# Public Awareness Campaign on the Cataract Catastrophe in India

**Thought for the day**

Without getting annoyed or assume an obdurate attitude, people in power, be it in the Central Government or of State Health departments, have to consider the suffering of the poor rural people, who are not educated and have no way of even lodging a complaint for the suffering they have to put up with in life from the damage inflicted on them from present cataract operations in rural camps.

If these people in power can recognise and provide the right relief, surely God will bless them and rural people will enjoy their life.

It is a well publicised fact that United Nations, their several agencies such as UNICEF, who besides the World Bank, several charities involved in Health and Welfare loudly pronounce and publicise the 'Human Rights' and their service to this end.

## Size of the Problem

In 1986, Babu Rajendra Prasad Institute in New Delhi mentioned that cataract patients waiting for relief were around 3,000,000. As the population increases by geometric proportions the figure would not be less than the above mentioned figure in 1995.

Besides, the older generation getting cataract due to age, the children without proper nutrition and vitamin 'A' concentrate develop Night Blindness, which ultimately result in total blindness. This figure is not estimated. In Rajasthan desert and elsewhere, where the summer heat exceeds 40 to 50 degrees centigrade and storms add to the problem. The number of people suffering from the eye problems is indeed much more. Add to this, lack of water to either drink or wash their face and eyes.

If UNICEF, Save the Child, Sight Savers, KIDS International and many more which appeal and collect funds, can give some attention to this simple problem and governments co-operate, sights of thousands of children can be saved. Will they do it ?

Coming to the cataract problem, civilised method, using modern techniques of IMPLANTING INTRA-OCULAR LENS at the time of cataract operations, which is mandatory in USA, UK and other civilised countries, is not available in the oldest civilisation - namely India.

It is available to the rich who can pay at least Rs. 10,000 each. The present widely practised method of NETRA-DAAN or gift of eyesight by voluntary bodies and charities attract village victims.

Most, if not all, these operations are done without pre-inspection and total absence of post-operational care and minimum rest needed for healing. Village primary schools or such

places, in summer vacations, selected do not enjoy hygienic conditions. Dust and dirt add to the problem.

Qualifications of Ophthalmic surgeons is not prescribed & statutory. Anybody can volunteer to operate. Government hospitals are not properly equipped and in any case can not take on such a big job to handle 3,000.000 cases.

The recent World Bank loan of $117.8 million and stipulation of number of beds, hospitals, refraction equipment etc. besides providing team approach, with a qualified surgeon, nursing staff etc. has not been appreciated and in any case not implemented by many states to provide relief.

Even assuming that this is done, the damage cannot be minimised. It is a medically recognised fact that thick glasses, when and where prescribed will not necessarily give the total relief, as measuring steps to descend or cross the road still pose the difficulty to the patients.

Second measure which is somewhat popular in the west, namely LASER surgery and prescribing contact lenses, has its own problems. The removal of contact lenses, keeping it in a safe place, clean it and reset it to the eyes poses difficulties. Many infection cases are reported.

If this is the case in Western countries, where clean water and some cleaning materials are available, it is impossible to adopt it in Indian villages which do not have portable water and the patients cannot have a clean bed to sleep on and nowhere to keep the lenses clean.

Though it may sound expensive the cheapest and best remedy is in adopting the Intra-ocular lens implant. Once done, it helps in safe walking, ability to see properly and prevents the need to keep it away etc.

Governments should recognise that once people get back their sight, the economy of the country will also improve and it eliminates the expenses on the care of eye problems. Is it not worth an investment ?

AWARENESS campaign to educate people and draw the International agencies which proclaim HUMAN RIGHTS, to treat the village poor also as 'Human Beings', entitled to the same equal rights as the Western industrialised countries, is the need of the hour.

We hope politicians and people in power recognise the suffering of the people going blind and lead a miserable life till death relieves them and use their good offices to ensure happiness. Will they open their eyes ?
The awareness campaign should be supported by every honest person, everywhere in the world.

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Annex. IV

DIS · 15.1

# REVISED GUIDELINES FOR PARTICIPATION OF VOLUNTARY ORGANISATIONS IN CONTROL OF CATARACT BLINDNESS AT DISTRICT LEVEL

## 1. Preamble

Performance of cataract surgery is the dominant cause of blindness as it addresses 80% of blind population. The purpose of cataract surgery is to restore vision of the affected person through provision of package of services that can enable the person to not only gain sight but also return to his normal working before this visual disability. The recent review of the programme has however revealed that the emphasis by voluntary organisations has been on the surgical services alone thereby giving focus on quantitative achievements in terms of number of surgeries performed which though important, does not necessarily mean restoration of quality vision. The final product of the package of the services is restoration of quality vision and therefore there is need for a shift from quantitative to qualitative approach.

In our attempt to achieve targets and increase the quantitative output, the VOs preferred to organise surgical eye camps which are quite attractive to people but do not provide good operative and post-operative care. The follow-up was found to be extremely inadequate in camp surgery leading to high failure rate in many instances. There were some mishaps due to poor sterile condition leading to episodes of mass blindness following a surgical camp.

It has also been found that involvement of VOs has been restricted to sites where they are familiar with and have been traditionally working in. As a result the coverage of eye care services has become restricted to urban and peri urban areas and some pockets of rural areas but the underserved population groups particularly tribal and geographically inaccessible areas remain without services.

As a result of all the above, prevalence of blindness has remained the same inspite of quantitative increase in the number of surgeries performed in the last five years. Therefore, the Govt. of India has modified the schemes for voluntary organisations to impress upon their effective involvement in achieving the programme goals.

