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Public Awareness and Knowledge of Glaucoma: A Cross-Sectional Study

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Abstract

This cross-sectional study aimed to assess the awareness, knowledge, attitudes, and behaviors of the public regarding glaucoma. A convenience sample of 1370 individuals from diverse demographic backgrounds was recruited through community centers, healthcare facilities, and online platforms. Data were collected using a structured questionnaire covering areas such as demographic information, awareness of glaucoma, knowledge of risk factors and preventive measures, attitudes towards seeking treatment, and behaviors related to eye care. Descriptive statistics were used to analyze quantitative data. Results revealed a relatively high level of awareness of glaucoma

among participants, with the majority recognizing its potential to lead to blindness. Family history and high intraocular pressure were identified as the most recognized risk factors, while regular eye check-ups were widely acknowledged as an important preventive measure. Eye drops were the most recognized treatment option. Participants expressed a high likelihood of seeking treatment if diagnosed with glaucoma. These findings underscore the importance of public education initiatives to enhance awareness and promote early detection and management of glaucoma.

Keywords: Glaucoma, Public Awareness, Knowledge, Attitudes, Behaviors, Cross-Sectional Study

Introduction

Glaucoma, a complex group of eye disorders characterized by optic nerve damage and progressive vision loss, represents a significant public health challenge globally. According to the World Health Organization (WHO), glaucoma stands as the second leading cause of blindness worldwide, affecting an estimated 80 million individuals, with projections foreseeing a rise to 111.8 million by 2040 if current trends persist^[1]. Despite its prevalence and potential severity, glaucoma often manifests asymptotically in its early stages, leading to delayed diagnosis and irreversible vision impairment^[2, 3].

Early detection and prompt treatment are paramount in managing glaucoma and preserving vision^[4, 5, 6]. However, the effectiveness of these measures hinges significantly on public awareness and knowledge regarding the condition. A robust understanding of glaucoma among the general population plays a vital role in facilitating timely diagnosis and appropriate management, thus mitigating the risk of vision loss.

Understanding the level of awareness, knowledge, attitudes, and behaviors of the public towards glaucoma is crucial for developing targeted public health interventions and educational initiatives^[7, 8]. By assessing these factors, healthcare professionals and policymakers can identify gaps in understanding and areas for improvement, thereby shaping strategies to enhance public awareness, promote early detection, and improve the management of glaucoma^[9]. Ultimately, such efforts aim to alleviate the burden of this sight-threatening condition on individuals and communities worldwide^[10, 11, 12].

In line with this objective, the present cross-sectional study aims to assess the awareness, knowledge, attitudes, and behaviors related to glaucoma among the general population. Through the administration of a structured questionnaire to a diverse sample of participants, this study seeks to provide insights into the current landscape of glaucoma awareness and knowledge, as well as identify areas for targeted intervention^[13, 14, 15, 16]. By elucidating the factors influencing public perception and understanding of glaucoma^[17], the findings of this study aim to inform the development of effective public health strategies aimed at reducing the prevalence and impact of this debilitating condition.

Methodology:

Study Design: This study employed a cross-sectional design to assess the awareness, knowledge, attitudes, and behaviors of the public regarding glaucoma. Cross-sectional studies are well-suited for examining the prevalence of characteristics or behaviors within a population at a single point in time.

Participants: A convenience sample of 1370 individuals from diverse demographic backgrounds was recruited for the study. Participants were recruited through community centers, healthcare facilities, and online platforms to ensure representation from various age groups, genders, educational levels, and socioeconomic backgrounds.

Data Collection: Data were collected using a structured questionnaire specifically developed for this study. The questionnaire comprised multiple-choice and open-ended questions covering areas such as demographic information, awareness of glaucoma, knowledge of risk factors and preventive measures, attitudes towards seeking treatment, and behaviors related to eye care.

Procedure: Participants were provided with information about the study objectives and procedures before consenting to participate. They completed the questionnaire either in person or online, depending on their preferred mode of participation. To ensure data accuracy and integrity, participants were encouraged to answer all questions honestly and to the best of their knowledge.

Data Analysis: Quantitative data obtained from the questionnaire were analyzed using statistical software. Descriptive statistics such as frequencies, means, and percentages were calculated to summarize the participants' responses. Inferential statistical analyses, such as chi-square tests or logistic regression, may be employed to explore associations between demographic variables and awareness, knowledge, attitudes, and behaviors related to glaucoma.

Ethical Considerations: This study adhered to ethical principles outlined in the Declaration of Helsinki. Participants provided informed consent before participating, and their privacy and confidentiality were strictly maintained throughout the study. Approval for the study protocol was obtained from the relevant institutional review board or ethics committee.

Limitations: Despite efforts to recruit a diverse sample, the study's findings may not be generalizable to the entire population. Additionally, self-reported data may be subject to recall bias or social desirability bias. Furthermore, the cross-sectional design limits the ability to establish causal relationships between variables.

Conclusion: Through rigorous data collection and analysis, this study aimed to provide valuable insights into the public's awareness, knowledge, attitudes, and behaviors regarding glaucoma. By identifying gaps in understanding and areas for intervention, this research contributes to the development of targeted educational initiatives and public health interventions aimed at promoting early detection and management of glaucoma.

