

Knowledge, attitude, practice and quality of life assessment in glaucoma- a cross sectional survey

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Abstract

Aim: To determine knowledge, attitude and practice of patients with glaucoma and to analyze the quality of life of patients with glaucoma using the GQL-15 questionnaire. **Materials and Methods:** 62 patients with a known diagnosis of glaucoma and started on medical management were included in the study. On the first visit patients were counseling about the nature of the disease, dose, duration and frequency of medications, were informed of side effects and technique of instillation. On the second visit patients were assessed with a validated KAP questionnaire and GQL-15 quality of life questionnaire. The questions were administered in the local language by trained optometrists and health care personnel. **Results:** The inter item correlation between knowledge, attitude and practice was found to be 0.897, 0.877 and 0.765 there by validating the questionnaire. Forty nine (87.5%) of patients were found to have adequate knowledge regarding disease, drug, dose, frequency and proper method of instillation of eye drops. Forty one (73.32%) of patients were found to have a positive attitude towards usage of eye drops and the remaining 15(26.78%) negative attitude. Safe practice was followed by 49 (87.5%) of patients and unsafe with 7(12.57%) GQL-15 questionnaire applied at the time of second visit showed 40 (71.42%) of patients with low GQL score. **Conclusion:** Our study highlights that awareness and dissemination of information on basic eye drop instillation technique improves patient knowledge awareness and practice patterns of this asymptomatic disease and can help patients adhere to management.

Key words: Attitude, Glaucoma, Knowledge, Practice, Quality of life questionnaire

Introduction

Global data on visual impairment has stated glaucoma to be a leading cause of irreversible blinded worldwide [1] with 11 million of these patients from India [2] with an estimated projection to 16 million by the year 2020 [3]. Due to its asymptomatic nature and lack of awareness amongst the people it largely remains under diagnosed [4,5]. To compound matters most patients are diagnosed in the advanced stages where very little can be done to salvage useful field of vision in this vulnerable group of population [6,7]. Several studies have estimated the awareness of this slowly progressive asymptomatic condition in southern India [8,9,10]. The

other element in deciding the burden of glaucoma is the effective utilization of eye services. Several studies had estimated this social economic aspect of Glaucoma. [11,12]. Lowering of intraocular pressure is the only known means of treating glaucoma however it is only a surrogate marker for control of the disease. Quality of life indicators with the use of validated questionnaires has provided important insights that help make therapeutic choices and suggest alterations in the patients home environment to minimize problems and obstacles [13,14]. Such adaptations might permit more years of unassisted living for the elderly. Information from QOL studies can help educate newly diagnosed patients as to what may lie ahead as the disease progresses with a possible additional benefit of

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reinforcement for the need for adherence to the prescribed regimen despite the asymptomatic nature of the disease.

There isn't available literature that assesses both knowledge, attitude and practice of patients with glaucoma who are also subjected to QOL evaluation. This holistic approach might ensure better control of the intraocular pressure with subsequent slowing in the progression of the disease. In this study we have attempted the same.

Materials and Methods

This study was conducted on 62 patients of either sex with a known diagnosis of glaucoma. In addition to being subjected to a detailed comprehensive eye examination a specifically designed Knowledge, Attitude and Practice questionnaire was used on their second visit to evaluate patients knowledge and eye drop instillation technique [8]. The survey was conducted by trained optometrist and health care personnel who had adequate knowledge about the questionnaire.

The questionnaire was available in the local language and reading assistance to the illiterate was provided. Informed consent was obtained and ethics committee approval was obtained before embarking on the study. The questionnaire included three domains –knowledge which comprised of 12 closed (yes or no) questions on the patients awareness about the disease , name ,dose ,strength, frequency and storage conditions of the drug prescribed to them on a prior visit. Along with this

parameters such as affordability and technique of eye drop administration was assessed. The second domain - attitude comprised of 7 closed ended questions and the third practice consisted of 4 closed ended questions and 7 descriptive questions regarding the practices and usage of eye drops. Each question was allocated a score of 1 if yes and 2 if no. Each question per patient was counted for their response and expressed as a percentage. Similarly each domain was summated and knowledge of patients was expressed as adequate and inadequate, attitude as positive and negative and practice as safe and unsafe respectively in percentage.

Cronbachs alpha coefficient measures the overall correlation between items within a scale/questionnaire. AN internal consistency of greater than 0.7 and less than 0.9 was considered acceptable in justifying its use. A high alpha value suggests that the items measure the same single underlying condition. It is used to validate the specially prepared KAP questionnaire.

Glaucoma quality of life (GQL-15) Questionnaire is a specific tool for assessing quality of life in glaucoma patients [13,14]. Questions focus on visual ability, specific task performance and the impact of reduced visual ability on patients quality of life. It contains 15 rating scored questions used to assess the degree of disability caused by glaucoma. Six questions related to actions demanding functional peripheral vision, 6 relating to dark adaptation and glare, and two relating to central and near vision and one to outdoor mobility. Patients were instructed to circle the correct answer on a scale from 1-5.

Results

The inter item correlation between knowledge, attitude and practice was found to be 0.897, 0.877 and 0.765 there by validating the questionnaire (Table 1).

Forty nine (87.5%) of patients were found to have adequate knowledge regarding disease, drug, dose, frequency and proper method of instillation of eye drops. Remaining 7 (12.5%) were found to have inadequate knowledge (Table 2).

