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RESEARCH ARTICLE

PUBLIC AWARENESS REGARDING GLAUCOMA IN HAIL, SAUDI ARABIA

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Abstract

Glaucoma is a group of diseases characterized by progressive irreversible optic neuropathy, increased intraocular pressure and characteristic glaucomatous visual field defects. The World Health Organization indicated that glaucoma is a leading cause of blindness worldwide. The attempts to reduce the burden of disease will be unfruitful if addressed without improving the awareness levels of the general population. Our aim in this study is to evaluate the extent of community awareness regarding glaucoma in Hail region, Saudi Arabia. The study included 1143 participants, a statistically significant correlation was found between participants' level of awareness and each of marital status (p-value=0.007), occupation (p-value <0.001), and positive family history of glaucoma (p-value <0.001). 44.2% of the participants knew that glaucoma causes damage to the optic nerve, 56.3% believed that glaucoma is related to an increased intraocular pressure, and 76.5% knew that glaucoma affects vision. 65.5 % went for above 40 as the recommended age for glaucoma screening. 15.4% chose eye drops as the treatment of glaucoma, 22.6% chose surgery and 62% chose both. The majority of our participants had poor level of knowledge about glaucoma.

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Introduction:-

Glaucoma is a group of diseases characterized by progressive irreversible optic neuropathy, increased intraocular pressure and characteristic glaucomatous visual field defects. It has been recently described as a neurodegenerative disorder of the optic nerve with acquired loss of retinal ganglion cells. (1) The World Health Organization indicated in 2010 that glaucoma is the second leading cause of blindness worldwide. (2) Glaucoma has no specific symptoms or signs for the actual onset of disease or the period prior to clinical manifestation of the disease which usually lead to late presentation of glaucoma patients. (3) Visual disability resulting from glaucoma has a negative impact on an individual's social and economic well-being. (4)(5) Since glaucoma is a silent disease the best approach to prevent its progression to blindness is through early diagnosis and management. Detection of glaucoma at an early stage is possible through creating a national screening program and by raising the general population awareness of the importance of glaucoma and encouraging them to seek regular ophthalmic care. The success of such programs requires the participation of the general population in large numbers, which is not possible without some degree of awareness about the disease and its blinding consequences. Therefore, attempts to reduce the burden of disease will be unfruitful if addressed without improving the awareness levels of the general population. (6) Our aim in this study is to evaluate the extent of community awareness regarding glaucoma in Hail region, Saudi Arabia.

Methods:-

Study design:

A cross-sectional survey was conducted from May 10th to August 4th 2018. 1143 questionnaires were collected randomly from general population in Hail, Saudi Arabia. Verbal informed consent was obtained prior to data collection.

Study participant:

Sample size was calculated using Raosoft software and was based on 95% confidence level, a margin error of 5%, and response distribution of 50%. At least 384 samples were needed. Random cluster sampling was selected as a sampling technique, 1143 questionnaires were distributed in schools, colleges, different work places, and among PHC & King Khalid hospital OPD visitors.

Data Collection:

The public awareness regarding glaucoma was assessed by paper questionnaire which contained five questions about sociodemographic status, four questions to assess participants general and ophthalmic wellbeing , two questions for participant's to assess their own knowledge about ophthalmic diseases in general and glaucoma in specific , and nine questions about glaucoma.

Data Analysis:

The collected data was coded and analyzed by using descriptive statistics via SPSS (Statistical Package for the Social Science) , and planned in on deferent charts abstraction.

Result:-

The study included 1143 participants, 52.4 % (n = 589) were male and 47.6 % (n= 534) female. The mean age was 27 years, ranging from 14 to 73. Most of our participants were singles 66% (n=748), whereas other marital status such as married, divorced, and widowed represented 31% (n=351), 2.1% (n=24) and 1% (n=11) respectively. Regarding the educational level of the participants, 34.6% (n=388) were high school graduates, 59.3% (n=665) had university education, and 4.2% (n=47) with higher education -postgraduate education- and only 2% (n=22) were Illiterate. 51.1% (n=583) of the participants were students, 38.3% (n=437) were employees, 3% (n=34) were retired and 7.6% (n=87) were unemployed.

