

General Awareness and Knowledge about Cataracts, Glaucoma and Diabetic Retinopathy in Saudi Arabia

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ABSTRACT

Aim of the work: this study aimed to assess the awareness and knowledge for cataracts, glaucoma and diabetic retinopathy diseases in social media of Saudi Arabia.

Material and Methods: a total of 1021 people make an evaluation through internet. Various complaints were incorporated in this study. The data were collected from participants using a structured questionnaire. Questionnaire was done for gathering information on demographics, awareness, knowledge, attitudes and practices related to eye diseases.

Results: in this study, 63% males and 37% of females were participated. Majority of the participants (52%) were aware of visual problems, 19.9% were aware of diabetic retinopathy, 2.5% of cataract and 1.2% of glaucoma. The percentage belonged to minimum than 20 years old, 37.5 % belonged to 21 - 30 age group, 22.1 % belonged to 31 - 40 age groups, 14.2 % belonged to 41 - 50 age group, 5.9 % were of 51 and above years of age. Further, 85.7 % of samples belonged to town people and 14.2 % belonged to village groups, 35.6 % of samples gone through secondary school or less education, 60.5% are in graduating from college and 3.9 % of samples were post graduated or qualified higher.

Conclusion: the present results showed that there is still a need for health education in the population of this region of Saudi Arabia to increase the level of awareness and knowledge of common eye diseases, through the social media.

Keywords: cataracts, glaucoma, diabetic retinopathy.

INTRODUCTION

Poor health awareness and knowledge of common eye disease lead to postponed diagnosis and seeking health care center for detection of many ocular diseases like cataract, glaucoma and diabetic retinopathy, which are considered the leading cause of blindness worldwide. However, public health awareness of eye disease plays a significant role in raising apprehension for early intervention and delay complication through regular follow up with appropriate management (1,2).

Many studies about awareness and knowledge of eye disease have been reported globally. Few studies were conducted regarding awareness of eye diseases at Arabian Gulf. However, in developing countries such as Iran, a study in Tehran was reported concerning awareness level of eye disease (3). Although in developed countries many studies on awareness of eye disease were conducted like Canada, the

level of health awareness was account approximately of 69% for cataract, and nearly 41% for glaucoma (4). Patients with diabetes increasing their susceptibility to develop eye disease, Saudi Arabia ranks 7th country worldwide affected with diabetes mellitus [DM], with prevalence account 23.5% diabetic retinopathy which is considered to be a devastating complication in 77% over 10 years of diabetes. Additionally, cataract has shown an increase in prevalence 26%, to 62% among diabetic PT (5,6).

Second preventable cause of blindness in the world is glaucoma estimated over 65 million people all over the world (7), 50% of glaucoma patient are unaware of their disease, which may lead later to irresistible blindness (8). The published based evidence proved that delayed detection of glaucoma play an important risk factor for subsequent blindness and usually

appear in elderly people with poor knowledge about glaucoma⁽⁹⁾. Awareness of eye disease should not only aim for raising understanding facts about their disease, but also improve people's ability to obtain eye care service. Using eye health services is an important initial step in intervention for prevention of blindness due to eye diseases. For instance in Tehran, they found 22% of patients with diabetes had followed eye examination⁽¹⁰⁾. This study aimed to establish the magnitude of awareness and knowledge of cataract, diabetic retinopathy and glaucoma among people in Saudi Arabia.

METHODOLOGY

This cross-sectional study was carried out at social media web sites in Saudi Arabia between dates 29 September 2017 to 30 September 2017

with samples comprised of 1021 people for all ages. The questionnaire was translated in Arabic to fit the research area of Saudi Arabia.

The questionnaire was then placed on the social networks to be randomized. The questions included gathering information on awareness and knowledge of common eye diseases, practice and prevention of eye problems. The questionnaire included information on age, sex, qualifications, awareness and knowledge of common eye diseases and the practice of prevention of eye diseases. Data analysis and statistical analysis using SPSS were analyzed using Chi-Square and z-proportional tests.

