



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1401205>Available online at: <http://www.iajps.com>

Research Article

**RISK FACTORS FOR VISUAL IMPAIRMENT ASSOCIATED
WITH CORNEAL DISEASES**¹Dr. Hassan Sharif, ²Dr. Muhammad Hasnain, ³Dr. Khush Bakhat¹MO, BHU 50/12L, Chichawatni, Sahiwal.²MO, RHC, Khabeki, Khushab.³WMO, RHC, Jamke Cheema, Sialkot**Abstract:**

Purpose: This paper deals with the etiology of the cornea diseases and different kinds of the factors associated with that (Donatella Pascolini, 2010).

Methods: To conduct the research, 100 patients were selected. Their history of the ocular and demographics was taken. Through the different clinical techniques, the causes of the infections are determined. According to the world health organization recommendations, the impairment of the eyes was divided into the different categories (Clare Gilbert, 2001). To calculate the odds ratio, the binary regression model was applied.

Results: Among the hundred patients, only sixty patients were reported with the uninfected diseases of the cornea. Most of them were reported with the dry eye syndrome. Forty of them were reported with the infectious cornea problems (John P. Whitcher, 2011). The infectious disorders were due to the fungus and bacteria. Moreover, more infections were reported in the aged person, males and residents of the rural areas.

Conclusion: The cornea impairment was more common in the aged people, males, and rural areas residents.

Keywords: cornea diseases, eyes impairment, rural area

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Please cite this article in press Hassan Sharif et al., *Risk Factors for Visual Impairment Associated With Corneal Diseases.*, Indo Am. J. P. Sci, 2018; 05(08).

INTRODUCTION:

On the global level, one of the biggest reasons for the blindness is cornea diseases. Different infection related to the cornea like keratitis, ocular trauma, and the cornea opacities are responsible for more than 1million cases of all around the blindness. This ration is more in the developing countries (Jeremiah Ngondi, 2005). According to a survey, in Ethiopia, it causes about 20.6% blindness. The main reason behind the diseases of the cornea is the deficiency of vitamin A.

There is not enough data about the cornea diseases on the clinical based. The proper and the immediate indication of the risk factors can prevent worst situations that arise due to the cornea disorders (Taylor, 2013). For example, the protection of the eye can prevent the disorders of the cornea with respect to the trauma. Similarly, the hand hygiene can stop the spread of infection of the keratitis. This paper focuses on determining the actual and main causes behind the cornea diseases and its risk factors (Lü, 2009).

METHODS:

In the national hospital, one hundred patients were selected as the participants. The study was based on the cross-section format. In the final conclusion, the main role was of the medical administration of the hospital (Gupta, 2011).

A short and simple clinical interview of the participants was taken like their previous history of illness, other associated diseases, residential details,

etc. The initial visual tests were taken through the tumbling charts and the slit lamps (Song, 2014). The result of this test was recorded in the form of the decimal form. With the help of the normally used practices used in the clinics, the causes of the infections are determined. With the help of different other tests and equipment, the visual level of the participants was tested. For the grading of the visual level, the charter of the world health organization was used. The participants who were detected with the 20/70 were categorized as the no visual impairment (Prajna, 1999). The visual level of the 20/400 falls under the category of blindness.

Statistical analysis

With the help of the SPSS analysis, the result of the data was collected. In the research, the value of the $P < 0.05$ is of significant importance. To get the risk factor, the regression model based on the binary logistic was done. To get more information about the risk factor, the individual based univariate analysis is conducted. For the other variable different multi-variant analysis are conducted (Vashist, 2017).

Results

Results obtained on the basis of different variables have been divided that is as follow:

Demographic category:

Among the one hundred patients half patients were males while the remaining halves were females. The mean ages of the participants were about 45 years. The number of the mild infectious was more than moderate or the sever one (D, 1994)

The results falling under the demography category is as follow:

Characteristic	Number of patients	P-value
Sex		1.000
Male	50	
Female	50	
Age (years) mean \pm SD		0.276*
Average age	46.0 \pm 20.1	
Male	43.8 \pm 19.8	
Female	48.2 \pm 20.3	
Location		0.194
Rural	57	
Urban	43	
Occupation		0.165
Indoor work	24	
Nonagricultural work	16	
Agricultural work	28	
Children and students	15	
Unemployed	17	
Laterality of eye affected		0.756
Right eye	30	
Left eye	36	
Both eyes	34	
Etiology		0.151
Noninfectious	55	
Infectious	40	
Both	5	
Visual impairment		<0.001
Mild or no impairment	48	
Moderate	12	
Severe	10	
Blindness	30	

Notes: *The Student's t-test was used to compare age difference between males and females. The one-sample chi-square test was used in all other comparisons.

Abbreviation: SD, standard deviation.

Geographical differences

A big majority of the patients reported with the ocular trauma belong to the rural area. They count for about 82%. It was also observed that patients suffering from the microbial trauma were also from the rural sites. They counted for about the 72% of the total population.

Characteristic	Visual impairment (n, %) ^a		Adjusted OR [95% CI]	P-value
	Moderate/severe/blind	None/mild		
Sex				
F	19	31	1.00	
M	33	17	3.37 [1.09–10.43]	0.035
Age (years)				
0–17	4	7	1.00	
18–39	6	16	0.64 [0.12–3.39]	0.595
40–59	22	15	2.94 [0.64–13.55]	0.166
≥60	20	10	5.08 [1.01–25.55]	0.048
Location				
Urban	14	29	1.00	
Rural	38	19	3.11 [1.22–7.89]	0.017
Occupation				
Indoor work	10	14	1.00	
Nonagricultural work	10	6	0.87 [0.16–4.71]	0.875
Agricultural work	18	10	0.49 [0.10–2.44]	0.384
Children and students	5	10	1.17 [0.06–22.53]	0.916
Without work	9	8	1.23 [0.28–5.45]	0.786
TCM				
No use	42	44	1.00	
Use	10	4	2.45 [0.58–10.45]	0.225
History of ocular trauma				
No	37	36	1.00	
Yes	15	12	0.89 [0.27–2.93]	0.850
Etiology ^b				
Noninfectious	24	31	1.00	
Infectious	23	17	0.94 [0.33–2.63]	0.901

Notes: ^aGiven a total sample size of 100, % equals n. ^bFive patients were excluded in binary logistic analysis as they had both infectious and noninfectious corneal diseases.
Abbreviations: OR, odds ratio; CI, confidence interval; F, female; M, male; TCM, traditional Chinese medicine.

DISCUSSION:

In the research, it is conducted that people above the age of 60 years and having gender were at the high risk of development of cornea trauma and other diseases related to it. The same thing was noticed for the people of the rural area in comparison to the urban areas (Lim, 2011). In the rural areas, the issues

of the visual impairment were at their peak and worst cases were reported from these areas.

One cause found for the cornea diseases was the use of the traditional and homemade medicines especially in the developing and under developing countries.

	Rural (%)	Urban (%)	Total	P-value
Etiology				0.005
Noninfectious	24 (43.6)	31 (56.4)	55	
Infectious	29 (72.5)	11 (27.5)	40	
Infectious etiology				0.046
Acanthamoeba	1 (100.0)	0 (0.0)	1	
Bacterial	9 (100.0)	0 (0.0)	9	
Fungal	8 (88.9)	1 (11.1)	9	
Viral	15 (57.7)	11 (42.3)	26	
TCM	10 (71.4)	4 (28.6)	14	0.24
History of ocular trauma	22 (81.5)	5 (18.5)	27	0.003

Abbreviation: TCM, traditional Chinese medicine.

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