When asked about their ophthalmic health, 26.8% said they have an eye disease, meanwhile 44.9% have a family history of eye disease. When it comes to glaucoma per se, only 2.2% (n=25) are suffering from glaucoma while a higher percentage of 13.6% (n=155) have a family history of glaucoma.

Using the questions asked about glaucoma in the questionnaire, a scoring system out of 7 was made to measure the level of awareness, people who scored 3 and below were considered to have a poor level of knowledge and scores between 3 and 6 were considered moderate, and people who scored 6 and above were considered to have a high level of knowledge. Unfortunately, most of the participants fall in the category of poor awareness 49.3% (n=559), whereas 39.9% (n=453) fall under the good awareness category, and participants in the excellent awareness category were the least by a percentage of 10.8% (n=122).

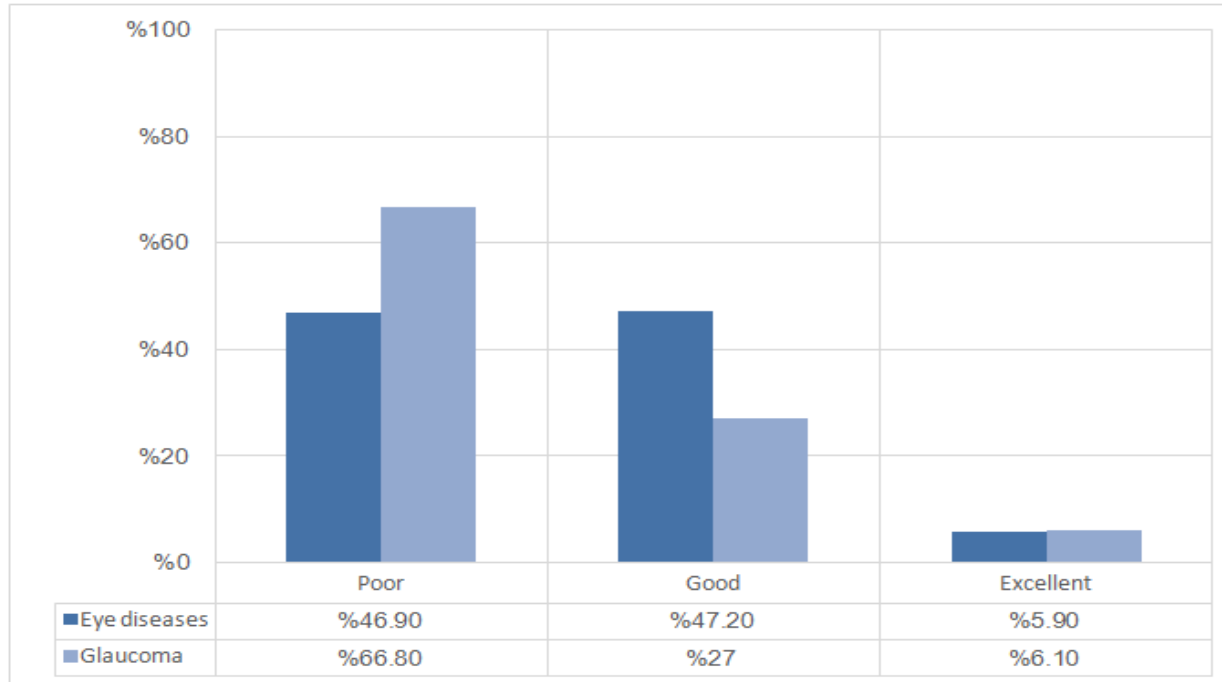


Figure 1:- Participants self-assessment of their knowledge.

Our participants were also asked to evaluate their own knowledge about eye diseases in general and glaucoma in specific (Figure-1). Among 70 participants who claimed they had excellent knowledge regarding glaucoma, only 29 are in the excellent awareness group, and 156 from the 307 participants who classified their knowledge as good are actually in the good awareness group, and 459 participants out of 755 who chose poor knowledge are in the poor awareness group. Sociodemographic determinants of glaucoma awareness are shown in Table-1. A statistically significant correlation was found between the level of awareness and each of marital status (p-value=0.007), occupation (p-value <0.001), and positive family history of glaucoma (p-value <0.001).

Table 1:- Sociodemographic determinants of glaucoma knowledge.

