Incidence and Causes of Blindness and Pattern of Diseases In Janakpur Eye Relief Camp [1979]

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INTRODUCTION

Eye relief camps are organised every year in different parts of Nepal for last 15 years. Such eye camps are getting more and more popular, as a result of which, the number of eye camps are gradually increasing. Now about 15 camps are organised every year. In addition to the camps organised by the Ministry of Health, social organisations like Red Cross, Lions Club etc. and also local people have come forward to organise and meet the expenses of eye camps. But no scientific paper on eye camp in Nepal has so far been published. Thus, with a view to highlight the incidence and causes of blindness and also to give an idea of the pattern of eye diseases in patients attending the eye camps, this paper has been prepared. Janakpur is the place in Nepal where maximum number of eye camps has been organised. We, therefore, selected the camp of this place for our paper.

This year the eye camp was held in Janakpur from 10th. of January to the 18th. of January 1979. This was organised by the Dhanusha district branch of the Nepal Red Cross Society. The total expenses of the camp were met by philanthropist Mr. Babu Lal Sah, who has been bearing the expenses of the camp for last 3 years. About 18 to 20 thousand rupees are spent every year.

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MATERIALS AND METHODS

The eye camp was housed in a Dharmashala where 2 qualified ophthalmologists, medical doctors, 6 nurses, 3 auxiliary health workers, one optician and several volunteers have participated. All the patients, who attended the camp, were thoroughly examined as far as possible with the limited facilities available to establish the diagnosis.

In order to find out the cases of glaucoma, intraocular pressure of both eyes of patients above the age of 40 yrs. was taken with a Schiotz's tonometer. Persons who took the pressure were first given training to take pressure properly in lying down position. Persons with intraocular pressure above 22 mm. of Hg. were taken as suffering from glaucoma.

Similarly, for incidence of blindness W. H. O. recommendation has been taken in consideration. W. H. O. study group for the prevention of blindness in 1973 defined categories of blind and visually handicapped persons. At a W. H. O. sponsored national seminar on the prevention of curable blindness in Nepal held in December 1978 in Pokhara the fourth category of definition for blindness was unanimously accepted as a suitable definition of blindness for Nepal. According to this definition a person is considered blind if the corrected visual acuity in the better eye is 1/60 or less. In our series a person has been considered blind according to the definition of blindness given above. If the corrected vision in one eye only was less than 1/60 this eye alone has also been considered blind.

FINDINGS AND OBSERVATIONS

The total number of patients who attended the camp were 995. Out of this there were 525 males and 470 females, (Table 1)

TABLE # 1
SEX INCIDENCE

SEX	NO. OF PATIENTS	PERCENTAGE
Male	525	52.76 %
Female	470	47.24 %
Total	995	100 %

The patients were divided into three age groups—(1)—birth to 14 yrs., (2) 14 to 40 yrs., (3) above 40 yrs. The number of patients according to the above age group were 61 in group 1, 203 in group 2, and 731 in group 3 (Table 2).

TABLE #2
AGE INCIDENCE

AGE GROUP	NO. OF PATIENTS	PERCENTAGE
0-14 yrs.	61	6.13%
14-40 yrs	203	20.4%
Above 40 yrs.	731	73.47%
TOTAL	995	100%

Patients attending this camp were considered blind in both eye or in one eye only according to the definition of blindness given above. 264 persons were found to be blind in both eyes and 242 persons in one eye only. Thus the total number of blind eyes were 770. (Table III)

TABLE #III
INCIDENCE OF BLINDNESS

BLINDNESS	NO. OF PATIENTS	NO. OF EYES AFFECTED
One eye	242	242
Both eyes	264	528
TOTAL	506	770

Diseases causing blindness either in one eye or in both eyes are shown in Table 4. Cataract, corneal diseases with their complications and Glaucoma were found to be common causes of blindness. (Table 4)

TABLE #4
DISEASES CAUSING BLINDNESS

S. No.	DISEASES	NO. OF PATIENTS AFFECTED ONE EYE	BOTH EYE	TOTAL EYES AFFECTED
1.	Mature Cataract	160	158	476
2.	Mature Cataract + Glaucoma	8	15	38
3.	Glaucoma	8	19	46

