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### RESEARCH ARTICLE

#### PUBLIC AWARENESS OF COMMON EYE DISEASES AMONG HAIL POPULATION.

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#### Manuscript Info

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#### Abstract

**Background:** There are many ocular diseases, for instance, glaucoma, cataract, and diabetic retinopathy are considered leading causes of visual impairment and blindness worldwide with lack of studies that assessed the awareness of ocular diseases in the Middle East region.

**Aim:** This study aims to evaluate the awareness of common eye diseases in Hail city, KSA

**Method:** This a cross-sectional study which conducted in Hail City by random self-designed online questionnaire involved 292 participants. The questions were about the nature of the diseases, the familiarity with diseases, factors, treatment, chance to cause blindness and sources of information. Data was analyzed using SPSS package.

**Result:** A bout 83.9% of participants were females and 16.1%, males. The level of the awareness of Cataract was (46%), glaucoma (20%), Diabetic retinopathy (40%), uveitis (24%). The most frequent source of information was the internet (46%) while other sources as follows, books (13.4%), mass media (11.6%), physician (9.5%) and relatives (4.3%). There is a significant relationship between awareness level and increased age, previous eye diseases and education level.

**Conclusion:** The study results indicated that Hail population had good level of awareness about eye diseases but their knowledge of the diseases was still limited.

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#### Introduction:-

Visual impairment represents one of the pivotal health issues of the public with an estimated 253 million people are suffering worldwide, of which 36 million are blind [1]. There are many ocular diseases, for instance, glaucoma, cataract, and diabetic retinopathy are considered leading causes of visual impairment and blindness worldwide. Poor health awareness of those conditions and their complications causes a delay in looking for medical care and conceivable outcomes of early treatment and prevention. Subsequently, raising public awareness of visual illnesses plays a huge part within the early diagnosis and treatment of such conditions and so diminishes the burden of visual impairment [2, 3]. Studies measuring knowledge of eye care and diseases have been conducted in different countries and became the foundation on which eye health promotion was planned [4, 5]. There are numerous variable results about the level of awareness and knowledge of common ocular diseases have been reported [6, 7]. In Riyadh, there was a variance in percentage such as 68.2% of participants have a good knowledge about eye health care, whereas some of them have excellent knowledge (17.3%), and very few participants have poor knowledge (14.4%) [8]. In Tabuk, most of the people were aware of common eye diseases. About 71.8% of the respondents knew what cataract

is, and almost two-thirds of the participants (67.5%) knew the definition of glaucoma. Also, 77.3% of them were aware of diabetic retinopathy [9]. There is a lack of studies that assessed the awareness of ocular diseases in the Middle East region [10]. There are no more studies have been published describing knowledge, attitude, and practices associated with eye diseases among the general population of Saudi Arabia [11, 12]. Increased community awareness and knowledge of common eye diseases and their treatment options are important in promoting preventive ophthalmic care. Eye health education that encourages people to seek consultation from an ophthalmologist is one of the most important steps to prevent visual impairment [6]. An exploration of knowledge and attitudes held and the self-care practices undertaken by the community, can aid in the effective promotion of preventive approaches to eye health care. Therefore, a study was conducted to assess the level of awareness and knowledge of common eye diseases (cataract, glaucoma, diabetic retinopathy and uveitis) in Hail, Saudi Arabia.

### Methods:-

This a cross-sectional study focused on studying the level of common eye diseases awareness among Hail city population. The eye diseases awareness covered by this study include cataract, glaucoma, diabetic retinopathy and inflammation of iris. The study population was between 15-65 years old randomly selected. Participants were explained that their participation in the study is totally voluntary and their responses will be kept confidential using informed consent. The questionnaire which composed of three sections was approved. The first section was demographic data, second section had questions about eye diseases knowledge, and the third section included questions to assess frequency of eye diseases. About 292 participants responded and answered all questions. The data entry and analysis was done using SPSS and chi square test.

