

**Research Article**

## **Preferential and Non-Preferential Reasons for Opting Contact Lens**

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### **ABSTRACT**

Contact lens plays a major role in providing natural vision to the millions of users worldwide with many advantages like clarity, cosmesis, wide field of vision along with other optical properties. Despite advantages and the increasing popularity of contact lens the use of spectacles still remains the most popular method of correcting refractive error. The confounding factor to avoid contact lens depends on various reasons which differ with individuals. The objective was to explore the factors that influence individual's decision in preferring or avoiding contact lens. It was a multicenter survey based study, in which the response was collected from 250 individuals. Multiple options were given to the participants, among which they were asked to choose only one appropriate reason for the preference or non preference for contact lens. It was observed that comparatively less proportion of subjects preferred to use contact lens than spectacles. Cosmesis, comfort and clarity and motivation were found to be the main reasons for individuals to opt for contact lenses. Care and maintenance was found to be the major barrier for uptake of contact lenses, followed by lack of proper professional advice and being not aware of the option of contact lenses. It could be concluded that the availability of qualified eye care providers in sufficient numbers can ensure standard eye care practices that might reduce contact lens associated challenges including care and maintenance. Spectacle wearer and prospective candidates should be educated on contact lens, emphasizing positive attitudes and practices, thus eliminating unfounded fear of contact lens during consultations.

### **INTRODUCTION**

Refractive error can be corrected by spectacles, contact lens or by refractive surgeries. Each of these options has its own advantages and disadvantages. Spectacles are the most commonly used form of refractive correction since they are considered to be the simplest of the three options. Although there are existing inequities in the availability of this choices between urban and rural areas (Dandona and Dandona, 2001) all three forms of corrective options for refractive error are easily available in developing and developed countries. However the selection from this choice of options absolutely varies with individual depending on various factors (Riley and Chalmers, 2005) like affordability, place and nature of work, profession, socio-economic status and hobbies.

Of these corrective options, Contact lens has been playing a important role in providing vision to the millions of users worldwide with many advantages like comfort, convenience, quality vision, wider the field of view and other optical advantages over spectacles (Jimenez *et al.*, 2011). Apart from natural look it also opens the door for unlimited choice of sunglasses.

It is estimated that around 125 million all over the world use contact lens as a primary form of refractive correction. Contact lens research from past few decades enormously increased advancements in terms of both quality and quantity with various designs and materials

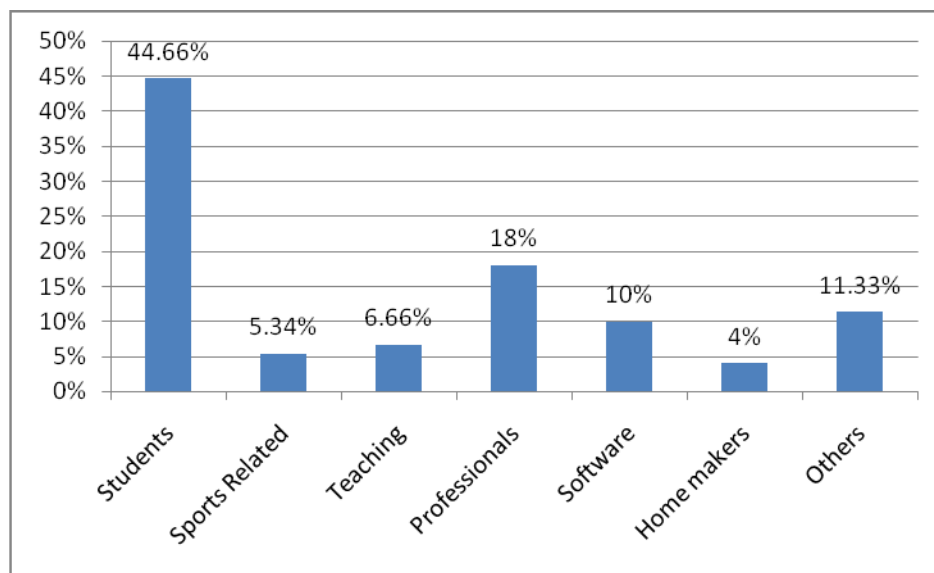
(Key, 2007). Despite its advantages and the increasing popularity of contact lens the use of spectacles still remains the most primary method of correcting refractive error.

