

Glaucoma Care Plan and Role of Social Service, Health Informatics, Nurses Together with the Ophthalmology Team and their Impact on Patient

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Abstract

The condition known as glaucoma is one of the leading causes of blindness that cannot be reversed. If the necessary diagnostic testing and therapy are administered, glaucomatous visual loss can be avoided through prevention. In order to ensure that glaucoma diagnosis and treatment are successful, ophthalmic nurses play a significant role throughout the process. Through the use of adequate theoretical knowledge and practical training, this service evaluation reveals how nurse practitioners, social service workers, and health informaticists can gain the skills necessary to achieve a high level of agreement in patient assessment and care for patients who are suspected of having glaucoma.

Keywords: *glaucoma, ophthalmology, nurses.*

Introduction

Glaucoma is distinguished by damage to the optic disc and loss of vision in the field of view. Intraocular pressure (IOP) is a significant risk factor that can be modified. Individuals with glaucoma typically do not experience any symptoms and tend to seek medical attention at a later stage of the disease, when their vision fields have been considerably impacted [1]. The worldwide prevalence of glaucoma is

expected to keep rising. According to figures from the World Health Organization (WHO), glaucoma is the main cause of permanent blindness. The global prevalence of glaucoma is expected to rise from 64.3 million in 2013 to 111.8 million in 2040. An obstacle in managing the progression of glaucoma is the patient's level of motivation and adherence to therapy. Inadequate adherence might be ascribed to a deficiency in patient awareness and education.

The incidence of adherence to glaucoma therapy among patients in Singapore has been documented to be as low as 19.7%. Research has investigated patient education programs that attempt to enhance patient compliance. It is predicted that patients who possess a deeper comprehension and awareness of their disease will be more capable of adhering to their therapy [3,4].

Asian populations have a higher prevalence of glaucoma. The age-standardized prevalence of glaucoma in Singapore has been reported to be 3.2% in Chinese individuals, 3.4% in Malays, and 1.95% in Indians, according to research [5,6].

Review:

Glaucoma is a major worldwide cause of visual impairment, which can lead to irreversible loss of eyesight if not detected. The identification and provision of prompt glaucoma services have long been difficult in the field of ocular healthcare. Unfortunately, as we begin a new decade, this problem has grown into the issue of how to provide sufficient capacity to fulfill the demand. This dilemma has become even more relevant in the era of COVID-19, when new methods of working are seen as crucial in addressing these difficulties [7].

The Way Forward Report on glaucoma by The Royal College of Ophthalmologists has expressed concerns about a projected increase of 22% in glaucoma cases over the next decade in the United Kingdom. This number is expected to rise each year [8]. Currently, there are around 79 million individuals worldwide who are afflicted with glaucoma. It is projected that this number will rise significantly to 111 million by the year 2040 [2].

There is a vast amount of published research on the effective installation and functioning of glaucoma referral filtering services, primarily carried out by optometrists in the community [9]. These initiatives have been advantageous for Hospital Eye Services in decreasing the number of glaucoma referrals. However, ensuring that new referrals receive prompt

appointments continues to be a difficulty, especially given the growing need for follow-up consultations. The primary cause for the difficulties faced by secondary care glaucoma services is the documented scarcity of ophthalmologists at a nationwide level [10]. While specialist nurses are currently participating in glaucoma virtual clinics and glaucoma education services, there is a lack of empirical evidence to support their involvement in an extended practical role. This role would involve accurately conducting the necessary clinical assessments and making appropriate decisions regarding diagnosis and monitoring. Similarly, there is a lack of literature that confirms the role of orthoptists in glaucoma care. This scenario is different from the increasing body of literature that supports the expanded involvement of optometrists in managing glaucoma [11]. Although it can be debated, the traditional medical model is still prevalent in many secondary care settings. Although there is a lack of published information supporting extended nurse duties, there is anecdotal evidence that these roles exist in glaucoma clinics in secondary care. Therefore, it is crucial for individuals who use non-medical healthcare professionals in advanced practice to do clinical research and/or clinical audits in order to gather information supporting the safety and clinical effectiveness of multidisciplinary glaucoma treatment [12].

The National Institute for Health and Care Excellence (NICE) guideline, titled "Diagnosis and Management of Chronic Open Angle Glaucoma (COAG) and Ocular Hypertension (OHT) (NG81)," recognizes the usefulness of a multidisciplinary approach in both the initial evaluation and treatment of these conditions. The Way Forward Report and Glaucoma Commissioning Guide both recognize the importance of integrating and implementing new care models to ensure the long-term sustainability of ophthalmic services [13].

A social worker can contribute to the management of glaucoma by addressing emotional discomfort, which may help enhance medication and eye appointment adherence rates by eliminating barriers. A retrospective analysis was conducted to evaluate the impact

of a social worker in a glaucoma service at a major urban eye hospital. The findings revealed that almost 70 percent of the participants said that the presence of a social worker facilitated their attendance at visits with the glaucoma specialist and improved their ability to manage their glaucoma. There is ample research indicating that individuals with vision impairment require assistance and a wide range of resources to uphold their well-being and autonomy. A study examines the impact of a six-month intervention, administered by a social worker, on the levels of distress and depression among patients in a major glaucoma department at an urban eye hospital [14].

