

Manual on Training of Trainers for Volunteers in Primary Eye Care



Community Ophthalmology, Dr. Rajendra Prasad Centre for Ophthalmic Sciences,

All India Institute of Medical Sciences, New Delhi

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**Suraj Singh Senjam, Noopur Gupta, Pallavi Shukla, Vasundhara Misra,
Vivek Gupta, Amit Bhardwaj, Yog Raj Sharma, Praveen Vashist**

Community Ophthalmology,
Dr Rajendra Prasad Centre for Ophthalmic Sciences,
All India Institute of Medical Sciences, New Delhi-110029

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Preface

Eye-care services must be comprehensive, encompassing eye-health promotion, prevention, treatment and rehabilitation. The full range of these services must be integrated into health-care systems and delivered to the population in a stepwise manner. In order for the Universal Eye Health Global Action Plan to meet its goals, services should reach the underserved sectors that exist in all populations, such as ethnic minorities, women, disabled persons and very old people.

If uptake is to be increased, awareness about eye diseases and their prevention and treatment must be stimulated by locally appropriate information and dissemination strategies. Inciting the community to take responsibility for its own eye health is one way of ensuring effective, sustainable services.

Primary level health worker or volunteers can help in prevention and control of blindness by eye health promotion in the community, creating awareness about the blinding conditions, identification of common eye conditions and mobilizing them to the higher level eye care centres.

Training of volunteer through non-formal education methodologies and materials is preferred as most of the volunteers may have only basic education. The training guidelines are presented in this module for a one- day training program consist of basic knowledge about various eye conditions and role of the volunteer in dealing with those eye conditions, knowledge regarding referral mechanism, reporting of the screened patients, skill development including visual screening of blind and visually impaired, and also a section for the program manager on how to undertake the training of the volunteers and monitor them. For the development of the module, input were received from participants representing India, Sri Lanka, Bangladesh and Nepal in a workshop conducted at Dr R.P. Centre, AIIMS, New Delhi on Dec 5-6, 2015. It is hoped that the module will be useful to all countries of South-Asia and other developing nations as well.

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Introduction

In 2002, more than 161 million people globally were visually impaired due to eye diseases (refractive error as a cause of visual impairment was not included in this statistic), 124 million of whom had low vision and 37 million were blind. In 2006, WHO released new global estimates, which, for the first time, included the global magnitude of visual impairment due to uncorrected refractive errors, accounting for an additional 153 million people. Thus, according to WHO estimates, there are approximately 314 million people around the world whose vision is impaired, due either to eye diseases or uncorrected refractive errors and among these, 45 million people are blind. At least 13 million children (aged 5–15) and 45 million working-age adults (aged 16–49) were affected globally. This statistic does not include uncorrected presbyopia, the prevalence of which is unknown. Although the prevalence of blindness among children is about 10 times lower than that among adults, childhood blindness remains a high priority because of the expected number of years to be lived in blindness. About one-half of the estimated 1.4 million cases of blindness in children below the age of 15 could have been avoided. Visual impairment is unequally distributed across age groups, as more than 82% of all blind people are 50 years of age or older, even though people in this age group represent only 19% of the world's population.

The global initiative known as 'VISION 2020: The Right to Sight' is an established partnership between the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB). It was launched in 1999 with the twin aims of eliminating avoidable blindness by the year 2020 and preventing the projected doubling of avoidable visual impairment between 1990 and 2020. The ultimate goal of the initiative is to integrate a sustainable, comprehensive, high-quality, equitable eye care system into strengthened national health-care systems. Vision 2020 has been adopted by almost all the countries worldwide.

Eye-care services must be comprehensive, encompassing eye-health promotion, prevention, treatment and rehabilitation as highlighted in WHO Global Action Plan 2014-19 of Universal Eye Health. In order to achieve Universal Eye Care, services should be equitable and reach all underserved populations, such as ethnic minorities, women, disabled persons and very old people. WHO global action plan also emphasized that the services for blindness control should be integrated with primary health care and existing health programs. If uptake is to be increased, awareness about eye diseases and their prevention and treatment must be stimulated by locally appropriate information and dissemination strategies. Empowering the community to take responsibility for its own eye health is one way of ensuring effective,

sustainable services. One of the best strategies to secure universal coverage and increase accessibility is to strengthen the Primary Eye Care services.

Primary Eye Care

Primary eye care (PEC) is a broad concept, encompassing the prevention of potentially blinding eye diseases through primary health centres (PHC). Primary eye care is defined as “a ‘frontline’ activity, providing eye care and identifying disease before it becomes a serious medical issue”. It is aimed at eye health promotion and early identification with timely referral of people with ocular morbidity. Primary



level health worker or volunteers can help in prevention and control of blindness by eye health promotion in the community, creating awareness about the blinding conditions, identification of common eye conditions and referral to the higher level eye care centres. Primary eye care is aimed at eye care promotion through behavior change in the community, community awareness and participation needs to be strengthened at the grass root level in order to identify and treat individuals with ocular morbidity within the community. PEC can be successful in a program setting when it is integrated in the existing health systems and establishes linkages with other associated sectors such as education, water resources and social welfare to enable eye health promotion.

More than 80% of blindness and 90% of visual impairment is either preventable or curable. One of the reasons for such high level of avoidable blindness in the country is poorly accessible eye care services to a large proportion of people. Majority of eye care services are concentrated in urban areas. There is high level of poverty and illiteracy in the rural population that is responsible for poor awareness about prevention & treatment of eye diseases, that in turn is responsible for under-utilization of available eye care services. It is essential that primary eye care services should be available at the doorstep to the people in rural areas, in order to reduce the burden of blindness.

One major hindrance to achieving universal PEC is that in developing countries especially from South East Asia Region, full time eye care workforce is extremely insufficient. In all countries,

the primary care workers formally employed by the public health system have the responsibilities to conduct house visits and conduct primary eye care although the eye care component is often neglected in favor of delivering reproductive health and communicable disease control services. There is also disproportionately distribution of these workforces between rural & urban area.

One way to overcome this challenge is to solicit a proactive role of volunteers in Primary Eye Care. In many South-Asian countries community members are volunteering in projects through NGO's such as the Shastho Shebikas introduced by the NGO BRAC. In Nepal there are Female Community Health Volunteer, who are working under the government ambit. In India, ASHA (Accredited Social Health Activist) has brought an exemplary change in Primary Health Care accessibility by being a successful link worker between the community and the health centres. In addition, multiple NGOs have successfully built up models for involving eye care volunteers. In Sri Lanka, there are no volunteers formally engaged by the health system. Often non-formal volunteerism also takes place by way of using school teachers and community members in eye care activities.

Before volunteers can actually deliver primary eye care, they must receive a comprehensive sensitization and training so that they get equipped with the requisite knowledge and skills to provide primary eye care services at the grass root level. This training module is intended for the use of trainers who are responsible for training volunteers in Primary Eye Care.

[Aims Of This Training Module](#)

1. To train community level volunteers in identifying the avoidable causes of blindness and common eye problems.
2. To enhance the skills of community level volunteers in screening the people who require ophthalmic eye care and motivate such patients to visit the appropriate health care centre.
3. To make the volunteer aware of the available referral health system of their respective areas especially in relation to eye care.

Identifying the Right Eye Care Volunteers

The eye care volunteer should ideally be a member of the community where they work, should be selected by the communities, should be acceptable and answerable to the communities for



their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers. They should preferably have passed 8th standard so that they can maintain routine records. Last but not the least; they should have an interest in eye care.

Volunteer should also possess good communication skills. They should be willing to travel, in order to accompany patients who need assistance. They must also be willing to undertake household visits. Each volunteer

would be responsible for roughly 1000 population in rural areas and 2000 population in urban areas and will need to devote around 2-3 hours per week on eye care activities. Any person who meets these general guidelines can be trained to be an eye care volunteer.

Roles and Activities of the Volunteer

S.No.	Role	Activity
1	Awareness Generation	Awareness of diseases leading to blindness through flipchart
		Awareness about how to take care of ocular health and hygiene
		Removing myths and misconceptions, use of traditional eye medicines related to the eye through role plays
		Awareness generation about referral facilities and services
		Organizing health days where they can display eye care, how to instill eye drops and spectacle care
2	Identification of diseases	Screening of people with blindness/ visual impairment using blindness "E" chart
		Identification of known diabetic patients
		Screening children not attending school aged 16 years or younger
		Identification of presbyopic patients
		Facilitating examination of identified patients in the screening camps
3	Referral	Link up with the vision centre: a permanent eye care facility in the community which acts as the first contact point to comprehensive eye care services provided by an exclusive eye care professional.
		Mobilizing all the identified patients to the referral centres: counseling and removing barriers.
		Accompany the blind for treatment and surgery
		Record maintenance about screened and referred patients: including blind register
4	Follow up	Follow up of post operative cataract patients
		Motivating for compliance of treatment related to glaucoma, diabetic retinopathy and any chronic ocular disease to prevent long term sight threatening sequelae
		Ensure the use of spectacles and six monthly follow up, especially in children with refractive error.

