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Knowledge of Glaucoma amongst Medical and Nursing Final Year Students in Southern Nigeria

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Abstract:

The aim of this study was to determine the knowledge and understanding of glaucoma amongst final year medical and nursing students and to subjectively assess their perception of basic eye examination skills. This was a cross sectional survey using a self-administered pre-tested questionnaire. A total of 238 students with a mean age of 23.2 years, comprising of 102 (42.9%) medical and 136 (57.1%) nursing students took the survey. Almost all the participants had heard about glaucoma with four out of five participants knowing there is treatment for glaucoma. One hundred and sixty-five (69.3%) felt their exposure to basic eye examination was inadequate and this affected their overall confidence in carrying out eye examinations. In conclusion, the soon to be medical professionals had a good knowledge and understanding of glaucoma, however there was a poor level of confidence towards carrying out basic eye examination which needs to be addressed in the current teaching curriculum.

Keywords: Glaucoma, medical, nursing, final year, Southern Nigeria

1. Introduction

Glaucoma is the second leading cause of vision loss in the world (Quigley, 1996). In Nigeria, glaucoma specific blindness in adults aged 40 and above is 0.7% according to Abdul M.M et al (2009). Nigeria has a high prevalence of glaucoma which is largely open angle glaucoma with a high proportion of blindness (Kyari et al; 2015). Glaucoma usually occurs earlier and is more aggressive in blacks compared to other races, (Wilensky et al; 1978) since this eye condition is usually asymptomatic and if untreated progresses to irreversible vision loss. The late presentation of patients with advance disease is an important factor predisposing to blindness in our society (Enock et al; 2010, Abdull et al; 2015). Thus, a combination of early onset, more aggressive nature and a predominately asymptomatic course combines to increase the number of people with glaucoma in Nigeria.

Several studies done in Nigeria have shown poor awareness and knowledge of glaucoma to be common place (Abdull et al; 2015, Nwosu; 2010, Onyekwe; 2009, Kizor-Akaraiwe et al; 2017, Ogbonaya et al; 2016 and Adekoya et al; 2014). The lack of awareness and knowledge about glaucoma also contributes significantly to the devastating consequence of glaucoma in our environment. The awareness of glaucoma is significantly associated with some formal education (Nwosu; 2010, Onyekwe; 2009, Kizor-Akaraiwe et al; 2017, Ogbonaya et al; 2016).

Nigeria has one of the youngest populations in the world, with half of the population reported to be under age 19 years according to Varrel (2021). This implies that as this population ages, there probably would be more eye problems from glaucoma; since glaucoma occurs earlier in blacks (Wilensky et al; 1978). The national blindness and visual impairment survey found Nigerians of Igbo and Yoruba ethnicity who are domicile in the south east and south west respectively, to be more susceptible to glaucoma (Kyari et al; 2016). The national blindness and visual impairment survey also showed that one in every five blind persons were glaucomablind (Kyari et al; 2016), and early detection of glaucoma still remains the key to prevent the devastating consequences of this eye disease. Hence the importance of having an assessment of the knowledge of glaucoma in final year medical/nursing professionals who would be frontline healthcare workers and expected to have a high index of suspicion of glaucoma in patients with ocular complaints.

1.1. Objectives

To determine the knowledge and understanding of glaucoma amongst final year medical and nursing undergraduates in Southern Nigeria. This study also assesses their exposure to eye examinations with their confidence ratings for carrying out basic eye examinations.

2. Methodology

This is a cross sectional survey on the knowledge and understanding of glaucoma amongst medical and nursing undergraduates. The survey was carried out using a self-administered questionnaire consisting of 22 questions adapted from the National Eye Health Education Program Eye Q Test (NEHEP Eye Q Test) and (Puri et al; 2016) (Appendix 1). The study seeks to assess the knowledge of final year medical and nursing students from two randomly selected tertiary institutions in the South-eastern and the South-western region of Nigeria respectively. These Institutions are Nnamdi Azikiwe University Awka located in Anambra state and Babcock University located in Ogun state, Nigeria. Written informed consent were obtained before questionnaires were completed. The questionnaire was administered between May 16th to May 29th 2021 and data was analyzed using SPSS version 25.

