COMMON BLINDING EYE DISEASES IN KIBAHA DISTRICT OF TANZANIA – HOW ARE THEY PERCEIVED BY THE PEOPLE?

BY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH IN THE UNIVERSITY OF DAR ES SALAAM

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in partial fulfillment of the requirements for the degree of Master of Public Health.

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I declare that this is my original work and it has not been submitted for a similar degree in any other University.

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Candidate's signature

Date: 19/9/02

ACKNOWLEDGEMENT

I am indebted to the following for assisting in various ways to make this study successful. Prof. E.P.Y. Muhondwa, whose patient, systematic guidance made this dissertation possible. I thank all my teachers during the Masters in Public Health course whose guidance and teaching provided me with the skills to write this dissertation. The secretarial and support staff at the Institute of Public Health made my tasks a bit comfortable. I thank them for it. I am grateful to the authorities at Kibaha District for permission to carry out the study and for all the support and encouragement they provided.

I am grateful to the assistants who worked very hard, in difficult situations to help me collect data.

To the people who comprised the study sample, I am deeply indebted. They were very cooporative and were the source of the raw information analysed in this dissertation.

I thank the friends and individuals who have provided support to me and my family during my fulltime study period.

My wife and children have patiently borne the very busy study period during which I could not give them adequate attention. I am grateful to them for their patience, support and encouragement.

DEDICATION

I dedicate my dissertation to my late parents who instilled in me love for education and skills improvement for the sake of service to humanity.

ABSTRACT

An exploratory study among 440 adult men and women over 25 years of age was carried out in Kibaha District of the Coast region in Tanzania during May and June 2002. The study sought to find out the perceptions of the people on common blinding eye diseases especially trachoma and cataract. The mean age was 46 years. There was a slightly higher proportion (53.3%) of females. The respondents had different levels of educational attainments.

Less than half the respondents mentioned trachoma and cataract as eye problems in their community. Even fewer considered these to be blinding. The people had a much clearer understanding of trachoma than cataract. They believed these conditions have natural and supernatural causes.

The majority believed blindness due to trachoma and cataract can be prevented. Main methods included early treatment of the conditions (by medicines from hospital or traditional healer) and washing face daily.

The majority believed blinding trachoma and cataract can be treated, mainly by Western medicines. Few believed surgery can cure cataract blindness.

The people donot appear to clearly recognize the gender component of eye diseases. However, among the few who believed gender affects chances of getting, preventing or

treating eye diseases, females were perceived to have greater chances of acquiring them. Females were believed to have a lesser chance, though, of preventing or treating them. Various reasons were mentioned.

Decision making in preventing or treatment seeking for eye diseases was mainly the domain of the male/ head of the household. Decisions on water use for routine domestic purposes was upon the female, but her authority declined when way of water use was to be changed for the purpose of preventing eye diseases. Decision making gender roles in the communities could be threats to equity in prevention and treatment of blinding eye diseases.

A number of recommendations to researchers and project planners/ managers have been made.

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ABBREVIATIONS AND ACRONYMS

CSR	- Cataract Surgical Rate
DALYs	- Disability Adjusted Life Years.
ITI	- International Trachoma Initiative
KCCO	- Kilimanjaro Centre for Community Ophthalmology
KCMC	- Kilimanjaro Christian Medical Centre
LSHTM	- London School of Hygiene and Tropical Medicine
NGO	- Non-Governmental Organization
U.K.	- United Kingdom
U.S.A.	- United States of America
VTA	- Village treatment Assistant
WHO	- World Health Organization

INTRODUCTION:

1.1 BACKGROUND INFORMATION:

Eye diseases are an important cause of morbidity worldwide. It also adversely influences mortality (Blohme and Tornqvist 2000; Krumpaszky et al 1999; Trautner et al 1996; Courtright et al 1993; Taylor et al 1991; Kirkwood et al 1983; Weale 1998). For nuclear cataract the loss in life expectancy may exceed 3 years (Weale 1998). A population based survey in Tanzania (Taylor et al 1991) revealed that blindness is not only associated with considerable disability but also with a shortened life expectancy, especially for women.

Worldwide 45 million people are blind (Thylefors 1998). Some estimate the figure to be 50 million (KCMC and ICEH 2001; CBM 2001). In Africa about 10 million of the population of 650 million are blind (KCMC and ICEH 2001). The majority (80%) of this blindness is preventable or avoidable (Narita and Taylor 1993; Resnikoff 2001). It is estimated that in areas with very poor economies and health services more than 1.2% of the population is blind (Resnikoff 2001)*.

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Notes:

**In Sub-Saharan Africa an estimated 5-6 million people are blind, 2.4 million are blind due to cataract. 600,000 cataract blind are added every year.(WHO Press release WHO/27, 17 Feb 2000).*

About half the blind are so due to cataract (KCMC and ICEH 2001; Javitt, Wang and West 1996). Tanzania has a blindness prevalence of 1.25%, major causes being cataract, trachoma and glaucoma (Mwaluko et al 1991, KCCO and LSHTM 2002).

Worldwide cataract comprises 25 million blind person years (KCMC and ICEH 2001). Cataract-related blindness in the Sub-Saharan Africa carries a high burden of disease with 1,130,000 DALYs, slightly higher among females (583,000 in females and 547,000 in males) and more in the 45-59 age bracket (Murray and Lopez WHO 1994).

Trachoma causes one-quarter of the world's blindness and, although it has disappeared from many developed areas, it remains a major problem, especially in underprivileged rural areas in developing countries (Taylor 1990). Worldwide trachoma comprises 60 million blind person years (KCMC and ICEH 2001). In Sub-Saharan Africa burden of disease due to Trachoma is 901,000 Disability Adjusted Life Years (DALYs), with females more than male (more than 3X), and more in 15-44 year age bracket than the others (Murray and Lopez WHO 1994). In developing countries blindness is of even greater importance due to lack of facilities for eye care. This is especially so in Africa where there are an estimated 1 ophthalmologist for 500,000 population. Tanzania appears no different.

In the VISION 2020 programme (WHO in collaboration with 20 other international NGOs) priority blinding diseases are included viz. Cataract, Trachoma, Onchocerciasis, childhood blindness, and Refractive errors and low vision (**)

The 1978 Alma Ata Declaration outlined the concept of primary health care. This has implications for blindness prevention programmes. There is a great gap in what the ophthalmologist in the urban clinic perceives as the problems in his area and what actually exists in the community (Lewallen and Courtright 2001). It includes the concept that healthcare schemes must be based on principles acceptable and practical to the community. Anthropological and social work is also required, and will help in providing information on what keeps people away from services. This is part of community ophthalmology which is required if the goals of Vision 2020 are to be met (Lewallen and Courtright 2001).

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Notes:

** *"Under VISION 2020 of the WHO, major concerted international efforts will be made in such areas as advocacy and resource mobilization, joint planning and strengthening national capacities through human resource development and the transfer of appropriate technologies to developing countries". (WHO Press Release WHO/12, Speech by Dr. Brundtland, Director General of WHO while launching VISION 2020 – RIGHT TO SIGHT Global Initiative, 17 Feb 1999).*

There may be gender differences in the way diseases are perceived, and health care related decisions are made.

Population based assessments reveal the true magnitude of the problems and also what prevent people from using the existing facilities. Such information can lead to practical solutions to be developed. It can also describe gender roles in the community, which, like other cultural beliefs and behaviours, can be either protective of health or pathogenic, depending on the context (Helman 1990).

Accessing type of eye care and treatment depends among other things on the explanatory model that the patient uses in explaining his ill health (Helman 1990). Hence perceived biomedical cause would lead to seeking biomedical treatment. Belief in supernatural causes would direct to seeking treatment from traditional healers, exorcists , and faith healers. In a personal experience during eye 'camps' in Kibaha district, a man was brought by his son for treatment of an acute eye infection. On examination, he was found to be blind due to cataract. His son advised us that they had come to us for treatment of the infection and that because the blindness due to the whiteness in the pupil was due to evil eye brought upon by jealous people, it was the domain of the 'maalim' (faith healer), and would not be possible for us to treat.

In Tanzania blindness due to Cataract and Trachoma is common and a lot of clinical research has been undertaken on these two diseases. Yet not much is known about the

people's perspectives, and sociological aspects of blinding eye diseases, which could impact on the way people behave to prevent and seek treatment. Such information and understanding would have a bearing on further research, treatment approach and eye care policies.

Thus this study sought to understand the people's perception of blinding eye diseases in Kibaha District of Tanzania.

1.2 STATEMENT OF THE PROBLEM:

1.2.1 PROBLEM SITUATION:

Worldwide, blindness is an important cause of morbidity. It even causes increased mortality. This is true especially in Africa, including Tanzania. Cataract and Trachoma, as elsewhere in Africa, are the major causes of blindness in Tanzania. Both are easily avoidable because they are preventable or curable.

Several eye-care programmes are in place in Tanzania. These provide facility-based as well as outreach screening and treatment services. Despite this, people's utilization, acceptance and compliance to treatment and preventive measures leave a lot to be desired (Personal communications, Dr. Sagutti, Specialist Ophthalmologist, Muhimbili National Hospital).

Personal experience in 'eye-camps' in the Coast region revealed that people's perceptions of the local realities, local beliefs and fears constituted barriers to efforts being made to make eye-care programmes accessible to the people.

Strong need has been felt to understand people's perceptions of blinding eye diseases. Studies on people's perceptions and social construction of reality regarding blinding eye diseases are lacking in Tanzania.

Little has been researched regarding eye-care decision making in Tanzania. This is an important aspect influencing prevention and treatment seeking behaviour.

Despite worldwide statistics showing greater prevalence of blinding diseases among females, fewer females are showing up for treatment. Yet men may even be negatively

influencing behaviours which are important in eye health. The community's perspective on gender and eye health has not been clarified by researchers in Tanzania.

1.2.2 STUDY QUESTION:

What are the perceptions of the people of Kibaha District regarding blindness and common blinding eye diseases of trachoma and cataract.

RATIONALE

According to the World Bank's World Development Report 1993 – Investing in Health (pg.37), 'What people do with their lives and those of their children affect their health far more than anything that governments do. But what they can do is determined, to a great extent, by their income and knowledge – factors that are not completely within their control.'

To tackle the worldwide problem of blindness, the VISION 2020 – THE RIGHT TO SIGHT programme of WHO (with 20 other international NGOs), is aiming at eliminating avoidable blindness by the year 2020. Cataract and Trachoma are among the targeted causes of blindness. Success of these programmes require people's compliance to treatment and behaviour change. These are dependent on people's knowledge, beliefs and social construction of reality regarding these main causes of blindness. Hence such programmes may face problems if local perception of blinding eye diseases and associated socio-cultural factors are not understood. This is already the case with Government and NGO eye-care programmes in place in Tanzania.

With the ongoing health sector reforms in Tanzania emphasizing community participation, people's perceptions need to be understood if their full participation in eye-care programmes is expected. A 'bottom up' approach would begin with such an understanding to be included and improve planning and implementation.

Considering the experiences during 'eye-camps' of various NGOs in Tanzania, it is necessary to understand the socially constructed local realities, perceptions and beliefs, to be able to improve the people's compliance to these eye-care programmes.

People may not realize that their cultural attitudes and behaviour may lead to blinding eye diseases. Planners of eye-care programmes need to know this ignorance while designing interventions. The need is further compounded by dearth of literature on the subject especially in Tanzania.

It is necessary that such a study be undertaken as the information obtained may be useful in improving eye-care programmes and hence acceptance and accessibility of the people to these preventive and curative services.

1.3 REVIEW OF LITERATURE

There are an estimated 50 million blind people in the world, increasing by 1-2 million every year (CBM 2001). The major causes are cataract, trachoma, glaucoma (KCCO and LSHTM 2002). The burden of blindness is increasing (KCCO and LSHTM 2002). Women bear approximately two thirds of the burden of blindness in the world (Abou-Gareeb et al 2001).

Worldwide, as per year 2000 A.D. estimates, cataract accounts for 50% (25 million) of all blindness (KCCO and LSHTM 2002) (ICEH 2001). Worldwide 146 million people having acute inflammatory trachoma requiring antibiotics and is responsible for 10-15% of the global burden of blindness (The World Health Report 1998, WHO Factsheet N143 Feb 1997).