### Results:-

A total of 292 individuals from hail population were participated in this study, of which 83.9% were females and 16.1% males. The age of participants ranged from 20 to 56 years. The highest age group of respondent's range was 20 - 25 years (63.4%), while the lesser respondents from age group 46-56 years (11%). All the participants received education. More than two third (68.8%) of them were graduates, 25.7% were educated till high secondary school, 4.3% were post graduates and the others were had primary education (1.2%). A bout 8.2% of respondents reported that they were diagnosed to have inflammation of the iris; 4.7% reported to have cataract; 5.3% were diagnosed to have diabetic retinopathy; while less than 1% (0.6) persons have glaucoma as shown in figure 1. Awareness and knowledge of the eye diseases in the study population about cataract, glaucoma, diabetic retinopathy, and inflammation of iris are shown in figure 2. The difference in the figures was due to the previous diagnosis among the respondents or lack of awareness of the disease. The majority of the participants were generally aware of the four under study eye diseases, but still they had less scientific information about these diseases. However, their knowledge was more about cataract and diabetic retinopathy than other diseases. The most frequent source of information was the internet (46%) while other sources as follows, books (13.4%), mass media (11.6%), physician (9.5%) and relatives (4.3%) (Figure 3). Majority of the respondents (64%) answered that they were visiting ophthalmologists only when they have eye problem and about 13.8% of those with chronic eye diseases visited ophthalmologists regularly for check or follow up, (2.3%) of them did nothing and (3.4%) used home therapy. To evaluate the correlation of specific sociodemographic characteristics among those with awareness about the various types of eye diseases, mean and standard deviation were used. The association between the age of the participants and the knowledge of the eye diseases was evaluated. Table (1) shows that (41-56) years old has the highest knowledge. And there is a positive correlation between age and knowledge ( $r=0.134$ ) and its sig at  $\alpha \leq 0.01$  that mean when the age is go up the knowledge will be more, may be due to high level of education or previous history of eye disease. Also the correlation between level of education and knowledge is positive ( $r=0.173$ ) and its sig at  $\alpha \leq 0.01$  that mean when the level of education is high the knowledge will be more. however, the relation between knowledge and previous history of eye diseases shows that persons who have diagnosed before with eye disease have the highest mean, which reflect the positive correlation between previous history and knowledge ( $r=0.243$ ) and its sig at  $\alpha \leq 0.01$ .

