

INVESTIGATING CATARACT REFERRAL PRACTICES USED BY INDIAN OPTOMETRISTS

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ABSTRACT

Background: Optometrists are primary eye care practitioner and is gaining popularity as the first point of contact with the patients. However, little is known about the cataract surgery referral criteria used by optometrists in India.

Methods: 2574 Optometrists from India were invited to complete an online survey on cataract referral practice. The survey elicited information on practice demographics of optometrists and cataract referral considerations.

Results: Total respondents in the present study were 832. Respondents stated visual acuity of $\leq 6/12$ to $\leq 6/18$ as the benchmark for referring the patient for cataract surgery. Considerably lower proportion used glare and contrast sensitivity testing in cataract patients. Patient centred factors such as hobbies, driving, featured in the decision to refer patients sooner.

Conclusion: Although the reduction in the visual acuity was considered the prime factor affecting the decision making of Indian optometrists for referral for cataract surgery, patient's visual demands also played an important role.

INTRODUCTION

Cataract remains the leading cause of visual impairment in all areas of the world, except for developed countries [1]. Visual impairment has been recognized as an important public health problem in India, a country that is now home to a billion inhabitants [2-9]. India was the first country in the World to launch a 100% public funded programme for the Control of blindness [10]. The National Programme for Control of Blindness has emphasized the need for cataract surgical services and refraction services to be augmented, both in quantity and quality, in order to achieve the goal of eliminating avoidable blindness by 2020 [2-9]. A major portion of referral for cataract surgery in India is made by Optometrists. Optometrists are trained in various institutes and some of them have developed their own procedures and protocols for referrals [11]. Optometrist play a critical role in the identification and appropriate referral of cataracts requiring surgery; however the criteria optometrists use for the referral of candidates for cataract surgery to ophthalmologists have not been extensively studied in India. The aim of the study was to investigate the referral considerations of cataract surgery by Indian Optometrists. This study gives insight into factors like how socioeconomic factors, remoteness to healthcare, professional experience can impact cataract referral decisions of optometrists practising in India.

METHOD

This was a Cross-sectional Questionnaire survey of Optometrists practicing in India. A preformed questionnaire of Cataract referral practices^[12] of Australia was considered. It was modified and validated to be used in Indian scenario of practices. An email containing the survey link was distributed to 2574 optometrist in November 2015, explaining the purpose of the survey and inviting participation. A reminder email was sent to the entire sample six weeks after the initial invitation and the survey closed two week later. No financial incentive was provided for participation.

The survey consisted of total 28 questions. These include questions on patient's Visual acuity, contrast, glare, and symptoms of the patients. Optometrists were asked to rate the level of importance that factors had on their decision of where to refer their patients. Response frequencies were tabulated for all survey questions. The entire filled up questionnaire was entered in Microsoft Office Excel 2007. Mean and standard deviation were computed for Quantitative variable. Odds Ratio was computed for study parameters.

RESULT

The demographic data of 832 respondents are shown in Table 1.

Characteristic	Value	
Type	Intern	148
	Practitioner	684
Gender	Male	374
	Female	458
Age	Years	26.37 ± 5.43
Years in Practice	<= 5 years	607
	>= 5 years	225
Main Practice Type	Corporate	465
	Independent	367
Professional Scope Of Practice	General primary eyecare	582
	Specialty Practice	250

	Others	0
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TABLE 1: Demographic Data

The visual acuity at which the respondents prefer to refer the patients for cataract surgery is shown in figure 1. Visual acuity between $\leq 6/12$ and/or $\leq 6/18$ was a common benchmark for cataract referral with 72.69% of respondents reporting referral at this level of vision. 87% of the respondents prefer not to consider contrast sensitivity testing in decision for cataract referral. 71% of the respondents consider the factor of accidental falls of the patient in the referral for surgery.