Cataract is largely age related. Some are congenital or related to injury (WHO Factsheet n143 Feb 1997 http://www.who.int/inf-fs/en/fact143.html).

Trachoma is an infectious eye disease causing inflammation in the acute stages and by repeated reinfections leads to scarring. This leads to, usually in the older age groups and among women more than men, scarring of the tarsal conjunctiva and entropion or trichiasis which abrades the cornea leading to opacification and blindness (Congdon et al 1993). In the early stages, infection is usually mild to asymptomatic. When severe, it may cause light sensitivity or watering of the eye (Marx 1989).

Blindness due to trachoma can be prevented by timely lid surgery for trichiasis to prevent corneal abrasion and opacification (West 1994).

Trachoma is particularly prevalent and severe in rural populations in arid areas with difficulties maintaining personal hygiene (Schwab 1995).

Global trends show that cataract is increasing and trachoma is decreasing (KCCO and LSHTM 2002).

WHO's VISION 2020 initiative aims to reduce the current projection of 75 million blind by the year 2020 to 25 million (WHO/PBL/97.61), and to eliminate trachoma as a cause of blindness by the same time (WHA 51.11 1998).

The major constraint to the control of trachoma, a major cause of blinding disease in developing countries, appears to be its social (Ajewole et al 2001) and cultural aspects. Simple hygiene measures such as facial cleanliness (Taylor 1990) and appropriate use of latrines (Courtright et al 1991; Ezz al Arab et al 2001) are key to prevention of trachoma. Hence the need for cultural and behavioural modification and use of health related hardware to eradicate this disease.

In Australia, people who were young and those with knowledge of common age related eye diseases gave high priority to prevention and treatment of blindness (Livingstone, McCarty and Taylor 1998). Studies in India revealed that moderate number of people had heard of the eye diseases (including cataract) but their understanding (knowledge) was poor (Dandona, Dandona and John 2001), and those aware of the eye surgical treatment option tended to be male, literate, and more affluent (Brilliant et al 1991).

Barriers: -

Factors favouring of attendance to "eye camps" in India were being male, easy accessibility, free services, perception of the operating team being competent, and extensive advertising – hence need for social marketing (Fletcher et al 1999; Gupta and Murthy 1995).

Principal barriers to attending eye camps were found to be fear (principally of eye damage), cost, family responsibilities, ageism, fatalism, and an attitude of being able to cope -with low or no vision (Fletcher et al 1999). Poor utilization of hospital facilities for eye care in India was due to distance, cost and lack of escort (Gupta and Murthy 1995).

Fatalism found in the Indian study (Fletcher et al 1999) is in contrast to the Canadian study which found non-acceptance (which was seen especially seen with glaucoma and diabetic retinal disorder patients) was associated with the most psychologically distress and the lowest scores in social adjustment (Ash, Keegan and Greenough 1978).

Acceptance of eye surgery in India was increased by interventions that covered complete costs of the surgery, and health education by an aphakic regarding cataract surgery (Brilliant et al 1991).

Studies among South Asian ethnic groups in U.K. revealed that self reporting of eye disease does not mean increased awareness of the disease (Gasch, Wang and Pasquale 2000); and poor eye health could be a reflection of lack of early detection, link between systemic diseases like diabetes and ocular conditions, language barriers and poor utilization of available ocular health care services (Pardhan, Mughal and Mahomed 2000). Poor utilization of eye care facilities is also the reason for the two-fold likelihood of blindness among Black Americans in USA compared to the Whites (Javitt 1995).

Eye patients stress the need for more time to discuss their disorders, for informational and emotional needs, and desire more communication at all levels (Holland, Chee and Grimes 1991; Anonymous 2001).

In Nepal even when offered transport and free surgery the acceptance rate is below 60%. The acceptance rate was higher for men and those who were blind compared with those only visually impaired. The reasons given for non-acceptance were economic (48%), logistical (44.8%), fear of surgery (33.3%), lack of time (18.8%), problems with self care (50%) though only 10% needed help with their most basic everyday activities. It was concluded that medical practice needs to develop a more holistic understanding of the needs of the communities cultivating a greater capability to analyse the role of

cultural, social, and economic factors when planning medical services for the population (Snellingen et al 1998).

Methodologically sound population surveys in Africa published in the past 20 years suggests approximately 1% of Africans are blind. The major causes are cataract (half of all blindness), trachoma and glaucoma. The bulk of the blindness is preventable or curable. Developing staffing levels, infrastructure and community programmes will be necessary to achieve VISION 2020 (Lewallen and Courtright 2001).

The social context in which a person lives is of critical importance in achieving acceptance of treatment of blindness (KCCO and LSHTM 2002). Family assistance in treatment seeking is required, marital status is important, women are not as valued as men ('who will take care of me if my wife goes for surgery'), having heard from others that someone had surgery and yet sight was not restored, perceiving one is too old for surgery or doesn't need surgery, that blindness is an inevitable part of aging – are all barriers to acceptance of treatment of blindness (KCCO and LSHTM 2002).

A study in rural Ethiopia revealed many misconceptions about blindness among the sighted, unilaterally blind and totally blind (Alemahevu et al 1996). People generally consider cataract as inevitable and irreversible part of aging (Courtright, Kanjaloti and Lewallen 1995). Curative and preventive work needs to address this ignorance.

Trachoma occurs in many parts of Africa, with high prevalence associated with dry, arid areas (Schwab 1995) and low prevalence with areas of greater rainfall, sustainable agriculture and a higher standard of living (Schwab 1995).

Blinding sequelae of trachoma are more prevalent in females than males (Schwab 1995).Prevalence of active trachoma is similar in boys and girls, but adult women tend to have more active disease than men (Lewallen and Courtright 2001),and trachoma trichiasis (blinding trachoma) is 3 times higher in women (KCCO and LSHTM 2002, Congdon 1993, Turner 1993) probably due to their more frequent interaction with children (Lewallen and Courtright 2001, KCCO and LSHTM 2002).

Families with trachoma use significantly less water per person per day for washing children which is associated with unclean faces (Bailey et al 1991).

An Egyptian study revealed three factors predicting inflammatory trachoma in children: absence of a latrine in the household, school-age siblings with inflammatory trachoma, and additional same-age siblings (with or without disease). It was concluded that the construction of pit latrines may offer the simplest and most acceptable environmental method for reducing trachoma in this trachoma endemic area of Egypt (Courtright et al 1991).

Trachoma is a serious public health problem in Menofiya governorate of Egypt (Ezz al Arab 2001). It is suggested that poor hygienic conditions in rural Egypt have limited the

reduction of active trachoma even in the face of improvements in socio-economic status. The majority (80%) of children in the area have access to piped water in their household, and 89% of the children have access to a latrine in the house (Ezz al Arab 2001).

Africa has a backlog of 5000 cataract blind people per 1 million population, with an incidence of 1000 per million every year. The present Cataract Surgical Rate (CSR) is around 200-400 (Lewallen and Courtright 2001). Since very little can be done in terms of primary prevention of cataract, cataract control measures aim at increasing CSR. The long-term aim in VISION 2020 is to increase CSR to 4000 per million and one ophthalmologist per 250,000. Presently there are one per 500,000.(WHO.For Africa the target in the next 5-10 years is to increase the CSR to 2000 per million (Foster 1999)(48). Females have slightly higher rates of cataract incidence for reasons not completely known (Lewallen and Courtright 2001). In Africa, women account for majority of all people living with cataract. In addition women donot receive surgery at the same rate as men (Lewallen and Courtright 2002).

Since trichiasis is the result of severe active trachoma in childhood, trichiasis surgery will remain an important ophthalmological procedure in Africa for many more decades (Lewallen and Courtright 2001).

Traditional eye medicines can cause corneal opacification and blindness (Steinkuller et al 1999). For many in rural Africa traditional healers are first contact health providers.

This provides opportunities as well as risks to eye care. One study showed that they had considerably more eye care interactions than modern medical personnel, they were aware of the availability of eye treatment at the latter's facilities and were interested in collaborating with them (Courtright 1995). Among traditional healers in Malawi, 68% treat eye diseases - most commonly cataract, conjunctivitis and trachoma. Due to locally constructed perception regarding causation of trachoma, people feel more inclined towards local traditional herbal remedies. This is despite adequate knowledge that modern methods e.g. lid surgery for trichiasis, produces cure (Ajewole et al 2001). This shows that the health care provider needs to understand local community perspectives of the diseases.

Another study in Malawi (Courtright, Kanjaloti and Lewallen 1995) revealed factors associated with acceptance of cataract surgery to include males of lower socio-economic status , those who had talked to someone about cataract surgery or knew another aphakic, those closer to the district hospital. Widowhood appeared to be an opportunity for treatment of cataract as women need permission from their husbands who, having granted this, do not accompany their wives who are going for surgery.

Women who accepted surgery for trichiasis in Malawi were more likely to be widows, to be of low socio-economic status, to live close to a main road, to know another woman who had surgery for trichiasis, and to have trichiasis in both eyes than women who did

not accept surgery. This suggests that considerable education and encouragement are needed to increase acceptance of surgery for trichiasis (Courtright 1994).

Comparison between village-based and health center-based surgery in The Gambia showed better surgical uptake when surgery is provided in the patient's village (66%) compared to the health center (44%). This was due to lower cost to the patient, shorter journey hence time saved, and less fear of operation (Bowman et al 2000).

Barriers to uptake of trichiasis surgery in a Malawi study (Kathyola 2001) were found to be initiation rites, stubbornness, fear of surgery and lack of guardians to accompany the patients to the hospital. An Ethiopian community based study (Carter Center 2001) revealed the following: People perceive eye diseases including trachoma to be important health problems; there was good awareness of trachoma and its complications; children were not bothered by flies landing on their faces; access to water was not a problem; people did not use latrines; people preferred traditional epilation to trichiasis surgery.

In South Africa poor quality of eye care by Primary Health care workers was found to be due to cumbersome referral system, unavailability of appropriate medicines at clinics, insufficient knowledge of eye conditions, lack of communication (de Wet and Ackerman 2000).

Organizational and administrative shortcomings are also barriers to accessing eye care for the blind poor (Cheatham 1999). In a sub district of Nigeria it was found that 1.5% of the population were blind, 20% of this was due to trachoma. Medical attention was

not sought by 90% of those with trichiasis. The major barrier to accessing hospital treatment for trichiasis was found to be cost (Rabiu and Abiose 2001).

Compliance with prolonged eye ointment treatment is poor, perhaps due to the poor understanding of the chronicity of trachoma and non-linking of childhood trachoma with blinding trichiasis in adults, as revealed in a study in The Gambia (Ajewole et al 2001) .

In Jimma zone, Ethiopia, trachoma is hyperendemic, and significantly associated with female gender, living in rural areas, parental illiteracy, absence of a latrine, and for those living within 16 – 30 minutes walking distance from a water source, shorter distance of the household water supply was associated with a higher prevalence (Zerihun 1997).

According to the Ministry of Health (MOH 1999), health facility records show 3.9% of all patients have infectious eye diseases in Tanzania mainland, including 5.3% of total among under 5 year olds, and 3.1% of total among over 5 year olds. Outpatient diagnoses from hospitals show 2.9% of total cases of infectious eye disease including 3.2% of total and 2.7% of total among under and over 5 year olds respectively. For OPD diagnosis of non-infectious eye diseases figures from Tanzania mainland hospitals only reveals 2% of total cases, including 0.9% of total and 2.6% of total among under and over 5 year olds respectively.

Understanding utilization of eyecare services is significant because there is considerable burden of disability adjusted life years as a result of the major eye diseases. A large proportion of visually impaired are not seeking treatment. Efforts have to be made to better understand the reasons for this phenomenon so that optimal utilization of the available eyecare services can be planned (Dandona et al 2000).

About half the country is endemic for trachoma; 12 million are at risk of infection; 1-2 million children have active infection (WHO GET 2001). Women account for 75% of all trachomatis trichiasis and subsequent blindness due to corneal scarring (Wolfson, Fedewa and Young 1999).Trachoma and its complications are more common among females than males (Congdon et al 1993, Turner et al 1993). In Tanzania this risk is four fold (Turner et al 1993).

Young children tend to form a core of those with persistent, often severe trachoma. These children are a potential source of the disease in their family (Taylor et al 1992).