The significance of statistical was set as 5 % ($p < 0.05$). **The study was done after approval of ethical board of Prince Sattam Bin Abdulaziz university.**

RESULTS

Table 1. Characterizes of the samples

Variables	No.	Percentage	z-test (P value)
Gender	Male	643	0.0001
	Female	378	
Ages	< 20	206	0.0649
	21 : 30	383	
	31 : 40	226	
	41 : 50	145	
	> 51	61	
Education level	Secondary or less	363	0.0021
	Collectors	618	
	Postgraduate	40	
Living	Town	876	0.0125
	Village	145	
Nationality	Saudi	959	0.0219
	Arabic	47	
	Gulf	15	

Table1 showed that the proportion of males was 63% with 643 and the proportion of women was 37% with 378. The average age between 21 and 30 years was the highest ratio of this questionnaire with 37.5% and the highest level of education in this questionnaire was 60.5% for university students. The city received 85.7% of the total of this questionnaire and of course the predominant nationality is Saudi nationality by 94%.

Table 2. Visual problems characters

Variables	No.	Percentage
Visual problems	531	52%
Affects	708	69.3%
ophthalmologist visited	623	61%
Treatment	135	13.2%

Relations between visual problems, their affects, ophthalmologist visited and treatment were shown in **table2**. It was shown that the visual eye problems have 531 people from 1021 people that's mean 52% from Saudi people have many problems in eyes and they don't care about it even their affects were so harm with rate 69.3% and only a few people are interested in treatment or are aware of the availability of treatment with 13.2%.

Table 3. Cataract characters

Variables	No.	Percentage
Sample Cataract	25	2.5%
Family Cataract	374	36.6%
Treatment	795	77.9%
Awareness	843	82.6%

From **table 3**, the culture of Saudi society has shown that 82.6% were aware of the methods of dealing with cataract disease and 77.9% believed that the disease was treatable and 36.6% from sample family member suffer from cataract and 2.5% from our sample suffered from cataract.

Table 4. Glaucoma characters

Variables	No.	Percentage
Sample Glaucoma	12	1.2%
Family Glaucoma	130	12.7%
Treatment	490	48%
Awareness	596	58.3%

The questionnaire showed that glaucoma was found to be low in Saudi society, where it reached

1.2%. However, the percentage of culture of awareness for this disease was an average of 58.3%, which should increase the awareness leaflets and the importance of this disease and prevent its spread among the Saudi people.

Table 5. Diabetic retinopathy

Variables	No.	Percentage
DM	70	7%
Diabetic retinopathy	203	19.9%
Treatment	353	34.6%
Awareness	629	61.6%

The spread of diabetes in the Saudi society was high among global rates, where the incidence of diabetes to 7% and the diabetic retinopathy diseases reached 19.9%, which prescribes the extent of the impact of diabetes on the injury of eye defect, the government and non-governmental institutions, must do their best to educate and spread the culture of diabetes. Unfortunately, i would like to clarify that one of my family members had diabetes and during a very short period the legs were amputated (before knowledge of the specialty of diabetic foot) and then retinal eye and then the other eye, and this was done in a few months because of the lack of culture of dealing with these diseases.

Table 6. Diseases distribution

Variables	No.	Percentage
Visual Problems	531	52%
Cataract	25	2.5%
Glaucoma	12	1.2%
Diabetic retinopathy	203	19.9%
diabetes mellitus	70	7%

From **table 6**, the prevalence of eye diseases were found as the number of patients with vision problems was 531 of 1021, the number of people with cataract 25, glaucoma 12, diabetes 70 and diabetes retinopathy disease 203.

Table 7. Awareness disease by gender and age group

Variables	Gender		Ages				
	M	F	<20	21:30	31:40	41:50	51+
	643	378	203	383	226	145	61
Visual Problems	323 60.8%	208 39.2%	99 48%	178 46.5%	111 49.1%	90 62%	53 86.9%
Cataract	21 84%	4 16%	3 1.4%	6 1.6%	6 2.7%	5 3.4%	5 9.4%
Glaucoma	9 75%	3 25%	1 0.5%	2 0.5%	3 1.3%	6 4.1%	0 0%
Diabetic retinopathy	123 60.6%	80 39.4%	27 13%	68 17.8%	46 20.3%	49 33.8%	13 21.3%
diabetes mellitus	50 71.5%	20 28.5%	5 2.4%	7 1.8%	18 8%	22 15.1%	18 29.5%