The main difference was primarily in how definitive glaucoma and glaucoma suspect status were classified. The nurse practitioner tended to overdiagnose cases where the reference standard glaucoma consultant had categorized patients as glaucoma suspect. However, it is widely known that the diagnosis of glaucoma, the assessment and measurement of the optic nerve, and the interpretation of glaucoma diagnostic tests (particularly OCT and visual fields) can be subjective, and there is often significant variability between different observers [15]. While there were variations in the classification of certain cases with over diagnosis, the assessments of the optic nerve in these situations showed minimal or no discrepancy in the CDR evaluations. Furthermore, there was complete consensus for an additional 22 eyes that were determined to have glaucoma. Remarkably, in three cases, the nurse practitioner made a correct diagnosis of normalcy, although the reference standard diagnosis indicated the presence of glaucoma. These three instances can be classified as false negatives, but they occur at a relatively low rate of 3% in this particular sample. During the case review, it was determined that the nurse practitioner had not correctly identified neuro-retinal rim thinning. In another example, there was a failure to recognize a shallow sloping cup, which is known to be particularly difficult to diagnose. In these cases where there were notable disparities, it could have been advantageous to involve a third party in the arbitration process. However, it should be

noted that in this particular evaluation, the consultant served as the benchmark against which the nurse practitioner was being assessed. However, it must be acknowledged that the lack of arbitration is a constraint of this study, particularly when considering the degree to which professionals can differ in their assessment and therapy of glaucoma. There is a large amount of information available on the difficulty that practitioners encounter while diagnosing glaucoma [16]. This issue arises from the intricate multifactorial nature of the disease, along with various ophthalmic and systemic disorders that cause harm to the optic nerve and/or visual field. It is essential to use a methodical approach in every element of assessment, starting from gathering clinical history (which can reveal risk factors linked to glaucoma), to evaluating clinical test results and thoroughly examining the optic nerve. Although there are many resources available to help professionals in their professional development, it can be argued that gaining practical experience by working alongside medical practitioners and being exposed to a variety of real clinical cases is crucial for improving the practice of both non-medical healthcare practitioners and medical trainees. There is evidence that gaining more experience and obtaining higher certifications in glaucoma can improve performance in assessing the optic disc [17].

The patient satisfaction survey demonstrates a high response rate and positive outcomes, providing evidence that the new model of care delivered by non-medical health care professionals is accepted. This finding aligns with existing literature that supports the acceptance of nurse practitioners in roles that advance care [17].

In the United Kingdom, there is complete consensus that the provision of ophthalmic care and the preservation of eye health are of utmost importance [18]. In 2018, the Royal College of Ophthalmologists conducted a workforce census which revealed that 40% of eye departments relied on non-medical healthcare professionals in advanced practice. The census also highlighted that smaller rural units had a higher number of vacant ophthalmology

positions, making them more dependent on non-medical healthcare professionals to maintain services [14]. Ophthalmology has the potential to be a groundbreaking field that offers opportunities for a wide range of specialized practitioners. Although these practitioners cannot substitute for the knowledge and skills of medical personnel, they can enhance the work of the medical team by providing comprehensive care and ensuring that individuals are attended to by the most appropriate professional to address their specific requirements. Given the projections indicating a yearly rise in demand for glaucoma care [8], it is crucial to provide sustainable services in order to prevent unnecessary vision impairment. Multiple published research have shown the effectiveness of optometrists in expanded responsibilities in the field of glaucoma. Nevertheless, there is a scarcity of measurable proof regarding consensus in the clinical evaluation and decision-making that supports the efficacy of nurse practitioners operating in these expanded capacities. The authors have only found one previously published study in the peer-reviewed literature, which was limited to assessing the performance of nurse practitioners using tonometry [19].

Conclusion:

Nurses are a vital asset for providing patient education and can be an effective means of educating patients, especially considering the time constraints in a busy ophthalmology service. Individuals with lesser levels of education, who are currently not employed, as well as people with glaucoma at both ends of the severity spectrum, seemed to have the greatest advantages. To further assess the long-term effects of the patient education program, it is necessary to do additional research with a larger study group and a longer duration of follow-up. Due to the degenerative nature of glaucoma, the level of help needed by each participant varied significantly, since some still had their eyesight while others were profoundly impaired. Furthermore, participants of varying age groups had distinct needs; certain middle-aged participants needed help in obtaining

disability benefits, while some elderly individuals specifically sought supportive counseling. The social worker utilized concise treatments and therapies to offer individuals emotional assistance, mostly addressing feelings of depression and distress associated with the gradual deterioration of their vision. In addition, the social worker provided the participants with information regarding the significance of adhering to their daily eye drop treatment. This is particularly crucial for illnesses such as glaucoma, which have gradual yet relentless progression.

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