Baseline survey in 6 districts(Kongwa,Mpwapwa, Manyoni, Dodoma Rural, Kondoa, Kilosa) of Tanzania revealed high rates (16% to 80%) of Trachoma among pre-school children. Most districts reported less than 50% of children with clean faces which is associated with the rate of trachoma.

A study in Kongwa, Tanzania measured the limitations in daily activities of village life associated with having trichiasis (a complication of trachoma) for individuals with and

without visual loss. It concluded that the burden of trichiasis is likely greater than previously estimated, especially in women for whom trichiasis alone was disabling (Frick et al 2001). Severe inflammatory trachoma predicts mortality in children from villages in which trachoma was less common (Hsieh et al 2000).

Presently Tanzania has only 2 tertiary eyecare facilities. One is in Dar es salaam (Muhimbili National Hospital) and another in Moshi (Kilimanjaro Christian Medical Centre). Cataract surgery in Tanzania is provided by specialist ophthalmologists as well as "cataract surgeons" who are Assistant Medical Officers (Ophthalmology), while trichiasis surgery is, in addition, is also performed by trained eye nurses.

The International Trachoma Initiative is promoting large-scale trachoma control efforts in five countries including Tanzania.

A study in central Tanzania (Bog, Yorston and Foster 1993) concluded that trichiasis surgery can be safely and effectively performed in the community by a trained ophthalmic nurse. Trichiasis surgical coverage in Tanzania has been reported to be 18% in Tanzanian women (Frick et al 2001).

A study in Kongwa, Tanzania (Hsieh et al 2000) followed up 176 children from 1989 (when they were 1-2 years old) to 1995.Familial cattle ownership, living more than 2 hours away from a water source, and facial cleanliness at both time points were associated with the presence of active trachoma at both time points. In another study in

Dodoma (West et al 1991) it was found that the most important factors for predicting chlamydial infection were the presence of a sibling with laboratory evidence of infection, increased number of flies around the house, a household that herded cattle, and practice of a local (traditional) religion.

Two studies in Tanzania (West et al 1989; Taylor et al 1989) revealed no association between the presence of a village water supply and the prevalence of trachoma. This is similar to findings in Egypt (Ezz al Arab 2001). These studies, however, showed that the risk in the household increased with the distance to a water source (West et al 1989; Taylor et al 1989) – although there was no association with the estimated daily amount of water brought into the house. The effect of the distance to water supply on trachoma may well reflect the value placed on water within the family, and this determines the priority for its use for hygiene purposes. These results suggest that changing the access to water per se may be insufficient to alter the prevalence of trachoma without also a concomitant effort to change the perception of how water should be utilized in the home (West et al 1989). A study in Dodoma, Tanzania (Gomile 1980) found that schools with running water supply have lower trachoma prevalence among its students than those without a water supply.

An epidemiological study in Dodoma region of Tanzania found that mothers overestimated the amount of water necessary to wash a child's face (McCauley et al 1990). In addition, they would not change their water-use priorities without the consent of their husbands and the support of the community.(McCauley et al 1990; McCauley,

West and Lynch 1992) though it is the mothers who are responsible for water use and health and cleanliness of the children (McCauley, West and Lynch 1992).

A study was done in the Kongwa district of Tanzania regarding hygiene factors and increased risk of Trachoma (Taylor et al 1989). Certain family characteristics were found to be associated with a higher risk of trachoma. These families tend to be large, live in traditional flat roofed or thatched houses, keep cattle (which attracts flies), follow traditional religious beliefs, have high household levels of flies, and have not adopted the use of nontraditional latrines. The traditional burn mark put by the Wagogo people on their children's forehead to protect them from eye disease was not found to be correlated with increased or decreased risk of trachoma. A progressive increase in risk of trachoma was seen with decreasing facial cleanliness. Children who slept in a room with cooking fire had an increased risk of trachoma. This may reflect poverty conditions but there may be a specific relationship between a smoky atmosphere at night and increased ocular discharge leading to increased rates of transmission and higher rates of disease (Taylor et al 1989).

In another Tanzanian study, independent risk factors for trichiasis (a complication of trachoma) in women were: women whose mothers had it, those who had five or more deaths in among their children, never married, not having attended adult education classes, sleeping in a room with a cooking fire (Turner et al 1993). Active disease in women is associated with direct care taking of young children with active disease

(Congdon et al 1993).

It has been found in central Tanzania (Kongwa sub-district) that barriers to lid surgery for trichiasis include costs, problems of children left at home alone, and difficulties in identifying someone to accompany them to the health center (West et al 1994). In an interventional study in Kongwa, Tanzania, it was found that the village in which it was extremely difficult to change hygiene practices (to prevent trachoma) was the one which had a very strong community ethos of disapproval for families who tried to be better than other families or "put on airs" (West et al 1995).

A study was done to determine characteristics of village treatment assistants (VTAs) that were associated with effective treatment outcomes in mass treatment campaigns for eye diseases.The study concluded that community selection and effective, non-formal, training (not formal education and prior experience) are key components for the use of VTAs in mass treatment campaigns. The possible effects of gender roles in the community (as umarried female VTAs were associated with poor outcomes) need to be considered in program design (O'Connor et al 1999).

A participatory strategy to increase face washing was designed and tested in central Tanzania. Changing children's face-washing behaviour is postulated to be important in preventing the transmission of eye disease, particularly blinding trachoma. Clean faces

increased from 9% to 33% over the course of a year. Factors which were related to sustained change in children's clean faces included distance to water, age of the child, and presence of a corrugated metal roof. Owning cattle was associated with lack of sustainable change in this population (Lynch et al 1994).

Coast Region and Kibaha District:

According to Ministry of Health morbidity figures, infectious eye diseases in the Coast region of Tanzania comprise 4.5% of total including 6% of total and 3.6% of total among under and over 5 year olds respectively (MOH 1999). A study in 2001 in Mkuranga District of the Coast Region revealed 22.19% for trachoma, blinding trachoma being more common among females and advancing age (Masesa, Sangawe, and Kinabo).

1.0 OBJECTIVES OF THE STUDY:

BROAD OBJECTIVE:

To investigate the perceptions of the people of Kibaha district on common blinding eye diseases.

SPECIFIC OBJECTIVES:

1. To determine what the people know to be the common blinding eye diseases in the community.
2. To describe what people perceive to be the causes of common blinding eye diseases in their community.
3. To describe people's perceptions on prevention and treatment of common blinding eye diseases in their community.
4. To determine people's perceptions on gender aspects in causation, prevention and treatment of common blinding eye diseases.
5. To determine perceptions on who takes eye-care related decisions in the households in Kibaha district.
6. To determine whether any pattern of perception of the people varies with their socio-demographic characteristics.

3.0 METHODOLOGY

Research design: - This was a descriptive, exploratory, cross-sectional study.

Study area: -

This study was conducted in Kibaha district, which is situated along the coastal belt, 40kms north West of Dar es Salaam. The District is divided into wards, villages and hamlets. It has 9 wards and 39 villages with an inhabitant population of about 83,110 (National Census of 1988) Projected population for 2001 is 103,576 (MOH 1999). 20% of the population is under 5 years of age, and another 20% are women of childbearing age (15-49years). Population density is 45.8 per sq. km. The health structure consists of 49 health facilities including one district hospital (parastatal), 2 public health centers (government), 28 dispensaries (15 Government, 2 parastatal, 11 privately owned) and 2 private laboratories. In the district malaria transmission occurs throughout the year and is holoendemic. The district has mean annual rainfall of 40-80 inches. The mean minimum and maximum temperatures are 75°F and 90°F respectively. Latrine usage in rural Kibaha is low.

According to the Ministry of Health (MOH 1999), for Kibaha, Infectious eye diseases among under 5 year olds comprised 1213 of all admissions, with 2 deaths (case fatality 0.2%); while for over 5 year olds it was 3593 without any fatalities. Morbidity figures for the same period revealed 22,342 cases (2.9% of total) including 9,601(3.2% of total) among under 5 year olds, and 12,741 (2.7% of total) among over 5 year olds.

Study population: - The study population consisted of adults over 25 years of age residing in Kibaha district.

Study sample: - The study sample consisted of adults over 25 years old, selected from 3 communities using a population proportional to size cluster sampling procedure..

Sample size – Using the formula $n=\frac{z2\ pq}{E2}$

Where

n= sample size

z= % point corresponding to significance level of 5%= 1.96

p= frequency of people with correct knowledge on cataract.

q= 100-p

E= maximum likely error (7%)

Hence $n=\frac{3.84X\ 50\ X\ 50}{49} = 196$

Since this is a cluster sampling the sample size was

196 X 2 = 392

ASSUMPTIONS:

1. We assumed that approximately 50% of the people over the age of 25 would be familiar with cataract and would be able to correctly identify how cataract can be managed.
2. We needed to be 95% confident that population values were within 7% of the estimates.

Sampling methods: -

A multistage cluster sampling procedure was used, involving the following steps:

1. A list of the 9 wards in the district was listed and numbered.
2. Of the 4 urban wards listed in a sampling frame, one was chosen at random using the table of random numbers.
3. Of the 5 rural wards listed in a sampling frame, 2 were chosen at random, using the table of random numbers.
4. From the chosen urban wards a sampling frame of hamlets was made and 2 chosen using a table of random numbers.
5. From each of the 2 rural wards chosen, a sampling frame of villages was made, and 1 village from each ward chosen using a table of random numbers.
6. From each village, a sampling frame of hamlets was made, and 2 chosen using a table of random numbers.
7. In each hamlet, 40 households were chosen, and all adults over the age of 25 years within each household were interviewed.

Methods: -

Structured interview using a pretested questionnaire consisting of closed and open – ended questions was designed in English. It was translated into Kiswahili, the National language which is widely spoken. The interview was administered to all adults in the selected sample. The interview was conducted by seven trained interviewers. The author trained these for one day prior to going on the field. Pre-testing of the questionnaire was on 17 individuals over 25 years of age.

Data collection procedure: -

Interviews were conducted at the individual's household. If the individual was not present at the household during the time set aside for interview, a follow-up visit was scheduled, unless he was sick or travelling and not expected to return within the study period. If they were on their farms, they were followed and interviewed there.

Data Analysis: -

The field data was coded, checked for completeness, consistency and range checks and then entered into the computer using Epi info 6 programme, and analysed.

Presentation of data was made in the form of text, tables and figures. Quotations are used to substantiate the qualitative results.

Significance testing was performed using chi-square test.

Data quality control and data processing: -

The author supervised the research assistants closely. He ensured that the procedure and schedule were followed strictly. At the end of the day, the research team reviewed the forms for completeness.

ETHICAL CONSIDERATIONS:

Informed verbal consent was sought from all participants in this study, having explained the purpose and nature of the study. The participants were free to discontinue the interview at any point, if they so wished. Participants were informed that the information obtained was confidential and would be used only for the purpose of the research. No information would be leaked to people who might use it to harm the participants. The study will do no harm to the study population. The only inconvenience was the interview itself. Indirect benefits included use of the information gathered by the scientific community and planners for the good of the local communities e.g. in eye-care programmes.

Those found with eye diseases were urged to go for treatment. No remuneration in cash or kind was given to the participants. Ethical approval was obtained from the Research and Publication Committee of the Muhimbili University College of Health Sciences, and permission to conduct the study was obtained from the Kibaha District Authorities.

RESULTS:

1. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS:

Kibaha District is divided into Divisions, Wards and Villages, which are further sub-divided into hamlets. A total of 440 adults over 25 years of age were interviewed in 6 hamlets, 2 each in 3 villages, Vikuruti, Misufini and Tumbi.

1.1 AGE

The age range was 25 – 90 years, with the mean age being 46 years and median 42 years. Table 1 shows that the highest proportion (34.8 %) was in the 25-34 years age bracket and least (14.2%) in the 45-54 years age group.

Table 1: Frequency distribution of the respondents' age groups

AGE (YEARS)	FREQUENCY	
	NO.	%
25-34	152	34.8
35-44	73	16.7
45-54	62	14.2
55-64	69	15.8
65+	81	18.5
TOTAL	437	100

The village of Vikuruti had a higher proportion of older people. In the study sample, of all the people over 65 years of age, 51.9% were in Vikuruti. This could be due to out migration of the younger people, the village having easy access to the main road to town.