Figure 1:-Prevalence of Common Eye Diseases among Respondents

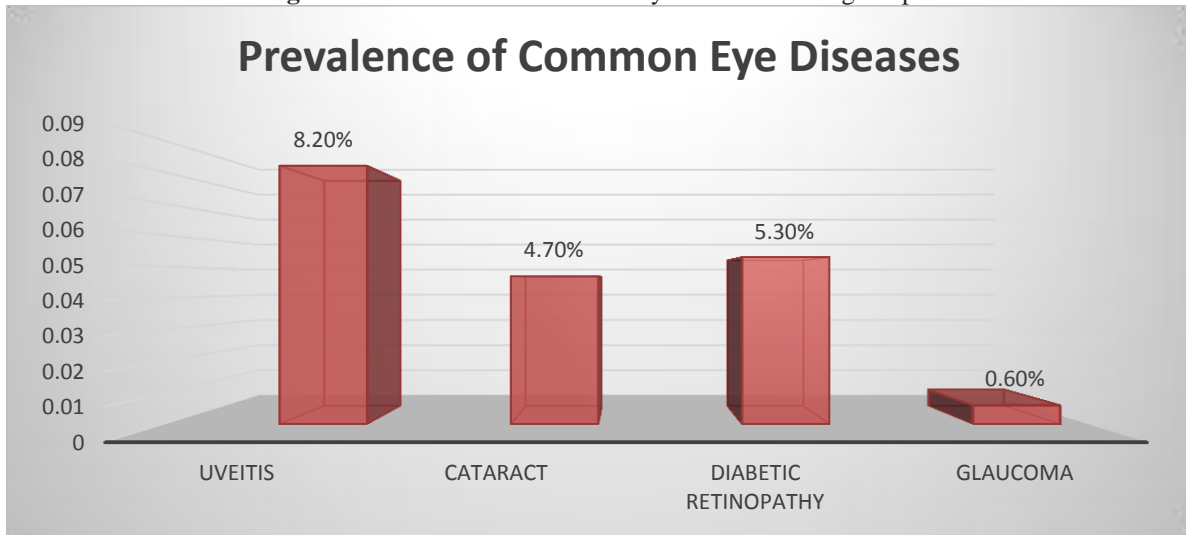


Figure 2:-Awareness level of the participants regarding common eye diseases

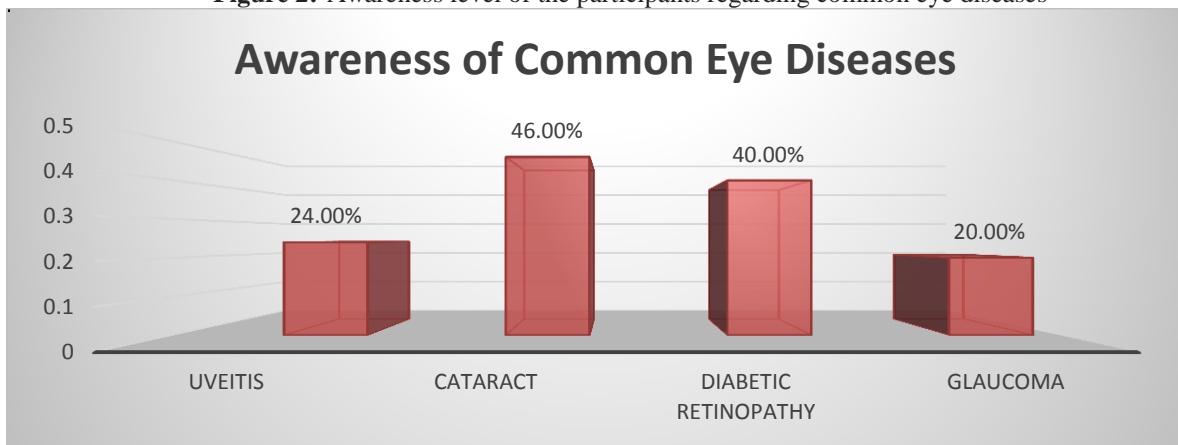
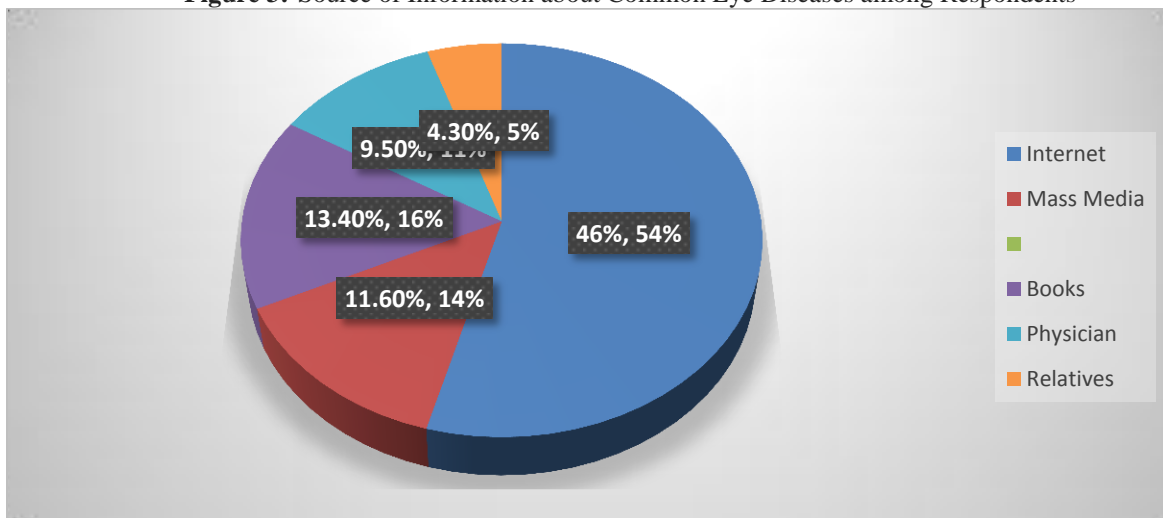


