

## Epidemiology Of Cataract, Role Of Nursing, Optometrist, General Practitioner And Pharmacist In Management Strategies

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### Abstract

A cataract is an ocular condition in which the typically transparent lens becomes opaque, hindering the transmission of light. It is a condition that progresses slowly over time and is a major contributor to blindness worldwide. This activity demonstrates the assessment and therapy of cataracts and examines the involvement of the interprofessional team in caring for people with this condition. Several symptoms may remain undetected for an extended period of time, however, timely identification could assist patients in acquiring the skills to cope with the slow decline in eyesight, thereby enabling them to keep a high standard of living for as long as feasible. While cataract surgery is generally safe, it might lead to consequences including retinal detachment. Therefore, there is a need to find cost-effective pharmaceutical alternatives for treating this eye condition. The lens possesses a highly developed network of non-enzymatic and enzymatic antioxidants that eliminate reactive oxygen species in order to protect lens proteins. The depletion or failure of the major antioxidant defense system leads to damage in lenticular molecules and their repair mechanisms, ultimately resulting in the development of cataracts. Hence, the nursing, optometrist, general practitioner, and pharmacist play a pivotal role in the implementation of cataract treatment techniques.

**Keywords:** *Optometrist, Cataract, eyesight.*

## Introduction

A cataract is the condition where the lens of the eye becomes cloudy or opaque, preventing light from passing through to the retina. This debilitating condition can impact individuals of all ages, although it is particularly prevalent among elderly individuals. Bilateral and severity may vary. The condition steadily advances without initially impacting daily activities. However, with time, particularly beyond the age of 40 or 50, the cataract will finally reach full maturity, causing the lens to become fully opaque to light and disrupting normal daily tasks. Cataracts are a major contributor to global blindness [1].

Optometrists typically do the initial assessment of the majority of patients reported with cataracts, who are subsequently referred through the normal route via the general practitioner (GP). In the 1997–98 UK national survey of patients who had undergone cataract surgery, optometrists were responsible for initiating the referral in 53% of patients. Out of them, just 3% were recommended directly. Due to the anticipated rise in cataract referrals among the aging population and the introduction of municipal programs allowing optometrists to refer patients directly to eye care clinics. This aimed to simplify the process for referring patients with cataracts. The referral should confirm three key factors: cataract as the primary cause of visual impairment, the negative impact on the patient's quality of life, and the patient's desire to undergo surgery [2].

Optometrists have been encouraged to participate in local direct referral network for a number of years. Aside from the regular eye examination, patients also undergo dilated funduscopy. If necessary, they are then sent to the eye care center utilizing a proforma. This policy exclusively permits the referral of patients who fulfill the specified criteria guidelines, and as a result, it is mandatory to include them. After surgery, the hospital receives the postoperative refractive information. Optometrists do not undergo additional training specifically related to the plan, however they do receive audits and feedback, which are provided to all optometrists [3]. Possible treatments include the use of corrective glasses in the early stages, and if the cataract is sufficiently developed to

disrupt daily activities, surgery may be recommended, which has proven to be highly effective [4].

## Review:

It is the responsibility of the primary care physician to ensure that the patient is promptly sent to an ophthalmologist whenever the patient presents with symptoms of visual impairment and enters a clinic or emergency room regarding these symptoms. Different approaches to treating cataracts are used depending on the severity of the illness, the degree of visual impairment, and the age of the patient. The removal of cataracts through surgical means is typically the primary therapeutic method. Outpatient treatment with refractive glasses and pupillary dilatation is an option for those who are experiencing mild symptoms rather than hospitalization. It is recommended that those who are older or who have a more serious condition be advised to undergo elective surgery as a day-case operation [5]. A satisfactory response to refractive glasses is typically observed in the early stages of cataract development. It is recommended that patients undergo hospitalization for surgical cataract removal with intraocular lens implantation if outpatient therapy consisting of refractive glasses and pupillary dilatation does not show any signs of improvement. As a result of the fact that no studies have found any connection between the prescription of systemic steroids or steroids eye drops and the recurrence or complication of cataract, steroids are not typically administered to patients. The results are great for the majority of patients who receive therapy in a timely manner; nevertheless, for those patients who experience a delay in treatment or who have a disease that is advanced or severe, there is a possibility that the vision will be stable or poor after recovery [5].