It was also found that there was an overlap and competetion between various facilities leading to suboptimal utilisation of resources and disparity within and between districts. As a result the follow-up services were inadequate. Therefore in view of the above three changes are being suggested for streamlining the involvement of NGOs :

(i) **Type of approaches :**

(a) Reach-in approach by NGOs having eye care facilities or for recruitment of cases.

(b) Reach-in approach through camps

(ii) **Area of operation :**

Restriction of NGOs to serve specific areas of operation in agreement with the NGOs so as to avoid overlap of jurisdiction between NGOs for every activity.

(iii) **Package of services :**

Grant-in-aid would be release to NGOs after the package of service leading to sight restoration has been provided.

**2. Title of the Scheme:**

(I) Grant-in-aid to NGOs for performance of free cataract operations on blind persons in NGO base hospitals from assigned geographical area through reach-in-approach;

(II) Grant-in-aid to NGOs for assistance in clearing backlog of cataract blind persons through screening of at risk population, preparation of blind registers, motivation, transportation, free cataract surgery in assigned base hospitals (Govt./NGO) and follow up services;

(III) Grant-in-aid to NGOs for organising eye camps including free cataract surgery in identified underserved areas.

**3. Purpose of the Scheme:**

The purpose of the Scheme is to reduce the prevalence of blindness, particularly cataract blindness through involvement of voluntary organisations by providing package of services including screening of at-risk population preparing blind registers, motivation, escorts services, cataract surgery, post-operative care and follow-up services including provision of corrective glasses. This is intended to restore vision of cataract blind persons with the ultimate objective of clearing the backlog of cataract blindness in the assigned area.

**4. Eligibility Conditions:**

For the purpose of the schemes, a voluntary organisation will mean:

(a) A society registered under the Indian Societies Registration Act, 1860 (Act XXI of 1860 or any such act resolved by the State) or

(b) A charitable public trust registered under any law for the time being in force

(c) Track record of having experience in providing health services preferably eye care services over a minimum period of 3 years

(d) Having available well-trained staff, infrastructure and the required managerial expertise to organise and carry out various activities under the scheme

(e) Agreeing to abide by the guidelines and the norms of the programme.

**5. Details of the Schemes:**

***(I) Grant-in-aid to NGOs for performance of free cataract operations on blind persons in NGO base hospitals from assigned geographical area through Reach-in-Approach;***

The DBCS will need to enter into an agreement with NGOs having facilities for cataract surgery in their base hospitals as per following details :

(a) **Identification of base hospitals** : The District Blindness Control Society will identify such base hospitals located in the district which have infrastructure, requisite equipments and trained manpower to undertake cataract surgery. This would include identification of hospitals for IOL surgery on the basis of availability of operating microscope and other equipments required and trained eye surgeon.

(b) **Allotment of designated area for the scheme** : The DBCS and the NGO would then enter into an agreement to perform various activities in the designated area (or target area) of the district as indicated below:

(c) **Activities to be performed** : The NGO would undertake following activities in the assigned area of the district:

(i) Screening of population (50+ years) in all the villages/ townships in the assigned area and preparation of village wise blind registers as per standard format (Annexure - I).

(ii) Identification of cases fit for cataract surgery, motivation thereof and transportation (including one attendant if require to and fro) to the base hospital.

(iii) Pre-operative examination and investigation as required.

(iv) Performance of cataract surgery by ICCE or ECCE/IOL as per target indicated.

(v) Post-operative care including management of complications if any and post-operative education and counselling regarding do's and dont's, importance for using glasses etc.

(vi) Follow-up services including refraction and provision of aphakic glasses providing best possible correction (not standard +10 D glasses).

(vii) Submission of village-wise monthly reports.

(viii) Maintenance of individual surgical cards as per prescribed format (Annexure - II).

(d) **Grant-in-aid :**

The Grant-in-aid would be provided to the NGO for all free cataract surgeries performed on patients from the assigned area on the basis of table given below. If any of these activities are not performed by the NGO e.g. provision of spectacles in IOL surgery, the corresponding amounts would not be reimbursed. The DBCS is expected to provide sutures and Intra Ocular Lenses supplied by Govt. of India. If due to any reasons, such items are not provided in kind, the NGO would be reimbursed the cost of sutures and IOLs at Rs.50 and Rs.200 respectively.

| Items | Cash (Rupees) | Kind |
|---|---|---|
| Drugs & consumables | 150 | |
| Sutures | | Provided by DBCS |
| Spectacles | 75 | |
| Organisational overheads | 50 | |
| Transport/POL * | 75 | |
| Intra Ocular Lens for IOL surgery only | | Provided by DBCS |

* This includes providing transport facility to the patient and one attendant to and fro for pre-operative examination, surgery, discharge after post-operative care and follow-up service. Thus minimum of 4 trips will be required.

**(e) Terms of Payment :**

Reimbursement will be subject to following conditions :

(a) Only persons from the target area operated by the designated Base Hospital will be eligible for payment

(b) Reimbursement of Rs.350 to Rs.600 as the case may be only on submission of the individual surgical records.

***(II) Grant-in-aid to NGOs for assistance in clearing backlog of cataract blind persons through screening of at risk population, preparation of blind registers, motivation, transportation, free cataract surgery in assigned base hospitals (Govt./NGO) and follow up services;***

The DBCS is permitted to involve NGOs having experience in implementing in poverty alleviation and welfare programmes for the poor, women etc. for helping to clear backlog of cataract blind.

(a) **Identification of NGOs** : The District Blindness Control Society would identify NGOS located in the district having a good track record of participation in health care services and credibility in the community to be served.

(b) **Allotment of geographical jurisdiction/ area and base hospital** : The DBCS and the NGO enter into an undertaking to perform various activities as per para (c) below in the designated area of the district. The DBCS and the NGO (or private hospital if willing to colloborate with govt.) would also mutually agree for the base hospital (Govt. or non-Govt.) which would provide surgical services to the identified patients.