1.2 SEX COMPOSITION

205 (46.7%) of the respondents were males and 235 (53.3%) were females. There was very small excess of females compared to males.

Table 2 : Respondents' sex distribution in relation to their age groups

	MALE		FEMALE		
AGE GROUP (YEARS)	NO.	%	NO.	%	TOTAL
25-34	66	32.4	86	36.9	152
35-44	35	17.2	38	16.3	73
45-54	30	14.7	32	13.7	62
55-64	35	17.2	34	14.6	69
65+	38	18.6	43	18.5	81
TOTAL	204		233		437

Table 2 shows that the proportion of males in each of the age groups is almost the same as for females except among the 25-34 year olds, which had 32.4% and 36.9% respectively, and 55-64 year age group (17.2% and 14.6% respectively). Both males and

females were in highest proportions in the 25-34 years age group (32.4% and 36.9% respectively) forming 43.4% and 56.6% of that age group.

1.3 EDUCATION

The respondents had different levels of educational attainment. It ranged from No formal schooling to Post-secondary education. Majority of the people (52.6%) were primary school leavers especially in the 25-34 years age group (50.7%), while there were very few (1.2%) with post-secondary education. (Refer table 3). 39.3% had no schooling, the highest proportion being those over 65 years of age.

Table 3: Respondents' level of education in relation to age groups.

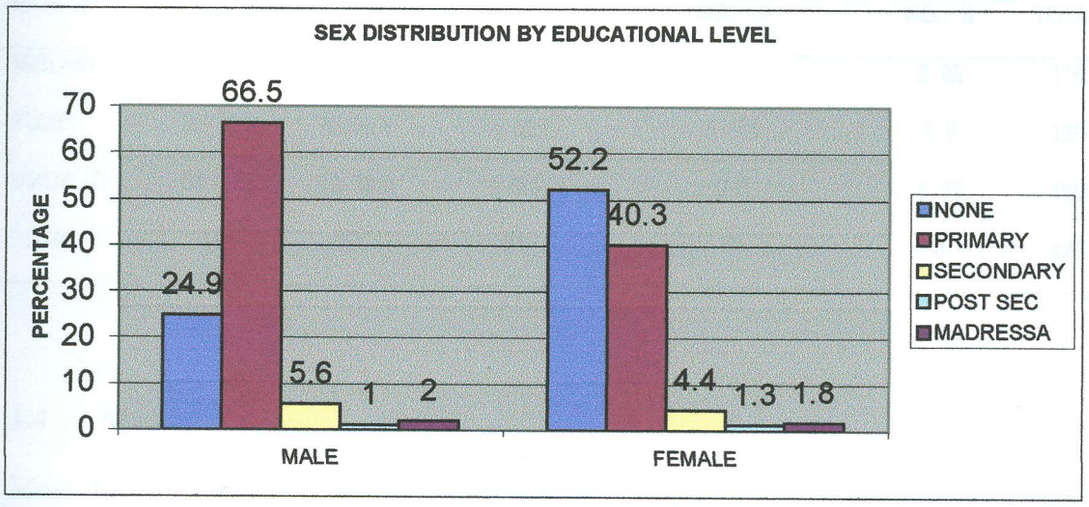
Level of schooling achieved

AGE (YRS)	NONE	PRIMARY	SECONDARY	P.SECOND	MADRESSA	TOTAL
25-34	20 (12.1%)	112 (50.7%)	14 (66.7%)	1 (20%)	3 (37.5%)	152
35-44	14 (8.5%)	48 (21.7%)	3 (14.3%)	2 (40%)	2 (25%)	69
45-54	25 (15.2%)	24 (10.9%)	4 (19%)	1 (20%)	1(12.5%)	55
55-64	41 (24.8%)	23 (10.4%)	0	0	2 (25%)	66
65+	65 (39.4%)	14 (6.3%)	0	1(20%)	0	80
TOTAL	165 (39.3%)	221(52.6%)	21 (5%)	5 (1.2%)	8 (1.9%)	420

Of all the males interviewed majority (66.5%) were Primary school leavers, compared to females among whom there was a majority (52.2%) with no formal education (See Figure 1). Only 40.3% of the females were Primary school leavers.

70.7% of those who had no formal education were females. For Primary and Secondary education there was a higher proportion of males than females. Refer Figure 1.

Figure 1: Sex distribution for highest educational level attained.



The level of schooling varied according to area of residence, as shown in Table 4.

Table 4: The educational status of the people in relation to their village of residence.

Schooling level

	NONE	PRIMARY	SECONDARY	POST- SECONDARY	MADRESSA	
VILLAGE	NO. %	NO. %	NO. %	NO. %	NO. %	TOTAL
MISUFINI	49 29.3%	64 28.8	1 4.8	0 0	2 25	116
TUMBI	37 22.2	79 35.6	18 85.7	5 100	0 0	139
VIKURUTI	81 48.5	79 35.6	2 9.5	0 0	6 75	168
TOTAL	167	222	21	5	8	423

1.4 Marital status: -

Most of the respondents were married (67.2%), followed by singles (12.4%). Table 5 depicts the frequencies and sex distribution for each marital status.

Table 5: Frequencies and sex distribution of the respondents in relation to their marital status.

	FREQUENCY		MALE		FEMALE	
MARITAL STATUS	**No.**	**%**	**No.**	**%**	**No.**	**%**
SINGLE	54	12.4	31	57.4	23	42.6
MARRIED	293	67.2	147	50.2	146	49.8
COHABITING	11	2.5	2	18.2	9	81.8
SEPARATED	14	3.2	4	28.6	10	71.4
DIVORCED	30	6.9	13	43.3	17	56.7
WIDOW/ER	33	7.6	5	15.2	28	84.8
OTHER	1	0.2	1	100	0	
TOTAL	**436**					

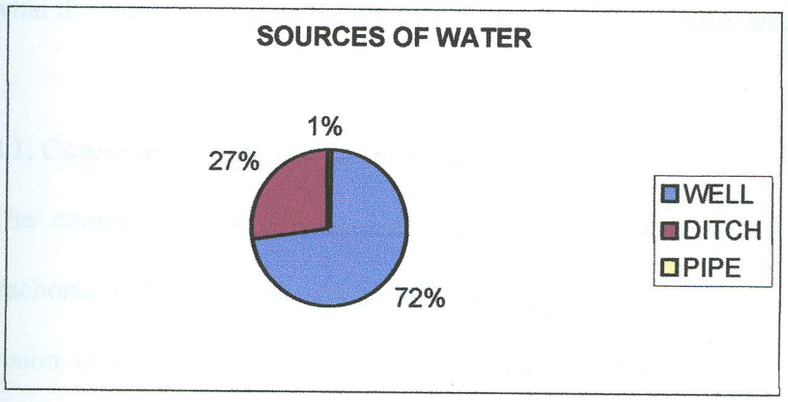
1.5 RELIGION

Most (80.3%) of the respondents were Muslims, while 19.5 % were Christians. Of the Muslims only 55.2% could read and 50.1% had primary school education. Among the Christians 85.7% could read and 63 % had primary school education. Most of the secondary and post-secondary educated responders were Christians (61.9% and 80% respectively), while most of the respondents with none or Primary education only were Muslims (91.6% and 77% respectively).

1.6 SOURCES OF WATER

Figure 2 is a pie chart depicting the frequencies of the usual sources of water for the respondents.

Figure 2: Frequencies of water source of respondents.



SUMMARY:

440 adults over 25 years of age were interviewed in 3 villages in Kibaha District. The mean age was 46 years with a median of 42 years, the highest proportion being in the 25-34 years age group. There were a slightly higher proportion (53.3%) of females compared to males. The respondents had different levels of educational achievements; highest proportion (52.6%) being Primary school leavers. 39.3% had no formal schooling. 52.2% of females had no formal education. Most of the respondents (67.2%) were married. 80.3% were Muslims. The well was the usual source of water of the majority (72.3%) of the people.

2. WHAT PEOPLE KNOW ABOUT COMMON BLINDING EYE DISEASES IN THEIR COMMUNITY?

The participants were asked about the types of eye diseases in their community, and what they knew about the causes, prevention and treatment of trachoma and cataract.

2.1. Common eye diseases in the community

The common eye diseases mentioned by the respondents were cataract (49.1%), trachoma (43.6%), eye discharge/watering (23.4%), eye irritation (23.4%), blurred vision (19.1%), red eyes (12%), eye pain (5.7%) and eye ulcers (1.6%), measles complication (1.6%), congenital eye disease (0.7%), and eye injury (0.5%).

Of those who mentioned trachoma as an eye problem in their community, the highest proportion was from among the 35-44 year olds (47.9%) while the least proportion (37.1%) was from the 45-54 year age group. These differences were statistically insignificant (p-value=0.73). The sex distribution was almost equal (p-value=0.99). The highest proportion (47.4%) of the respondents who mentioned trachoma were from Vikuruti. Tumbi had the least (26%) proportion of respondents who mentioned this eye condition (p-value=0.01).

There was a slight variation in knowledge about cataract as a problem in the community by age, sex and village of residence. In particular those who were 55 years of age or

older, males, and residents of Vikuruti, tended to manifest this knowledge, but these differences were not statistically significant.

2.2. Cataract

78.5% responded affirmatively when asked whether they had heard about cataract (or the common Kiswahili term for it, *'mtoto wa jicho'*). Over 75% from each age group and 79.7% of males and 77.5% of females said they had heard about cataract. All educational groups were well represented in the positive response, the least being among those with no education (73.8%) and most among the post-secondary educated group (100%).

Of the 21.5% who had not heard of cataract, the highest proportions were 25-34 years of age, females (22.5%), those with no formal education (25.9%). These findings, though, did not achieve statistically significance. Most (67%) of the respondents correctly described cataract to be diagnosed by seeing the pupil becoming white. The majority of the correct responders were over 65 years of age (76.5%) and the least among the 25-34 year olds (61.8%). 68.5% of the females gave this response compared to 65.4% of the males. All the post secondary educated people mentioned this followed by madressa educated people (75%). The least were among those with no education. The major proportion of this response was from Vikuruti (69.8%), while the least was from Misufini (61.2%).

Other responses were covering over the eyes (4.3%), blurred vision (0.9%), poor vision (0.2%), irritation of the eye (0.5%), red eye (1.4%), pain in the eye (0.5%), marks on the eye (3.2%).

Local terms for cataract are *chongo, gele, mtoto wa ndani, fulu, didu, kiyokela, ibalabda, mwanguni.*

2.3. Trachoma

79.8% of the respondents said they had heard of trachoma. The highest proportion was among the 25-34 years age group (31.9%, p-value= 0.03), living in Vikuruti (38.5%, p-value= 0.04), females (52.7%), Primary school leavers (50.4%). The sex and educational level differences were statistically insignificant.

The diagnostic signs/symptoms of trachoma mentioned by the people were:

- Eye irritation (25.9%)
- Eye ulcers (23%)
- Loss of eyelashes (20.2%)
- Watering of the eye (15.9%)
- Red eyes (13.4%)
- Eye lids/eyelashes inverted inwards (11.6%).
- Blurred vision (2.7%)
- Eye pain (1.8%).

- Photophobia (0.9%)
- Reduced vision (0.5%)
- Eye discharge (0.2%)

Those who correctly mentioned 'eyelids/eyelashes inverted inwards' were mainly among the 55-64 years age group (33.3%, p-value= 0.002). Differences by sex, educational level and village were not statistically significant.

For all the above responses, except red eyes, the 55-64 years age group had the highest proportion. The proportion of females was higher for eye irritation and eye ulcers, while greater for males for lid inversion, blurring of vision and eye pain. It was similar for the other responses.All responses had highest proportion in Misufini except eye irritation and lid inversion. Local terms used to describe trachoma include *vikope, viongeza, ukokobwa, mbidu, sosolo, ngwimbi, chikweje, kimea, ngendu, rukendo, makone, nhibu, ngoe.*

Summary: -

The most common eye problems in the community were perceived by the people to be cataract (49.1%) and trachoma (43.6%).

OBJECTIVE 2: PEOPLE'S PERCEPTIONS ON CAUSES OF COMMON BLINDING EYE DISEASES IN THEIR COMMUNITY.

