J. Fac. Med. Baghdad 1994 Vol. 36 No.4

A STUDY OF THE PREVALENCE RATE OF OBVIOUS EYE DISEASES IN BAGHDAD CITY-IRAQ.

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Keywords: Eye glasses, eye colours, Community, Iraq.

نسبة انتشار امراض العيون الظاهرية للقاطنين في مدينة بغداد-العراق

الخلاصة:
من خلال دراسة مقطعية للقاطنين مدينة بغداد تبين اثناء فحص ٢١٤٦٢ شخص ان نسبة انتشار مختلف امراض العيون الظاهرية كانت ٧ر٣٢٪ بما في ذلك ارتداء النظارة الطبية والتي لوحدها شكلت ٤ر٢٠٪. بينت الدراسة ان ٧ر٦٤٪ من الاشخاص كانت عيونهم سوداء او بني غانق ٩ر٢٪ كانوا مصابين بعمى الالوان

SUMMARY:

A cross-sectional study of the prevalence rate of some eye diseases(abnormal appearance) among people living in Baghdad city was conducted. The overall prevalence rate of eye diseases in the study population (a total of 21462 sabjects),including the wearing of glasses, was 32.7% of the total population 20.4% wore spectacles 64.5% of the total population had eyes with a dark-coloured iris, but only 2.9 % had colour blindness.

INTRODUCTION:

The presence and incidence rates of various eye diseases in the Iraqi population is not well documented. The availability of such information would be helpful in the understanding of the various eye diseases and affliction that affect the citizens of Iraqi. This information would also be helpful in strategic health planning, especilly in the areas of health maintenance and disease prevention. The purpose of this study was to survey the prevalence rate of various eye diseases, and normal eye variants among a sample population of the Iraqi community, specifically among the inhabitants of major metropolitan areas such as the city of Baghdad and its suburbs.

MATERIALS & METHODS:

A cross-sectional study of the prevalence rate of eye diseases and normal eye variants was conducted by fourth year medical students at the University of Baghdad, College of Medicine, as part of their requirements for training in community medicine for the year 1992-1993. This study was the product of a collaborative effort of over fifty medical students at the college, who were divided between ten major regions of the city of Baghdad and its main suburbs. The students were given audio-visual lectures on how to perform screening for external eye examinations, and on how to determine the presence or absence of abnormal eye condition, and also how to assess normal eye.The groups of students were under close supervision of the last author.

Participants included in the study were recruited from different sources such as the following: 1) patients at various private family medicine clinics 2) students at various colleges and universities in the different suburbs of Baghdad, 3) people from various public gatherings, such as cafes and shopping places, from the different suburbs of the city. The students were requested to fill-out questionnaire forms, which contained questions regarding the health of the eyes and the presence of history of eye diseases among various inhabitants of the city, without regard to ethnic background. The study subjects were then screened for the colour of the eyes and the results were tabulated according to gender. The presence of refractive erros (The use prescription glasses) was noted and tabulated according to gender and age(Table-2).Various eye conditions were also screened for such as muscle imbalances (Esotropia and Exotropia), and colour blindness which was assessed using Isahara color plates looking for congenital color defects. The presence of exophthaloms was also measured with manual exophthalmometry. Many other eye diseases such as Cataracts, Nystagmus,Red eyes caused by chronic conditions such as Blepharitis, Meibomeitis... etc.,Ptosis, and Prosthetic eyes secondary to enucleation of many causes were also screened for and tabulated. The information from all the madical students was then collected in a central location at the college of medicine in order to be analyzed and prevalence rates were calculated for the various disease entities and normal variants.

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RESULTS:

A total of 25,350 subjects were recruited to this study. Information was complete on only 21,462 subjects, and these were used for the data analysis in order to calculate the prevalence rates.Of the 21,462 subjects, there were 13,054 males, and 8,408 females. The presence of light iris colours in the population was determined according to gender and is shown in Table-1. As expected, there was a predominance of a dark-coloured iris in the population. However, 13.4% of the total study population had eyes with light-coloured irises. Contrary to common belief, the distribution of eye colours between males and females in the population was not statistically different, in all the colour categories (p=0.224, chi-square analysis). The prevalence of refractive errors (the wear of prescription eye glasses) in the study population is shown in Table-2, according to different age groups. there was a steady increase in the percentage of people wearing lenses as the age of the population increase.There was no statistcally significant difference in the distribution of lens wearing between males and females (p=0.24, chi-square analysis). The prevalence rates of different eye conditions, and their distribution by gender is shown in Table-3.The overall prevalence rate of eye diseases in the study population, including the wear of eye glasses, was 32.7%. of the total population, 20.4% wear spectacles. All other eye conditions were present in 9.3% of the study population.The incidence of congenital colour blindness in the population was 2.9%, and was almost four times higher in males compared to females (4.3% vs. 0.9%).All other prevalences were approximately the same between males and females.