(c) **Activities to be performed** : The NGO would undertake following activities in the assigned area of the district:

(i) Screening of population (50+ years) in all the villages/ townships in the assigned area and preparation of village wise blind registers as per standard format.

(ii) Motivation and transportation of patients (including one attendant if required) to the base hospital.

(iii) Provide escort services and counselling during pre and post-operative period regarding do's and dont's, importance for using glasses etc.

(iv) Organise follow-up services including refraction and provision of aphakic glasses providing best possible correction (not standard +10 D glasses).

(d) **Grant-in-aid** : Grant-in-aid would be provided to the NGO for all free cataract surgeries performed on patients from the assigned area on the basis of the table given below. If any of these activities are not performed by the NGO, the corresponding amounts would not be reimbursed.

| Items | Cash (Rupees) |
|---|---|
| Organisation and counselling | 50 |
| Transport/POL | 75 |

It is expected that base hospital in the above scheme would be in most instances a Govt. hospital such as Medical College Hospital/ District Hospital. Therefore the NGO would not need to arrange for any drugs and consumables as these would be arranged by the DBCS either by procurement or by receiving commodity assistance by govt. of India (sutures and IOLs). Likewise, the DBCS wil provide for the spectacles and supply the surgical records to the NGOs :

(e) **Terms of Payment :**

Reimbursement will be subject to following conditions :

(a) Only persons from the target area operated by the designated Base Hospital will be eligible for payment

(b) Reimbursement of Rs.50 to Rs.125 as the case may be only on submission of the individual surgical records.

*(III) Organising eye camps including free cataract surgery in identified underserved areas.*

The DBCS may involve NGOs having experience for organising eye camps including organising cataract surgery in camp situations as per guidelines given below:

(a) **Identification of NGOs :** The District Blindness Control Society would identify such NGOs located in the district which have experience and good track record in organising eye camps including cataract surgery.

(b) **Allotment of underserved area** : The DBCS and the NGO would agree to organise eye camps in identified underserved areas as per following criteria :

- There is no Govt. or non Govt. or private facility for free cataract surgery within a distance of 40 k.m. by motorable road or
- There is no Govt. or non Govt. facility for free cataract surgery within a distance of 10 k.m. having no road and motorable transport.
- The area is predominantly tribal or is geographically difficult terrain (e.g. hilly area, desert, forest and frequently flooded area) and therefore inaccessible for most part of the year.

(c) **Activities to be performed :** The NGO would undertake following activities in the assigned area of the district:

(i) Screening of population (50+ years) in all the villages/ townships in the assigned area and preparation of village wise blind registers as per standard format.

(ii) Identification of cases fit for cataract surgery, -motivation thereof and transportation (including one attendant if require) to the camp site.

(iii) Pre-operative examination and investigation as required.

(iv) Performance of cataract surgery by ICCE. All technical guidelines issued by Govt. of India with regard to surgery in camps should be strictly adhered to. The sutures provided as commodity assistance should be used as per guidelines i.e. one suture per surgery.

(v) Post-operative care including management of complications if any and post-operative education and counselling regarding do's and dont's, importance for using glasses etc.

(vi) Follow-up services including refraction and provision of aphakic glasses providing best possible correction (not standard +10 D glasses).

(vii) The camps should be organised on a fixed day approach (e.g. first Monday of every month) so as to encourage follow-up services and provision of glasses. A camp cycle and protocol norms for necessary visits are at Annexure - III.

(d) **Grant-in-aid :**

The Grant-in-aid would be provided to the NGO for all free cataract surgeries performed on patients from the assigned area on the basis of table given below. If any of these activities are not performed by the NGO e.g. provision of spects, the corresponding amounts would not be reimbursed. The DBCS is expected to provide sutures supplied by Govt. of India. If due to any reasons, such items are not provided in kind, the NGO would be reimburse the cost of sutures at Rs.50 per surgery respectively.

| Items | Cash (Rupees) | Kind |
|---|---|---|
| Drugs & consumables | 150 | |
| Sutures | | Provided by DBCS |
| Spectacles | 75 | |
| Organisation and counselling | 50 | |
| Transport/POL * | 75 | |

* This includes providing transport facility to the patient and one attendant to and fro for pre-operative examination, surgery, discharge after post-operative care and follow-up service. Thus minimum of 4 trips will be required.

In case of sheduled tribal areas as certified by the DBCS, Rs.50 per case additional amount will be provided.

(e) **Terms of Payment :**

Reimbursement will be subject to following conditions :

(a) Only persons from the target area operated in the eye camp will be eligible for payment

(b) Reimbursement upto Rs.400 as the case may be, only on submission of the individual surgical records.

# MATERNAL AND CHILD HEALTH
# SCHEME FOR PROPHYLAXIS AGAINST BLINDNESS IN CHILDREN CAUSED BY VITAMIN 'A' DEFICIENCY

**FAMILY PLANNING PROGRAMME**

**FOURTH FIVE YEAR PLAN**

**Technical Information : MCH No. 2**

## 1. MATERNAL AND CHILD HEALTH— THE CONCERN OF FAMILY PLANNING PROGRAMME

The family planning programme is vitally concerned with promoting the health of mothers and children. While it advises the couples to limit the size of their family to 2 or 3 children it also takes measures to promote the health of those few children. With this end in view, family planning programme has provided funds for schemes for prevention of diseases and promotion of health among mothers and children. One of them is the scheme for controlling blindness among children caused by vitamin 'A' deficiency.