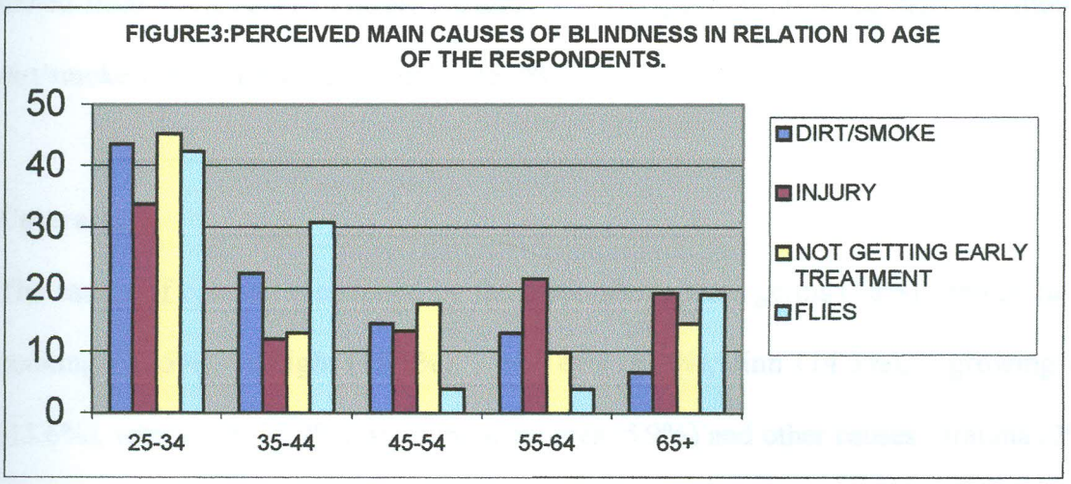
The respondents were asked questions on the types of eye diseases in their community, which causes blindness, and the factors that can lead to it. The main causes of blindness in the community were perceived to be cataract (39.8%) and trachoma (31.8%). Other conditions mentioned were blurred vision (9.8%), eye discharge/watering (3.4%), red eyes (1.6%), measles complication (1.6%) eye irritation (0.9%), eye pain (0.9%). Respondents were asked which of the eye diseases they mentioned as being in their community, cause blindness. Among those who perceived cataract and trachoma as the main causes of blindness in their community, the highest proportions were female (54.3% and 55 % respectively), in Vikuruti (47.4% and 45% respectively) and Primary school leavers (52.9% and 57.6% respectively).

Inquiry was made as to the respondents' perceptions on factors leading to blindness. The main factors perceived by the people as leading to blindness were injury (18.9%), not getting early treatment (14.3%), dirt/smoke (14.1%), and flies (5.9%). Other factors mentioned were:

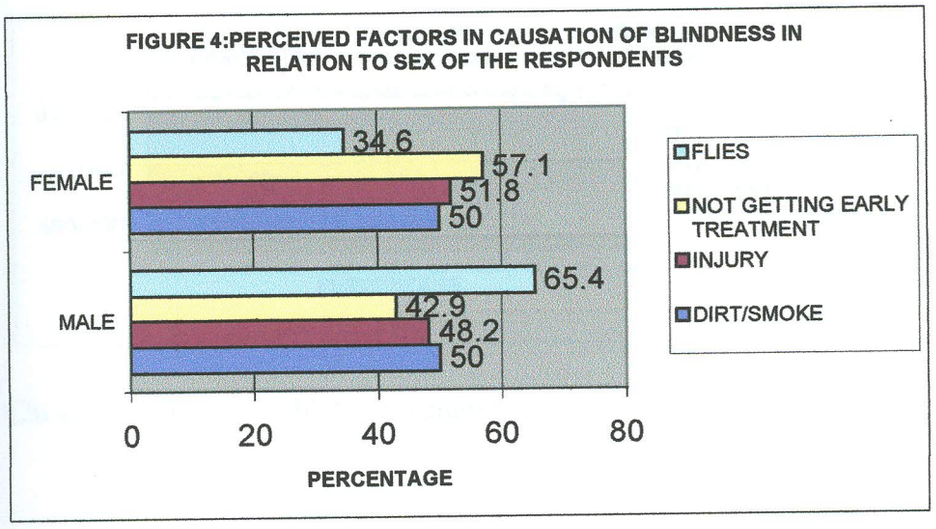
- Recurrent eye diseases (5.2%)
- Not getting proper nutrition or vitamin A (4.1%)
- Evil eye/witchcraft (3%)
- Fits (0.9%)
- Dirty water/germs (0.9%)

- Snake spit (0.7%)
- Congenital blindness (0.7%)
- Poverty (0.7%)
- High workload (0.5%)
- Old age (0.2%)
- Damage to blood vessels of the eye (0.2%)

For all the main factors mentioned, the 25-34 years age group had the highest representation. See figure 3.



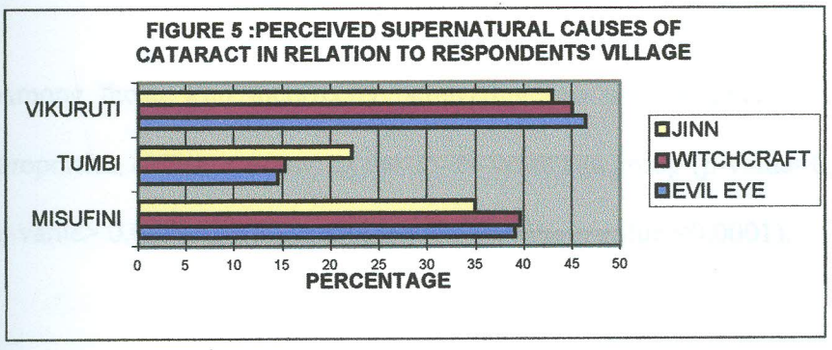
Most of those mentioning 'not getting early treatment' as a factor were females (57.1%), while most of those who perceived 'flies' as a factor were males (65.4%). See figure 4.



The respondents who said ' injury', 'not getting early treatment', and 'flies' mainly hailed from Vikuruti (44.6%, 36.5% and 57.7% respectively), while those mentioning dirt/smoke were mainly from Tumbi (45.2%).

Cataract:

The causes of cataract mentioned by the respondents were germs (48%), smoke during cooking (20.5%), sunlight (15.9%), , evil eye(15.7%), Jinn (14.3%), growing old (13.6%), witchcraft (25.2%), smoking cigarettes (5.9%) and other causes - trauma (2%). More males than females also mentioned sunlight, smoking, smoke during cooking as causes. More females than males mentioned old age and evil eye. Approximately equal proportions of both sexes mentioned witchcraft and Jinn. Vikuruti had the highest proportion of those mentioning evil eye, witchcraft and Jinn as causes of cataract, followed by Misufini. The least proportions were of Tumbi. Refer Figure 5.



Chi square= 1.80 df=4 p-value=0.77

Table 6 shows how the respondents' village is significantly related to their perceptions on natural and supernatural causes of cataract.

Table 6: Natural and Supernatural causes of cataract in relation to respondents' village.

	NATURAL CAUSES		SUPERNATURAL CAUSES		
VILLAGE	(NO)	(%)	(NO.)	(%)	TOTAL
MISUFINI	68	25.9	10	32.3	78
TUMBI	87	33.1	3	9.7	90
VIKURUTI	108	41.1	18	58.1	126
TOTAL	263		31		294

Chi square= 7.26 df= 2 p-value= 0.027

Among those who incorrectly believed germs were a cause of cataract the highest proportion (39%) was among the 25-34 years age group (p-value=0.001), males (52.7%, p value> 0.05), Primary school leavers (63.7%, p value <0.0001).

Trachoma:

The main causes of trachoma mentioned were dirt (60.5%), flies landing on face (50.7%), not washing face (49.8%) and germs (41.1%). Other causes mentioned were open latrines (22%), smoke during cooking, witchcraft (15.7%), evil eye (10.9%), Jinn (8.9%).

Misufini had the highest proportions for each of these responses except 'germs'.

Belief in evil eye and witchcraft appeared well distributed across all age groups and educational levels, though with a slightly higher proportion among females compared to males. The sex difference was also true for the other causes mentioned except 'open latrines' for which the proportion of males was slightly higher.

Summary:

Very small proportions of respondents correctly identified the diseases causing blindness to be cataract (39.8%) and trachoma (31.8%). The main factors leading to blindness were perceived to be injury (18.9%), not getting early treatment (14.3%), dirt/smoke (14.1%), and flies (5.9%). Cataract and Trachoma were believed to have natural and supernatural causes.

OBJECTIVE 3:

PEOPLE'S PERCEPTIONS ON PREVENTION AND TREATMENT OF COMMON BLINDING EYE DISEASES IN THEIR COMMUNITY: -

People responded to questions on their perception of whether and how blindness can be prevented and treated.

3.1: Prevention:

64.6% of the people perceived that blindness in their community was preventable. These were in higher proportion (36.8%) in the 25-34 years age group (p-value 0.00096), males (52.2%)more than females (p-value 0.002), from Tumbi (35.8%) more than other villages (0.0002) and Primary school leavers (59.9%) compared to other groups (p-value 0.0002). Ways of preventing blindness in the community was perceived by the people to be by the following means:

- Going to hospital/vaccinations/treatment/surgery/eye checkup/spectacles (50.9%).
- Cleanliness (8.6%)
- Traditional healer (3.9%)

Other preventive methods were perceived to be: -

- Take proper nutrition (2%)
- Washing face with water (1.1%)
- Not doing heavy work (0.2%)

- Avoid burning coal (0.2%)

Among those who mentioned 'going to hospital etc. as the preventive method the highest proportion was in the 25-34 years age group (35.9%), almost equal age distribution, mainly living in Vikuruti (37.1%), and Primary school leavers (58.2%).
Of those who mentioned 'cleanliness' the highest proportions were among the 25-34 years age group (39.5%), male (60.5%), Primary school leavers (73.7%). Out of those who responded 'traditional healer' the highest proportions were among the 55-64 years old (35.3%) female (64.7%), living in Vikuruti (52.9%), with no formal education (64.7%)

Cataract:

Majority (66.9%) of the respondents said cataract can be prevented, the highest (34.5%) being among the 25-34 years age group and least (15.3%) among those over 65 years of age . This difference, though, was statistically insignificant (p-value >0.05).The response among males (51.3%) and females (48.7%) was almost equal. The highest proportion (48.3%) of those who did not agree were among those with no formal education, while the majority of those who believed cataract can be prevented were Primary school leavers (p>0.05). Of those who said cataract can be prevented, the highest proportion (36.9%) were from Vikuruti, and the least (27.1%) from Misufini (p-value=0.02).

The ways of preventing cataract were mentioned as follows:

- Medicines from hospital/doctor (35.7%)
- Medicines from traditional healer (9.3%)
- Early treatment (7.7%)
- Washing face with soap daily (3.2%).
- Spectacles. (0.7%)
- Cover latrines to prevent flies (0.2%).

Trachoma:

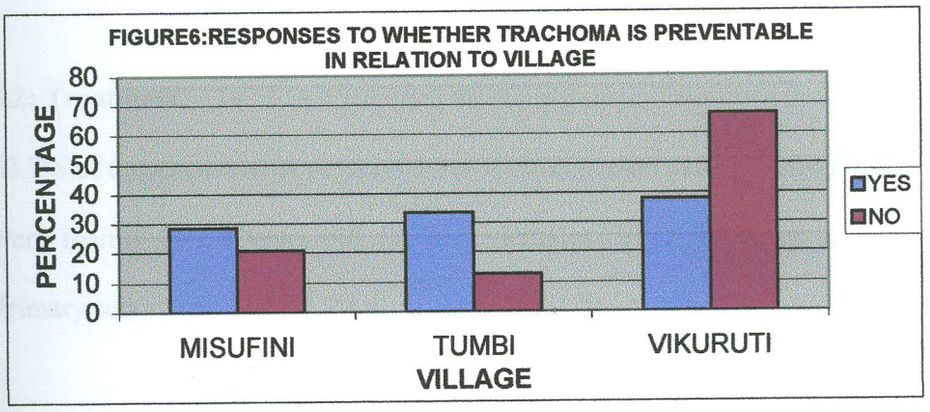
86.1% of the respondents believed trachoma can be prevented. The majority (38%) were in the age group 25-34 years, and the least (12.8%) among those over 65 years of age (p-value 0.000005) See Table 7.

Table 7: Relationship between age of respondents and their views on whether trachoma can be prevented.