Figure 3:-Source of Information about Common Eye Diseases among Respondents



**Table 1:-**Correlation between Awareness Level and Age, Education and Previous Eye Disease History

Correlations		Mean	SD
Age	20-25 years	2.20	0.84
	26-30 years	2.25	0.75
	31-40 years	2.33	0.72
	41-56 years	2.42	0.63
Correlation		r	Sig
Ages * knowledge		0.134**	0.02
Level of Education	Secondary	2.18	0.80
	University	2.35	0.76
	Higher education	2.44	0.61
Correlation		r	Sig
Level of education * knowledge		0.173**	0.003
Previous History of Eye Disease	Yes	2.54	0.75
	No	2.40	0.68
Correlation		r	Sig
Previous History * No History		0.243**	0.00

### Discussion:-

According to our study, (46%) of the study sample had an appropriate level of information regarding the eye with cataract it considered as a logical percentage because most of the participants were young and cataract mostly affected older people. However in Malaysia the extends of awareness was high which reported that (88.2%) the participants were older individuals and Academic Staff (Non-Medical Faculties) of University of Malaya[1] which is considered as a good factor for these percentage. In Jordan[2] (31.4%) The percentage of awareness is low while it is a scientifically advanced country. Awareness of Diabetic retinopathy in our study is (40%). It is moderate percentage Comparing to other studies In Bangladesh [3] the awareness was (4%) and high in Malaya (83.4%), northwest [4] (54.7%). But In Jordan the level of awareness (37.3%) it considers closed to our level the reason could be explained that the level of development in Hail and Jordan were closely the same. In the present study, glaucoma awareness was least percentage. It was also noted low in Bangladesh, Southern India [5] and Riyadh [6]. The Result was low according to collected sample from young age (63.4%) while the fact of glaucoma is more common in older people which could make young adult read less about it, in addition the prevalence of glaucoma in hail was 0.06% could lead society to less knowledge about this disease and this indicates the need of more awareness campaigns. Meanwhile, the awareness in Jordan was high (38.8%) maybe due to intense awareness campaigns. There is no available information about uveitis in other studies. However, In our study, the awareness percentage of uveitis was (24%) which is moderately low according to other eye diseases.

The high source of information about the awareness of common eye diseases was Internet same as North western (46.4%), Riyadh (45.1%) and Jordan (31.6) because of excessive use of the internet. While the book in Hail was (13.4%) lower than Riyadh (28.7%) and Jordan (30.2%) may be because there are no available libraries and good environment for reading. Also, the media considers as the books. it is lower than Riyadh (28.6%), North western (35.4%) and Jordan (35.4%) while in Hail (11.6%) due to useless use of social media in young adults. the role of ophthalmologist in educating hail community was poor which represent (9.5%) same as in north western (14.2%), they should be educating their patients, however, in Jordan was (25%). radio, television and journals were low (15.2%) because they are not commonly used these days, in addition, Riyadh was close to our result (21.7%). The lowest source of information was relatives (4.3%), on contrary Riyadh (55.4%), North western (38.5%), Jordan (52.6%) were on the lead of their studies, may be because our collected sample are mainly young adults who are less interested in health subjects. In our study, level of education was significantly associated with all common eye diseases, however, in Jordan diabetic retinopathy awareness wasn't associated age. As expected, education plays vital role in the awareness and education about common eye disease.

The awareness of common eye diseases was associated with age, elderly participants were more knowledge, on contrary, In North Western Saudi Arabia the young participants were more knowledge

**Conclusion:-**

Notwithstanding these limitations, the results indicate that the study population had a high level of awareness of the eye diseases but their knowledge of the diseases was still limited. Educating the society on cataract, glaucoma, uveitis and diabetic retinopathy will be an important component in the promotion of preventive ophthalmic care, and in reducing visual impairment in the population of hail society.

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