## 2. VITAMIN 'A' DEFICIENCY AMONG CHILDREN—A PROBLEM

Vitamin 'A' deficiency is widely prevalent in the country, specially amongst the pre-school-age children. Surveys carried in the southern and eastern parts of the country have revealed that at least 30 to 50 per cent of all children in the pre-school age-group have eye manifestation as a result of vitamin 'A' deficiency. The most severe form of vitamin 'A' deficiency - keratomalacia - causes softening and necrosis of the cornea of the eye leading to complete blindness. It has been estimated that not less than 12,000 to 14,000 children go blind in the country every year as a result of keratomalacia. The economics of such malnutrition is of great significance in view of the large amount of money which has to be invested in the rehabilitation of these handicapped children in later life.

## 3. TRADITIONAL MEASURES FOR CONTROL OF VITAMIN 'A' DEFICIENCY

In the past, the control of vitamin 'A' deficiency has been linked with the general improvement of the nutritional status of the population. Nutrition education of mothers to persuade them to include foods rich in vitamin 'A' like green leafy vegetables in the diet of young children has been of some benefit. However, the recent findings that protein malnutrition accentuates vitamin 'A' deficiency and that these two deficiencies exist hand in hand is another complicated problem. Both protein-caloric malnutrition and keratomalacia are found to be common in the southern and eastern parts of India.

Another measure implemented through the health agencies is the distribution of vitamin 'A' and 'D' capsules and codliver oil through the Child Welfare Clinics of medical and health institutions. For such supplementation to show results the child should be given at least one capsule of vitamin 'A' and 'D' twice a week. Our past experience has shown that it is difficult in the rural areas to ensure that the mothers administer these capsules regularly to their children to prevent the development of deficiency of the vitamin. As a result of these lacunae, no significant impact has been produced on the incidence of keratomalacia in the country.

## 4. A NEW APPROACH

Recent studies have shown that oral administration of a large dose of 2 lakh I. U. of vitamin 'A' in oil every six months can protect children from developing keratomalacia. The studies have shown that vitamin 'A' given by mouth is readily absorbed and stored in the liver from where it is gradually released for utilisation in the tissues. Unlike many of the vitamins, vitamin 'A' is not excreted in the urine and this is an advantage. No toxic manifestations have been observed in connection with the use of vitamin 'A' in the dosage mentioned above. In the shape of implementation this measure can be equated with prophylactic inoculations.

## 5. PLAN OF OPERATION

Rupees forty lakhs have been provided for the scheme in the Fourth Five Year Plan budget in the Central sector. Supplies of vitamin 'A' are procured by the Department of Family Planning and distributed to the State Health Departments, the cost of the drug being adjusted as a grant. The State Family Planning Officers who are responsible for the administration of the programme have to place indents on the Government Medical Stores Depot, Bombay, for obtaining their supplies. The Medical Stores Depot would send the supplies to the District Officers concerned.

## 6. SELECTION OF AREAS

The State Nutrition Officers would select the areas of maximum prevalence of keratomalacia based on the nutritional status surveys conducted by them. In view of the limited financial resources the programme for the present would be confined to such areas

identified for this purpose. As far as possible all the children in the age group 1-3 years should be covered during the first year of the programme. These children should get the benefit of the programme till they reach five years of age.

## 7. AGENCY FOR ADMINISTRATION

The existing maternal and child health and family planning organisations would be responsible for administration of the programme. In the urban areas the programme should be administered through the child welfare clinic of the urban family planning centres, general hospitals, maternity homes, etc. It has to be ensured that there should be no risk of repeated administration of the drug. Therefore, in such institutions the vitamin 'A' should be administered only through the child health clinic and not through the general out-door department of the institutions.

In the rural areas the programme would be implemented through the primary health centres and its sub-centres under the supervision of the medical officer. The auxiliary-nurse-midwife and the family planning health assistant working in the primary health centre would have the immediate responsibility for administering the drug to the children. The drug has to be put into the mouths of the children by the workers themselves.

As coverage of the entire age-group and avoidance of repeated administration of the drug are of great importance, it is desirable to fix a specified period for administering the programme. For example, the primary health centre/ urban MCH centre may decide to cover all the eligible children during the month of September 1970 and complete the administration of the drug during the period of one month; the administration of the next dose to these children as well as new children to be included, would then have to be done in the month of March 1971 only. Adoption of such a strategy would go towards effective implementation of the programme and lessen the load on the ANM/FP health assistant who are multipurpose workers with various other responsibilities. The children could be collected at the sub-centres or in other suitable places or contacted in the homes according to convenience.

## 8. DOSAGE AND MODE OF ADMINISTRATION

The vitamin 'A' preparation supplied has a strength of 1 lakh I.U. of vitamin 'A' per 1 ml. The recommended dose is 2 lakhs I.U. of vitamin 'A' or 2 ml. of this preparation to

be given by mouth. The administration should be repeated every six months till the child is five years of age.

Vitamin 'A' preparation has a relatively short-shelf life of about 15 months. Proper precaution should be taken about the storage and use of the drug before the date of expiry indicated on the lable.

## 9. HEALTH EDUCATION

The community should be prepared both through individual and group approach on the problem of vitamin 'A' deficiency and the advantages of the prophylactic programme envisaged.

## 10. EVALUATION

The base line survey at the commencement of the programme and repeated surveys at periodical intervals would be necessary. A small representative sub-sample from each State would have to be chosen for these surveys. The assistance of the National Institute of Nutrition, Hyderabad, could be taken in conducting these surveys.

## 11. RECORDS

Child health records as prescribed by the State Health Department should be maintained in respect of the children covered under the programme and the dates of administration of vitamin 'A' noted thereon. In addition, a register showing the particulars of the children covered and the receipt and issue of vitamin 'A' supplied should be maintained in the proforma at *Appendix-I*.