	Excellent	Moderate	Poor	P-value
Age				
14-25	73	282	251	0.788
26-37	21	75	159	
38-49	9	43	58	
50-61	5	17	21	
62-74	0	4	4	
Marital status				
Single	90	313	340	0.007
Married	26	128	193	
Divorced	5	7	12	
Widow	1	3	7	
Education				
Illiterate	3	5	13	0.995
High school	41	154	190	
University	73	265	324	
Postgraduate	5	21	21	
Occupation				
Student	77	260	241	<0.001
Employee	34	151	249	
Retired	4	13	17	
Unemployed	7	28	51	
family history				
Positive	28	73	53	<0.001
Negative	79	329	405	

44.2% of the participants (n=500) knew that glaucoma causes damage to the optic nerve, 14.8% (n=167) said it has no effect on optic nerve and 41% (n=464) chose I don't know. 56.3% (n=637) believed that glaucoma is related to an increased intraocular pressure, 9.4% (n=106) said it's not and 34.3% (n=388) chose I don't know. 76.5% (n=862) knew that glaucoma affects vision, 4.4% (n=50) said it does not affect vision and 18.8% (n=215) chose I don't know. 36.4% (n=412) thought that glaucoma is a disease that affects both eyes, 30.1% chose one eye, and 33.5% (n=379) chose I don't know. 15.5% (n=176) thought that glaucoma is a congenital disease, meanwhile a slightly higher percentage of 28.8% (n=325) thought that it is a hereditary disease. 65.5% (n=735) went for above 40 as the recommended age for glaucoma screening and 34.5% (n=387) chose below 40. 15.4% (n=173) chose eye drops as the treatment of glaucoma, 22.6% (n=253) chose surgery and 62% (n=694) chose both. Our participants were also asked about the possible causative factors of glaucoma, ocular inflammation was the most favorable by percentage of 57.8% (n=661), misuse of corticosteroid eyedrops comes next 42.3% (n=484), after that we have hereditary factor 37.4% (n=427), and the least favorable was eye trauma by percentage of 21.7% (n=248).

Discussion:-

To the best of our knowledge, this is the first study addressing the awareness and knowledge about glaucoma in Hail region. Unfortunately, we found a poor level of awareness (49.3%) in our study with only 10.8% participants with a high level of awareness.

Our study includes 1143 participants that were slightly higher for males (52.4%) compared to females (47.6%) and compared with a study conducted in Osun State, Southwest Nigeria, which includes a higher percentage for females (61.4%). (7)

And a higher percentage of 22.3% of age group ranging from 26-37 among the different age groups included in this research, other study conducted in Bangladesh shows the higher percentage was 30% for the age group ranging from 45 – 54. (8)

Also with a higher percentage of singles, (66.0%) comparing with married (31.0%), A study was done in Riyadh about common eye diseases included a higher percentage of married participant (64.3%) compared to singles (32.5%). (9)

The majority of them were college students (51.1%) and Employees were (38.3%). However, another study that was conducted in Southeast Nigeria, it included a higher percentage of employees (25.9%) to the level of students (9.2%), whereas the unemployed percentage (7.3%) was similar to ours (7.6%). (10)

Majority of the participant in our study had neither suffered from physical diseases (85.6%) nor any other eye diseases (73.2%) anyway, 44.9% of them had a family member with a history of eye disease. However, 97.8% of the respondents are not suffering from glaucoma but 13.6% have a family member who suffers it. On the other hand, the previous study about public awareness regarding common eye diseases among Saudi adults shows that 13.2% have an eye/systemic problem, and 59.2% have a family member with an eye/systemic disease. (9)

There was a large proportion of people (66.8%) with a poor level of knowledge about glaucoma in our study which was similar to another study which was held in southwest Nigeria which shows that >4/5th of them had never heard of glaucoma. (7) There was also a study in 2017 among Saudi adults, which shows that glaucoma-related knowledge was poor (85.2%) which was explained by that glaucoma is not very common eye disease to the community in Saudi Arabia in comparing to other eye diseases. (9)

