

Causes of Low Vision and Blindness in Bahrain

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ABSTRACT

This retrospective study was undertaken to determine the aetiology and ocular conditions that lead to low vision and blindness in Bahrain. The desired data was collected from the available outpatient records. The commonest eye condition leading to low vision and blindness is cataract followed by glaucoma and corneal diseases. Degenerative eye conditions including cataract, glaucoma and retinal diseases account for 69% of the cases. In spite of surgical intervention, 42% of the cases still suffer from low vision and blindness.

Blindness is a world wide problem. It has been estimated that there are 40 million people in the world who are blind and perhaps 30 million of these are needlessly blind from preventable causes¹. The prevalence of blindness is estimated to be ten to forty times higher in the developing countries than that in the industrialized countries². Blindness and low vision is a serious handicap for the individual, the family and the community with major psychological, social and economic implications. Determination of causes of low vision and blindness and the underlying aetiology is an important step in any preventive program. This study was undertaken to determine the aetiology and the ocular conditions that lead to low vision and blindness in Bahrain. The desired data was collected retrospectively from the available outpatient clinic records.

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METHODS

The medical records of 1701 patients who attended the outpatient clinic of one of us (A.A.) was reviewed retrospectively. The period covered was January 1981 to August 1983. Low vision was considered as vision in the better eye of equal to or less than 20/70 but equal to or better than 20/200. Blindness was considered as visual acuity in the better eye of equal to or less than 20/400. Data collected in each case were age, sex, visual acuity, ocular diagnosis, aetiology, previous surgery and country where surgery was performed. The cases were grouped into six categories based on the visual acuity (Adapted from the International Classification of Diseases, World Health Organization, 1977).

<i>Category Visual Acuity (Best Corrected)</i>		
Low	1	$\leq 20/70$
Vision	2	$\leq 20/200$
	3	$\leq 20/400$
Blindness	4	$\leq 20/1200$
	5	No light perception

Analysis of case distribution was made according to age group, sex, ocular diagnosis and aetiology. The cases that had undergone previous eye surgery, the condition for which surgery was done and the country was noted.

RESULTS

Out of a total of 1701 patients who attended the outpatient clinic between January 1981 to August 1983, 245 cases had a visual acuity of equal to or less

than 20/70 in the better eye. Table 1 shows the age group and sex distribution. There were 115 (47%) males and 130 females (53%). Table 2 shows the distribution according to visual acuity. There were 119 (49%) cases in the first two categories with low vision. The rest 126 (51%) cases were blind. Table 3 shows the distribution according to ocular diagnosis. Cataract was the commonest eye condition diagnosed, 127 (52%). Next was glaucoma 26 (11%) followed by corneal diseases 16 (7%), retinal diseases 13 (5%), squint 9 (3%) and others 54 (22%). Table 4 shows the distribution according to aetiology. The most common aetiology was degenerative conditions 169 (69%). Next was developmental 33 (13%), followed by trauma 9 (4%), trachoma 9 (4%) and nonspecific 19 (7.7%). Table 5 shows the distribution of 104 cases that have undergone eye surgery according to eye diagnosis. The commonest condition was cataract 56 (53%) followed by glaucoma 24 (23%), retinal detachment 7 (7%), squint 6 (6%), trauma 2 (2%) and others 9 (9%). Table 6 shows the countries where the eye surgery was done. Out of the 104 cases, 43 (41%) had surgery in India, followed by 14 (13%) in Iran, 10 (10%) in Bahrain, 7 (7%) United Kingdom, 5 (5%) in Egypt, 3 (3%) in West Germany, 2 (2%) in Qatar and 20 (19%) in other countries.