## 12. REPORTS

Monthly reports on the number of children covered and the position regarding the receipt and issue of the drugs should be furnished by the individual institutions to their supervising authority. Consolidated monthly reports should be sent by the State Family Planning Officers so as to reach the Department of Family Planning by the 15th of next month in the proforma at *Appendix-II*.

*APPENDIX I*

## (A) REGISTER OF BENEFICIARIES UNDER THE VITAMIN 'A' DEFICIENCY PROPHYLAXIS PROGRAMME

| *Sl. No.* | *Date of Registration* | *Child Card No.* | *Name* | *Address* | *Age* | *Date of Administration* | *Remarks* | *Initials of the Worker* |
|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | 1 \| 2 \| 3 \| 4 \| 5 \| 6 \| 7 \| 8 \| 9 \| 10 (7) | (8) | (9) |
| | | | | | | | | |

## (B) STOCK REGISTER OF RECEIPTS AND ISSUES OF VITAMIN 'A' LIQUID

| *Date* | *Receipt* | *Issue* | *Balance* | *Remarks* | *Initials* |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| | | | | | |

*APPENDIX-II*

## PROPHYLAXIS AGAINST BLINDNESS IN CHILDREN CAUSED BY VITAMIN 'A' DEFICIENCY

Report for the month ending.....197 .....for the State of.....

### (A) STATEMENT OF BENEFICIARIES

| *Category* | *Age of children (year)* | *No. covered during the month* | *Progressive total for the year* | *Remarks* |
|---|---|---|---|---|
| 1) Children given 1st dose | 1—2<br>2—3<br>3—4<br>4—5 | | | |
| | (Total 1-5 years) | | | |
| 2) Children given 2nd dose | 1—2<br>2—3<br>3—4<br>4—5 | | | |
| | (Total 1-5 years) | | | |

### (B) POSITION REGARDING THE RECEIPT AND ISSUE OF THE DRUG

| *Opening balance on the 1st day of the month in millilitres* | *Receipt during the month in millilitres* | *Issued during the month in millilitres* | *On hand on the last day of the month in millilitres* | *Remarks* |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |
| | | | | |

Age break-up of children may be given. If the break-up is not available then the total children in 1-5 years age group should be given,

Place.....Date.....  Signature.....Designation.....

~~GOM H~~ 2.2.21

DIS-15.

DIET AND CHILD BLINDNESS

The number of children who become blind each year in Asia as a result of malnutrition is now though to be 250,000. This new estimate recently announced by the Helen Keller International Organisation (HKI) is more than double previous estimates for the world as a whole.

Nutritional blindness, or xerophthalmia-a progressive eye disease brought on by lack of vitamin A-is the leading cause of blindness in young children, striking from birth to 60 months of age. A further 8-10 million Asia children are also thought to become partially blind each year as a result of generally poor nutrition.

According to Dr. Alfred Sommer, HKI project scientist, the mortality rate among young xerophthalmia victims is as high as 50 to 80 per cent.

The irony is that the symptoms of xerophthalmia are easily reversed in the early stages of the disease and blindness can be prevented by the simple means of giving high potency vitamin A capsules every four to six months. In addition, some of the deficiency symptoms, such as night blindness, extreme sensitivity of eyes to light, and the wrinkling and drying of the eye membranes can easily be taught to health auxiliaries. Because of this, HKI is optimistic that it programme in a number of developing countries, funded in part by US AID, UNICEF and WHO, can eradicate this disease by the year 2000.

In Haiti, where more than half the children are clinically malnourished and 70 per cent of those in city slums consume less than half the minimum daily calories necessary for healthy development, a publicity campaign promoting the programme has used a simple slogan "Vitamin A for beautiful eyes". This is repeated on radio broadcasts, in folk songs and by clinic staff. A special effort is made to give massive dose capsules of vitamin A to the most vulnerable group of ill and malnourished children, through hospital clinics, health and nutrition centres which link nutrition and child care to other matters such as maternal health and family planning.

Nutrition education also encourages diet rich in vitamin A foods, such as mangoes and green leafy vegetables and extensive training programmes have been run to make doctors and health workers sensitive to the relationship between diet and the eye.

..... 2

RECIPES FOR INFANTS AND TODDLERS

The nutrition research workers have evolved recipes suitable for feeding infants and toddlers in India with articles of food in common use in households. These were cooked and fed to children and found to be nutritious and acceptable. Apart from the usual recipes in common use like rice and chapaties a few others that can be used are given below:

RICE UPPUMA

Ingredients:

| | |
|---|---|
| Rice Uppuma | 25 g. |
| Parboiled rice | 25 g. |
| Green gram dhal | 25 g. |
| Onion (big) | 13 g. |
| Drumstick leaves | 10 g. |
| Green chillies | 1 g. |
| Mustard | 1 g. |
| Groundnut oil | 16 g. |
| Salt | a pinch |
| Water | 2 (cups) |

Method:

Rice and dhal are roasted and broken into granules. Roasted green gramdhal is cooked with 3/4th cup of water and mashed. The oil is heated and seasoned with mustard, chopped onion and chillies. About 3/4th cup of water is added to the seasoned ingredients. Salt is added and mixed. The roasted rice granules are sprinked with water and continuously stirred. It is cooked for 10 minutes.

RAGI ADAI-SWEET

Ingredients

| | |
|---|---|
| Ragi flour | 30 g. |
| Roaster Bengal gram dhal flour | 12 g. |
| Jaggery | 17 g. |
| Coconut scrapings | 5 g. |
| Oil (groundnut) | 8 g. |
| Water (teaspoonfulls) | 3 g. |

Method:

Jaggery is dissolved in water. Ragi flour and roasted Bengal gramdhal flour are mixed together with the jaggery water. Coconut scrapings are added and mixed. A thick dough is prepared, and the adai is prepared on a greased iron pan (Tawa).