Training of Eye Care Volunteers

It is imperative that the eye care volunteers receive a training which is high quality and can equip them with the necessary knowledge and skills to be able to conduct the activities expected out of them. The training must focus on the basics with an inherent assumption that the volunteers need only the most essential information. Care must be taken not to provide an information overload.

Knowledge and skills to be imparted to the volunteers during training

Knowledge regarding:

1. What is blindness and visual impairment
2. Common eye diseases- symptoms and preventive measures
3. General eye care
4. Health system and referral mechanism
5. When to refer

Skills

1. Communication: one to one, group communication – through practical sessions and role plays.
2. Counseling and leadership skills.
3. Vision screening and eye screening.
4. Record keeping.



The training can be delivered by blindness control program managers, ophthalmologist, and public health specialists either working in health system or medical college faculty in related disciplines. The trainers should be completely familiar with the expectations from a volunteer. In addition, they should be aware of the local health system with which the volunteers will be interacting after their training. This will enable them to be aware of the local condition as well as the challenges that the volunteers may face in their routine. These topics should be integrated in the discussions that take place during the training. A structured suggested training plan is included in the annexure. It is composed of lectures, role-play exercises and demonstrations. For purpose of evaluation of the training, a sample pre-post questionnaire is also enclosed.

General guidelines on the methods of training

- Session should be interactive.
- Maximize group-work, practical exercises and role-plays
- Do not use complex terminology, try and use simple and local words for diseases as much as possible.

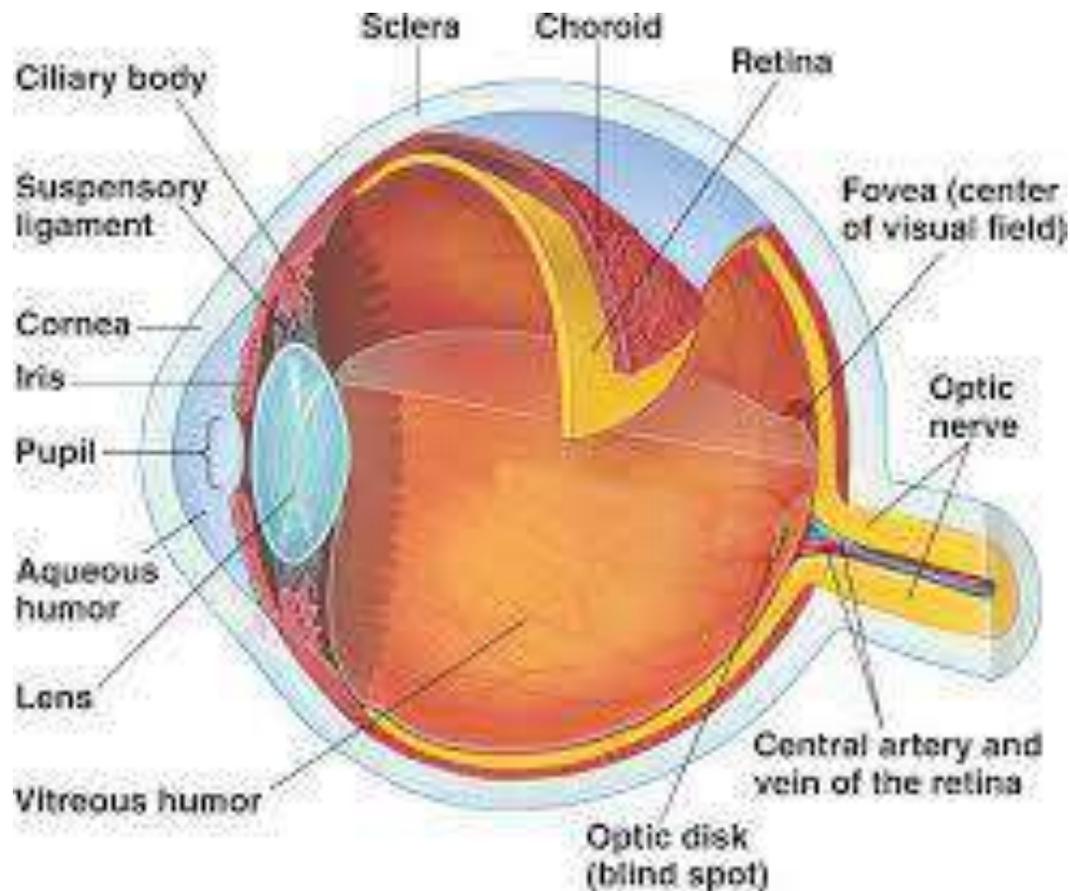
- Training must be done in the local spoken language
- Try to establish adequate practical understanding of the basics
- The Volunteer training guide (reference material about primary eye care in the local language) is provided to each participant (volunteer) contains more information than covered during this training course. It is important, however, to convey to the participants what information is available in the learner's guide, which they can refer to whenever they need to.
- Be responsive. Try and understand what the participants have understood or not understood. If something has not been understood, try to explain in a different way, or provide time for more practice.
- As trainers ensure that average participants, who form the majority of every batch, achieve the learning objectives, not just the bright ones. It is also important to try and quietly identify those who are taking longer than others to learn, and give them extra time.
- It is a good practice for the trainer to make notes and provide feedback. This will help improve the quality of training over time.

The next few chapters focus on the minimum essential knowledge and skills that should be imparted to the eye care volunteers.

Structure and functioning of human eye

Eyes are the most precious organ of the human body. Sight is the best gift from God. We are able to see this beautiful world with our eyes and are able to perform our daily activities with ease. But quite often we tend to ignore the importance of eyes and do not take good care of our eyes.

Figure: Structure of Human Eye



Outer Structures Of Eye

Eyelids: Our eyes are protected with the help of upper and lower eyelids and eyelashes. They guard us from sunlight, and dust from falling in our eyes.

Sclera: Outer white portion of our eyes is called sclera. It protects the inner parts of our eyes.

Cornea: Right in front of our eyes, centrally placed is a transparent window called cornea. Light enters our eyes through the cornea.

Iris: The black, brown or blue circular part behind the cornea is called iris. Iris gives the colour to our eyes and its pattern is unique to each individual.

Pupil: Right in the middle of the iris is a circular part called the pupil. The pupil controls the amount of light entering our eyes.