An interprofessional team approach is required for the diagnosis and treatment of cataracts. This team should consist of primary care clinicians (physicians, PAs, and NPs), specialists (ophthalmologists and ophthalmic surgeons), and nursing assistance. The patient should be educated about the steps that can be taken to prevent cataracts by the primary care

provider, the nurse practitioner, and his or her pharmacist. You should strongly encourage the patient to wear sunglasses whenever they go outside, to wear a face mask or eye goggles whenever they are working with potentially dangerous fluids or participating in sports, and to visit an eye doctor on a frequent basis. Furthermore, individuals who are taking corticosteroid medications should have their eyes evaluated on a regular basis to ensure that they are not acquiring cataracts when they take these medications. It is possible to assure timely and effective patient care as well as optimal outcomes by utilizing this technique [6].

If a patient's visual acuity is greater than 6/24 and they are able to carry out their typical everyday activities, then therapeutic intervention is not required. In the case of diplopia, also known as blurred vision, it may be recommended to use glasses with a refractive index. If the patient's visual acuity is less than 6/24, surgery is required. The surgeon has the option of selecting one of the following surgical methods, depending on the patient's symptoms and the severity of the condition [7].

Cataracts are most typically found in adults and are caused by age-related cataracts. Cataracts can be characterized according to the part of the lens that is affected, such as nuclear sclerotic cataracts, cortical cataracts, or posterior subcapsular cataracts. Children are also susceptible to developing cataracts, which can be categorized according to the age at which they first appear (congenital cataracts, infantile cataracts, or juvenile cataracts). Only individuals who are at least 18 years old are included in this guideline's coverage of cataracts. Hereditary factors, trauma, inflammation, metabolic or nutritional abnormalities, and exposure to radiation are all potential causes of cataracts [8]. Cataracts can also be caused by radiation exposure. Additionally, lifestyle variables such as smoking tobacco and drinking a lot of alcohol are linked to an increased chance of developing cataracts that are connected with aging. Although the reduction in visual function may be diverse and unpredictable, the majority of cataracts are progressive in that they worsen with time. The natural course of cataracts is determined by the nature and severity of the cataract, as well as the existence

of other ocular disorders that are present at the same time. In extreme cases of cataracts that are not treated, they can cause a major reduction in vision. This reduction in vision can be reversed by the use of cataract surgery; however, some degree of visual impairment may continue to exist. This guideline addresses the treatment of cataracts in individuals who are at least 18 years old. Through the optimization of service organization, referral and surgical management, and the reduction of complications, it seeks to improve treatment before, during, and after cataract surgery. In addition, it seeks to enhance the accessibility of information for those who have cataracts prior to, during, and following cataract surgery [9].

The procedure known as cataract surgery is among the most frequently carried out ocular procedures all over the world. It has been discovered that dry eye disease (DED) is present in the majority of people who also have cataracts. This is because the age ranges of both cataracts and dry eye disease overlap. When it comes to improving outcomes, preoperative evaluation for DED is quite crucial. It is highly likely that biometry will be affected by a pre-existing DED that effects the tear film. In addition, extra intraoperative considerations are required for eyes that have DED in order to lessen the likelihood of problems and enhance the outcomes of the postoperative period. The occurrence of dry eye disease (DED) is known to take place after cataract surgery that goes off without a hitch, and it is also possible for a pre-existing DED to become even more severe after cataract surgery. In these kinds of circumstances, despite the fact that the visual outcome is favorable, it is not uncommon for patients to be dissatisfied due to the uncomfortable symptoms of DED [10].

### **Conclusion:**

Ophthalmic nurses with extensive training can diagnose and identify a wide range of ocular diseases. Ophthalmic nurses can make a substantial contribution to the field of ophthalmology and visual sciences. These skilled nurses can help reduce the number of surgical operations that are cancelled on the

day of the procedure due to inadequate attention to health issues during pre-operative exams. In addition, they have the capability to conduct preoperative medical evaluations on individuals who are potential candidates for surgery. Moreover, their services would be advantageous in expediting the discharge of patients, hence reducing the financial burden on medical centers. Ocular nurses play a crucial role in healthcare systems by providing current ocular information and contributing to the education of general physicians. In addition, they can help individuals with blindness or visual loss by connecting them with national organizations that offer services and education. The primary characteristic of the anti-cataract chemicals that were examined, such as plant extracts and naturally-occurring compounds, is their ability to act as antioxidants and/or scavenge free radicals and/or reduce inflammation. The literature examined the impact of several types of natural and synthetic medicines on experimentally-induced cataracts, as well as the involvement of nursing and general physicians, in addition to providing an overview of the pathophysiology of cataracts.

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