The participants in our study were asked some questions to assess their knowledge about glaucoma and it showed that 43.4% believe that glaucoma is not a congenital disease while only 28.8% think glaucoma is a hereditary disease, meanwhile another studies which were done in Nigeria showed that 31.7% think it's related with family history and the other showed that 45.7% were unsure or said it was a spiritual problem or curse. (11)(10) 44.2% of our contributors agreed that glaucoma could damage the optic nerve, whereas 14.8% disagreed. Moreover, 56.3% were with the fact that glaucoma can cause high intraocular pressure which was compared to the previous Nigerian study which shows that 88.3% said glaucoma is a condition where the pressure increase and cause damage to the back of the eye. (11)

The previous study among people with glaucoma in southeast Nigeria shows that the vast majority (83.6%) knew that glaucoma causes blindness, 67.6% said glaucoma can be managed by drugs, 63.8% by surgery and majority of them said it can affect all ages. In our study, 76.5% believe that glaucoma affects the vision and the majority (62.0%) think that both eye drops and surgery can treat glaucoma. (10) On the other hand, the previous study among the workers in a Nigerian tertiary health care institution shows that 95% of them think that regular examination can prevent glaucoma blindness, the majority of our study contributors (65.5%) think we should screen for glaucoma above the age of 40. (11)

Conclusion:-

The study aim to state the level of knowledge and awareness about glaucoma disease among the population in Hail region, Saudi Arabia, which shows that the majority has poor level of knowledge which can be explained by that glaucoma is not very common in comparison to other eye diseases among Saudi community and the very poor Arabian content about this disease on social media and the internet. We recommend to focus more on glaucoma in public awareness activities and campaign and to increase the eye care intervention regarding glaucoma.

Bibliography:-

1. Cioffi GA. Basic and Clinical Science Course, Section 10: Glaucoma. AAO; 2015. 252 p.
2. Pascolini D, Mariotti SP. Global estimates of visual impairment : 2010. Br J Ophthalmol. 2012;96(614–618).
3. Maul EA, Jampel HD, Baltimore MHS. Glaucoma Screening in the Real World. Ophthalmology [Internet]. 2009;117(9):1665–6. Available from: <http://dx.doi.org/10.1016/j.ophtha.2009.11.001>
4. Quigley HA. Number of people with glaucoma worldwide. 1996;389–93.
5. Parrish R, Gedde S, Scott I, Al. E. Visual function and quality of life among patients with glaucoma. Arch Ophthalmol. 1997;115(11).
6. JONATHAN C. JAVITT. Preventing Blindness in Americans: The Need for Eye Health Education. Surv Ophthalmol. 1995;40(1).
7. Isawumi M, Adebimpe O, Adewole T, Akinwusi P, Asekun-Olarinmoye E, Christopher A, et al. Awareness of and attitude towards glaucoma among an adult rural population of Osun State, Southwest Nigeria. Middle East Afr J Ophthalmol [Internet]. 2014;21(2):165. Available from: <http://www.meajo.org/text.asp?2014/21/2/165/129769>
8. Islam FMA, Chakrabarti R, Islam SZ, Finger RP, Critchley C. Factors associated with awareness, attitudes and practices regarding common eye diseases in the general population in a rural district in Bangladesh: The Bangladesh population-based diabetes and eye study (BPDES). PLoS One. 2015;10(7):1–12.
9. Al Rashed WA, Bin Abdulrahman AK, Zarban AA, Almasri MS, Mirza AS, Khandekar R. Public Awareness regarding Common Eye Diseases among Saudi Adults in Riyadh City: A Quantitative Study. J Ophthalmol. 2017;2017.
10. Kizor-Akaraiwe NN, Monye HI, Okeke S. Awareness and knowledge about glaucoma and proportion of people with glaucoma in an urban outreach programme in Southeast Nigeria. BMJ Open Ophthalmol [Internet]. 2017;1(1):e000018. Available from: <http://bmjophth.bmj.com/lookup/doi/10.1136/bmjophth-2016-000018>
11. Komolafe O, Bekibele C, Ogunleye O, Komolafe O, Omolase C, Omotayo F. Awareness and knowledge of glaucoma among workers in a nigerian tertiary health care institution. Middle East Afr J Ophthalmol [Internet]. 2013;20(2):163. Available from: <http://www.meajo.org/text.asp?2013/20/2/163/110609>.