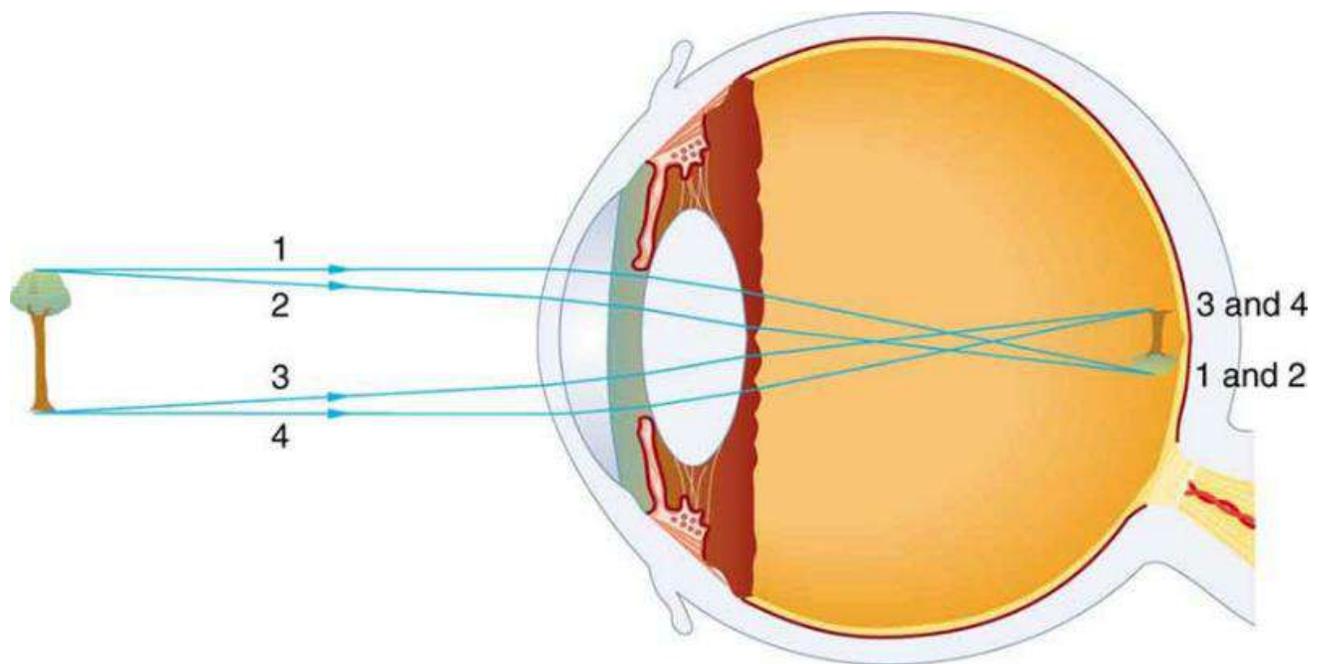
Inner Structure Of Eye

Lens: Lens is like a transparent glass right behind the iris.

Retina: The innermost layer at the back within the eye is called retina. All the light rays entering the eyes form a clear image on the retina and is important for vision.

Optic nerve: Image formed on the retina is carried to the brain through the optic nerve.

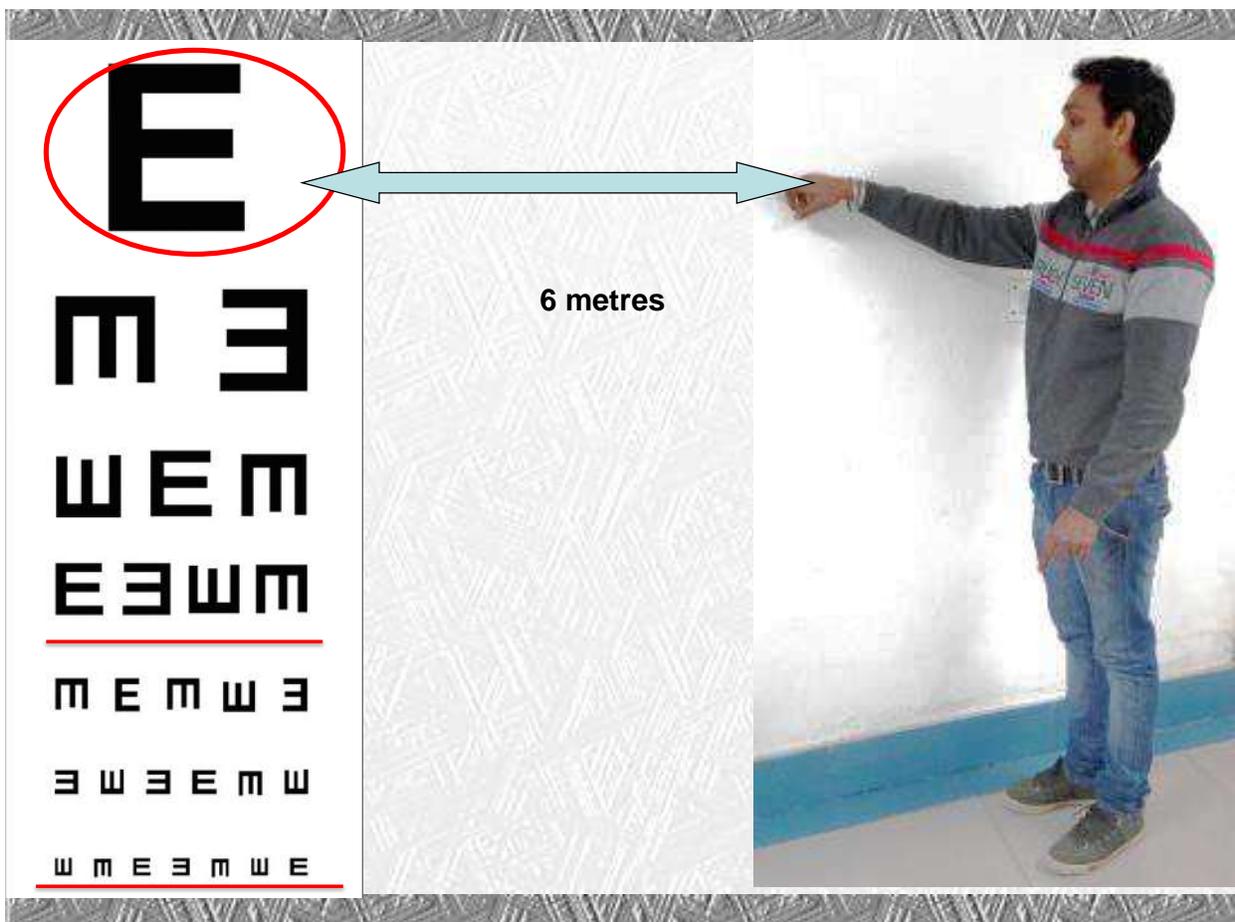
Functioning of the eye



The human eye works like a camera. Light enters through the pupil, and travels through the lens to form an image on the retina. This image is then carried to the brain through the optic nerve. If any part of the eye lying in this visual path is damaged, there is disruption of the light pathway which leads to weak eyesight or blindness.

Measuring Vision

The measurement of vision can be done in various ways. We can measure the capacity to see near objects clearly, capacity to see far away objects clearly and also measure the amount of area that we can see when we open eyes. The most important measurement is that of distance vision. Mostly, distance vision is measured by hanging a chart on a wall and asking the person to identify the characters (alphabets, numbers, shapes, objects etc) on the chart. The chart has the characters in various standard sizes and depending on what sized characters are identified clearly by the person, we measure the person's vision. This is also called visual acuity. You will hear this term very commonly in subsequent discussions.



Blindness

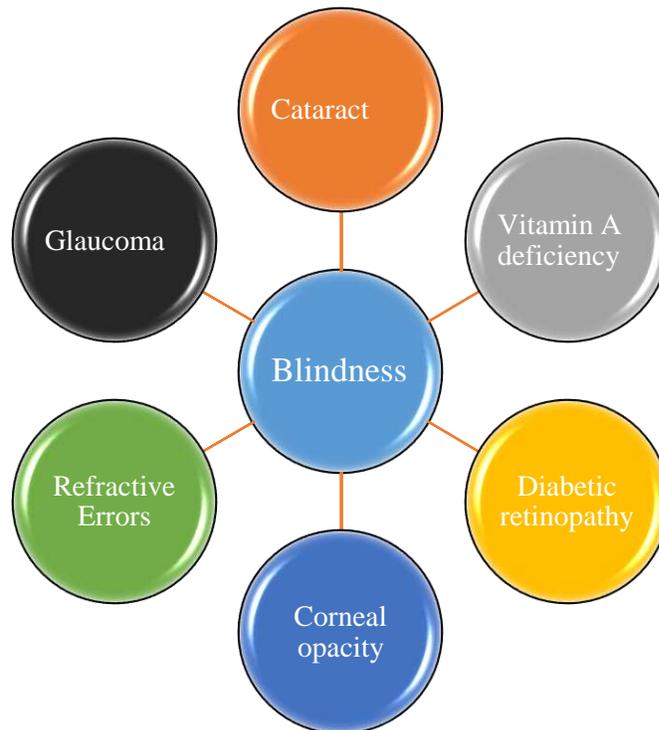
Instructions for Trainer:

Ask the participants what do they understand by blindness. Who would they call blind. If a person uses spectacles with very thick glasses, is that person blind ? If the glasses break, is that person blind ?

What is blindness?

- The World Health Organization (WHO) has defined blindness as distance visual acuity < 3/60 in the better eye with available correction. Most of the countries in South-Asia follow this definition. Blindness cut off for India is Visual Acuity <6/60 in the better eye with available correction.
- Visual Impairment: Visual acuity <6/18 in the better eye with available correction.
- Functional low vision: A person with low vision, who has impairment of visual functioning even after treatment, and/or standard refractive correction, and has a visual acuity of less than 6/18 to light perception or a visual field of less than 10 degrees from the point of fixation, but who uses, or is potentially able to use, vision for the planning and/or execution of a task.