Table1 The prevalence of eye colours in Males and Females

Eye	Sex		Total	
Colour	Male	Female	No	%
Black	4384	2700	7084	33.0
Dark Brown	4054	2716	6770	31.5
Light brown	2868	1876	4744	22.1
Blue	726	358	1084	5.1
Green	462	334	796	3.7
All other	560	424	984	4.6
Total	13054	8408	21462	100

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Table 2 Eye glasses wearing at different age groups

	Age group					Total
	<20	20-	30-	40-	50+	No.
Total m	4114	5432	1584	930	1994	13054
m with glasses	502	1018	292	322	574	2708
% of m	12.2	18.7	18.4	34.4	57.7	207
Total F	2538	3596	986	762	526	8408
f with glasses	316	724	190	226	226	1682
% of F	12.4	20.1	19.3	29.7	4.3	2.0
Total	6652	9028	2570	1692	1520	21462
Total with glasses	818	1742	482	548	800	4390
% of total	12.3	19.3	18.8	3.2	52.6	20.4

m=male , F=female

Table (3) Prevalence of some eye conditions among Males and Females

Eye Condition	Total Males		Total Females		Total Sample	
	No.	%	No.	%	No.	%
Look Normal	8780	67.3	5666	67.4	14446	67.3
Wearing Galasses	2708	20.7	1682	20	4390	20.4
Unequal eye	500	3.8	292	3.5	792	3.7
Divergence	264	2.0	138	1.6	402	1.9
Convergence	298	2.3	138	1.6	436	2.0
Exophthalmos	354	2.7	176	2.1	530	2.5
Colour Blindness	556	4.3	74	0.9	630	2.9
Others*	1236	9.5	752	8.9	1988	9.3

* Nystagmus, cataracts, ptosis, Redeye etc

Discussion:

We conducted a study of 21,462 subjects to determine the pervalence rate of various eye diseases and normal variants in a metropolitan area of Iraq. We found the incidence of eye ciseases(All other) in the population to be 9.3%, and was not different between males and females.Studies in western population have shown a correlation between the level the of education and the prevalence of eye diseases. The baltimore Eye Survey[1] for example, showed a linear decrease in the prevalence of blindness and visual impairment with the increase in the number of education.for example, the lowest rate of visual disability was 1.94% among people with 12 years of education or more. The highest rate of eye diseases was 5.09% which was seen among people with 0-6 years of education. This study of the population of the

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city of Baltimore, in the United States, also showed no statistical difference in the level of blindness and visual impairment with level of employment or socioeconomic status. Both employed, unemployed, and homemakers had the same level of visual impairment. Other prevalance studies of western populations looked at the association between alcohol drinking and smoking and the level of blindness. This was studied in the Beaver-Dam Eye study of the city of Wisconsin, in the United States, where no association was found between alcohol drinking and smoking and the level of visual impairment[2]. The high level of diseases found in the Iraqi sample of our study (9.3%), which is twice the maximal level of visual dysfunction found in the Baltimore Eye Survey, may be a reflection of the post-war casualties among disabled veterans of the Iran-Iraq war. The Baltimore Eye Survey found a higher level of visual impairment among disabled individuals, although those patients, unlike the Iraqi sample, were disabilities related to work environment.

The incidence of spectacle wearing in the study population was 20.4% This obviously includes both people with Myopia, Hyperopia, Astigmatism and their combinations, but it does not reflect the actual incidence of refractive errors in the population. It is only a measure of the number of people wearing spectacles at the time of the study. The incidence of refractive errors estimated for western societies is higher than 20%. For example the incidence of Myopia alone in the United States was estimated to be present in 20% of the population[3,4]. The low incidence of spectacle wearing in the Iraqi population may be a reflection of the difficulty in manufacturing and the high expense of obtaining prescription glasses in Iraq. Therefore, it may that a significant number of those with refractive errors, especially mild ones, may go without wearing glasses. It may also be a reflection of the cultural stigma associated with wearing glasses,therefore many people may avoid wearing them. There was an increase in the number of people wearing spectacles as the population ages. This most likely reflects the increase in eye diseases requiring the wear of glasses as the population ages. Such would be true in patients who have undergone cataract extraction[5]. There was no difference in the rate of spectacle wear between males and females under the age of fifty. However, over the age of fifty, there was a sharp difference between men and women. Since the incidence of major eye diseases was the same between men and women over the age of fifty. The difference in spectacle wear in this age group may reflect a social phenomena such as the presence of more men of this age group in the work force which requires sharper vision.Women in this age group may make up a smaller

percentage of the active work force, therefore do not require good vision,and therefore the wear of spectacles is not common.The incidence of colour blindness in this Iraqi sample was 2.9%, which is much lower than that found in western societies, which is estimated at 8%[6,7]. As expected the incidence of colour Blindness was higher in males, which is similar to ratios in other countries, since congenital colour blindness is inherited as an X-linked recessive disease and therefore wil affect more males than females. The overall prevalence of colour blindness was lower than that reported in European and other estren countries[8]. In this study we have documented the prevalence rate of various eye diseases in a sample population in Iraq. we hope that such statistics will help increase the understanding and prevention of these diseases in the Iraqi community.

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