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Keywords

Glaucoma; Optic neuropathy; Glaucomatous damage; Loss of vision

Introduction

Glaucoma is a chronic, progressive optic neuropathy where initially only the peripheral eld is a ected but with progression, when undiagnosed or inadequately treated, there is loss of central vision as well. e Intraocular Pressure (IOP) is known to be the most important modi able risk factor. e World Health Organization has estimated that 12.3% of world blindness is due to glaucoma [1]. It has been estimated that there will be around 112 million people with glaucoma in 2040 [2]. Being the leading cause of irreversible blindness, if the IOP could be controlled, reducing the rate of progression it is possible that the magnitude of blindness due to glaucoma could be signi cantly cut down. However, to control the disease, rstly it should be diagnosed. Majority of those in the developing world do not know that they have the disease [3]. is factor puts greater importance on screening to facilitate early initiation of treatment.

e prevalence of Primary Open Angle Glaucoma (POAG) in the general population among those over 40 years of age is low ranging from 1.6%-3.5% whereas that of Primary Angle Closure Glaucoma (PACG) is still lower at 0.2%-2.7% [3]. Diagnosing glaucoma also requires evaluation of multiple parameters like IOP, anterior chamber angle, optic disc, and visual elds. None of these in isolation can predict glaucoma with good accuracy and these tests need to be analyzed together [4]. erefore, screening general population for such a disease requiring multiple parameter assessment and with low prevalence becomes a challenge since it will be time consuming and cost prohibitive.

Glaucoma Severrlow

in 2014 [6]. In a developing country like India, our data suggests that there was little bilateral blindness, however, unilateral blindness was seen in 11% of new primary glaucoma patients [7].

Despite improvement in global healthcare, it was found that 60% of patients presented with advanced glaucoma in the better-seeing eye in Brazil [8]. Our own publication suggests that 40% had advanced glaucoma in at least one eye and 15% had bilateral advanced glaucom at presentation [7].

Risk Factors

It is therefore prudent to identify certain high-risk characteristics associated with greater severity or the presence of glaucoma. A study from Scotland showed that socio-economic deprivation and older age were risk factors for delayed presentation with glaucoma [9]. A retrospective review from London showed that AfricanCaribbean individuals, female gender, patients referred via any source other than an optometrist and those with higher presenting IOP are more likely to present with advanced glaucoma [10]. A study from Nigeria showed that greater distance from the hospital, poor literacy, unemployment, and presentation with symptoms were risk factors associated with end stage disease [11]. Reports from developing countries show that rural residence is associated with more advanced disease at presentatio [12]. Our own study in a developing world setting found several factors associated with late presentation among newly diagnosed

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Other Factors Contributing to Glaucoma Related Blindness

e idea of reducing glaucoma blindness does not stop with early diagnosis alone. Susanna et al. reviewed the reasons for developmer of glaucoma related blindness, the major ones being that most of the glaucoma is still undiagnosed and there is poor compliance to treatment. ey also noted that improper treatment of glaucoma could also play a part where either the glaucoma severity is underestimated, target IOP is not reached, IOP peaks are missed or due to di culties in evaluating the rate of progression [18].

It is therefore necessary to follow-up patients to ensure that they are compliant with the medication and to assess progression. Compliance is generally evaluated in terms of persistence and adherence. Persistence refers to the period of continuous medication use, that is, the time from the starting date to the end of the last dispensing of the initially prescribed topical medication until there is a gap in the supply. Adherence refers to the prevalence of use of the initial medication at various time points, that is, it evaluates the timely re lling of the medication. A study in the United States of America found that nearly half of patients on medical management discontinued the drops within six months [19]. Lee et al, identi ed that factors like absence of formal education, not using prescribed medications, poor personal concepts about the need for follow-up, perception s,