4.	Hyper Mature Cataract	3	4	11
5.	Corneal Opacity	20	20	60
6.	Phthisis Bulbi	13	14	41
7.	Corneal Opacity with Intraocular Comp.	10	3	16
8.	Pterygium	2	7	16
9.	Secondary Cataract	1	-	1
10.	Iridocyclitis	9	-	9
11.	Pan-Ophthalmitis	2	-	2
12.	Perf. Injury	2	-	2
13.	Staphyloma	4	4	12
14.	Cong. Cataract	-	2	4
15.	Kerato-Malacia	-	8	16
16.	Trachoma-Entropyon	-	6	12
17.	Congenital Defects	-	4	8
TOTAL		242	264	770

Diseases causing blindness have been divided into two groups (1) curable and (2) Incurable. In curable group there are 568 eyes affected for which cataract and corneal diseases are prominent causes of blindness. In incurable group there are 202 eyes affected and for this cataract with glaucoma, glaucoma, and phthisis bulbi are mainly responsible, (Table 5A, Table 5B).

TABLE # 5A
INCIDENCE OF CURABLE DISEASES CAUSING BLINDNESS

S. No.	DISEASES	No. of Patients Affected		Total eyes Affected
		One eye	Both eyes	
1.	Mature Cataract	160	158	476
2.	Corneal Opacity	20	20	60
3.	Hyper Mature Cataract	3	4	11
4.	Pterygium	2	7	16
5.	Congenital Cataract	-	2	4
6.	Secondary Cataract	1	-	1
Total		186	191	568

TABLE # 5B
INCIDENCE OF INCURABLE DISEASES CAUSING BLIDNESS

S. No.	Diseases	No. of Patients Affected		Total eyes affected
		One eye	Both eyes	
1.	Mature Cataract + Glaucoma	8	15	38
2.	G'aucoma	8	19	46
3.	Corneal Opacity + I. O. Comp.	10	3	16
4.	Staphyloma	4	4	12
5.	Phthisis Bulbi	13	14	41
6.	Keratomalacia	-	8	16
7.	Trachoma + Entropyon	-	6	12
8.	Panophthalmitis	2	-	2
9.	Iridocyclitis	9	-	9
10.	Perf Injury	2	-	2
11.	Congental Defects	-	4	8
TOTAL		56	73	202

In order to give an idea of diseases in patients attending the camp attempt has been made to give the figures in a tabulated form which is given below : (Table 6)

TABLE # 6
PATTERN OF EYE DISEASES

S. No.	DISEASES	No. OF EYES AFFECTED
1.	Mature Cataract	476
2.	Mature Cataract+Glaucoma	38
3.	Glaucoma	168 (+50)=218
4.	Hypper Mature Cataract	11
5.	Congental Cataract	4
6.	Secondary Cataract	7
7.	Corneal Opacity	67
8.	Corneal Opacity + I. O. Comp.	16
9.	Anterior Staphyloma	16
10.	Keratomalacia	20

11. Panophthalmitis	2
12. Phthisis Bulbi	49
13. Pterygium	47
14. Trachoma + Entropyon	12
15. Iridocyclitis	11
16. Aphakia	118
17. Traumatic Diseases	
(a) Perforating Injury (b) Traumatic Cat.	
(c) Sub. Conj. Heam.	11
18. Congenital Defects	
(a) Nystagmus (b) Deformity	8
19. Refractive Errors	278
20. Epiphora + Sac Infection	85
21. Conjunctivitis + Tumours	35
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TOTAL	1479
NORMAL EYES	511
	<hr/>
TOTAL	1990

Commonest disease in the patients was cataract and cataract was also responsible for causing maximum number of blindness. So maximum number of operations performed were for cataract. Some extraocular operations were also performed. These are shown in the table given below: (Table 7)

TABLE # 7
TOTAL NO. OF OPERATIONS=331

A. INTRAOCULAR		B. EXTRAOCULAR	
1. Mature Cataract	= 305	a) Pterygium	= 14
a) Intracapsular	= 271	b) Papilloma	= 6
b) Extracapsular	= 34	c) Chalazion	= 2
TOTAL	= 305	d) Wart	= 2
		e) Conj. Cyst.	= 1
		f) Sac Wash	= 1
		TOTAL	= 26

Complications of operations during surgery and after surgery are given in the table below: (Table 8)

TABLE # 8
COMPLICATION

A. DURING OPERATION	B. AFTER OPERATION
1. Vitreous Prolapse— 7	1. Iris Prolapse— 2
2. Expulsive Haemorrhage— 1	2. Infection— 1
	3. Hyphaema— 2