Figure: Common causes of blindness



Role of the volunteer: Identification of blind people in the community

- Identifying signs of blindness and visual impairment like inability to identify faces.
- Screening all individuals in the community aged 40 years and above with the help of the Blind 'E' card (Annexure)
- Imparting health education on motivating people at risk of visual disability for eye examination.
- Record keeping: maintaining a blind register.

Review and Discussion Points

Q1. Which age group is more affected with blindness?

Q2. What are the common causes of blindness in your country?

CATARACT

Instructions for Trainer:

Ask the participants How many patients of cataract have you seen so far? How many of them got operated? Is it necessary to operate cataract?

Cataract tops the list of avoidable blindness. Surgery is the mainstay of cataract treatment. Cataract surgeries are very safe.

What is a cataract?



Cataract is the opacity of the transparent lens of the eye. Cataract is the commonest cause of blindness in South-east Asia region. Cataract is mainly observed in people above 40 years of age. Due to cataract, the vision becomes poor and the patients may go blind, if not treated. Some other factors that may be associated with occurrence of cataract are eye injuries, inflammation, diabetes, and prolonged use of steroids. Children may be born with cataract because of an infection or some other insult during pregnancy.

Signs and Symptoms of Cataract:

- White lens opacity in the eye when cataract is matured.
- The loss of vision is gradual and painless.
- Glare in bright light or difficulty in driving at night.
- Usually affects both eyes but the involvement may be sequential

Treatment of cataract:

- Surgery is the only modality of treatment. Medication cannot cure or delay cataract formation.
- Surgical removal of the clouded lens and replacement by an artificial intraocular lens (IOL) can restore normal vision.
- Cataract surgery is simple and quick. It does not require general anesthesia. After the surgery the vision is restored and patients can do their work properly.
- The patient should not wait for the maturation of cataract but get it treated when it starts affecting his lifestyle.
- Cataract surgical services are available free of cost in government hospitals and many Non-Governmental Organizations (NGOs).

How can a volunteer help cataract patients?

Identify patients with potential cataract in your area

- During the survey of your area, visit door-to-door and ask the residents:
 - Q. Is there any member >40 years in your family?
 - Q. Is there any problem in their vision like gradual vision loss, double vision and glare?
- If answer to any of the above mentioned question is “yes”, do visual screening using blindness E card and refer them accordingly.

The correct procedure for testing visual acuity is mentioned in the last chapter “skills of volunteer in testing vision of school children, cataract patients and blind persons”

Imparting health education:

Surgery is the only treatment of cataract. It's a very safe surgery and can be done in any time of the year.



Assist the patients willing to undergo cataract surgery

Before the surgery :

- Accompany the patient to the hospital.
- Communicate with the doctor, hospital staff and social workers on the behalf of the patient.
- Help the patient in getting the pre-operative investigations like blood sugar estimation, blood pressure, intra-ocular pressure and ocular biometry.

After the surgery:

- Ensure that the patient has received the medicines on discharge and he understands the schedule and correct method of instilling the eye drops.
- Make sure the patient is using the eye shield for protection of the eyes.
- Inform the patient about the importance of balanced diet for better recovery.
- Ensure proper Post-Operative Care and follow-up

Post-Operative Care and follow-up of Patients who have undergone cataract surgery

- Put eye-drops/ointments as advised by operating surgeon.
- Protect eyes from bright sunlight, dust, smoke and jerks.
- Avoid lifting heavy weights.
- Wear dark glasses.



- Before cleaning eyes, wash hands with soap and water. Soak clean cotton in boiling water for 10 minutes. Cool the cotton and use it for cleaning.
- Wipe your eye with clean cotton, starting from inner corner and moving to periphery.
- Do not press or rub it.
- If redness, pain or sudden loss of vision is observed, patient should contact doctor immediately.
- Get follow up checkup after one week of the surgery and again after 4-6 weeks for spectacles requirement.

How to explain the low vision after surgery in certain patients:

1. If cataract surgery is delayed for a long time, then various complications like glaucoma develop. This does not allow patients to have good vision after surgery.
2. There are other co-existing diseases with cataract like retinal diseases, glaucoma which affect the vision. In such cases the desired vision is not obtained.
3. In most of the cases ophthalmologist is able to decide whether the vision can be restored. However, it is not always possible to predict the level of vision gain in advance, especially in cases with diabetes, uveitis, trauma due to presence of other co-morbidities.



Key points

- Explain to the patient that cataract surgeries are being conducted free of cost by the government.
- Remove the myths associated with timing, safety and access of cataract surgery.

Record keeping

- Name, age, sex, address, contact no., referred, date of surgery and detailed follow up of patients with cataract.

Review questions

Q1. What are the signs/symptoms of cataract in old age?

Q2. Which part of the eye is affected in cataract?

Q3. When should a cataract patient be advised surgery?

Q4. What precautions should be taken after surgery?

The only treatment of cataract is surgery

REFRACTIVE ERROR

Instructions for Trainer:

How many of you have got your eyes checked at any time in life? Can there be any bad consequences for not wearing spectacles for weak eye-sight.

What is refractive error?

Refractive error is a condition in which parallel rays of light coming from infinity cannot focus clearly on the retina when the eye is at rest. It is usually caused due to abnormal size and curvature of the eyeball. Due to these problems, patient cannot see the near or distance objects clearly.

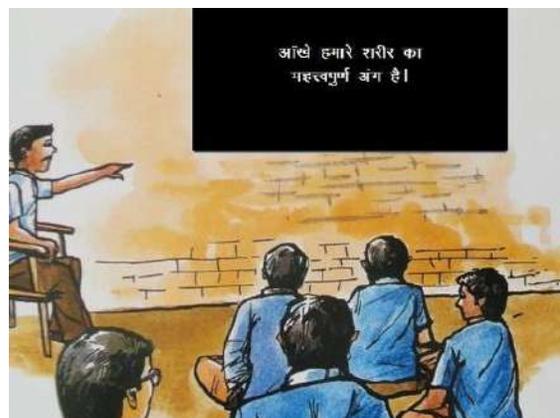
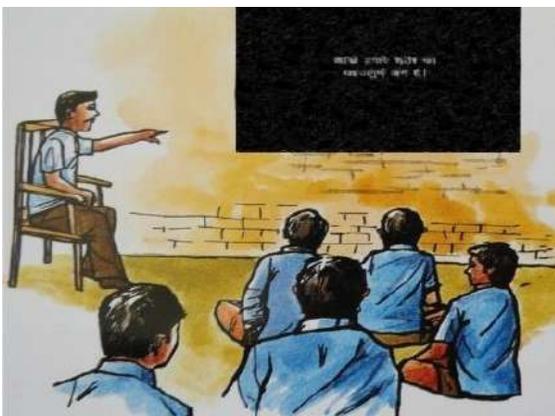
Types of Refractive Error:

1. Myopia or near sightedness.

Myopia is usually inherited and is often discovered in childhood. Persons with myopia have blurred distant vision. Children with myopia are not able to perceive their problem because they have never seen normally. The condition can be corrected by concave / minus spectacles.

2. Hypermetropia (Far sightedness)

Persons with hypermetropia have difficulty in seeing both distant & near objects. The condition can be corrected by using convex / plus spectacles. When left uncorrected, such persons feel eyestrain and headache while doing close work.



Symptoms of refractive error in children:

Parents/teachers/Eye care volunteers can identify the children with refractive errors by noting the following:

1. Develop hazy vision
2. Complaints of headache/watering/eye-strain while doing near work/studying/watching TV.
3. Child finds difficulty in reading from the blackboard when sitting in the back benches.
4. Copying from other children's books instead of blackboard
5. Child tends to watch TV from a close distance.
6. Squeezing/frequent blinking of the eyes while watching the distant objects.

Poor Near Vision in Old Age: Presbyopia

Around the age of 40, a person may find difficulty in seeing near objects clearly. This is because the changes in the lens with increasing age. Affected persons cannot read the newspaper print or thread the needle properly. This is called presbyopia. The defect can easily be corrected by wearing near-vision spectacles. Almost all the individuals over the age of 40 years will develop presbyopia to some extent.

Symptoms of Presbyopia:

1. Difficulty in reading
2. Difficulty in doing computer work or reading numbers on the mobile phone.
3. Difficulty in threading the needle/stitching.



4. Difficulty in Cleaning pulses/rice etc.

What can a volunteer do

- Imparting health education on refractive error and presbyopia in the community through role plays and placards.
- Once the spectacles have been dispensed the volunteer should motivate the beneficiary to always wear the spectacles and take due care of it. Those wearing spectacles
- Keeping records of the children screened for refractive error. Also to maintain the record of all individuals having symptoms of refractive error, who are referred to vision centre.