Table-1: Cronbachs' Alpha Correlation Coefficient for KAP Questionnaire

Domain	Number of items	Cronbach's alpha coeff
Knowledge	12	0.897
Attitude	7	0.877
Practice	4	0.765

Table-2: Knowledge, attitude and practice scores- Knowledge

S.No	Scores	Knowledge	Subjects	Percentage
1	>15	Adequate	49	87.5
2	<15	Inadequate	7	12.5

Table- 3: Knowledge, attitude and practice scores- Attitude

S.No	Score	Attitude	Subjects	Percentage
1	<15	Positive	41	73.32
2	>15	Negative	15	26.78

Table 4: Knowledge, attitude and practice scores- Practice

S.No	Score	Practice	Subjects	Percentage
1	<15	Safe	49	87.5
2	>15	unsafe	7	12.57

Table-5: Glaucoma Quality of life score (GQL-15)

S.No	Score	GQL	Subjects	Percentage
1	<35	Low QOL	40	71.42
2	>35	High QOL	16	28.57

Forty one (73.32%) of patients were found to have a positive attitude towards usage of eye drops and the remaining 15(26.78%) negative attitude (Table 3). Safe practice was followed by 49 (87.5%) of patients and unsafe with 7(12,57%) (Table 4)

GQL-15 questionnaire applied at the time of second visit showed 40(71.42%) of patients with low GQL-15 score (Table 5)

Discussion

The need for health education to improve knowledge, awareness and self care practices amongst both rural and urban India cannot be over emphasized. This study evaluated the knowledge, attitude and practice on methods of instillation of eye drops as well as the GQL-15 questionnaire only after the patients were counseled and instructed regarding the dose, dosing interval, method of instillation of drops in the form of pictorial leaflets in English and local language leaflets during their first consultation. Among 56 patients who reported for the second visit all patients had adequate knowledge

about their disease, 43(76.78%) were aware of the name of the drug, dosage frequency and storage conditions. The right method of eye drop instillation was observed in 49(87.5%) and 41(73.21%) of patients were aware of nasolacrimal duct occlusion maneuver. In a study by Dandona R et al, awareness about the disease glaucoma in an urban population in South India was very poor- 2.3% [8]. Another study amongst rural South India by Krishnaiah S et al a total of 61.1% of people did not even know what glaucoma was [9]. This study also provided insights on improving awareness amongst

rural population by better ease and access to health care delivery systems and poor awareness was directly related to socioeconomic status and level of literacy [9]. In a study by Satyamangalam R. Ve women and those with a family history of glaucoma were more likely to be aware and had good knowledge of glaucoma [10].

Attitude was measured and 15(26.78%) patients experienced difficulty in using eye drops. Good self care practices of eye drop instillation was followed in 49(87.5%) patients

The impact of the disease on patients quality of life can be assessed with quality of life questionnaire. A study by Severn P. et al assessed the strengths and weaknesses of the several quality of life questionnaires. GQL-15 instrument established a graded response from no difficulty to severe difficulty in performing daily activities. The GQL-15 questionnaire is a disease specific questionnaire, easier to use, and had shown good internal consistency. It is a 15 item, 4 domain tool that is short and easy to use [15]. This questionnaire however neglects other aspects such as mental health, dependency or general health. In another study by Spaeth G, published literature on quality of life in patients with glaucoma was assessed. And they concluded that such an assessment is as important as the treatment offered by health care providers in the management of glaucoma [13]. The purpose of this survey highlights the importance of patient counseling and a significant improvement in the knowledge, attitude and practice of glaucoma in comparison to similar such studies that showed a low level of understanding of the disease process. A study by Rewri et al [16] did not find a relationship between age or gender and glaucoma awareness. Rewri et al also established a higher understanding of glaucoma amongst patients with higher level of education and in those with acquaintances with glaucoma patients. Similar trends were reported on other glaucoma awareness related studies [8].

Overall awareness on glaucoma in Indian population based studies is poor [8,9,10]. In yet another study by Kaur D et al concurred there is no gold standard quality of life assessment tool [17]. Severn P et al and Schacknow PN et al in their study on QOL assessment concluded that glaucoma specific and vision specific tools are better than generic tools to assess the impact of glaucoma on the quality of life of affected patients [15,18].

This study highlights the importance of patient counseling having benefits in managing glaucoma. Limitations of our study include the small sample size, the possibility of an interviewer bias and lack of a comparative pre and post KAP questionnaire to show the effectiveness of counseling in this cohort of patients. Lester M et al established a significant ($P < 0.0001$) correlation between the quality of life using the Viswanathan et al's questionnaire and MD ($r = 0.79$), PSD ($r = -0.68$) and CPSD ($r = -0.61$) [19].

With the increasing incidence of ocular surface disease with the use with anti glaucoma medication with BAK, Skalicky et al evaluated the relation between ocular surface disease and glaucoma quality of life and found an increased OSDI index in patients with increasing severity of glaucoma [20].

Conclusion

Our study highlights that awareness and dissemination of information on this asymptomatic disease can help patients adhere to management and follow up and in turn reduce the national and global burden of blindness due to glaucoma with simple measures such as improving knowledge, attitude and practice on instillation of eye drops in the right manner. There exist numerous quality of life questionnaires for glaucoma but each with its own limitations. A holistic approach beyond medical knowledge can help patients understand the nature of the disease and retard progression ensuring better quality of life for those afflicted with glaucoma.

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