To get an idea of the incidence of glaucoma, intraocular pressure of both eyes of all patients above the age of 40 was taken. Number of patients above the age of 40 were 731 but pressure of only 569 patients could be taken as rest of them disappeared before the pressure could be taken. 218 persons were found to suffer from glaucoma-84 persons in both eyes and 134 persons in one only. Thus 38.32% of patients above the age of 40 whose pressure could be taken were suffering from glaucoma. (Table 9)

TABLE # 9
NO. OF PATIENTS EXAMINED ABOVE 40 YRS. = 569
NO. OF PATIENTS WITH GLAUCOMA = 218

GLAUCOMA	NO. OF PATIENTS
1. In one eye	134
2. In both eyes	84
TOTAL	218

PERCENTAGE OF GLAUCOMA

1. Among the patients examined above 40 yrs. = 38.32%
2. Among the total no. of patients examined = 21.91%

DISCUSSIONS

From the above records it appears that in the persons attending the eye camp blindness is quite high. 264 persons i.e. 26.5% of the total number of patients

examined were blind in both eyes, and another 242 persons were blind in one eye only. 104 persons were found blind either due to curable blindness or due to incurable blindness for which nothing could be done. This comes to more than 10% of the patients attending the camp. In the year 1967 10% of the cases in Janakpur eye camp were also found to have permanent blindness. Amongst the diseases causing blindness in the present series of cases cataract, corneal diseases with various complications and glaucoma were prominent. Surprisingly pterygium was also responsible for causing blindness in 16 eyes. For corneal diseases, malnutrition and xerosis was responsible in a very large number of cases. This had occurred in childhood as a result of gastro-enteritis.

Out of 770 blind eyes 568 eyes had curable blindness and 202 had incurable blindness. Cataract, corneal diseases and glaucoma were mainly responsible for causing blindness.

Glaucoma either alone or associated with cataract has also been found to be an important cause of blindness. Glaucoma was responsible for bilateral blindness in 19 patients and for unilateral blindness in 8 persons. Cataract with glaucoma was responsible for bilateral blindness in 15 patients and for unilateral blindness in 8 cases. Incidence of glaucoma over the age of 40 was also quite high. Out of 569 persons above the age of 40 whose intraocular pressure was taken 218 persons i. e. 38.32% were found to have glaucoma and cataract were operated for cataract only because cataract was thought to be the cause of glaucoma. Most of them had intumescent cataract.

Cataract operation was advised to 328 persons but only 305 persons were operated because the rest i. e. 23 persons had either good vision in the other eye or had not come prepared for the operation. Out of the total cases operated for cataract 48 persons had aptakia in the other eye.

The youngest patient operated was one year old who had congenital cataract and the oldest patient operated was 95 years old who had senile cataract. Minimum age at which lens extraction was done was 32 years.

No pre-operative laboratory investigation was done for any case surgery and no post-operative systemic antibiotic was given. Only some patients who had cough were

given Penicillin Injections. Chloramphenicol Eye ointments was the only antibiotics used at the time of operation and at the time of post-operative dressings. Patients with intraocular operations were discharged after 5 to 7 days of operation. Aphakia glasses, chloramphenicol Eye ointments, Atropine eye drop and Iron tab. were given to all patients at the time of discharge.

No corneal suture was used. Incision was given with cataract knife and conjunctival flap was taken. Flap was repositioned after the lens extraction. Intracapsular forceps were used to remove lens. In 271 cases intracapsular extraction was performed and in the rest of the cases intracapsular was performed and in the rest of the cases extracapsular was performed. One case got expulsive haemorrhage and another case got infection. Thus two eyes were lost out of 305 cases. Two cases got small prolapse of Iris and another 2 cases got slight haemorrhage in the anterior chamber.

COMMENTS

Eye camps are getting gradually more popular in Nepal. Camps have been successful in preventing many cases of blindness. The commonest operation performed to prevent blindness is cataract. Operations are also done for glaucoma, entropion, pterygium, sac infections etc. and these also help in prevention of blindness in several cases.

There were 20 persons with bilateral corneal opacity resulting in total blindness. If keratoplasty could have been done on these eyes, good vision could have been restored to most of them.

Malnutrition and vitamin A deficiency in children resulting in corneal ulcer and blindness are also responsible for blindness in many persons. This is a challenge to departments dealing with nutrition and health of the children.

Many cases of glaucoma were detected in the camp but unfortunately none could be convinced or persuaded for glaucoma surgery. This happened due to lack of time but mainly due to lack of knowledge about the severity of glaucoma in general public.

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