AGE (YRS.)	YES (NO.)	YES (%)	NO (NO.)	NO (%)	TOTAL (NO.)
25-34	113	38	8	16.7	121
35-44	53	17.8	8	16.7	61
45-54	42	14.1	4	8.3	46
55-64	51	17.2	7	14.6	58
65+	38	12.8	21	43.8	59
	297		48		343

Chi square= 29.78 df= 4 p value= 0.000005

The proportions among males and females were 47.7 and 52.3% respectively. This difference, however, was not statistically significant. The highest proportion of those who said trachoma can be prevented were Primary school leavers (p-value 0.003). The proportions of those who said it can be prevented according to their village of residence was highest in Vikuruti (37.9%), followed by Tumbi (33.6%) and Misufini (28.5%) p-value 0.0005). See Figure 6.



Chi square= 15.03 df= 2 p-value= 0.0005

Ways of prevention were considered to be:

- Washing face daily (58.6%).
- Early treatment when some one gets it (55%)
- Keeping flies off face (49.8%)
- Cover latrine (37.3%)
- Latrine use to dispose excreta (19.3%)

The highest proportion (37.6%) of those who believed washing face daily was a way of preventing trachoma, were in the 25-34 years age group (p-value=0.01), females (54.7%), Primary school leavers (56.4%). The sex and educational differences in association with trachoma preventive measure responses were not statistically significant.

3.2: Treatment

3.2: Treatment

63.7% of the respondents perceived that a blind person can be treated to see again. These were mainly 25-34 years old (35.8%), females (52.2%), living in Vikuruti (37.7%), Primary school leavers (54.7%).

Ways of treatment of blindness were perceived to be:

- Hospital/doctor/eye specialist (46.1%).
- Surgery (14.3%)
- Western Medicines (6.1%)

Among those who perceived treatment to be at the hospital etc. the highest proportions were among the 25-34 years old (36.3%), female (56.7%), in Vikuruti (37.9%), Primary school leavers (54.9%). Among those mentioning surgery and medicines, there was a higher proportion of males (54% and 63% respectively, while still represented mainly by the younger (25-34 years) age group, and Primary school leavers. The 36.3% of the respondents who said a blind person cannot be treated to see again, said the eyes were already spoiled and therefore cannot be cured. Of these the highest proportion (39.8%) was among the 25-34 years age group (p-value 0.156). They had almost equal sex distribution (p-value 0.76), mainly in Vikuruti (43.9% followed by Tumbi (42.9%) (p-value 0.000006), and secondary school leavers (65%) followed by Primary school leavers (59.1%) (p-value 0.3)

48.2% of the respondents said they knew of someone who had had surgery for blindness. 81.6% of these had regained their sight.

90.2% of these thought the patient had taken the correct decision to have surgery. All of these thought this was because the person got cured.

The respondents gave the following alternatives to surgery for treating blindness:

- Follow doctor's instructions/continue treatment (6.4%)
- Western Medicines (10.7%)
- Spectacles (3.6%)
- Further examination (0.8%)
- Not to use coal for cooking (0.2%)
- Traditional healer (2.3%).

For all the responses except 'traditional healers', it was mainly represented in the 25-34 years age group. Of those mentioning 'traditional healers' 40% were 55-64 years old. For all the responses they were mainly from Misufini.

Cataract:

69% of the respondents believed that a person blind from cataract can be treated and see again. 31% did not. The highest proportion (36.7%) were in Vikuruti and least (29.8%) in Misufini (p value <0.05). There were no statistically significant age and sex differences.

The following treatment methods were mentioned for cataract blindness:

- Western medicine (50.2)
- Surgery (35.2%)
- Spectacles after surgery (25.2%)
- Herbs (20.7%)
- Spectacles (7.5%)
- Home remedies (5.7%)
- Prayers (3.9%)

When asked about where a community member can go for treatment of cataract, the following were the responses:

- Hospital (62.7%).
- Traditional healer (15%).

Of those who said 'hospital', the highest proportion were in the 25-34 years age group (35.6%, p-value= 0.39) and Primary school leavers (55.3%, p-value= 0.04). Among those who mentioned 'traditional healer', the highest proportions were of 25-34 years age group (28.8%), those with no formal education (50.8%), in Vikuruti (39.4%). The age, educational level and village differences were statistically insignificant.

The following were perceived by the people as being able to treat cataract: -

- Medical doctor (59.3%)
- Traditional healer (21.1%)
- Shehe/Padri (3.4%)
- Self (1.1%)
- Other (0.2%)

Trachoma:

80.9% believed a person blind due to trachoma can be treated and see again. The highest proportion (34.8%) were in the age group 25-34 years, and the least (14.3%) among those over 65 years of age (p=0.0099). The proportions among males and females were 45% and 55% respectively. The highest proportion were Primary school leavers (55.9%), in Vikuruti (40.4%). The sex, education and village correlations were insignificant.

Of the 19.1% who did not believe trachoma can be treated, the highest proportion (37.9%) were 25-34 years old (p-value= 0.0099). There were slightly higher proportions of males (51.5%), Primary school leavers (53.1%), and Vikuruti residents (48.5%), but these differences did not meet statistical significance.

Ways of treating trachoma were perceived to be:

- Western medicine 62.5%
- Surgery 36.8%
- Spectacles after surgery 27.5%
- Herbs 15.9% .
- Spectacles 9.5%
- Prayers 3.2%
- Home remedies 3%
- Other 0.9%

The highest proportion (35%) of those who mentioned western medicine as a treatment method were 25-34 years old (p=0.003). There were more females (55.3%) compared to males (44.7%). Majority were primary school leavers (56.6%, p=0.02), and lived in Vikuruti (40.7%, p=0.01). The least proportion (28.7%) was of Tumbi.

Places treating trachoma blindness were considered to be hospital (82.9%) and traditional healer/herbalist (16.8%). For both the responses there was a higher proportion among the 25-34 years age group, among females, and in Vikuruti (all statistically insignificant). The highest proportion saying 'hospital' were primary school leavers (57%); while for those saying 'traditional healers' the highest proportion (59.2%) were from among those with no formal education.

People able to treat and cure trachoma were perceived to be traditional healers (17.3%) , religious leader (shehe/padri) (4.1%), western medical doctor (64.3%), and other (0.2%). Those mentioning 'western medical doctor' were mainly (34.4%)from the 25-34 years age group (p=0.055), Primary school leavers (54.2%, p=0.55), females higher (53.4%) than males (46.6%). These age, educational and sex correlations were statistically insignificant.

Qualitative results:

This section gives qualitative information provided by the respondents regarding blinding diseases and blindness. Those who did not believe that a blind person can be treated and the eyesight restored expressed this in many ways, such as:

"Once the eye is spoiled (blind), it is difficult to make it return to its seeing state again".

" Blindness cannot be cured".

A 68-year-old blind woman said:

" I have 'chongo' (cataract). I had it operated but despite putting artificial 'eye' (? lens), I am still blind."

Those who knew someone who had had surgery for blindness and thought that going for surgery was the right thing to do, made these kinds of statements:

" Blindness is a bad disease. You can't do any work. It is better to get treated to be able to see and to be able to do your work" (25-year-old female respondent).

" (I agree) because he wanted to see normally again and return to his work"

Summary:

The majority of the respondents perceived blindness in their community to be preventable and curable. Ways of prevention included going to hospital for eye examination and treatment (50.9%). Most of those who knew someone who had had surgery for blindness considered it a correct decision as the person got cured and could see again .The majority believed that cataract and trachoma can be prevented. Main methods included medicines from hospital or traditional healer, early treatment, and washing face daily. The majority also believed that cataract and trachoma can be treated. Main methods included Western medicine, surgery and spectacles.

OBJECTIVE 4:

PEOPLE'S PERCEPTIONS ON GENDER ASPECTS IN CAUSATION AND TREATMENT OF COMMON BLINDING EYE DISEASES

The respondents answered questions on their perceptions about the gender aspects of causation, prevention and treatment of common blinding eye diseases.

4.1: Gender differences and chances of getting blinding eye diseases.

Respondents were asked whether they perceived gender as affecting the chance of getting blinding eye disease. 74% of the respondents thought gender does not affect chances of getting blinding eye diseases. Within the sub-sample (26%) of those who said it does, the highest proportion were in the 25-34 years age group (41.7%), and were

equally distributed among the sexes, mainly (42.2%) in Vikuruti, and Primary school leavers (61.5%).

Those who said gender affects chances of getting blinding eye diseases (26%), were asked which gender, in their opinion, was affected more. Within this sub-sample (26%) who believed gender does affect chances of getting blinding eye diseases, 52.4% perceived it affects females more (See table 8). These were, in highest proportions, in the 25-34 years age group (38.9%), females (74.1%), in Misufini (40.7%), and Primary school leavers (54%). The reasons for this were mainly due to workload on the woman especially at home (30.6%), and nature of work which involves dust such as sweeping, farming (23.5%). Other reasons were assisting at or having many deliveries (4.1%), women don't have money for treatment (1.0%).

Table 8: Association of responses as to which gender is affected more by blinding eye diseases in relation to the sex of the respondent.

SEX OF RESPONDENTS	MALE		FEMALE		TOTAL
	NO.	%	NO.	%	NO.
MALE	34	69.4	14	25.9	48
FEMALE	15	30.6	40	74.1	55
TOTAL	49		54		103

Chi square= 19.31 p-value= 0.00001

Those who responded that men have more chances of getting blinding eye diseases (47.6%)were mainly in the 25-34 years age group (47.9%), males (69.4%), living in Vikuruti (55.1%) and Primary school leavers (67.3%).

They gave the following reasons:

- Due to nature of work, gets injured by tree branches and snake bite/spit (24.5%).
- Men have weak immunity (2.0%).

4.2: Gender and chances of preventing blinding eye diseases

82.5% of the respondents said being male or female does not affect the chances of preventing blinding eye diseases. 17.5 % said it does and were mainly in the 25-34 years age group (34.2%), equally distributed among the sexes, in Tumbi (40.5%), and Primary school leavers (69.4%). Of those 17.5% who said it does, 51.1% thought the male had more chances of preventing blinding eye diseases (See Table 9). These were mainly in the 25-34 years age group (34.1%) males (60%), in Misufini (44.4%), and Primary school leavers (62.8%). The reasons given were

- Able to go/take to hospital/nature of his status and work (37.1%)
- Education
- Woman takes care of environment in the house (25.8%).

Table 9: Association of responses as to which gender has more chance of preventing blinding eye diseases in relation to the sex of the respondent.

SEX OF RESPONDENTS	MALE NO.	%	FEMALE NO.	%	TOTAL NO.
MALE	27	60	16	37.2	43
FEMALE	18	40	27	62.8	45
TOTAL	45		43		88

Chi square= 4.52 p-value= 0.032

48.9% said females have more chance of preventing eye diseases. These were mainly in the 25-34 years age group (37.2%), females (62.8%), in Tumbi (48.8%), and Primary school leavers (69%).

4.3: **Gender and chances of getting treatment of blinding eye diseases.**

79.1% thought that gender does not affect chances of getting treatment.20.9% said it does. These were mainly in the 25-34 years age group (34.9%), females (56.3%) in Misufini (40.2%), Primary school leavers (52.9%).

Of those who said it does, 72.1% thought the male had more chances of getting treatment (See table 10). These were mainly 25-34 years old (27.9%), with almost equal sex distribution, living in Misufini (45.2%), Primary school leavers (50.8%). The reasons given were:

- Woman's lack of resources/funds (26.0%).
- Man's resources/status/ability to perform responsibility (46.6%).

Table 10: Association of responses as to which gender has more chance of getting treatment for blinding eye diseases in relation to the sex of the respondent.

SEX OF RESPONDENTS	MALE		FEMALE		TOTAL
	NO.	%	NO.	%	NO.
MALE	30	48.4	10	41.7	40
FEMALE	32	51.6	14	58.3	46
TOTAL	62		24		86

Chi square= 0.31 p-value= 0.57

Only 27.9% said females had more chance of getting treatment for blinding eye diseases. These were in the 25-34 years age group (45.8%), females (58.3%), living in Vikuruti (41.7%), Primary school leavers.

Qualitative results:

This supplements the quantitative results in this section, and gives qualitative information provided by the respondents.