Care of spectacles

1. Always wear or remove your glasses with two hands, this can prevent bending the frame.
2. Always put your spectacles back in the case after the use. Never leave your glasses lens-side down on a table.
3. Do not use dirty and scratched glasses.
4. Do not share or use other spectacles.
5. Clean your glasses every day with a soft piece of cloth.



What can a volunteer do ?

Spread awareness about these refractive errors and guide them where they can get themselves checked. Eye care volunteer can also help in testing visual acuity using 6/18 cut off and refer them to vision centre.

She needs to keep record of the patients whose $VA < 6/60$ with best correction and refer them to secondary level centre.



Review and discussion

Q1. What are the common types of refractive errors?

Q2. What are the common problems due to near vision in 45+ age group?

Q3. What are the common symptoms or signs of refractive errors in a child?

Q4. How can health care volunteer identify a child with suspected refractive error?

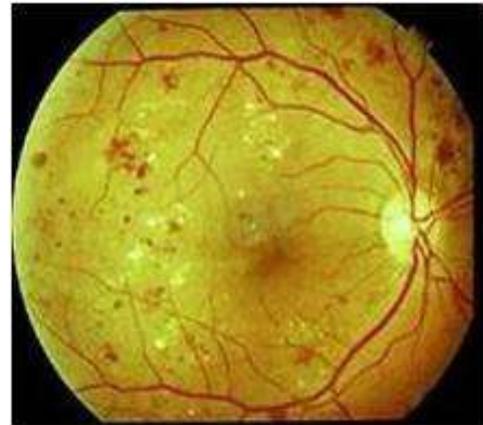
DIABETIC RETINOPATHY

Instructions for Trainers: Ask the following questions to the volunteers:

Have you heard of diabetes. How many people of diabetes have you seen so far in your community. Do you think diabetes can have any effect on eyes as well? Has anybody you have mentioned above has developed any problems of vision?

Diabetes

Diabetes mellitus is a condition when sugar level in the blood is increased. Diabetes is a major medical problem and India has the maximum number of diabetic patients in the world. Diabetes affects many organs in the body including the eyes. Most of the diabetic patients are unaware about this fact. They need to be counseled for regular eye check up as well as blood sugar monitoring.



Diabetic Retinopathy:

Diabetic Retinopathy usually affects the retina. Diabetic retinopathy develops when the blood vessels that nourish the retina deteriorate as a result of high blood sugar levels.

Signs and Symptoms

- Initially, there is no visible sign or symptoms but later on it deteriorates vision.
- Seeing floaters (Dark spots), black lines or flashes.
- Blurring of vision, sudden loss of vision.



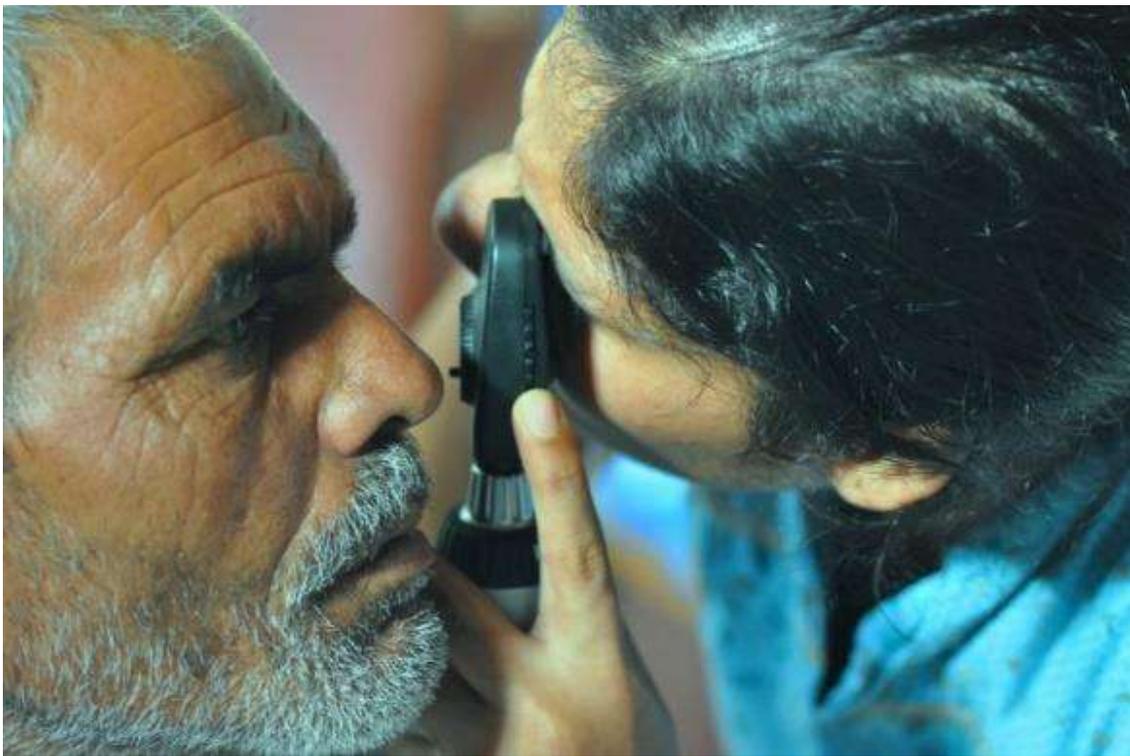
NORMAL VISION



VISION IN DIABETIC RETINOPATHY

Treatment of Diabetic Retinopathy:

- The damage once occurred is usually irreversible, if not managed promptly and effectively. Hence prevention is the best cure.
- The treatment of diabetic retinopathy is laser.
- All those patients who have diabetes must get their eyes checked at regular intervals to rule out development of any signs of retinopathy, even if their blood sugar is under control.
- Medication to keep blood sugar under control is the best prevention for treatable diabetic retinopathy.



What can a volunteer do

During the house-to-house visits, the Eye care volunteer should generate awareness in her community about this condition. She should ensure that diabetic patients get regular treatment for diabetes and also get their eyes checked by an ophthalmologist once in an year.

Review questions

Q1. Which part of the eye is commonly affected in diabetes?

Q2. How can we prevent blindness due to diabetes?

Diabetic patients must get eyes examined every year

GLAUCOMA

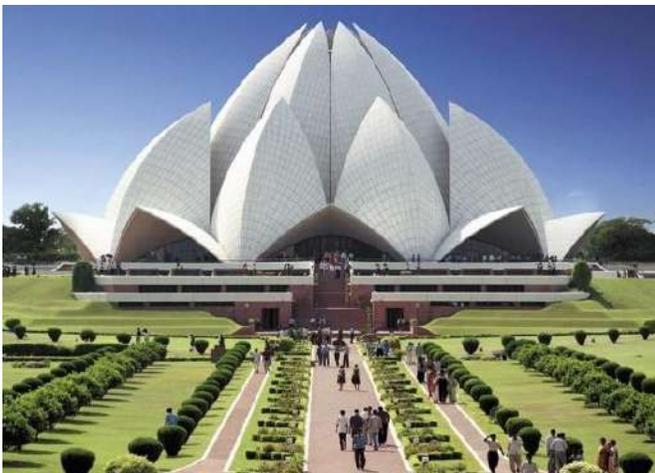
Instructions for Trainer:

Have you ever heard about Glaucoma? What type of people does it affect? Why is it important to know about Glaucoma?

Glaucoma causes permanent loss of vision if not treated and diagnosed in time. It can be screened early to prevent incurable blindness.

What is Glaucoma?

Glaucoma, known as a sneak thief of eyesight, is one of the common sight threatening conditions of the eye. Glaucoma is a group of diseases which finally damage the optic nerves which are essential for vision.



NORMAL VISION



VISION IN GLAUCOMA

In glaucoma, usually the pressure inside the eye is increased. This increase in pressure can damage the optic nerve due to which the field of vision is reduced. Many times, people may remain asymptomatic in glaucoma.

Signs and Symptoms

- Headache and pain in the eye
- Colored halos around the source of light.
- Frequent change of presbyopic spectacles
- Gradual loss of peripheral vision and restriction of field of vision

Treatment of Glaucoma:

- Blindness due to glaucoma can be avoided, if detected early, treated properly and regularly. The treatment of glaucoma is usually eye drops and laser while surgery is needed in non-compliant and severe cases.
- Nerve damage due to glaucoma cannot be reversed.
- The treatment of glaucoma once started should not be stopped without doctor's advice.