DISCUSSION

Cataract is the commonest eye condition leading to low vision and blindness in Bahrain followed by glaucoma and corneal diseases. In a major study of prevalence and aetiology of visual loss and of eye disease in Saudi Arabia, cataract was found to be the commonest cause followed by trachoma, corneal scars, refractive errors, congenital anomalies, failed medical or surgical treatment and glaucoma³. Trachoma accounts for only 3.7% of visual impairment in Bahrain. It is estimated that 400 millions have trachoma most of them in Africa, the Middle East and Asia and about 2 million are blind⁴. With improvement in sanitary condition and complete supply of water and electricity to all homes in Bahrain active trachoma is rare in our experience. Degenerative conditions including cataract, glaucoma and retinal diseases account for 69% of low vision and blindness in Bahrain. The average life expectancy is 66 years and the ageing population has been rising steadily in Bahrain⁵. It is expected that the degenerating eye conditions will rise in future.

TABLE 1

Distribution of Number and Percentage of 245 Cases of Low Vision and Blindness by Age and Sex, Bahrain, 1983

Age Group	Male	Female	Total No	%
0- 9	5	2	7	2.9
10-19	7	3	10	4.1
20-29	9	8	17	6.9
30-39	6	8	14	5.7
40-49	17	15	32	13.1
50-59	23	42	65	26.5
60-69	25	40	65	26.5
70+	23	12	35	14.3
Total	115	130	245	100
%	47	53	100	

TABLE 2

The Distribution of Number and Percentage of 245 Cases of Low Vision and Blindness by Visual Acuity, Bahrain, 1983

Category	Visual Acuity	Number	%
Low Vision	1 $\leq 20/70$	65	26.5
	2 $\leq 20/200$	54	22.1
Blindness	3 $\leq 20/400$		
	4 $\leq 20/1200$	48	19.6
	5 No light perception	78	31.8
Total		245	100.0

TABLE 3

The Distribution of Number and Percentage of 245 Cases of Low Vision and Blindness by Diagnosis, Bahrain, 1983

Diagnosis	Number	%
Cataract	127	52
Glaucoma	26	11
Corneal diseases	16	7
Retinal diseases	13	5
Squint	9	3
Others	54	22
Total	245	100

This has implications for development of appropriate facilities for eye care in future.

Eye Surgery has been performed in 104 cases (42%) of the 245 cases. These patients still have low vision or blindness inspite of surgical intervention. Most of the eye surgery was performed in India followed by Iran. Only 7% have undergone eye surgery in Bahrain. Until the last decade, surgical eye care was considered to be subordinatal in the whole area. The surgical eye facility has developed rapidly in Bahrain. Cataract, glaucoma and retinal detachment surgery can be done now in Bahrain. Difficult and complicated cases are referred to the King Khalid Specialist Hospital in Riyadh, Saudi Arabia for management.

CONCLUSION

Cataract is the commonest eye condition leading to low vision and blindness in Bahrain followed by glaucoma and corneal diseases. Degenerative eye conditions such as cataract, glaucoma and retinal diseases account for 69% of the cases. With the increase in life expectancy and ageing population degenerative eye conditions are expected to increase in future. Inspite of surgical intervention, 42% of the cases still suffer from low vision or blindness.

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TABLE 4

The Distribution of Number and Percentage of 245 Cases of Low Vision and Blindness by Aetiology, Bahrain, 1983

<i>Aetiology</i>	<i>Number</i>	<i>%</i>
Degenerative	169	69
Developmental	33	13
Trauma	9	4
Trachoma	9	4
Other infections	4	≤1
Iatrogenic	2	≤1
Nonspecific	19	8
Total	245	100

TABLE 5

The Distribution of Number and Percentage of 104 Cases of Undergone surgery for Eye Conditions, 1983.

<i>Diagnosis</i>	<i>Number</i>	<i>%</i>
Cataract	56	53
Glaucoma	24	23
Retinal detachment	7	7
Squint	6	6
Trauma	2	2
Others	9	9
Total	104	100

TABLE 6

The Distribution of Number and Percentage of 104 Cases Undergone Eye Surgery According to the Country, 1983

<i>Country</i>	<i>Number</i>	<i>%</i>
India	43	41
Iran	14	13
Bahrain	10	10
United Kingdom	7	7
Egypt	5	5
W. Germany	3	3
Qatar	2	2
Others	20	19
Total	104	100

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DECEMBER 1988

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