When asked who and why being male or female affects chances of getting blinding diseases, some respondents made the following comments: -

" A woman can be affected more because of the nature of her work e.g. sweeping the floor an cause dust to enter her eyes" (Female respondent).

*" (A man has more chances) because of the nature of his work e.g. selling charcoal, cutting trees which can lead to splinters entering the eyes"(*Male respondent)*" (A*

man has more chances) because he works a lot in dangerous places" (Female respondent).

To the question on who has more chance of preventing eye diseases and why, the following were some responses. *" Many men don't care for their families, and leave a lot of work to the woman of the house without any assistance. (Hence women are more vulnerable)"*. (Male respondent).

On who has more access to eye treatment and why, some responded thus:

"(Female, because) women go to the hospital or traditional healer as they are afraid of transmitting disease". (Female respondent).

" (Man, because) man has more means and he is the decision maker in the household" (Male respondent).

" I will give you my own example. I am a blind (woman) and have no means for treatment..." (68 years old blind woman).

" Many times men get themselves treated first before others" (Female respondent).

" Many women in this village don't have the means to get treatment till the man of the household decides" (56 year old female respondent).

Summary:

Only 26% of the respondents thought gender affects chances of getting blinding eye diseases. Various reasons were given for either sex being more affected esp. load and nature of work.

Only 17.5% perceived that gender does affect chances of preventing eye diseases. Reasons for this included ability to access health facility, status and nature of work, and education. 20.9 % said gender affects chances of getting treatment.

OBJECTIVE 5:

PERCEPTIONS ON WHO TAKES EYE CARE RELATED DECISIONS IN THE HOUSEHOLDS IN KIBAHA DISTRICT: -

The respondents answered questions on who decides on issues related to prevention, treatment, whether to agree to surgery, and regarding water use at home.

The substantive questions were embedded in several contextual questions about decision-making in the household in order to provide a broader picture of the issues. The substantive questions was: -

- If, to prevent eye diseases, you needed to change the way water is used in the house, whose permission would be necessary

The contextual questions were:

- If, for washing clothes, you need to bring extra water, whose permission is necessary?

- If extra water is required for bathing of the household individuals, whose permission is required to get the extra water
- If extra water is required for bathing a sick person at home, whose permission is required to get the extra water

For prevention of eye diseases, the respondents considered the following to be the main decision makers where change was considered in the way water is used:

- Mother/wife/woman (40%)
- Father/husband/head of household (23%)

Other responses were:

- No need for permission (16.6%)
- Self/anybody (13.6%)
- Local village leader (2%)
- Family (1.6%)
- Hospital/doctor (0.9%)
- Parents (0.7%)
- Sister/daughter (0.2%)

The highest proportions of those who responded 'father' and 'mother' were in the 25-34 years age group (39.6% and 34.7% respectively), and Primary school leavers (65.7% and 54% respectively). Table 11 shows the sex and village distribution by the responses.

Table 11 : Sex and Village distribution by perceptions on main decision makers on way of water use.

	FATHER/HUSBAND	MOTHER/WIFE
SEX:		
MALE	66.3%	43.2%
FEMALE	33.7%	56.8%
VILLAGE:		
MISUFINI	25.7%	15.9%
TUMBI	28.7%	43.8%
VIKURUTI	45.5%	40.3%

To bring extra water for washing clothes permission is mainly required of:

- Mother/wife/woman (54.8%).

Other responses were:

- No need for permission (18.6%)
- Self/anyone (17%)
- Father/husband/head of household (7.7%)
- Family (0.9%)
- Sister/daughter (0.5%)
- Local village leader (0.2%)

- Parents (0.2%)

The highest proportions of those who perceived the mother/wife/woman to be the main decision maker were 25-34 years old (34.4%), female (54.4%), in Vikuruti (43.6%), with Primary schooling (53.1%).

Permission to use extra water for bathing of household individuals mainly need permission of:

- Mother/wife/woman (55.9%).

Other responses were:

- No need of permission (18.6%)
- Self/anyone (17.5%)
- Father/husband/head of household (7%)
- Family (0.9%)
- Sister/daughter (0.5%)

The highest proportions of those who believed mother/wife/woman was the main decision maker were 25-34 years old (34.1%), female (54.1%), in Vikuruti (43.5%), Primary school leavers (53.6%).

Permission to fetch extra water for bathing a sick person at home is mainly required of:

- Mother/wife/woman (55.7%).

Other responses were:

- No need of permission (18.6%)
- Self/anyone (17.7%)
- Father/husband/head of household (6.4%)
- Family (0.9%)
- Parents (0.5%).
- Sister/daughter (0.2%)

The highest proportions of those who considered mother/wife/woman to be the main decision maker were in the 25-34 years age group (35.1%), female (55.1%), in Vikuruti (44.1%), Primary school leavers (54.3%). Those who required no permission for change in the way water was to be used (for prevention of eye diseases) in the household (30.2%) were lesser in proportion to those who required no permission to get extra water for washing clothes. The differences, though, was statistically not significant (p-value=0.08)

Prevention of eye diseases in the household is perceived by the respondents to be mainly decided by:

- Father/husband/head of household (64.3%).

Other responses were:

- All house members (12.3%)
- Mother/woman (28.2%)

- Self (2.7%)
- Village leader (0.9%)
- No one (0.9%)
- God (0.2%)
- Doctor (0.2%)

The highest proportions of those who believed father/husband/head of the household to be the main decision maker were in the 25-34 years age group (35.9%), equal sex distribution, mainly in Vikuruti (40.6%), Primary school leavers (53.7%).

For someone in the household who has blinding eye diseases, it was perceived that the main person to decide on whether or not treatment should be sought, on its source and method was:

- Father/husband/head of household (75.5%). Other responses were:
- Family members (12.5%)
- Mother/wife/woman of the household (16.4%)
- Doctor/healer (0.5%)
- Patient (2.5%)
- Parents (0.7%)

The highest proportions of those who perceived father/husband/head of the household to be the main decision maker were 25-34 years old, of almost equal sex distribution, in Vikuruti (39.4%), Primary school leavers (53%).

If a blind person is advised surgery, the person in the household mainly taking the decision is:

- Husband/head of the household (63.6%) Other responses were:
- Family members (10.9%)
- Doctor/healer (2.3%)
- Patient (16.8%)
- Parents of the patient (1.1%).

The highest proportions of those who believed the husband/head of the household to be the main decision maker were in the 25-34 years age group (34.9%), female (52.5%), in Vikuruti (42.9%), Primary school leavers (51.7%).

Summary:

In preventing eye diseases if a change was needed in the way water was used, the highest proportion (40%) thought it was the decision of the mother/wife/woman of the household. Decision on prevention of eye diseases was perceived to be mainly (64.3%) taken by the father/husband/head of the house. Permission for seeking treatment for a blind person in the household is mainly (75%) needed of the father/husband/head of the household. If surgery is advised, permission is required of the husband/head of the household (63.6%).

DISCUSSION

The exploratory study undertaken managed to achieve its objectives. The results are discussed here. The prevalence of blindness in Africa is over 1% (Lewallen and Courtright 2001), and 1.25% in Tanzania (Helman 1990), most commonly due to cataract and trachoma (Lewallen and Courtright 2001). This can have a lot of repercussions on the lives of the people, their community and the economy of the nation.

Good eye care is needed by the people. In Tanzania various Government and Non-Governmental Organisations are providing eye care facilities – health facility based and outreach. Successful implementation of these programmes depend on the response of the people. This in turn, is influenced by various social (Ajewole et al 2001) and cultural (Hollows 1985) aspects of their lives, which may constitute major constraints to the control of blinding eye diseases. These socio-cultural factors influence the way people perceive eye diseases, eye care and issues surrounding these.

This study tried to understand how people view various issues of common blinding eye diseases and relate them to the reality surrounding them. This would assist in seeing the challenges to be addressed and to help the people to reinterpret and see issues in its correct perspectives.

Thus implementing eye care programmes successfully require an understanding of the perceptions of the people (Snellingen et al1998). This study sought to achieve this understanding.

Objective 1:

Knowledge on common blinding eye diseases.

Lack of knowledge can lead to erroneous beliefs and negative attitudes (Alemayehu et al 1996) and can have negative effects on productivity, morbidity and mortality. Correct knowledge, leads to priority being given to prevention and treatment of blinding diseases and blindness (Livingstone et al 1998). Consequently health education is important in improving acceptance of eye surgery (Brilliant 1991).

In this study 78.5% had heard of cataract, among whom there were slightly more males than females. 67% managed to describe it correctly namely that 'pupil becomes white'. This shows a moderate level of awareness and knowledge in the study sample. This is in contrast to an Indian study (Dandona et al 2001), which revealed a low level of knowledge with only 48.9% correctly describing it as 'a white spot in the eye'.

In this study sample, 79.8% were aware of trachoma, but only 11.6% mentioned ' eye lids/eyelashes inverted inwards' as a sign of trachoma. This shows that despite moderately high level of awareness, knowledge on trachoma was low. This is perhaps because of the nature of trachoma, which may be asymptomatic during he recurrent

acute infectious stages. Those with complications – occurring in older ages - may be few in the area . Moreover the perceptions of the people may be such that they are not particular about specific biomedical diagnoses, but consider eye illnesses when it is bothersome. Complications including blindness may be taken as an end stage of 'eye problem' rather than of a specific disease.

This lack of knowledge about trachoma could be an important factor resulting in less importance being given to hygienic measures in its prevention. When asked about methods of prevention, only 19.3% mentioned latrine use. Latrines are not a common site in villages which were covered by this study, yet trachoma is hygiene related , with appropriate use of latrines (Courtright et al 1991, Ezz al Arab 2001) and facial cleanliness (Taylor 1990) being the key to its prevention. People's perceptions relate to the realities surrounding them. Intervention would thus require cultural and behavioural modification to accommodate use of latrines as a health promoting hardware (Hollows 1985) Latrine use could be promoted successfully, not by propagating its health aspects, but for convenience or other reason locally appreciated.

The opportunity for community eye care programmes for the control of trachoma is implied by the findings that 60.5% mentioned dirt, and half believed flies landing on the face, and not washing face as causes of trachoma. Latrine use could be promoted using these causes believed by the people.

Objective 2:

Causes

Surprisingly only 49.1% and 43.6% mentioned cataract and trachoma respectively as common eye diseases in their community. Among these very few (39.8% and 31.8%) mentioned cataract and trachoma respectively as blinding. It would appear they do not consider these diseases serious or important enough. This is, perhaps, due to the way people perceive blindness. A third believed it to be the end stage of an eye illness. Hence blinding eye conditions were perceived to be a series of symptoms while mentioning just cataract, trachoma and measles. They perceive symptoms and illnesses rather than diseases.

13.6% especially females believed old age was the cause in cataract while only 0.2% thought old age to be a factor in causation of blindness in general. This is also a case for the argument that people donot generally perceive cataract as a blinding disease. What is the implication? Would people avoid treatment of cataract as it does not appeal to them to be cause for blindness? Personal experience and those of others (Dr. Dilawar Padhani and Dr. Sagutti, specialist ophthalmologists) also reveals that many people avoid treating cataract with surgery. People's concept of causes of blindness is different from the biomedical one. They believe in germs and witchcraft as causes of cataract and cataract as a medical rather than surgical problem.

Very few mentioned old age as a factor in causation of blindness. It would appear that people consider blindness to have a definite cause like injury, dirt, flies and not an inevitable part of aging as shown in the Ethiopian study (Alemayehu et al 1996) . This is a challenge for health education and eye care implementers. Moreover while the respondents did perceive early treatment for trachoma (55%)as important, this was not the case with cataract (7.7%). About a third consider blindness as an end stage of illness and thus incurable. This is thus a challenge for more action to get to people for treatment before they go blind and hence refuse treatment due to their perception that the illness has now reached the incurable stage.

Interestingly, it was the younger (25-34 years) age group who mentioned cataract and trachoma as blinding much more frequently (33.9% and 33.8% respectively) than the older age groups. This could be due to better educational opportunities provided to the younger generation compared to previous times, and acceptance of biomedical diagnoses.

The main factors leading to blindness were considered to be injury (18.9%), not getting early treatment (14.3%), dirt/smoke (14.1%), and flies (5.9%). In a community survey in Ethiopia (Alemayehu et al 1996) the people had little knowledge on causes of blindness. Among those totally blind 15% mentioned accidents as a causative factor after febrile illness (45%) and supernatural causes (33%). The 18.9% due to injury found in this study is not much different from that found perceived in the Ethiopian study.