Out of 1021 samples, 63 % were males and 37 % were females, 20.1 % belonged to minimum than 20 years old, 37.5 % belonged to 21 - 30 age group, 22.1 % belonged to 31 - 40 age groups, 14.2 % belonged to 41 - 50 age group, 5.9 % were of 51 and above years of age. Further, 85.7 % of samples belonged to town people and 14.2 % belonged to village groups, 35.6 % of samples gone through secondary school or less education, 60.5% are in graduating from college and 3.9 % of samples were post graduated or qualified higher (**Table 1**).

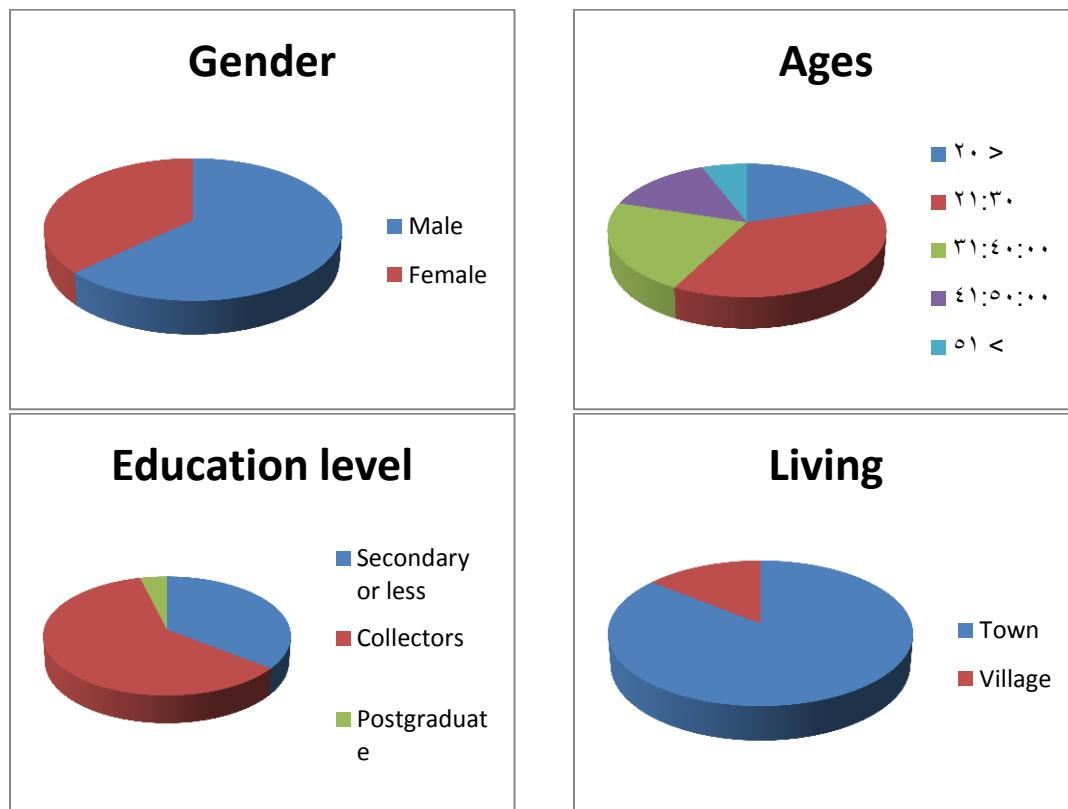
**Figure 1. Charts for gender, ages, education and living**

Table 2 represented the questions of sample that people answered. It was observed that it was divided into 6 sections:

- 1- Basic information,
- 2- Visual problems,
- 3- Cataract,
- 4- Glaucoma,
- 5- Diabetic retinopathy,
- 6- Diabetes mellitus,

Each section reviews the most important points of knowledge such as have you heard? choose, what negative impact and what your background.

Tables 3- 6, these tables discuss each topic on its own like visual problems with 52 % of people, cataract with 2.5 %, glaucoma with 1.2 %, diabetic retinopathy 19.9 % and diabetes mellitus with 7 %.

