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Original Research Article

A Study of Some Epidemiological determinants of Ocular Morbid Conditions in the Urban Slum of Muzaffarnagar

Sumeet Chadha[1], J.V. Singh[2], Vijay Baijal[3], Shailendra Kumar[4], Shruti Sehgal[5], S K Raghav[6]
[1]Post-graduate student, Department of Community Medicine, Muzaffarnagar Medical College, Muzaffarnagar
[2]Professor & HOD, Department of Community Medicine, Muzaffarnagar Medical College, Muzaffarnagar
[3]Professor & HOD, Department of Ophthalmology, Muzaffarnagar Medical College, Muzaffarnagar
[4]Professor, Department of Community Medicine
[5]Assistant Professor, Department of Community Medicine, Muzaffarnagar Medical College, Muzaffarnagar
[6]Lecturer-cum-Statistician, Department of Community Medicine, Muzaffarnagar Medical College, Muzaffarnagar

***Corresponding author**
Sumeet Chadha
Email: chadha.sumeet12345@gmail.com

Abstract: The Objective was to study some epidemiological determinants of ocular morbid conditions in the Urban Slum of Muzaffarnagar City. In Method Present community based cross-sectional study was undertaken in Urban Slum of Muzaffarnagar. This study was carried out in 341 families with 1603 study subjects during March, 2014 to February; 2015. The study focuses on ocular examinations and diagnosis of ocular morbid conditions. The information was collected on a predesigned and pretested proforma. In Results Ocular morbidities were quite prevalent among the study subjects (50.0%). Poor personal hygiene (59.4%), poor personal practices (62.7%) and the habit of smoking (59.2%) was significantly ($p<0.01$) associated with ocular morbid conditions. There was no significant relationship of ocular morbidities with the dietary habits and alcohol intake.
Keywords: Ocular morbidities, hygiene

INTRODUCTION:

Human beings have been bestowed with several gifts of nature; the best among them is vision. A study of the pattern of ocular diseases is very important because some eye conditions which are just causes of ocular morbidity, invariably lead to blindness. Considering the fact that 30 percent of India's blind lose their eyesight before the age of 20 years and many of them are under five when they become blind, the importance of early detection of ocular diseases and visual impairment is thus obvious [1, 2]. In order to draw conclusions regarding the prevalence of eye diseases and to elicit the rules of various contributing factors in the etiology of these diseases, the present study was carried out in a community. To highlight the role of some of important demographic and social environmental factors such as personal hygiene, personal practices, and habit of tobacco smoking, dietary habits and alcohol intake, a highly vulnerable community living under slum conditions was selected.

MATERIAL AND METHODS:

The present cross-sectional study was planned to carry over a baseline survey to assess the prevalence of ocular morbidities and to study the distribution in various socio-demographic conditions and factors affecting it in an Urban Slum of Muzaffarnagar City.

Taking the study unit as the family, the number of families to be studied was calculated as 320. The urban slum of Muzaffarnagar City is an urban field practice area of department of Community Medicine, Muzaffarnagar Medical College, and Muzaffarnagar. It is distributed over 11 colonies and to cover a minimum sample size of 320 families, 31 families from each of these eleven colonies were selected by simple random sampling technique using simple random numbers. Thus a total of 341 families were studied .The information was collected on a pre-designed & pretested performa. A house to house visit was done and visual acuity for each individual was determined and eyes were examined with a torch light. The study was done in a period of 12 months starting from March, 2014 to February, 2015. The data thus collected was

transferred to a master chart from which simple and correlation tables were prepared , analyzed and statistically evaluated.

RESULTS:

Of the total 1603 individual examined during study 802 (50%) suffered ocular morbidities. A total of 966 ocular morbidities were present in these individuals (Multiple Responses). The major cause of morbidities was refractive errors (84.8%), followed by cataract (19.8%), conjunctivitis (7.2%), blepharitis (2.2%) , pterygium (2.0%), squint (1.7%), dacrocystitis, trachoma and entropion comprises 0.2% each (Table-1).

As seen in Table- 2 the prevalence of ocular morbidities in the age group 0-1 year was 5.9%, in the age group of 2-4 years it was 2.0% then it gradually increased significantly ($p<0.01$) with advancing age to 99.6% in the age group of ≥60 years . As far as sex distribution, of ocular morbidities, 47.8% males and 52.4% females had ocular morbidities, but the prevalence of morbidities in relation to different sexes was not found to be significant statistically ($p>0.05$).

Table-3 depicts prevalence of ocular morbidities in relation to personal hygiene. Ocular morbidities was significantly ($p<0.01$) more in individuals with poor personal hygiene (59.4%) as compared with good personal hygiene (4).