Surprisingly, for cataract and trachoma, witchcraft as a cause figured higher (25% and 16%) than for blindness in general, with slightly higher proportion among females. This was especially the case in the village of Vikuruti where belief in other supernatural causes (evil eye and Jinn) was also high. This was the village with a higher proportion in the older age group, and lesser educational level. Tumbi, the village closest to the main road and with higher proportion of those with an education had lowest proportion of respondents perceiving supernatural causes. It appears that secular education and modernization associated with urbanization and rural/urban interaction could be factors in reducing perception of supernatural causes of blinding eye diseases.

Almost half the respondents mentioned germs as a cause of cataract and surprisingly a lower proportion for trachoma, though almost half the people perceived dirt, flies landing on the face, not washing face as important causes of trachoma. This implies that what people believe to be the meaning of germs may be different from the biomedical concept. This requires further study. The natural causative factors correctly mentioned for trachoma are in the right direction but community intervention is required to increase the proportion of people with the correct knowledge.

Addressing belief in supernatural causes would require tact so as not to totally discredit eye care programmes in the viewpoint of the local people who have deep faith in

supernatural causes. This belief can be a barrier to proper preventive and treatment seeking behaviours.

Objective 3:

Prevention and treatment

Prevention:

In this study 64.6% of the respondents believed blindness in their community to be preventable. This was significantly higher in the younger (25-34 years) age group, males and Primary school leavers. Just half the respondents (50.9%) thought it could be prevented and believed it could be done by going to the hospital and getting treatment when illness occurs. In an Ethiopian study (Alemayehu et al 1996) at least 70% of the sighted respondents thought it was preventable, compared to just over half (53%) of the blind. Vast majority (93%) of the blind in the Ethiopian study, who thought it is curable thought it was by getting early treatment when illness occurred. This is a much higher figure than in this study in which only 55% mentioned early treatment as preventive for trachoma blindness and only 7.7% for cataract blindness.

Treatment:

63.7% of respondents in this study perceived blindness to be curable. Higher proportions of these were in the younger age group (25-34 years), females (52.2%), and Primary school leavers. In the Ethiopian study (Alemayehu et al 1996) 82% of the sighted and 33% of the totally blind respondents considered blindness incurable.

In this study about two thirds believed blindness due to cataract can be treated. Half of these thought it was by western medicine, a third perceived it to be by surgery. One fifth considered herbs to cure cataract blindness.

It was intriguing to see only a third of the respondents believing surgery to be the treatment for cataract. This could be due various reasons found in this study such as the belief that germs and witchcraft cause cataract and that blindness is the end stage of an eye illness and hence incurable. It could also be due to some reason requiring exploration such as the value with which they view the eye which lends itself to refusal of any tinkering with the eye as in surgery.

Four fifths of the respondents believed blindness due to trachoma is curable. 62.5% considered it to be by Western medicine, 36.8% by surgery, and 15.9% by herbs. The proportions of those who believe that blindness due to trachoma is curable, by western medicine, and by surgery is higher than for cataract. Perhaps this is due to the active health education done by specialized Trachoma programmes through the mass media. This could also be reflected in the lower perception of witchcraft as a cause of trachoma compared to cataract. It is possible that social marketing of the treatment of cataract blindness can have similar effect.

Objective 4:

Gender

Very few respondents (26%) believed that gender affects chances of getting blinding eye diseases presumably because of the nature of their work and social roles/authority. Among those who do, the majority (52.4%) thought that females had more chance of acquiring blinding eye diseases. It was interesting to see that two thirds of the male respondents considered males to have a higher chance but three quarters of female respondents believed that females had more chance to do so. Since trachoma and its complications afflict females more (Lewallen and Courtright 2001, Schwab 1995, Wolfson et al 1999, KCCO and LSHTM 2002, Abou-Gareeb et al 2001), it was interesting to see how the sample population perceived it. More females believed cataract and trachoma were blinding (54.3% and 55% for the diseases respectively) while proportions of those who believed they were eye problems in the community were only 47.2% and 52.7%. So, even though there were fewer females compared to males mentioning cataract as an eye problem, and slightly more than males mentioning trachoma, there was higher proportion of females perceiving both these diseases to be blinding. This is an opportunity for eye care programme implementers, as majority of the women appear sensitized. Female empowerment projects in the areas would be beneficial even to the eye care programmes. The challenge is the authority structure of the communities, whereby males are the main decision makers in prevention of disease and seeking health care.

It is known that, globally and in Africa, females have a higher prevalence of the common blinding eye diseases -cataract and trachoma and its blinding sequelae (Lewallen and Courtright 2001, Schwab 1995, Wolfson et al 1999, KCCO and LSHTM 2002, Abou-Gareeb et al 2001). The women in this study also perceived it to be so. But the men did not. This could be due to lack of clear understanding of the social roles and health risks of the other gender, as is the case with traditional societies. Women have heir child rearing roles to play, which is perhaps a major factor in higher incidence of trachoma among them (Lewallen and Courtright 2001, Schwab 1995, Wolfson et al 1999, KCCO and LSHTM 2002, Abou-Gareeb et al 2001).

Fewer females (41.2%) than males (58.8%) were knowledgeable about the main blinding complication of trachoma namely 'eye lids/lashes inverted inwards'. Could this be due to their educational level? In this sample 70.7% of those with no formal education were females. Majority (52.2%) of females had had no formal education (Refer to Figure 1). Only 40.3% were Primary school leavers. This low level of education could be a factor in the imbalance between the need for greater awareness and knowledge and actual presence of it. Hence greater suffering for females where blinding eye diseases are concerned.

Less than a fifth (17.5%) of the respondents perceived gender to affect the chances of preventing blinding eye diseases. Slightly higher proportion (51.1%) believed men had a higher chance, mainly because of their position as bread earners and decision makers –

head of the household.. Here again respondents believed their sex had more chance. Only about a quarter of the respondents believed that gender affects chances of getting treatment for blinding eye diseases. 72.1% thought males had more chance. The respondents considered their own sex to have a higher chance.

It appears that even though women believe that they have more chance of preventing or getting treatment, the reality of their status in society, social roles and gender relationships may not allow this. A study in Malawi showed that blind women need permission from their husbands to go for surgery. Having granted it, they do not accompany their wives, who remain deprived of the treatment opportunity (Courtright 1995) My personal field experiences in Tanzania also revealed this. Widowhood was found in the Malawian study to be an opportunity to seek treatment. As we see women in many societies are living longer than men, hence blinding cataract would be higher among females (CBM 2001). They are the ones taking care of and being near young children who get acute trachoma infections and hence the women acquire these infections recurrently till it leads to blindness (Zerihun 1997, Congdon et al 1993). Many in this study had said that men have the means and decision making power, hence get access to treatment earlier while women are deprived. Women have lesser access to family finances to pay for eye care, fewer options for travel, there's a difference in the perceived value of surgery – women are less likely to have the social support in a family to seek eye care. Moreover, women, being more illiterate, have lesser access to information resources. Hence there's a need to identify barriers preventing women from

accessing eye care, and gender sensitive eye care programmes (Lewallen and Courtright 2002) . Taking mobile eye health facilities to the villages would perhaps help in reducing the gender imbalance in accessing information and treatment. Long term measures like proper education and adequate gender empowerment and gender mainstreaming within these communities could result in equity in preventive capacity and even to treatment access.

Moreover trachoma and cataract have not yet attained the level of salience in the lives of these people. What has attained salience are the risk factors they perceive in their lives like dirt, flies, witchcraft, injuries. Health education should not burden them with 'new' diseases but, as an entry point to community intervention, start with existing perceptions of risk factors.

The perceptions conform to what is known from previous studies (Lewallen and Courtright 2001, KCCO and LSHTM 2002) and reflect gender roles and discrimination in the communities in Kibaha. Promotion of female education and well designed health education programmes , would assist in bringing about social and cultural changes necessary for equity in prevention and access to treatment of eye diseases.

It appears that people donot have a clear understanding of the social situation of the other gender. Gender is not mainstreamed in general society. The issues need to be taken up by the Government and Local authorities to the community's and nation's advantage.

Objective 5:

Decision-making

Change in the way of water use for prevention of eye diseases was especially the decision of mother/wife/woman of the household (40%) rather than the man/head of the household (23%).

To bring extra water for washing, bathing is also decision of the woman. There was slightly higher proportion of females who perceived this.

Fewer among the respondents required no permission to the way water was to be used for eye prevention, compared to washing or bathing. This would indicate that where disease prevention is concerned or new way of water use, compared to daily household routine of washing and bathing, self decision, autonomy is deferred and others are consulted or decision making left to the authority figures in the house.

Hence we see that health concerns are treated differently from routine domestic concerns. Tanzanian studies done in Dodoma show that even though mothers are responsible for water use and health and cleanliness of their children (McCauley et al 1992), they could not change the priorities in the way water could be used without the consent of their husbands and support of the community (McCauley et al 1990, Mccauley et al 1992) . In this study more females than males could take that decision. Further research is required to understand the household gender and decision-making dynamics in this area.

The husband/head of the household is the main decision maker for prevention and treatment (including decision on accepting surgery) of eye diseases. For these perceptions there was almost no gender differences among respondents.

Whereas more females are affected by blinding eye diseases (cataract and trachoma) (Lewallen and Courtright 2001, KCCO and LSHTM 2002, Lewallen and Courtright 2002, Abou-Gareeb et al 2001) fewer have access to treatment (Courtright et al 1995, Lewallen and Courtright 2002). Yet this study shows it is mainly the male who is the decision maker. This is an issue for women's empowerment. As we saw earlier women do have some authority over the way water is used for prevention of eye diseases. Another study done in Dodoma (McCauley etal 1990, McCauley et al 1992) showed that they require permission of males for change in way of water use as in washing children's faces, even though it is the women who fetch the water and care for the children.

It was important to find out whether people treated health concerns differently from routine domestic concerns. Hence, embedded within contextual questions, the substantive inquiry on who decides on change in way of water use revealed less than half (40%) of the respondents believed it was the woman of he household (mother/wife), while about a quarter (23%) thought it was the man (father/husband/head of the household). The difference increases when we analyse the responses to the contextual

question on routine washing of clothes/bathing when over half the respondents believed it was the woman while only about 7% considered the man to be the decision maker.

It would appear that for health purposes the socially accepted decision making power of the woman is reduced while the man/head of the household is reverted to. This is also reflected in the proportion of respondents who believed the man/head of the household was the decision maker in case of prevention of eye diseases (64.3%, women 28.2%), treatment seeking (75.5%, women 16.4%), and decision on eye surgery when advised by the experts (63.6%, women- no say).

CONCLUSIONS

1. Eye diseases were perceived as a problem in the community.
2. There was a much clearer understanding in the community on trachoma than cataract.
3. Majority of the people consider blindness can be treated, mainly by Western medicine. Few believe surgery can cure cataract blindness.
4. Education did not seem to make a difference in the perceptions on prevention and treatment of blindness.
5. Much as eye diseases have a gender component, this doesn't appear to be well recognized by this community.
6. Beliefs in witchcraft appears to compromise people's knowledge on causes of common blinding eye diseases.

RECOMMENDATIONS

To Programme/Project planners:

1. Improve awareness and knowledge on cataract and trachoma by health education, so that these diseases achieve adequate salience in the community.
2. Explain to the people about the causes of cataract and trachoma, as well as appropriate prevention and treatment options for these conditions, while also addressing the people's misconceptions on these.
3. Include gender perspectives in eye care programme planning to cater for the gender situation in the communities.
4. Eye care programmes should take local beliefs and situations into account. These appear to make surgery as a treatment for cataract unattractive as only few respondents mentioned this particular option.
5. There is need for eye care programmers to have concerted advocacy with District and local council authorities, so that they can encourage village communities to promote hygienic conditions not only for control of enteric disease but also for trachoma.

To researchers:

6. More research should be done in the following areas:

(i) What do people mean by 'germs' when they say that germs cause cataract?

(ii) How important do people find the eye to be and what blindness means to them. They appear to hesitate to go for eye surgery just in case they end up completely blind from what they consider to be a dangerous treatment option.

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