All the family members of a person with positive history of glaucoma should be referred to eye specialist for glaucoma screening at least once in a year.



What can a volunteer do

If the volunteer comes across people aged 40 years or more during house to house survey, he should motivate and guide them for glaucoma screening at the health care centre especially those with a positive family history and having signs and symptoms as mentioned above. The volunteer should ensure that people diagnosed with glaucoma should put their medicines regularly and visit the ophthalmologists as they need for lifelong follow up.

Review and discussion

Q1. What are risk factors for developing glaucoma?

Q2. How is glaucoma managed?

All people above the 40 years of age should be referred to eye specialist for glaucoma screening

CORNEAL BLINDNESS

Instructions for Trainer:

Ask the participants about the problems that they are aware of which can be surgically treated. Steer discussion towards trachoma and eye injuries and how eye donation can lead to successful treatment

Corneal diseases contribute 5% of blindness. The only cure for corneal blindness is transplantation. However, it can be prevented by small efforts. The common causes of corneal blindness are Vitamin A deficiency, eye injuries, foreign body and trachoma. We shall be discussing vitamin A deficiency, eye injuries and foreign body in the coming chapters.

Trachoma

Trachoma is a chronic keratoconjunctivitis, primarily affecting the superficial epithelium of conjunctiva and cornea simultaneously.

Signs and symptoms

- Small follicles in the inner surface of eyelids.
- Scratchiness in the eyes.
- Mostly effects both the eyes.
- Discharge from the eyes.
- In later stages inturning of eyelashes leads to corneal opacity and blindness if not treated in time.

Prevention

- Maintain personal hygiene and environmental cleanliness.
- Do not let houseflies breed both within the house and in the surrounding.
- Keep your towel and handkerchief separate from others.
- Wash your eyes and face several times with clean water.

Treatment

- Treatment of trachoma is possible.
- Put the eye ointment given by your doctor.
- Wash your eyes several times with clean water.

- Inturned eye lashes can be surgically corrected.

What can a volunteer do

Trachoma is one of the preventable causes of blindness. This key message needs to be spread by Eye care volunteer's. Eye care volunteer's role is to sensitise the community that environmental and personal cleanliness can minimize the load of Trachoma.

Eye donation

What is eye donation?

Eye donation is a process of donating eyes after his/her death. Usually the deceased has pledged his eyes during his lifetime. Even family members can donate the eyes of the deceased.

Why should we do eye donation?

The cornea can get damaged through accidents, sharp objects (e.g. bows and arrows, pen, pencil, etc.), chemical burns, infections and malnutrition. Corneal blindness cannot be treated by medicine, but only by surgery. A Corneal transplant is an operation that replaces the opaque cornea with a clear cornea obtained from a human donor.

Who can donate eyes?

Any person of any age can donate eyes after his/her death. Even if the deceased has medical history of hypertension, diabetes, asthma, tuberculosis etc., or is a spectacle wearer and people has undergone cataract operation, the eyes can be donated.

The deceased can give vision to two blind people with his two eyes. There is no disfigurement in deceased's face by eye donation. There is no restriction against eye donation in any religion of the world.

What is the procedure for eye donation?

Dial the 1919 number for the eye donation. This is your nearest eye bank number. Once the information for eye donation is communicated to eye banks, the eye bank sends its team to collect the eyes. Eyes need to be removed within six hours after death.

What precautions are to be taken?

- Switch off the ceiling fan and switch on Air conditioner (if available).
- Raise the head of the deceased slightly by placing a pillow underneath.

- Place wet clean cloth over the closed eye lids.

What can a volunteer do

Motivate the community by telling success stories from the nearby community. Sharing of experiences of the relatives of the donors including the religious/opinion leaders in counseling.

Making available the eye donation registration forms. Informing about the nearest eye bank with the contact numbers. Recording the donations made from her community.

Let's pledge for eye donation for our self and also for our family members

CHILDHOOD BLINDNESS

Instructions for Trainer:

Inquire from the participants if they think children suffer from some other disorders than adults. What are the common causes.



The treatment of childhood blindness is very important because affected child may go blind for many years. In our country almost half of the childhood blindness can be treated and prevented too. There are many causes of childhood blindness which are given below:

Refractive error:

Most important cause of childhood blindness is refractive error. It has already been discussed in a separate chapter on refractive error in all ages.

Vitamin 'A' Deficiency:

Vitamin 'A' is an essential nutrient for eyes. Night blindness is one of the most common symptoms of Vitamin A deficiency.

Causes:

- Deficiency of Vitamin A in diet.
- Several episodes of diarrhea.
- Measles and other diseases cause Vitamin A deficiency.

Early Signs:

- The Infant's skin and eyes appear dry and wrinkled.
- White portion of the eye appears lusterless and dull.
- Grey elevated patches called Bitot's spots appear on the white portion of the eye.
- Poor vision in dim light and at night.
- The condition is curable at early stage. If left un-treated, it results in total blindness in children.

Prevention

Expectant and nursing mother should eat adequate Vitamin A rich food.



The commonly available sources of vitamin A are- green leafy vegetables, carrot, yellow fruits like papaya, mango, banana and dairy products- milk, curd, cottage cheese. The non-vegetarian sources are fish, egg and meat.

All infants should be breastfed from the very first day of their birth.

Vitamin A prophylaxis should be given to all the children from 9 months to 5 year of age at the interval of 6 month. The oral doses are available free of cost in all the immunization centers.

What can a volunteer do

To spread awareness about this condition and ensure that all children in the age group of 9 months to 5 years receive the half yearly doses of Vitamin A from the immunization centre.

Review questions and discussion

Q1. Which age group is commonly affected with Vitamin A deficiencies?

Q2. Vitamin A prophylaxis is given as:

Q3. Food rich in Vitamin A are:

Retinopathy of Prematurity (ROP):

Retina of preterm babies is not well developed. This causes intra-ocular hemorrhage and retinal detachment. This leads to uncorrected refractive error and blindness. If this condition is not treated in time chances of blindness are increased more than 50%. Eyes of pre-term babies need to be examined regularly.



Pre-term children, and those who develop hypoxia, infection or breathlessness after birth need to be examined within 30 days of birth.

What a volunteer can do

Get an eye examination done for all children of your area who are pre-term or low birth weight within 30 days of their birth.

Squint:



Squint (crossed) eye usually develops during early childhood. Both the eyes of the child are abnormally aligned when looking at an object.

Patient of squint uses one eye at a time. This causes lack of co-ordination between both the eyes which leads to defective vision of both eyes.

Squint is best corrected, if noticed during early childhood (5-7 years).

In some cases, proper spectacles can achieve desired correction. Consult the eye doctor immediately.

What a volunteer can do

It is very easy to identify squint. Such patients can be benefitted more if given early treatment. Role of Eye care volunteer is to identify such children and motivate their parents to take them to a specialized centre.

EYE INJURIES

Eyes of children can be injured in home, at school or in the playground. These injuries can be prevented by being more cautious. Prevention is the first and most important step for avoiding eye injuries.

- Don't play dangerous games like gulli-danda, bows and arrows.
- Items of daily use like a sharp edged toys, knife, needle, scissors, etc., should be kept away from children. These objects can sometimes cause serious injuries when they come in contact with eyes.
- Use herbal colours. Avoid use of chemicals while playing Holi.
- Don't stand too close to firecrackers, adult supervision is essential, while children are playing with crackers.

Take immediate care of the injured eye so that vision can be saved. Self medication should not be done at any cost.

When something falls in the Eye:

- Do not rub the eyes
- Wash with plenty of clean water
- Ask Someone to take out the particle with the help of a clean wet cloth
- If the particle does not come out easily, consult an eye specialist immediately.

CONJUNCTIVITIS

Inflammation of the conjunctiva is classically defined as conjunctival hyperaemia associated with a discharge which may be watery, mucoid, mucopurulent or purulent. It can be infective. It is transmitted by flies, fomites, handkerchief and towels.



Prevention

Maintenance of hygiene is extremely essential for its prevention.

- Wash your hands and eyes with clean water.
- Keep your towel and handkerchief separate.
- Do not touch the eyes and face often.
- Use goggles to prevent photophobia.



Treatment

Consult an ophthalmologist in case of any eye infection.

What can a volunteer do

Eye care volunteer can spread awareness in the community about the prevention and identification of conjunctivitis.

Review and discussion

Q1. What are the symptoms of conjunctivitis?