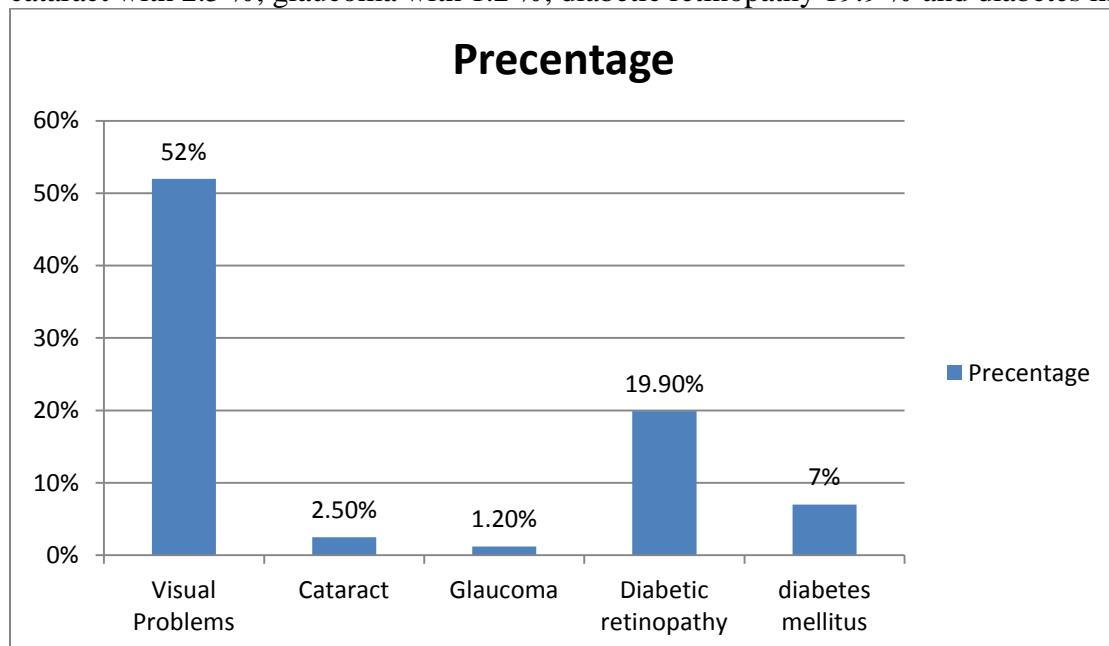
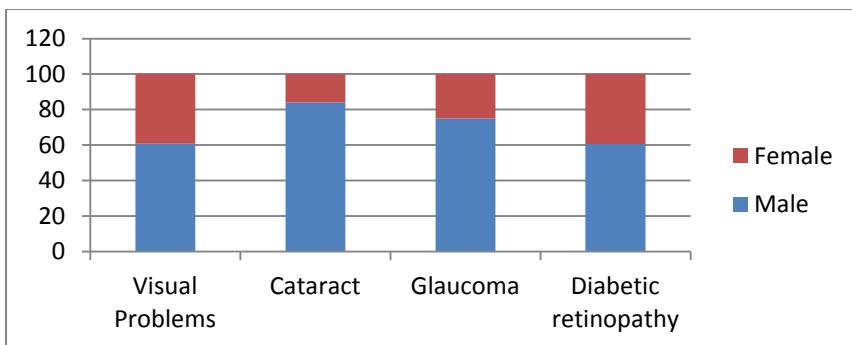


Figure 2. Diseases chart

From the previous figure, it was clear that the majority of diseases in visual problems with 52 %, divided to 60.8 % for male and 39.2 % for female, as shown in **table 8**.

Table 8 represented distribution of participants according to awareness and knowledge of diseases. Out of a total 1021 samples, maximum of 52 % of samples were aware of visual problems and a minimum of 1.2 % samples had knowledge about glaucoma (75.5 for male, 25 % for female) followed by 19.9 % about diabetic retinopathy (60.6 for male, 39.4 for female) and 2 % about cataract (84% for male, 16 for female). Similarly, the sample in the age group of above 50 years of age had significant higher proportion of awareness regarding all diseases.