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Source: SWASTH HIND - November 1979.

DIS-15.

ST JOHN'S MEDICAL COLLEGE BANGALORE 34

(Dept of Community Medicine)

# C O N J U N C T I V I T I S

Conjunctivitis is a highly infectious eye disease. It is caused by bacteria, fungus or virus. It is the inflammation of the thin transparent sheet that covers the white of the eye (sclera) and innerside of the lids. Though the disease is normally not dangerous delay in proper treatment may affect the eye-sight.

Conjunctivitis starts quite suddenly and may become severe within four to six hours sincethe onset of its early symptoms.

All age group is equally affected by Conjunctivitis.

SYMPTOMS : The disease begins with irritation in one or both the eyes. The eyes look red and more painful and the eye-lids are swollen. There is watery or thin mucus discharge from the eyes in the beginning, followed by thick white or yellowish-white discharge that may collect in the eye.

There is inability to open the eye and the patient shuns bright light. If untreated, it can lead on to ulceration of the cornea and permanent corneal opacity (Safedi, Madha, Phoola) and permanent impairment of vision.

HOW IT SPREADS : The disease spreads through the contaminated fingers, clothings such as towels, handkerchief, etc., and other articles of the patient suffering from this disease. Flies and other eye-gnats also spread the disease from a sick person to others. It also occurs due to dust, dirt, smoke, use of dirty water for bathing, or using the common Surma Salai from the patient of this diseaseor by use of the same finger for application of Kajal to more than one person.

If treated properly the disease can be cured within four to seven days. Patients do not require hospitalisation.

PREVENTION : - Personal cleanliness, hygienic care and keeping the surroundings clean are the best prevention against the disease. Towels, handkerchiefs and other clothes of daily use of the patients should not be mixed with the clothes of others until they are washed. Over-crowding should be avoided.

Wash the clothes including the towels and handkerchiefs of the patient preferably in hot water, before use again.

Children suffering from the disease should not go to the school till they are cured.

Use sun-glasses to protect the eyes from too much light or protect the eyes from the flare by use of umbrella or by covering the head with a clean piece of cloth which also protects the eyes. Sun-glasses of a patient should not be used by others.

Avoid bathing in ponds or swimming pools when there are large number of cases.

Wash the eyes with clean luke warm water three to four times a day.

Take rest for three to four days in the house. Consult the doctor immediately This will help in speedy recovery on the one hand and reduce the chances of spreading the diseasein the community on the other hand.

Do not use common Surma Salai (applicator) meant for all members of the family.

Avoid use of Kajal.

REMEMBER :

Conjunctivitis is a highly infectious eye disease.

The disease is not dangerous except where the treatment is delayed.

Irritation, watering of eyes, selling of eye-lids, redness of eyes and discharge from the eyes, are the symptoms of the disease.

The disease spreads through contaminated fingers, clothing and other articles of the patient.

Systematic treatment will cure the disease within four to seven days.

Personal cleanliness and hygienic care will help prevent the disease. Keep your surroundings clean to avoid flies.

YOU TAKE CARE OF EYES - THEY TAKE CARE OF YOU

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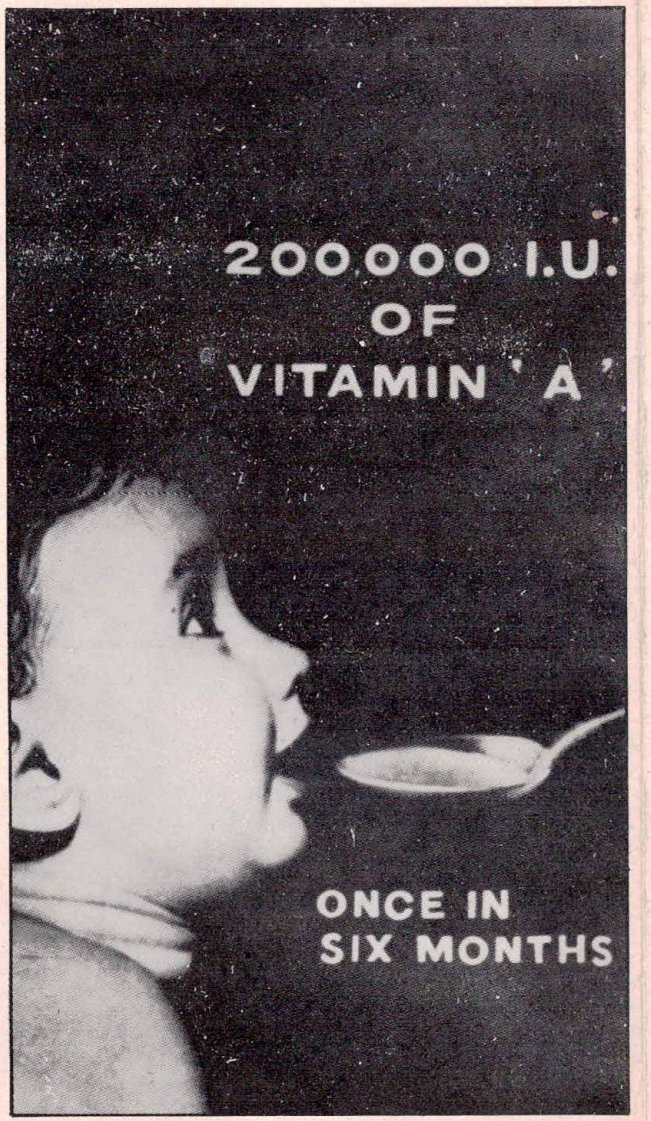
We can save a child's eyes in another way. We can give him massive doses of vitamin A by mouth. The National Institute of Nutrition in Hyderabad has studied this method carefully. They found that if you give a child 200,000 I.U. (60,000 micro gms) of vitamin A by mouth every 6 months, he will be fully protected from vitamin A deficiency. This is especially important for children between the ages of 1 and 3 years.




