV, Pai RP, Nair SK (2007). Coverage, utilization and barriers to cataract surgical services in rural South India: Results from a population-based study. *Public Health.* 121:130–136. [Crossref](#)
- Dandona R, Dandona L, Naduvilath TJ, McCarty CA, Rao GN (2000). Utilisation of eye care services in an urban population in southern India: the Andhra Pradesh eye disease study. *Br. J. Ophthalmol.* 84:22–27. [Crossref](#)
- De Sole G (1987). Impact of cattle on the prevalence and severity of trachoma. *Br. J. Ophthalmol.* 71:873–876. [Crossref](#)

- Dhaliwal U, Gupta S (2007). Barriers to uptake of cataract surgery in patients presenting to a hospital. *Indian J. Ophthalmol.* 55:133–136. [Crossref](#)
- Di Stefano A (2002). The challenge of leadership for the new millennium. *Am J Optom.* 73:339–349.
- Emerson P, Frost L, Baley R, Mabey D (2006). Implementing the SAFE Strategy for Trachoma Control [Internet]. The Carter Center [cited 2013 Feb 12]. Available from: <http://www.cartercenter.org>
- Fotouhi A, Hashemi H, Mohammed K. (2006). Eye care utilization patterns in Tehran population: A population based cross-sectional study. *Brit J Ophthalmol.* 6:4–12.
- Haile M, Tadesse Z, Gebreselassie S, Ayele B, Gebre T, Yu SN (2013). The Association between Latrine Use and Trachoma: A Secondary Cohort Analysis from a Randomized Clinical Trial. *Am J Trop Med Hyg.* 89:717–720. [Crossref](#)
- Ilechie AA, Otchere H, Darko-Takyi C, Halladay AC (2013). Access to and Utilization of eye Care Services in Ghana. *Int J Health Res.* 6:7–15.
- International Coalition of Trachoma Control (2011). The End In (Of) Sight: 2020 INSight. International Coalition for Trachoma Control.
- Karimurio J, Gichangi M, Adala H, Huguet P (2007). Rapid Assessment of Cataract Surgical Services (RACSS) survey. Lions Support Unpublished.
- Kidd JD, Maas ME, McCoy ME, Ngata SW, Winfrey OK, Young RA (n.d.). Evaluation of the Burden of Active Trachoma Among Children Aged 1-9 in Loitokitok District, Kenya. Retrieved from <http://jeremykidd.myefolio.com/files/Uploads/Pediatric%20Trachoma%20Final%20Report.pdf>
- Kimani K, Jerroh S, Botwey D, Karimurio J, Osundwa E, Muli A (2007). Preliminary Report of the Kericho Bomet and Bureti districts, Evaluation/ Rapid Assessment of Avoidable Blindness (RAAB) survey. SSI Rep Unpublished.
- Kimani K, Karimurio J, Gichuhi S, Sheila M, Nyaga G, Wachira J (2008). Barriers to utilization of eye care services in Kibera and Dagoreti, Kenya. *East Afr. J Ophthalmol.* [Internet]. [cited 2013 Dec 3]; 14(2). Available from: <http://www.coecsa.org/ojs-2.4.2/index.php/JOECSA/article/view/39>
- KNBS (2009). 2009 Kenya Population and Housing Census. Kenya: Kenya National Bureau of Statistics.
- Kovai V, Krishnaiah S, Shamanna B, Thomas R, Roa G (2007). Barriers to accessing eye care services among visually impaired population in rural Andhra Pradesh, South India. *Indian J. Ophthalmol.* 55:365–371. [Crossref](#)
- Lewallen S, Courtright P (2000). Recognizing and reducing the barrier to cataract surgery. *Comm. Health.* 13:20–21.
- MoPHS (2008). Kenya National Plan for Elimination of Trachoma. Kenya: Division of Preventive Ophthalmic Services.
- MoPHS (2011). National Multi-Year Strategic Plan for control of Neglected Tropical Diseases. Kenya: Ministry of Health.
- Morales LS, Varma R, Paz SH, Lai MY, Mazhar K, Andersen RM (2010). Self-reported use of eye care among Latinos: the Los Angeles Latino Eye Study. *Ophthalmology.* 117:207–215. [Crossref](#)
- Mugenda O, Mugenda A (2003). Research Methods: Quantitative and Qualitative Approaches. Nairobi: African Centre for Technology Studies (ACT).
- Ndegwa L, Karimurio J, Okelo R, Adala H (2005). Barriers to utilization of eye care services among slum dwellers of Kibera in Nairobi, Kenya. *East Afr Med J.* 12:13–14.
- Ntsoane MD, Oduntan OA, Mpolokeng BL (2012). Utilisation of public eye care services by the rural community residents in the Capricorn district, Limpopo Province, South Africa. *Afr J Prim Health Care Fam Med.* 4:7.
- O' Connor P, Mu L, Keeffe J (2008). Access and utilization of a new low vision rehabilitation. *Clin Exp Ophthalmol.* 36:547–552.
- Patel D, Baker H, Murdoch I (2006). Barriers to uptake of eye care services by the Indian population living in Ealing, west London. *Health Educ J.* 65:267–276. [Crossref](#)
- Robin A, Nirmalayan P, Ramasamy K, Rengappa R, Tielsch J, Ravilla D (2004). The utilization of eye care services by persons with Glaucoma in rural South India. *Trans Am Ophthalmol. Soc.* 102:47–52.
- Schemann J, Sacko D, Malvy D, Momo G, Traore L, Bore O (2002). Risk factors for trachoma in Mali. *Int J Epidemiol.* 31:194–201. [Crossref](#)
- Vision 2020 (2009). The Right to Sight [Internet] [cited 2012 Aug 18]. Available from: <http://www.vision2020.org>
- WHO (2006). Trachoma Control: A guide for program managers. Geneva: World Health Organization.
- WHO (2010). Prevention of Blindness and Visual Impairment, Priority eye diseases, Trachoma. [Internet] [cited 2012 Sep 15]. Available from: <http://www.who.int/blindness/causes/priority/en/index2.html>
- WHO (2010). Water-Related Diseases – Trachoma [Internet] [cited 2012 Jul 24]. Available from: http://www.who.int/water_sanitation_health/diseases/trachoma/en/index.html
- WHO (2014). WHO-Fact sheets on environmental sanitation [Internet] [cited 2014 Feb 21]. Available from: http://www.who.int/water_sanitation_health/hygiene/emergencies/envsanfactsheets/en/index2.html

