



Ocular Trauma in Indian Females

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Abstract

Although there is not much difference in the structure and function of male or female eye balls we do find some difference in the two sexes particularly in India where still there is difference in the nature of work in men and women especially in the middle class. The females usually live a protected life in homes and does not much indulge in physical assault, strenuous games and many other outdoor activities like driving and swimming. Thus all authors have found much higher incidence of eye injuries in females ranging from 2 to 6 times. However there other many indoor activities also which expose women to eye injuries like cooking, stitching and nail injuries from young children. While feeding injuries from blouse hook is also reported. A detailed analysis on the basis of residence, occupation, age and season has been done in the present paper.

Keywords: Ocular Injuries; Studies Incidence

Introduction

Though the structure and function of males and females are very similar but there are some important differences. Most important difference is in the genital system as females give birth to children. Not only birth the females have to monitor the physical and mental growth of the child as well. This to some extent restricts the outdoor activities of a female for a long time. This is more so in India. They have to live for a long time in home a sheltered life and are thus prevented from many types of ocular injuries. However, in the current times women are coming forward to accept all types of challenges in life and participating in all types of activities in which men participate. Thus they have also become prone to ocular injuries. In almost all studies incidence of males was much higher as shown in Table A.

S. No	Authors	Male : Female ratio
1.	Macewen	6.50 : 1
2.	Glynn	5.50 : 1
3.	Canavan	5.25 : 1
4.	Olurin	5.00 : 1
5.	Mehrotra	5.62 : 1
6.	Shukla & Verma	5.10 : 1
7.	Lambah	16.00 : 1
8.	Moreira	01.73 : 1
9.	Malik	03.00 : 1

Table 1A: Sex ratio in ocular injuries [1].

Methods & Material

In an extensive study on ocular trauma 1600 consecutive cases were analyzed in different ways. After a detailed history cases were examined by slit lamp and fundus copy was done in all cases required. Depending on the nature of injury other

relevant examinations like pathological tests X-ray etc. were done. Follow up study was done up to six months though it was not very satisfactory as female patients have more problems in coming frequently for follow up study. The findings were grouped in different tables as given in observations.

	Urban	Rural	Total
Male	798	492	1290
Female	182	128	310
Total	980	620	1600

$$X^2 = 1.045df=1p>.05$$

Table 1B: Sex and residence.

	Urban	Rural	Total
Male	61.9	38.1	100.0
Female	58.7	41.3	100.0
Total	61.25	38.75	100.0

Table 2: Percent's of row totals- sex and residence.

	Urban	Rural	Total
Male	81.4	79.4	80.6
Female	18.6	20.6	19.6
Total	100.0	100.0	100.0

Table 3: Percent's of column totals- sex/residence.

Age	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	Total
Male	220	304	390	180	117	48	20	11	1290
Female	85	76	47	41	26	22	8	5	310
Total	305	380	437	221	143	70	28	16	1600

$$X^2 = 44.66 df = 7 p<=0.001$$

Table 4: Sex and age.

Sex	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	Total
Male	17.1	23.6	30.2	14.0	9.1	3.7	1.6	0.9	100.0
Female	27.4	24.5	15.2	13.2	8.4	7.1	2.6	1.6	100.0
Total	19.0	23.8	27.3	13.8	8.9	4.4	1.8	1.0	100.0

Table 5: Percent's of rows totals-sex and age.

Sex	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	Total
Male	72.1	80.0	89.2	81.4	81.8	68.6	71.4	68.7	80.6
Female	27.9	20.0	10.8	18.6	18.2	31.4	28.6	31.3	19.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6: Percent's of column totals-sex and age.

Sex	Nil	Student	Sed work	Farmer	Laborer	House Wife	Ind work	Miscell	Total
Male	129	332	109	224	171	12	115	198	1290
Female	70	83	5	5	12	116	3	8	310
Total	199	415	114	114	183	128	118	206	1600

$$X^2 = 565.85df=7p<.001$$

Table 7: Sex and occupation.

Sex	Nil	Student	Sed work	Farmer	Labourer	House Wife	Ind work	Miscell	Total
Male	10.0	25.7	8.4	17.4	13.3	0.9	8.9	15.3	100.0
Female	22.6	26.8	1.6	4.2	3.9	37.4	1.0	2.6	100.0
Total	12.4	25.9	7.1	14.8	11.5	8.0	7.4	12.9	100.0

Table 8: Percent's of row totals, sex and occupation.

Sex	Nil	Student	Sed Work	Farmer	Laborer	House Wife	Ind work	Miscell	Total
Male	64.8	80.0	95.6	94.5	93.4	9.4	97.5	96.1	80.6
Female	35.2	20.0	4.4	5.5	6.6	90.6	2.5	3.9	19.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 9: Percent's of column totals, sex and occupation.

Sex	Summer	Rainy	Winter	Total
Male	518	374	398	1290
Female	117	89	104	310
Total	635	463	502	1600

$$X^2 = 0.95df=2P>.05$$

Table 10: Sex and season.

Sex	Summer	Rainy	Winter	Total
Male	40.2	29.0	30.9	100.0
Female	37.7	28.7	33.5	100.0
Total	39.7	28.9	31.4	100.0

Table 11: Sex and season (percent's of row totals).

Sex	Summer	Rainy	Winter	Total
Male	81.6	80.8	79.3	80.6
Female	18.4	19.2	20.7	19.4
Total	100.0	100.0	100.0	100.0

Table 12: Sex and season (percent's of row totals).

The data was statistically analyzed mainly to find p values.

Conclusion

Most data on eye injuries is concerning the males as they are primarily prone to it. As stated in the beginning all authors of ocular trauma have found the incidence much higher in

males than in females. However females also do get eye injuries and their eyes are by no means less important than those of males. In Tables 1-3 analysis of data with relation to sex is discussed in detail. Tables 1 & 2 clearly show that urban cases are much higher than rural cases and males are

also significantly higher than in females ($p>0.05$). The ratio between males and females was almost equal in urban and rural population (4:1). Effect of age is seen in Tables 4-6. In males the maximum incidence is seen between 21-30 years (30%) although it is high in 0-10 and 11-20 year groups also. There is a sharp decline between 41 – 50 year age group (9.1%) which continues till very old age. However in females maximum incidence is at 0 – 10 years (27.4%) which keeps on following down continuously and is only 0.7% at the age of 71 – 80 years. At no age group there is dominance or equality of the female sex.

As far as occupation is concerned at birth females are more prone to injury. In student life females have 4 times higher incidence. Subsequently it becomes much less. As far as season is concerned females were about 60% less involved than the males in all seasons. A lady is the king pin of a family and the welfare of each member is dependent on her welfare. Unfortunately, in many countries the females are not given due importance and recognition which they deserve. Eye injuries can occur anywhere at any time. However the present study shows some specific features and specific situations so that one may be mentally prepared to face a sudden situation. It is perhaps the only emergency left in the field of ophthalmology which is yet not well recognized. As it is an emergency early and effective treatment is mandatory for a successful outcome. However for serious injuries requiring prevention is always better and much cheaper than cure.

Hence a first aid treatment at all schools and colleges,

factories of various types, transport centers like railway stations and bus stops should be available to prevent greater loss later. Just washing with clean water, giving an antibiotic drop, a green shade or bandage may sometimes prevent gross damage subsequently. For severe damage corneal grafting can be very useful for which still not many eyes are available after death. The magnitude after trauma depends on the severity of trauma as well as on the delicateness of the tissue involved. Eye ball being a very delicate and sensitive structure has greater chances of damage after an injury. Several books are now available on this important subject [2-5].

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