3. Results

A total of 238 out of the initial 268 students completed the questionnaire giving a respondent rate of 88.8%. The mean age of the students was 23.2 ± 3.1 (mode of 21) and consisted of 65 (27.3%) males and 173 (72.7%) females. The students were divided into two groups based on their designation into medical students [Group 1] and nursing students [Group 2]. The Group 1 consisted of 102 (42.9%) final year medical students and Group 2 had 136 (57.1%) final year nursing students. At the time of participating in this survey, the medical students had 4 months to graduation while the nursing students had 1 month to graduation.

Two hundred and thirty-five (98.7%) students had heard about glaucoma and 169 (71.0%) of them said their main source of information on glaucoma was from their school lectures. Others sources of glaucoma information were the internet 27 (11.3%); family/friend 20 (8.4%); television/radio 15 (6.3%), church/mosque 3 (1.3%) and market 1 (0.4%). Almost all respondents knew that glaucoma is a disease that affects the eyes. Table 1 and 2 shows the responses on questions on hereditary nature, blindness, reversibility of blindness from glaucoma and if glaucoma presents with pains for Group 1 and 2 respectively.

Question	Yes	No	Not Sure	Total
Is glaucoma a hereditary disease	58(57.4%)	11(10.9%)	32(31.7%)	101(100%)
Can glaucoma cause blindness	99(98.0%)	1(1.0%)	1(1.0%)	101(100%)
Is blindness reversible	27(26.7%)	55(54.5%)	19(18.8%)	101(100%)
Does glaucoma cause pain	56(5.4%)	21(20.8%)	24(23.8%)	101(100%)

Table 1: Responses of Medical Students on Hereditary, Blindness and Pain In Glaucoma

Question	Yes	No	Not Sure	Total
Is glaucoma a hereditary disease	106(79.1%)	9(6.7%)	19(14.2%)	134(100%)
Can glaucoma cause blindness	129(96.3%)	3(2.2%)	2(1.5%)	134(100%)
Is blindness reversible	40(29.9%)	66(54.5%)	28(20.9%)	134(100%)
Does glaucoma cause pain	163(69.5%)	37(15.5%)	35(15.0%)	134(100%)

Table 2: Responses of Nursing Students on Hereditary, Blindness and Pain in Glaucoma

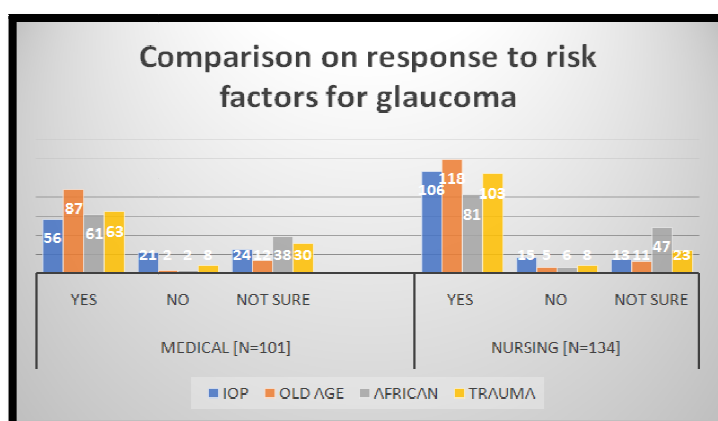


Figure 1: Comparison of the Response on the Risk Factors for Glaucoma by Both Groups
IOP= Intra Ocular Pressure, African= African Descent, Trauma= Ocular Trauma

Figure I above shows that most of the medical and nursing students were very aware that raised Intra ocular pressure [IOP], older age, African descent and ocular trauma were major risk factors for development of glaucoma. While very few had no idea or were not sure of these risk factors.

One hundred and fifty (63.0%) respondents were aware that a person can have glaucoma without showing symptoms, 99(41.6%) respondents agree that people at risk of glaucoma would need pupillary dilatation to view the fundus during an eye examination. Only 100 (42.0%) respondents were aware of the use of eye drops as a treatment option for glaucoma, while 162 (68.0%) knew about surgical intervention and only 48 (20.2%) knew LASER was a treatment option. Two out of three students (69.3%) felt their exposure to Ophthalmic care/eye examination was inadequate and the overall ratings for confidence in eye examination was 4.2 ± 2.6 out of 10.