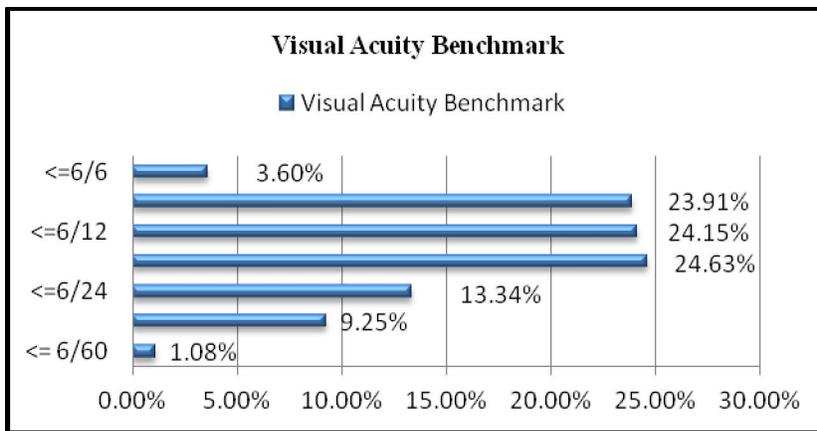


Figure 1: Visual Acuity referral

Factors affecting decision on “when to refer patients for cataract surgery” is shown in figure 2. A significant proportion of optometrists reported that patient lifestyle and health system influenced their urgency of referral for cataract surgery. Of the life style factors presented, patient’s enthusiasm (72.11%) for surgery elicited the highest percentage of respondents who would “refer urgently and refer sooner” followed by patients having high visual demand (56.85%), patient’s current employment status (50.84%) and patient’s driving dependence (42.78%) factor. There was no influence on factors of continued less vision in the eye after surgery. The factors which had the greatest influence on a decision to delay referral were patients not wanting surgery, patient drives but not dependent, and patients wanting to go on public waiting list for cataract surgery.