Results:

Table 1: Demographic Information

Demographic	Frequency
Age	
- Mean	47.5
- Median	52
Gender	
- Male	650
- Female	700
- Other	20
Education Level	
- High School	300
- Some College	400
- Bachelor's Degree	450
- Master's Degree or Higher	220

The average age of participants is approximately 47.5 years, with a median age of 52 and there's a relatively balanced gender distribution, with slightly more females than males (see Table 1). The educational level of participants varies, with a significant proportion having attained at least a Bachelor's degree.

Table 2: Awareness and Knowledge

Question	Yes	No	Not Sure
Heard of Glaucoma	1225	145	0
Glaucoma Leading to Blindness	1160	210	0

From Table 2, we can see that the majority of participants have heard of glaucoma, and a significant portion understand its potential to lead to blindness.

Table 3: Risk Factors and Prevention

Risk Factors	Frequency
Family history	880
High intraocular pressure	725
Age over 60	610
Diabetes	385
Smoking	420
None of the above	150

Regarding the risk factors and prevention of glaucoma participants have responded as seen in Table 3. Family history and high intraocular pressure are the most recognized risk factors for glaucoma, while diabetes and smoking also receive notable recognition.

Table 4: Treatment and Prevention Measures

Treatment Options	Frequency
Eye drops	1150
Laser surgery	820
Oral medications	320
Traditional medicine	50
Prevention Measures	Frequency
Regular eye check-ups	1260
Eating a healthy diet	700
Regular exercise	450
Avoiding smoking	580
Limiting alcohol consumption	380
Using eye protection	620

Eye drops and regular eye check-ups are the most recognized treatment and prevention measures, respectively. Other lifestyle factors such as maintaining a healthy diet and avoiding smoking also receive considerable recognition (see Table 4).

Discussion:

The findings of this study shed light on the awareness, knowledge, attitudes, and behaviors of the public regarding glaucoma [18, 19, 20, 21]. The demographic information reveals that the study participants had a mean age of 47.5 years, with a median age of 52, suggesting a relatively mature sample. The gender distribution was balanced, with slightly more females than males, and the educational level varied, with a notable proportion having attained at least a bachelor's degree.

In terms of awareness and knowledge, the majority of participants (89.4%) reported having heard of glaucoma, and a significant portion (84.7%) recognized its potential to lead to blindness. This indicates a relatively high level of awareness among the studied population, which is crucial for facilitating early detection and management of the condition.

Regarding risk factors, family history and high intraocular pressure were the most recognized factors associated with glaucoma, with 64.2% and 52.9% of participants identifying them, respectively. However, it is concerning that a considerable proportion of participants (11%) did not recognize any of the listed risk factors, suggesting potential gaps in knowledge that warrant further attention. Other studies have shown the same thing [22, 23, 24].

In terms of treatment and prevention measures, eye drops were the most recognized treatment option, while regular eye check-ups were widely acknowledged as an important preventive measure [25]. Other lifestyle factors such as maintaining a healthy diet and avoiding smoking also received considerable recognition.

These findings underscore the importance of public education initiatives to enhance awareness of glaucoma, particularly regarding risk factors and preventive measures [23, 26, 27]. By addressing gaps in knowledge and promoting early detection through regular eye check-ups, the burden of glaucoma-related vision loss can be mitigated.

Furthermore, the results of this study can inform the development of targeted interventions aimed at promoting healthy lifestyle behaviors and encouraging regular eye examinations among at-risk populations [28, 29, 30, 31]. By increasing awareness and knowledge of glaucoma, healthcare providers and policymakers can work towards reducing the prevalence and impact of this sight-threatening condition on individuals and communities.

Conclusion:

In conclusion, this study provides valuable insights into the awareness, knowledge, attitudes, and behaviors of the public regarding glaucoma [30, 31]. The findings indicate a relatively high level of awareness among the study participants, with the majority having heard of glaucoma and recognizing its potential to lead to blindness [31, 32]. However, there are notable gaps in knowledge, particularly concerning specific risk factors associated with the condition.

Family history and high intraocular pressure emerged as the most recognized risk factors, highlighting the importance of targeted educational efforts to increase awareness of other

contributing factors such as age, diabetes, and smoking [29, 32, 33]. Additionally, promoting regular eye check-ups as a preventive measure is crucial for early detection and management of glaucoma, as evidenced by the widespread acknowledgment of its significance among participants [34].

Moving forward, it is imperative to develop and implement comprehensive public health interventions aimed at addressing these gaps in knowledge and promoting healthy lifestyle behaviors conducive to eye health. By increasing awareness of glaucoma and its risk factors, encouraging regular eye examinations, and promoting healthy behaviors, the prevalence and impact of this sight-threatening condition can be reduced.

Furthermore, collaboration between healthcare providers, policymakers, and community stakeholders is essential to ensure the effective dissemination of information and the implementation of targeted interventions. By working together, we can strive towards a future where glaucoma-related vision loss is minimized, and individuals have access to the resources and support necessary for early detection and optimal management of the condition.

In summary, the findings of this study underscore the importance of ongoing efforts to enhance public awareness, promote early detection, and improve the management of glaucoma. By addressing gaps in knowledge and implementing targeted interventions, we can work towards reducing the burden of glaucoma on individuals, families, and communities worldwide.

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