Table- 4 reveals the prevalence of ocular morbidities significantly ($p<0.01$) more in individuals with poor personal practices (62.7%) as compared with good personal practices (52.0%).

The individual with the habits of smoking was having significantly ($p<0.01$) more ocular morbidities (59.2%) as compared with nonsmokers (47.9%).

There was no significant relationship of ocular morbidities with the dietary habits (Table-6).

Similarly, there was no significant relationship of ocular morbidities with the alcohol intake (Table -7)

Table 1: Cause wise Distribution of Ocular Morbidities (Multiple Response)

Cause of Morbidities	No. of Individuals	Percentage
Refractive Error	680	84.8
Cataract	159	19.8
Conjunctivitis	58	7.2
Blepharitis	18	2.2
Pterygium	16	2.0
Squint	14	1.7
Stye	5	0.6
Glaucoma	4	0.5
Corneal Opacity	3	0.4
Colour Blindness	3	0.4
Dacryocystitis	2	0.2
Trachoma	2	0.2
Entropion	2	0.2
Base	802	

Table 2: Age and sex wise distribution ocular morbidities

Age group	Males			Females			Total		
	Population	Morbidities	Percent	Population	Morbidities	Percent	Population	Morbidities	Percent
0-1[a]	20	2	10.0	14	0	0.0	34	2	5.9
2-4[b]	52	1	1.9	50	1	2.0	102	2	2.0
5-14[c]	139	22	15.8	122	26	21.3	261	48	18.4
15-59	511	263	51.5	443	236	53.3	954	499	52.3
≥ 60	112	111	99.1	140	140	100.0	252	251	99.6
Total	**834**	**399**	**47.8**	**769**	**403**	**52.4**	**1603**	**802**	**50.0**
For age x^2=72.033 at df=2 The P-Value is <0.00001. The result is significant ($p < 0.01$)									
For sex x^2=3.33 at df=1. The P-Value is 0.06928. The result is significant ($p > 0.05$)									
For the purpose of calculation, a, b, c have been merged.									

Table-3: Relationship of Ocular Morbidities with Personal Hygiene of an Individual

Personal Hygiene	Population		Ocular Morbidities	
	No.	**Percentage**	**No.**	**Percentage**
Good	396	24.7	167	42.2
Fair	658	41.0	309	47.0
Poor	549	34.2	326	59.4
Total	**1603**	**100.0**	**802**	**50.0**
x^2=31.46 at df=2 The P-Value is < 0.00001. The result is significant (p < 0.01)				

Table-4: Relationship of Ocular Morbidities with Personal Practices of an Individual

Personal Practices	Population		Ocular Morbidities	
	No.	**Percentage**	**No.**	**Percentage**
Poor	453	28.3	284	62.7
Fair	998	62.3	439	44.0
Good	152	9.5	79	52.0
Total	**1603**	**100.0**	**802**	**50.0**
x^2=43.85 at df=2 The P-Value is < 0.00001. The result is significant (p < 0.01)				

Table -5: Relationship of Ocular Morbidities with Habit of Smoking

Habit of Smoking	Population		Ocular Morbidities	
	No.	**Percentage**	**No.**	**Percentage**
Present	306	19.1	181	59.2
Absent	1297	80.9	621	47.9
Total	**1603**	**100.0**	**802**	**50.0**
x^2=7.88 at df=1 The P-Value is 0.004998. The result is significant (p < 0.01).				

Table-6: Prevalence of Ocular Morbidities in relation to Dietary Habit

Type of Diet	Population		Ocular Morbidities	
	No.	**Percentage**	**No.**	**Percentage**
Vegetarian	328	20.5	158	48.2
Non vegetarian	1275	79.5	644	50.5
Total	**1603**	**100.0**	**802**	**50.0**
x^2=0.57 at df=1 The P-Value is 0.450259. The result is not significant (p > 0.05)				

Table-7: Prevalence of Ocular Morbidities with Alcohol Intake

Alcohol Intake	Population		Ocular Morbidities	
	No.	**Percentage**	**No.**	**Percentage**
Present	102	6.4	53	52.0
Absent	1501	93.6	749	49.9
Total	**1603**	**100.0**	**802**	**50.0**
x^2=0.16 at df=1 The P-Value is 0.689157. The result is not significant (p > 0.05)				

DISCUSSION:

In this study, the prevalence of ocular morbidities was formed to be 50.0%, which is comparable to 47.28% reported by Gulati *et al.;* [3] and 53% reported by Agrawal *et al.;* [4]. In the present study, the prevalence of ocular morbidities was found to be significantly associated with age (p<0.01) being minimum (26.3%) in 0-14 years age group and maximum (99.6%) in ≥60 years old. Similar results were observed by Titiyal *et al.;* [5], Asole *et al.;* [6].