Factors influencing urgency of referral for cataract surgery

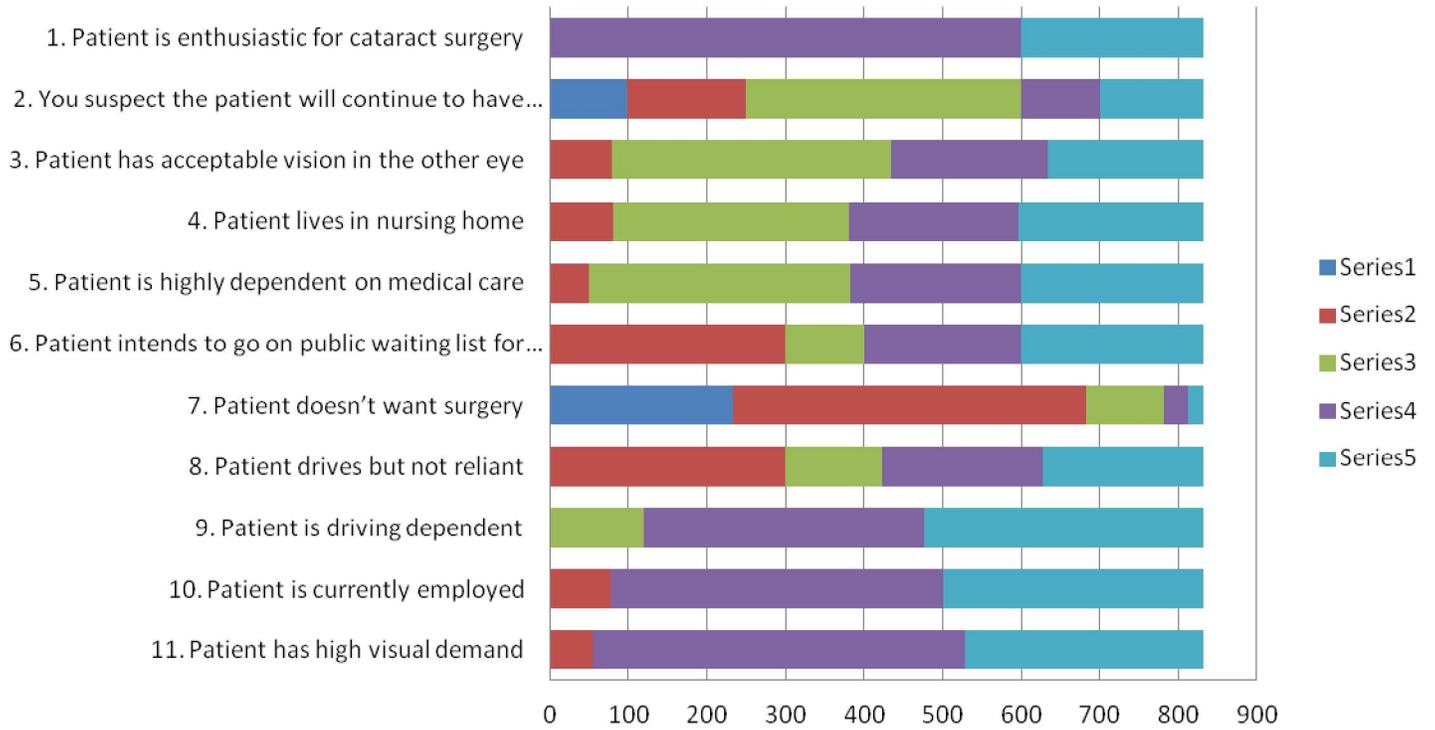


Figure 2: Factors influencing urgency for referral

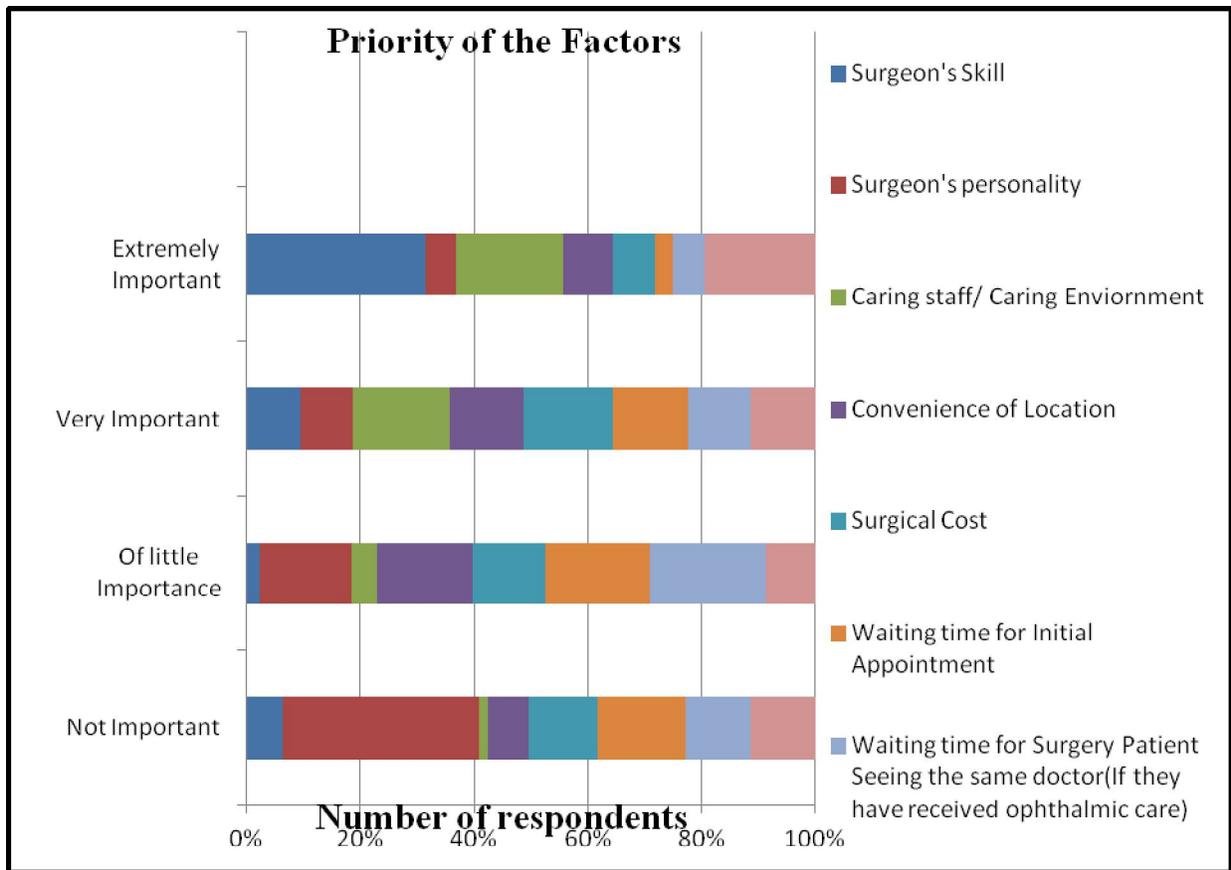


Figure 3: Factors affecting patient referral

Figure 3 shows factors affecting decision on “where to refer patients for cataract surgery”. Factors influencing the optometrist’s choice of referral location were also examined. Surgeon’s skill was ranked ‘extremely important’ by the highest proportion (61.53%) of optometrists in deciding where they referred patients for cataract surgery. Waiting time for patient seeing the same doctor (If they have received ophthalmic care) was ranked to be “Of little importance” (42.90%).

The opinion of the respondents as to where they chose to refer Cataract patients for surgery is shown in figure 4. Surgical cost was considered for the surgery while referring the patient. Odds ratio with respect to the referrals to private and public hospital is 1.07. This means that the

specific referrals to private hospitals are 1.07 times more than public hospitals.