Q2. What should be advised to a patient of conjunctivitis?

GENERAL CARE OF OUR EYES AND HOW TO INSTILL EYE DROPS

Your eyes are your windows on the world — so give them the best care possible, to keep seeing your very best! Practicing good eye health and proper eye care are both key to preserving your vision. So it's important to know how to care for your eyes, and the steps you should take to protect them.

General Eye Care:

One should wash ones eyes daily with clean water, it helps ward off many infections. Transmission of various diseases like Trachoma can be controlled by keeping environment clean, because unclean surrounding breeds flies and mosquitoes. Personalized articles like towel, handkerchief, bed linen etc. needs to be kept separate in order to prevent transmission of infected eye conditions. Never instill any substance like ghee, cow milk, gulab jal, honey and homemade remedies in the eyes. Only use medications prescribed by your doctor. Ensure that eye drops once opened can only be used within one month of opening, even if their expiry date is not reached. Reading should only be done in good light, dim light strains the eyes. Do not see solar eclipse with naked eyes as it may harm your eyes.

Computer vision syndrome

Computer Vision Syndrome, also referred to as Digital Eye Strain, describes a group of eye and vision-related problems that result from prolonged computer, tablet, e-reader and cell phone use. Many individuals experience eye discomfort and vision problems when viewing digital screens for extended periods. The most common symptoms associated with Computer Vision Syndrome are eyestrain, headaches, blurred vision, dry eyes, neck and shoulder pain.

Prevention or reduction of the vision problems associated with Computer Vision Syndrome or Digital Eye Strain involves taking steps to control lighting and glare on the device screen, establishing proper working distances and posture for screen viewing, and assuring that even minor vision problems are properly corrected.

How to instill eye drops



Check the expiry date on the eye drop



Wash the hands with soap and water



Ask patient to look upwards and then instill drop in the lower fornix



Donot touch the tip of the bottle



After use tightly close the bottle with the cap

What can a voluntee

- Spread awareness in the community regarding maintenance of personal hygiene and eye hygiene.
- Also educate the community regarding the cleanliness of environment.
- Give away correct information about the Do's and Dont's of eye injury.
- Volunteer can advice people about the correct posture for long term computer use.

Do not use the open eye drops/ointments beyond one month of opening even if the expiry date is long

KNOWLEDGE ABOUT OUR HEALTH SYSTEM AND REFERRAL MECHANISM

After initial eye care screening is done by volunteers, patients are referred to vision centres. Primary eye care and refractive error services are provided by Vision Centres. A vision center is a permanent eye care facility in the community which acts as the first point of interface of the population with comprehensive eye care services provided by an exclusive skilled eye care worker. Those patients who require further care are referred to secondary centres where there is provision for cataract surgeries and other minor procedures. Patients who require more specialist management like retinal surgery etc are referred to higher centres. Following is the proposed pyramidal model.

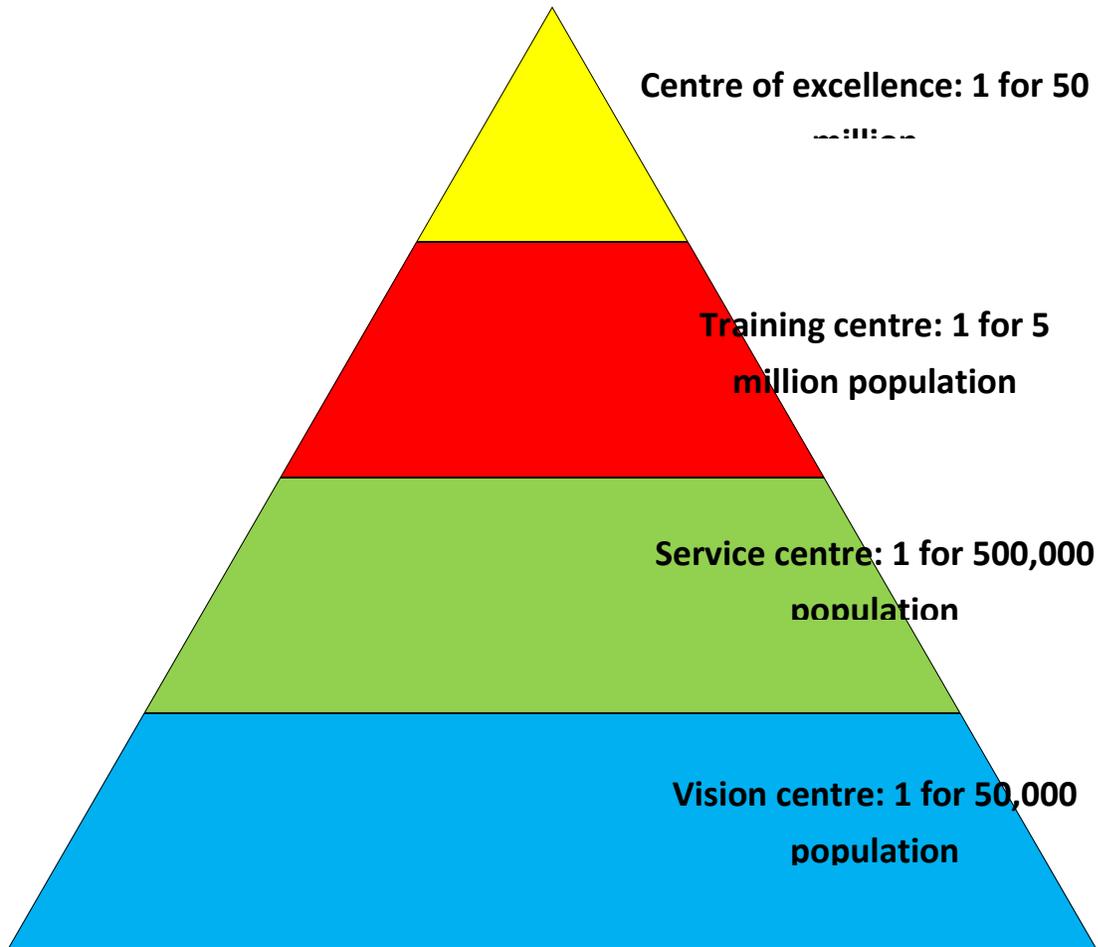
Streamlining the referral support

The worker needs to build linkage with the Ophthalmic Assistant at the Vision Centre at PHC/CHC. (Or any other first contact point, depending upon the country, where comprehensive eye care is available). If proper linkage is there, the volunteer would take interest in identifying patients and referring them, otherwise it would be a pain staking task.

It is the responsibility of the programme manager to help the volunteer establish linkage with the secondary level hospital, where patients can be referred.

Before the initiation of this programme, it should be ensured that the facilities are available in the referral centres as required.

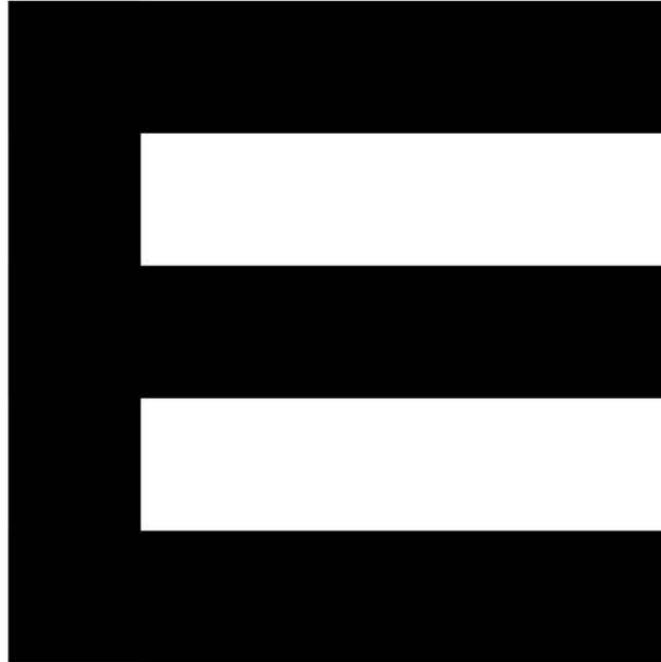
By involving the community leaders like village pradhan and village health committee members, the entire process of mobilizing the community could be simplified.