APPENDICES

Appendix 1. Community Household Questionnaire

DEMOGRAPHIC DATA											
AGE (Years) (Q01)		SEX (Q02)		EDUCATIONAL BACKGROUND(Q03)		MARITAL STATUS (Q04)		PLACE OF RESIDENCE (Location)(Q05) (Tick as appropriate)			
15-24		MALE		NO EDUCATION		SINGLE		01	08		
								02	09		
25-59		FEMALE		PRIMARY		MARRIED		03	10		
								04	11		
60 and above				SECONDARY				DIVORCED/ SEPARATED		05	12
				TERTIARY (College/ University)				WIDOWED		06	13
								07			
EYE CARE SERVICES DATA											
Q100	Have you ever visited a health facility seeking any trachoma eye care services?							YES			
								NO			
	If you answered YES to question (Q100) above, which specific trachoma eye care service did you seek? (Tick as appropriate)										
Q101	Eye Examination										
Q102	Treatment (with antibiotics)										
Q103	Treatment (Eye surgery)										
	Others (Specify).....										
Q200	What language did you communicate with at the health facility? (Tick as appropriate)					Vernacular (Maasai)					
						Kiswahili					
						English					
Q300	What means of transport did you use to reach the health facility? (Tick as appropriate)					Public Service Vehicle					
						Private Vehicle					
						On foot					
						Others (Specify).....					
Q400	Do you know of anyone who has ever visited a health facility seeking any trachoma eye care services?							YES			
								NO			
	If you answered YES to question (Q400) above, which trachoma eye care service did they seek? (Tick as appropriate)										
Q401	Eye Examination										
Q402	Treatment (with antibiotics)										
Q403	Treatment (Eye surgery)										
	Others (Specify).....										
Q500	What are some of the barriers to accessing available trachoma eye care services? (Tick as appropriate)										
Q501	Proximity/ Distance travelled										
Q502	Affordability/Cost										
Q503	Acceptability/Cultural resistance										
Q504	Don't Know/No reason										
	Others (Specify).....										
Q600	How can trachoma eye care services in this area be improved to meet your needs as a community? (Tick as appropriate)										
	Outreach services										
	Free eye care services										
	Others (Specify).....										