Ocular morbidities were found to be higher in females (52.4%) than in males (47.8%), but this relation was not statistically significant in both genders. Similar marginal difference was observed by Sehgal *et al.;* [7] in Delhi. However, Khurana *et al.;* [8] reported significantly higher prevalence of ocular morbidities in

females (73.5%) as compared to males (49.4%) in Haryana.

In the present study there was a significant ($p<0.01$) relationship observed between ocular morbidities and personal hygiene of individuals. 59.4% individuals with poor personal hygiene had ocular morbidities as compared with fair (47.0%) and good (42.2%) personal hygiene. These findings were similar to those observed by Gupta *et al.;* [9] and Gulati *et al.;* [3].

In the present study there was significant ($p<0.01$) relationship of ocular morbidities with personal practices of individuals. There were maximum ocular morbidities in persons with poor practices (62.7%) as compared to good (52.0%) and fair (44.0%) personal practices. Similar results were obtained by Agrawal *et al.;* [4].

In this study, the prevalence of ocular morbidities with the habit of smoking was significantly ($p<0.01$) more in individuals (59.2%) as compared to those with no such habit (47.9%). Similarly, a study by Shroti *et al*. [10].

In the present study there was no relationship found between the prevalence of ocular morbidities and dietary habits of the people as well as with the habit of alcohol consumption. Similar results were obtained by Sharma *et al.* [11] with dietary habits. However Shroti *et al.* [10] had observed significant ($p<0.05$) relationship between alcohol consumption (53.9%) as compared to those with no such habit (23.8%).

CONCLUSION:

In the present study the prevalence of ocular morbidities was found to be 50.0% in the population with a marginal higher prevalence in females (52.4%) as compared to the males (47.8%). The most common cause was refractive errors followed by cataract. The ocular morbidities were significantly associated with age, personal hygiene, personal practices and habits of smoking in the individuals. There was no significant correlation with dietary habits and with the habit of alcohol intake in individuals.

As both the common causes of ocular morbidities the refractive errors and cataract are treatable, the emphasis should be on earlier recognition and treatment. As poor personal practices and habit of smoking is significantly associated with ocular morbidities, a simple health education regarding these problems is very important in preventing most of ocular morbidities .The visual impairment remains a public health challenge, most of which can be addressed .The eye care services need to be streamlined.

REFERENCES

1. Desai S, Dasai R, Desai N.C, Lohiya S; School eye health appraisal. Indian Journal of Ophthalmology 1989; 37(4) : 173-175.
2. Vision screening in school children. Training module. Danish Assistances to the National Programme for Control of Blindness. New Delhi, India; 1.
3. Gulati N, Gupta N.K, Jain B.K, Gupta A.K, Mehta S.P; Some Epidemiological Aspects of Ocular Morbidity in a Resettlement Colony of Delhi. Indian Journal of Public Health, 1987; 31(1): 60-63.
4. Agrawal D, Singh J.V, Sharma M.K, Mitthal S; Ocular Morbidity Pattern of an Urban Population of Meerut. Indian. J. Prev. Soc. Med. 2011; 42(1): 75-78.
5. Titiyal J.S, Murthy G.V.S; Industrial Ocular Morbidity in a North Indian Town. Indian Journal of Public Health; 1998; 42(2): 29-33.
6. Asole S, Nimale N.E, Doibale M.K, Naik D.B; A Study of Ocular Morbidity in Ghati Slum of Aurangabad City. Souvenir; 29th Annual Conference of IAPSM and 9th Annual conference of Maharashtra Chapter of IAPSM.
7. Sehgal K, Kant L, Jain B.K, Lal K; Prevalence of Eye diseases in a semi urban area. Indian J. Public Health 1984; 28: 189-193.
8. Khurana A.K, Sikka L.L, Parmar I.P.S, Agrawal S.K.L; Indian Journal of Public Health; 1984; 28: 217-220.
9. Gupta A; An epidemiological study of ocular morbidity in an urban slum of Delhi. Thesis for Degree of Doctor of Medicine (SPM), University of Delhi, 1982.
10. Shrote VK, Thakre SS, Ashok G, Lanjewar, Brahmapurkar K.P, Khakse M.K; Ocular Morbid Conditions in the Rural area of Central India. International Journal of Collaborative Research 0n Internal Medicine and Public Health 2012; 4(9):1.
11. Sharma JL, Lal S, Chauhan BS, Singh M, Singh I; Epidemiological Survey of Prevalence of Trachoma among School Children of Haryana State. Indian Journal of Public Health, 1975; 19(2):63-68.