If we give a child massive doses of vitamin A we can easily and safely prevent blindness. The Government of India has started a national programme for prevention of vitamin A deficiency. They use this method.

**How can a pregnant mother protect her unborn child from becoming vitamin A deficient?**

A pregnant mother should eat plenty of foods which contain vitamin A. Then her body can give vitamin A to the baby inside her womb. If the pregnant mother gets plenty of vitamin A, her unborn baby also gets plenty of vitamin A. This protects the baby from blindness due to vitamin A deficiency.

*A pregnant woman needs more vitamin A than usual*

Formerly "Vitamin A Deficiency and Blindness", Folders on Nutrition—2, produced by NIN, Hyderabad.

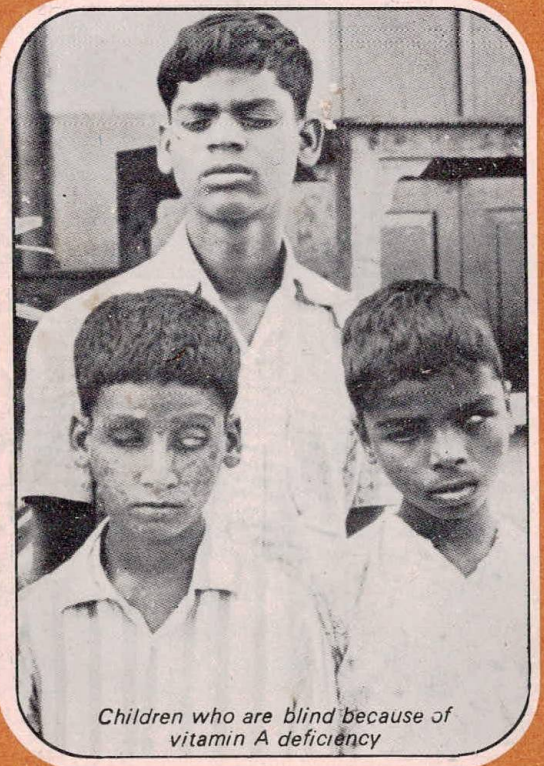
Produced by UNICEF, New Delhi, for National Institute of Nutrition, Hyderabad. Designed by Stet—The Media People, New Delhi



# BLINDNESS IN CHILDREN



# vitamin A deficiency



*Children who are blind because of vitamin A deficiency*

NATIONAL INSTITUTE OF NUTRITION
INDIAN COUNCIL OF MEDICAL RESEARCH
HYDERABAD. INDIA

## Vitamin A deficiency and blindness

Children who do not get enough vitamin A in their food may become blind. They have vitamin A deficiency. Several thousand young children in India are blind because they do not get enough vitamin A in their food.

## Who becomes blind from vitamin A deficiency?

Children between the ages of 1 and 5 years are most likely to become blind from vitamin A deficiency. In some areas in India people mostly eat rice. Children in these areas often do not get enough vitamin A in their food. They have vitamin A deficiency. These areas are Andhra Pradesh, Bihar, Karnataka, Kerala, Orissa, Tamil Nadu and West Bengal.

## How can you tell if a child has vitamin A deficiency blindness ?

If a child has vitamin A deficiency, he does not become blind suddenly. He becomes blind slowly.

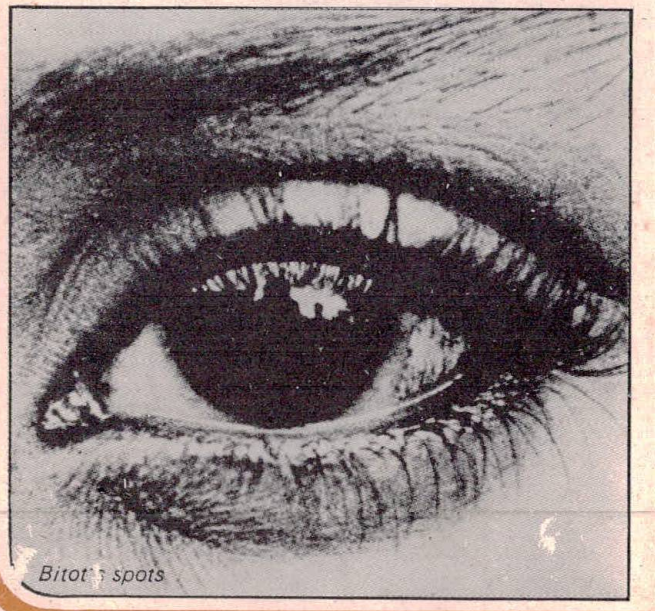
If you notice that a child has some early signs of vitamin A deficiency, you can cure him. You can save his eyes completely.

*Look for these signs*:

—If a child cannot see well in dim light, he has *night blindness*. Night blindness is the first sign of vitamin A deficiency.