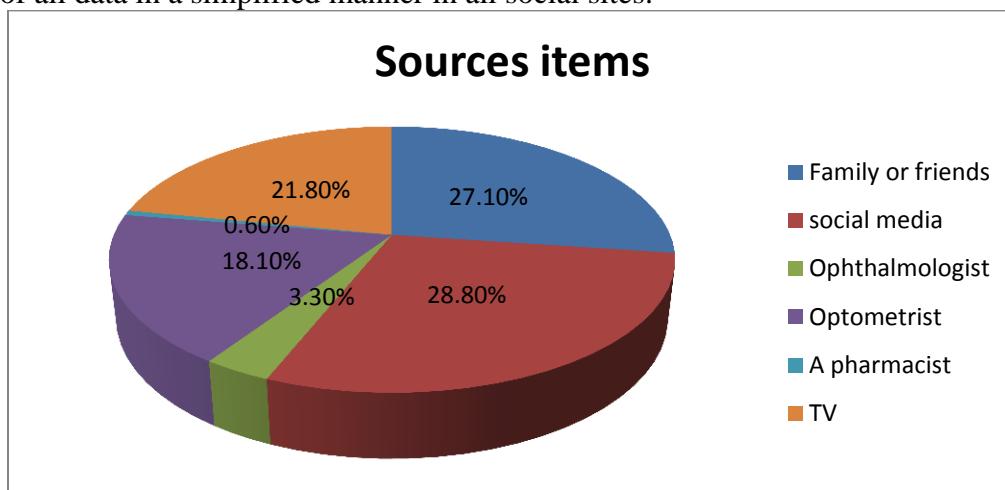
**Figure 3. Gender and diseases**

The main sources of your information about eye diseases are shown in **table 8.**

Table 8. Diseases distribution

Variables	o.	percentage
family members or friends	77	7.1 %
Social Media	94	3.8 %
Ophthalmologist	4	3 %
Optometrist	37	3.1 %
A pharmacist		6 %
TV program , awareness campaign and awareness brochure	23	1.8 %

This table showed that the social networking sites are characterized by the ease of dissemination of information and the use of many people to obtain information, attention to these sites and the inclusion of all data in a simplified manner in all social sites.

**Figure 4 .Sources items**

DISCUSSION

Consciousness of various ocular diseases and their management can assume an essential part in urging individuals to look for prompt eye care and can in this way help to lessening the hardship

of visual impedance. A developing collection of proof from studies regarding knowledge, attitudes and practice have backed the requirement for more prominent consciousness of forestalling, analysis, investigation and management of eye

diseases. To do the best of our knowledge, this is the first population based data on awareness of eye diseases in Saudi Arabian population. The main finding of this study was that the overall awareness of common eye diseases in population of Saudi Arabia was reasonable.

The subjects above 50 years age was selected to get a comprehension of conduct towards eye care from a more youthful age. Financially the young individuals are most imperative, since having an ocular inability could mean not having the capacity to add to the family job that could deleteriously affect the entire members. In the present study, the knowledge and awareness regarding nyctalopia was reasonable, similar to observations of **Dandona** [1], noted that awareness of night blindness was reasonable in their study but poor knowledge about night blindness. Awareness regarding the possibility of eye diseases secondary to diabetes mellitus was noted among 9.6 % of subjects whereas Islam⁽¹¹⁾ reported that only 4% had heard of diabetic retinopathy in their study. **Dandona et al.** confirmed that diabetes causing impaired vision was low in their study sample⁽¹⁾.

It is extremely important to minimize the accountability of ocular diseases by employing public health policies by recognizing the risk components of visual impediment. A main consideration hampering public health schemes is an absence of consciousness of eye disorders that has been appeared to be connected with under privileged results as far as aversion, care of eyes and management⁽²⁾.

CONCLUSION

From the observations of the present study, it can be concluded that there is a requirement which aimed to education for health in the study population, especially for those belonging to low income and not well educated to increase the level of awareness and knowledge about common

ocular diseases. Expanding the mindfulness and information of basic eye ailments could prompt an expansion in comprehension and acknowledgment of the significance of routine eye examination for timely diagnosis and management of the disease, subsequently diminishing visual weakness and expense of eye care. This information could create health education and data projects to decrease visual disability among the study population.

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