Appendix 2. Community Household Checklist

HOUSEHOLD ATTRIBUTES		TICK APPROPRIATELY	
Situation and Location			
1	Proximity of household from public transport terminal/stage	<1KM	
		>1KM	
2	Proximity of household from the health facilities	<1KM	
		>1KM	
Sanitary conditions			
3	Presence of water holding receptacle within the household for bathing/face washing		
4	a) Presence of a latrine within 15m of the household		
	b) Presence of a lockable door provided for latrines (privacy)		
5	Presence of livestock corral located away from the household		
6	Presence of impermeable floors/sprinkled mud floors		
7	Presence of garbage/animal waste disposal pit		
8	Low fly (<i>Musca sorbens</i>) population within the household surroundings		
TOTAL SCORE			

Appendix 3. Health Facility Checklist

CLIENT-FRIENDLY ATTRIBUTES AT HEALTH FACILITY (PUBLIC/PRIVATE)		TICK APPROPRIATELY	
1	Waiting time before a patient consults a health care personnel	LESS THAN 1 HR	
		1-2 HRS	
2	Referral system in place (whenever necessary)		
3	Convenient location of the facility (less than a kilometer from public transport drop off point)		
4	Conditions of waiting bay (Tick as appropriate)		
	Has adequate lighting (windows to allow natural lighting/electric lights kept on)		
	Has adequate ventilation (windows/doors to allow for air conditioning)		
	Has enough seating accommodation at any one time.		
	It is generally clean		
5	Convenient operational hours during which the community can access trachoma eye care services	OPEN 24HRS (plus weekends)	
		OPEN 8 AM-5PM (only working hours)	
6	Schedules showing regular meetings with other stakeholders (public/private facilities or organizations) to discuss issues on trachoma eye care services		
7	Functional surveillance system in place for community eye health related conditions (i.e. trachoma)		
TOTAL SCORE			

Appendix 4. Health Personnel Interview Schedule

Name of Health Facility/Organization		PUBLIC HEALTH FACILITY	INTERVIEW SCHEDULE NO.	
		PRIVATE HEALTH FACILITY		
		ORGANIZATION (FBO/NON. GOV)		
001	What trachoma eye care services are available to the community at this facility/organization?			
002	a) Are there personnel in this facility/organization with any training in trachoma eye care?	YES		
		NO		
	b) If so, what area of trachoma eye care was their training?			
003	On average, how many patients/clients suffering from trachoma do health personnel attend to in this facility/organization per day?	1-5		
		6-10		
		>10		
004	a) Has this facility/organization done something to provide information to the community in this area about trachoma eye care services?	YES		
		NO		
	b) If YES, what has this facility/organization done to provide information to the community in this area/visiting this facility about trachoma eye care services?			
005	a) Does this facility/organization work with the community to improve measures aimed at safeguarding their eye health/care?	YES		
		NO		
	b) If YES, what are some of the measures put in place to improve their eye health/care?			
006	a) What trachoma eye care educational materials are available for the community at this facility/organization?			
	b) Are they being utilized adequately?	YES		
		NO		
007	a) Does this facility/organization offer any community based outreach activities services to increase availability and accessibility of trachoma eye care services?	YES		
		NO		
	b) What are some of these outreach services provided?			
008	Would you say that this facility/organization is adequately equipped and staffed to meet the trachoma eye care needs of the community in this area?	YES		
		NO		
009	In your opinion, how can eye care services in this facility/organization be improved to meet community trachoma eye care needs?			