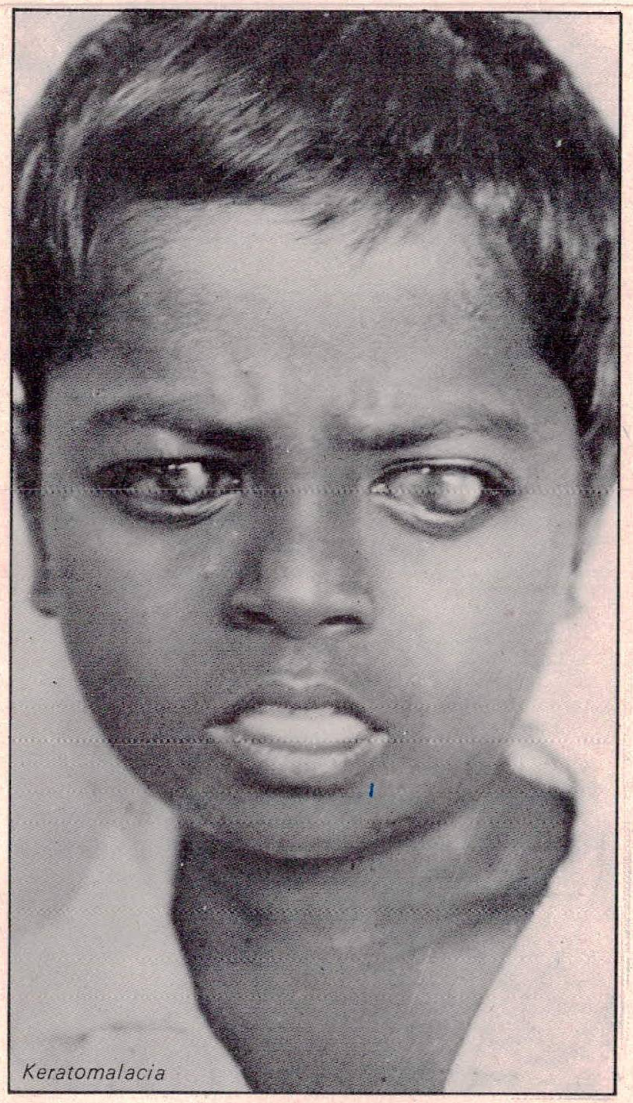
—If the white part of a child's eye is dull and dry he has an early sign of vitamin A deficiency.

—If a child has greyish foamy patches shaped like triangles on the white part of his eye, he has *Bitot's spots*. Bitot's spots are another early sign of vitamin A deficiency.



*Bitot's spots*

If a child has one of these signs, you must treat him quickly. If you do not treat him quickly, the child may become completely blind. In severe cases of vitamin A deficiency, the black part of the child's eye becomes damaged. Then the child becomes totally blind. We call this kind of blindness, *Keratomalacia*.



*Keratomalacia*

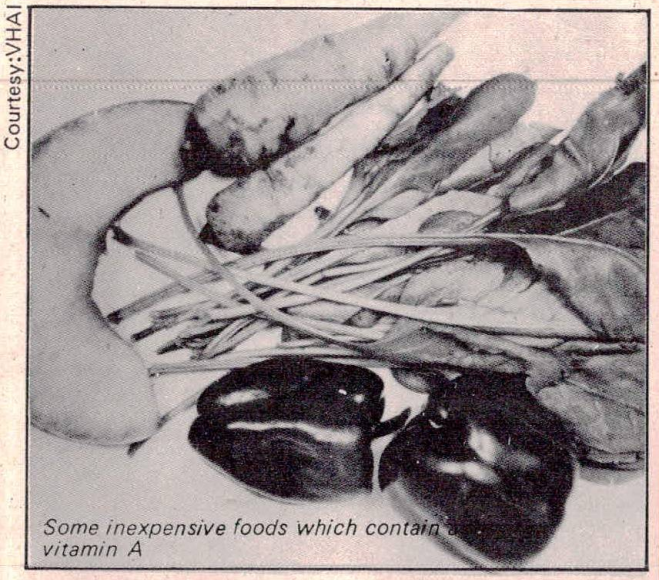
## How can we treat vitamin A deficiency ?

We can treat vitamin A deficiency with food. Some foods contain a lot of vitamin A. If we give a child these foods, he will not get vitamin A deficiency blindness.

Vitamin A is present in milk, eggs, ghee and fish liver oils. But these foods are expensive, and some parents cannot afford them.

Many inexpensive foods also contain vitamin A. Palak, amaranth, methi, carrots, papaya and mango are all inexpensive foods. They all contain plenty of vitamin A.

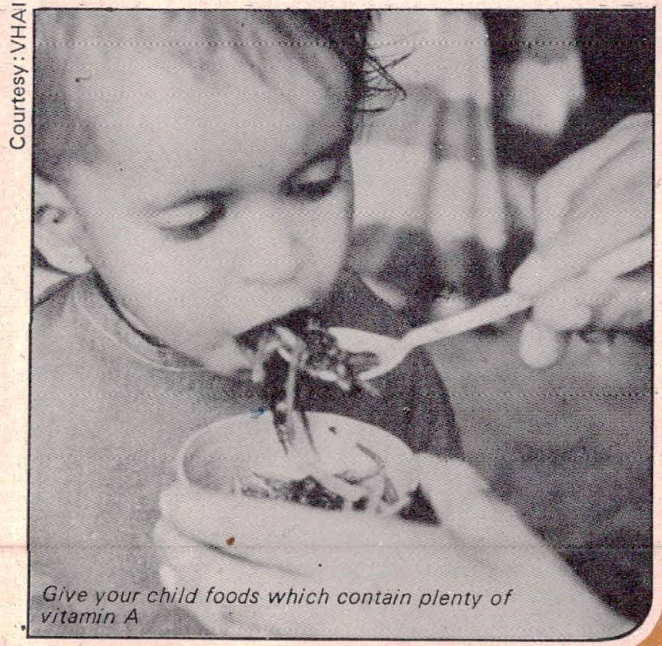
Courtesy:VHAI



*Some inexpensive foods which contain vitamin A*

Sometimes people do not eat these foods. They think these foods are harmful. Perhaps they are ignorant, or superstitious. Perhaps they have a false belief about these foods But we *know* that these foods are good. We must encourage children to eat them.

Courtesy:VHAI



*Give your child foods which contain plenty of vitamin A*