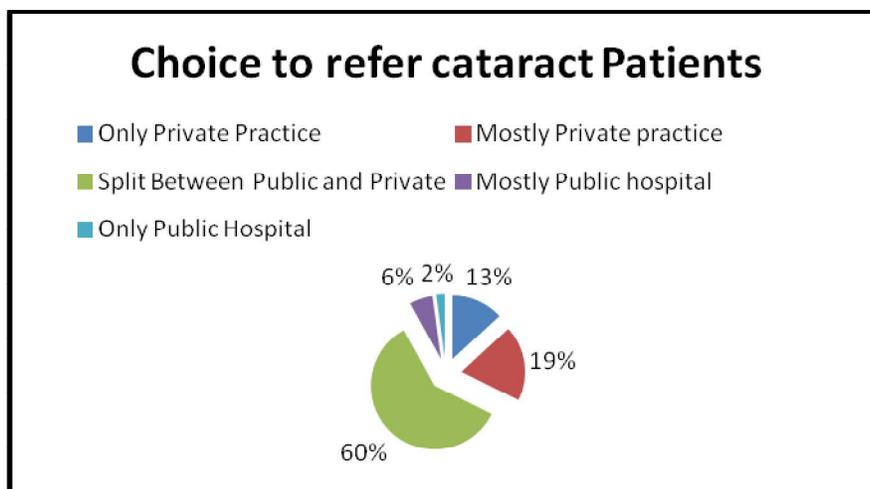


Figure 4: Choice of referral

DISCUSSION

In our knowledge this was the first study conducted among the Indian optometrist for cataract surgery referrals. The standard guidelines for cataract surgery includes the criteria of Visual acuity, contrast sensitivity and glare testing ^[13]. The patterns of referrals followed by Indian optometrists are mainly based on Visual Acuity and contrast sensitivity. Glare testing is not preferred by most of the optometrist for referral. Emphasis should be equally laid on glare testing as it is affected earlier than visual acuity. Testing for glare and contrast should be performed to rule out the signs of cataract which affect the daily activities of the patient and help to maintain the record for the subsequent follow up visits to detect the changes. The aim of these guidelines is to identify good clinical practice, set standards of patient care and safety and provide a benchmark for outcomes within which high quality cataract surgery can be practiced. They represent the current understanding of the guideline development group.