It is the duty of the volunteer to know the first referral centre

VISION SCREENING

Vision screening of Blindness



Procedure of vision screening:

Step 1:

- Area for vision screening should have Proper light and adequate space
- Measure 6 meter distance by measuring tape
- Mark standing point

Step 2:

- Demonstrate the cataract E Scanner card to old people
- In case patients wear glasses for the distance, he must wear them while testing vision

Step 3:

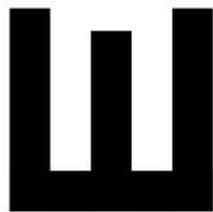
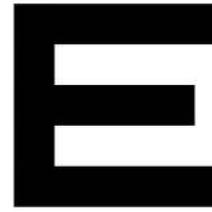
- Ask the patients to cover her/his left eye with the palm of left hand and point the direction of the open ends of "E". Don't press the eye. Rotate the chart such that E open to right, then to left and then to up.
- Repeat that with left eye.

Step 4:

- If patients cannot identify at least 3 direction of E, patients may be blind.
- Motivate these persons to visit secondary level eye care facility.

If the patient is able to see the Big E, do further testing using the Small E chart.

Vision screening of visual impairment



Procedure of vision screening:

Step 1:

- Vision screening area should have Proper light and adequate space
- Measure 6 meter distance by measuring tape
- Mark standing point

Step 2:

- Demonstrate the chart. Person has to see the chart and point towards the open ends of E with their arms
- In case a person wear glasses for the distance, he/she must wear them while testing vision

Step 3:

- Ask the person to cover her/his left eye with the palm of left hand and point the direction of the open ends of "E". Don't press the eye
- Ask the person to cover her/his right eye and point the direction of "E" again.

Step 4:

- If person cannot identify at least 3 E's with each eye, record their name and refer them to visit nearest vision centre.

COMMUNICATION SKILLS

Communicating the intended message clearly and effectively is an important skill. Improving your communication skills is an art that comes with regular practice. Your communication skill is the only attribute that will help you to convince your target audience. So, make wise use of your words skillfully and make sure to establish your point politely.

Remember, the art of communication is the language of leadership.

In order to obtain the goals, the volunteer needs to master its communication skills, both the oral as well as written. Oral skills are essential to motivate the community and make them aware about primary eye care. Written skills will be required when the volunteer submits its report to higher levels.

Oral communication: In oral communication, Spoken words are used. It includes face-to-face conversations, speech, telephonic conversation, video, radio, television, voice over internet. In oral communication, communication is influence by pitch, volume, speed and clarity of speaking.



Non-verbal communication: Nonverbal communication is the sending or receiving of wordless messages. We can say that communication other than oral and written, such as gesture, body language, posture, tone of voice or facial expressions, is called nonverbal communication.

Written communication: In written communication, written signs or symbols are used to communicate. A written message may be printed or hand written. In written communication message can be transmitted via email, letter, report, memo etc.



Communicating with People

Your attempt as a primary eye care volunteer is to share knowledge about cataract and simple eye ailments; identify lack of information, misconception about cataract and help them understand how by a simple operation cataract can be treated. This face to face interaction establishes a relationship of trust and confidence between you and the people of the community. This in simple words is called interpersonal communication. The art of communication as taught to you through this section would help you to increase participation of people, especially village groups such as Mahila Mandals, Yuvak and Kirtan mandals, to come forward and co-operate in identification of blind and visually impaired. These communication could be on :

- One to one basis: example with village women, grandmothers, sarpanch.
- With small groups: Panchayat, Mahila Mandal, Youth groups.
- With large groups: village meetings.

Handling rumours and misconceptions

Rumour is an information, often a mixture of truth and untruth, passed around verbally. These rumours erode the value and benefits of a good programme by spreading bad words about them. Misconceptions are related to our values and views, which we hold on to as part of our understanding of socio-cultural life. Our misconceptions are derived and dependent on rumours. If these are not sorted out with time they become beliefs. List of misconceptions that you might find in your community and many more:

- Cataract in one eye will lead to cataract in the other eye.
- Lack of fluids in the eye also causes cataract.
- Irregular menstrual cycle causes cataract.
- Cataract is part and parcel of old age and that there is no cure for it.

- Lack of “paushtik aahaar or shuddh bhojan” causes cataract.
- Pain, redness in eye are symptoms of cataract.
- Cataract can be cured by eye drops/ medicines.
- Cataract operations are painful and time consuming.
- One has to wait for the cataract to mature before an operation.

Ways of removing misconceptions/rumours

- Diagnose the reasons why a family/couple/community in the village believes in a particular belief.
- To remove misconceptions you have to demonstrate the effectiveness of the information/belief that you would like them to have.
- Get information from an acceptor of the programme. Like a villager who has undergone cataract operation to advocate how simple and painless the surgery was.
- Obtain suggestions from the opinion leaders in the community.

RECORD KEEPING



When a volunteer visits a household, he should be polite in gesture and after building rapport with the family, communicate to them the importance of primary eye care and enquire about the following things.

- Anybody in the household with visual impairment or decreased vision.
- Anybody with the eye problem in the family.
- Anybody blind child in the family.
- Any eye drops being used in the family.
- Known cases of Diabetes and Glaucoma in the family.
- Any known eye disease.
- Number of people wearing the spectacles.

The volunteer can fill the details of all the referred patients in the following form.

TRAINING EVALUATION QUESTIONNAIRE

Serial No.: _____

Name	_____		
Age (Years)			
Education			0=Illiterate, 1 to 12 th =No of class passed, Diploma =14, Graduate-15, Post Graduate -17, Professional Education 20, Just Read & Write - 50
Address:	_____		
Telephone(Mobile) Number	_____		

Part 1: Interview of the participants on knowledge about primary eye care

S No.	Question
1.	What is blindness? अन्धापन क्या है?
2.	What are the common causes of blindness in our country? हमारे देश में अन्धता के मुख्य कारण क्या-क्या है ?

<p>3.</p>	<p>Have you heard of Cataract? 1. Yes 2. No</p> <p>क्या आपने सफेद मोतियाबिन्द का नाम सुना है ? हाँ नहीं</p> <p style="text-align: center;">यदि उत्तर नहीं है तो प्र० सं० 5 पर जाये।</p>
<p>4.</p>	<p>What is the treatment of Cataract?</p> <p>सफेद मोतियाबिन्द का इलाज क्या है ?</p>
<p>5.</p>	<p>Have you heard of refractive errors? 1. Yes (हाँ)</p> <p>क्या आप ने कमजोर नजर (चश्मे से ठीक होने वाली) दृष्टिदोष के बारे में सुना है? 2. No (नहीं)</p> <p>यदि नहीं तो प्र० सं० 8 पर जाये ?</p>
<p>6.</p>	<p>If yes, then how many type of refractive errors?</p> <p>यदि हाँ, तो कमजोर नजर कितने प्रकार के होते है?</p>

<p>7.</p>	<p>What are the common symptoms or sign of refractive errors in a child? बच्चों में कमजोर नजर के मुख्य लक्षण क्या है ?</p>
<p>8.</p>	<p>Have you heard of Diabetes? 1. Yes (हाँ) क्या आप मधुमेह के बारे में सुना है? 2. No (नहीं) यदि नहीं तो प्र० सं० 11 पर जाये ?</p>
<p>9.</p>	<p>Can diabetes affect eye? 1. Yes (हाँ) क्या मधुमेह का आँखों पर असर पड़ सकता है? 2. No (नहीं) यदि नहीं तो प्र० सं० 11 पर जाये ?</p>
<p>10.</p>	<p>How can we prevent blindness due to diabetes? हम मधुमेह से होने वाली अन्धता को कैसे रोक सकते हैं ?</p>

11.	<p>What should be done if something falls in the eye?</p> <p>जब आँख में कुछ गिर जाए तो क्या करना चाहिये ?</p>
12.	<p>Generally after opening an eye drop vial /tube, how long it can be used?</p> <p>साधारणतः एक आई ड्रॉप/मलहम खुलने बाद कितने समय तक इस्तेमाल करनी चाहिए ?</p>

TRAINING SCHEDULE FOR THE EYE CARE VOLUNTEER

Lecture/demonstration :	2:00 Hrs
Pre-training evaluation	10 min
Introduction, structure& function of eyes	20 min
Common eye conditions: symptom and prevention	60 min
Primary eye care and role of volunteers.	30 min
Practical training	2: 30 Hrs
Recording formats	30 min
Visual acuity testing using specific optotypes	60 min
Role plays for primary eye care	30 min
Feedback and post training evaluation	30 min

VOLUNTEER PRIMARY EYE CARE KIT

Training manual

Reporting format

6 metre tape/rope

Blindness “E” card

Vision screening card for visually impaired

Health education material

Referral slips

Pen/ notebook