4. Discussion

The knowledge about glaucoma in this study population can be interpreted as good. This finding of good knowledge about glaucoma was also noted by Anitha et al (2017). A detailed analysis of some responses is necessary to increase knowledge base and serve as areas of emphasis in the curriculum of Nigerian medical and nursing schools. Almost all the respondents 228 (97.0%) knew that glaucoma is a cause of blindness, with only about half 121 (51.5%) knowing that glaucoma blindness is irreversible, while only 36 (15.5%) of the respondents knew that glaucoma does not usually present with pain. It is of great importance to know these very important details for future medical care teams as this may help reduce the issue of late presentation of glaucoma within our populace. Emphasis should also be place on the hereditary nature of glaucoma to undergraduates, as a well-trained health personnel will help create more awareness for glaucoma screening amongst patients and their relatives. Glaucoma patients in Nigeria have been said to lack the depth of perception that can equip them to educate and motivate their family members to go for screening (Mbadugha; Onakoya; 2014). The health care giver should therefore be equipped with necessary information to motivate glaucoma relatives to avail themselves for screening. In this present study about 30% were not aware that glaucoma is a hereditary disease, but this number is better than reported by Martins et al (2014). Future health care personnel should understand the hereditary nature of glaucoma for early detection. Martins et al (2014) and Shetty (2019) also observed as seen in this study that one in three students did not know that blindness from glaucoma was irreversible.

The sources for information on glaucoma are essential for correct knowledge and information by these future doctors and nurses. In this present study, the school lecturers were the major source of information about glaucoma as also reported by Anitha et al (2017) and Samuel et al (2015). While the internet and media respectively were also major sources of information in these 2 studies (Anitha et al; 2017, Samuel et al; 2015), it was not a major source of information in this present study.

The participants in this present study had a good knowledge of the risk factors for glaucoma. The knowledge that being African is a risk factor for glaucoma was lower than the other risk factors in this study. This may be bothersome as glaucoma is more aggressive in Africans compared to other races (Wilensky et al; 1978).

Medical treatment is usually the preferred treatment option amongst patients with glaucoma in our locality (Nwosu; 2010). Less than half of all the respondents had knowledge of the use of eye drops as a treatment option while the use of LASER was even poorer. However about two in three students had the knowledge of surgery as a treatment option. A large number of respondents felt their exposure to eye care was not adequate and this led to very low ratings on their confidence in carrying out eye examinations. This result is similar to previous studies where a very high proportion of medical students felt insecure while treating eye disorders (Anitha et al; 2017, Lopes et al; 2011). The good knowledge about glaucoma in this study however did not correlate with the practical aspect of carrying out eye examinations. Thus, Anitha et al (2017) advocated for caution while interpreting these results as participants tend to tick suggestive answers irrespective of their knowledge on the eye condition.

5. Conclusion

The participants in this survey, demonstrated good knowledge and understanding of glaucoma. However, it is very important to balance this with practical ability to carry out basic eye examination. This can be achieved by the reevaluation of the Ophthalmology curriculum of medical and nursing schools.

6. References

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Appendix

Questionnaire

1. Age.....
2. Sex
3. Tribe.....
4. Designation [i] Medical [ii] Nursing
5. How many months do you have to your graduation.....
6. Have you heard of glaucoma.a)Yes [] b) No []
7. If yes, what was your main source of the information a) Television/radio b) internet c) church/mosque d) family/friends e) market f) school lecturers[select the most likely option]
8. The organ of the body affected by glaucoma are: a) ears b) nose c) eye d) skin e) teeth f) mouth[Select the most correct option]
9. Is glaucoma a hereditary disease (a) Yes (b) No (c) Not sure
10. Can glaucoma cause blindness (a) Yes (b) No (c) Not sure
11. If yes, is this blindness reversible (a) Yes (b) No (c) Not sure
12. Is increased eye pressure a risk for glaucoma (a) Yes (b) No (c) Not sure
13. Is old age a risk factor for glaucoma(a) Yes (b) No (c) Not sure
14. Is glaucoma more common in people of African descent (a) Yes (b) No (c) Not sure
15. can trauma/injury to the eye cause glaucoma (a)Yes (b) No (c) Not sure
16. Does glaucoma usually present with eye pain (a) Yes (b) No (c) Not sure
17. Can a person have glaucoma without knowing it (a) Yes (b) No (c) Not sure
18. People with glaucoma need to be examined by dilating the pupil. (a) Yes (b) No (c) Not sure
19. is there treatment for glaucoma (a) Yes (b) No (c) Not sure
20. If yes, which one(s) (a) use of eye drops (b)laser c) surgery [You can select more than one option]
21. As a doctor/nurse do you think you have been sufficiently exposed to eye examination/ care (a) Yes (b) No (c) Not sure
22. rate your confidence in eyecare/ examination in [17] above on a scale of 1 to 10...