In the present study the optometrists in India prefer to refer the patients having visual acuity between $\leq 6/18$ to $\leq 6/9$. This criteria is close to the criteria followed by both the optometrists and ophthalmologists of West Midlands ^[14]

In the present study 71% respondents have considered the falling history of the patient in decision making for the referral for cataract surgery. In the study "Prospective study of the rate of falls before and after cataract surgery" by S Brannan, C Dewar et al ^[15] concluded that there was significant reduction in the risk of falls in patients after cataract surgery.

Patient's hobby which has high visual demand is one of the most important factors influencing the urgency of referral for cataract surgery followed by driving dependency of the patient and current employment. Comparing the present study with that of QuangDoV, Li R et al ^[12], it can be said that the referral criteria is broadly similar in case of patient's hobbies for driving, visual acuity benchmark. According to the present study the specific referrals to private hospitals is 1.07 times more than public hospitals. In the study by QuangDoV, et al ^[12] respondents practicing in more advantaged socioeconomic areas were 2.4 times more likely to refer privately. Surgeon's skill, caring staff are the extremely important factors influencing optometrists' decisions on where to refer for cataract surgery whereas surgeon's personality has minimal importance. Priority is more for private than for public hospitals. Waiting time for surgery is also considered in selecting where to refer the patient. Socio economic status is the only

predictor of whether an optometrist chooses to refer patients publicly or privately for cataract surgeries. Factors affecting the referrals may include the surgical costs at private sector, and the large waiting times at public hospitals prior to the surgery.

The target of NPCB (State wise targets & Achievement for various eye diseases during 2015-16) cataract surgeries is 6600000 out of which 2511867 is achieved. Still 4088133 is the backlog in achieving the goal of the target surgeries in India (As per NPCB data) ^[16]. According to Guidelines for Quality Cataract Services- National Programme for Control of Blindness Health & Family Welfare Department Government of Gujarat 2014^[17], gave the subjective and objective criteria for patient selection for cataract surgery. Practitioners frequently make clinical decisions based on changes in visual acuity. However, acuity is recognized to be only one aspect of visual performance. High frequency contrast sensitivity charts are even more sensitive to refractive blur. Despite of proper refractive correction, some patients will complain of a visual problem but no visual anomalies. This is common with early cataract patients ^[18]. These guidelines are not widely followed and the awareness of these guidelines is very low.

Awareness among the optometrist regarding the referral patterns for all the eye conditions which may require the involvement of an ophthalmologist. Formation of the council to regularize the level of academic activities should be done. Hence, increasing the number of the referrals for the cataract surgery may become helpful to the programme VISION 2020: RIGHT TO SEE to achieve the target. Referrals can be increased by properly screening the patients at various sectors. However the population at the urban area is educated enough to consult an eye care practitioner, but the patients of cataract in rural areas are totally unaware of their condition. Thus, regular eye camps at such places should be conducted and the patients should be referred if needed. Coordination between the ophthalmologist and optometrist also plays an important role. Integrated eye care delivery models typically work by having ophthalmologists and optometrists together in the same practice or institution, where either can see patients at any time. Integrated models do not raise the same legal issues involving referral and postoperative care. This is the stepping stone towards achieving the goal of VISION 2020 to eradicate blindness due to cataract.

The role of optometrists as a first point of contact for patients in the cataract referral pathway places them in a key position to positively influence surgical candidate selection, the subsequent efficiency of surgical processes and the satisfaction of patients with their surgical journey and overall outcomes. By understanding and documenting the current cataract referral practices of optometrists in India, this research provides a foundation for building more effective and efficient management strategies for patients with cataracts and will help to achieve the goal of VISION:2020.

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