Although many studies has observed fear of complications (Chawla and Rovers, 2010) and cost (Dandona and Dandona, 2001) as the confounding factor to avoid contact lens, these reasons for selecting corrective options varies from place to place and individual to individual. To explore the characteristics and the factors that influence patient's decision in preferring or avoiding contact lens within individuals in and around Hyderabad. This not only helps to identify and understand the cause for avoiding the contact lens among individuals but also it helps to develop necessary methods to further improvise the scenario.

### **MATERIALS AND METHODS**

It is Multicenter randomized survey conducted between September 2010 and January 2011. The participants aged between 18 to 35 years were randomly selected in survey which included the individuals who attended the eye hospital, optometry clinics, camps and also relatives and friends in and around Hyderabad. Subjects aged less than 18 years and greater than 35 years

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**Figure 1: percentage of individuals with various occupations involved in the survey**

were excluded from the study considering that the former group will have difficulty in understanding the questions and latter group will be affected or biased with the Presbyopia as it plays an important role in choosing a contact lens. All the subjects were explained about the pros and cons of the contact lens and an informed consent is drawn by the qualified optometrist before taking the response.

The survey that have been organized into multiple domains containing demographic data, history of Contact lens or spectacle wear and the reason for choosing or avoiding contact lens. Multiple options were given to the subjects, among which the subject was asked to choose one appropriate reason i.e. the main reason in choosing or avoiding contact lens. The various options for the individual who selected for the option of preferring contact lens included not interested in glass wear cosmetic appearance, comfort and clarity, inconvenience with glasses, motivation and eye condition.

Likewise, the various options for the one who is not preferring contact lens comprised, cost of contact lens, care and maintenance, complications due to contact lens, interest for refractive surgeries, no access to well qualified professional, intolerance to contact lens and solutions, demotivation and eye condition.

**RESULTS AND DISCUSSION**

The results were obtained from total 250 individuals with various occupations among which 60% were females and 40% were males. During the time of survey

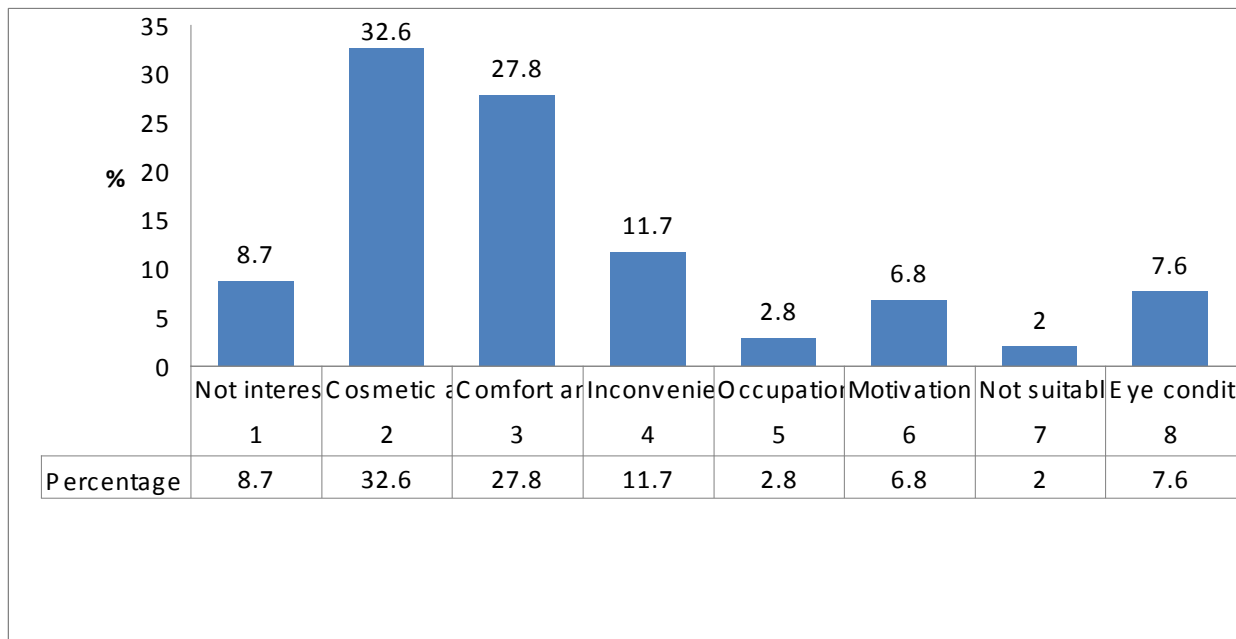
149 subjects (59.4%) were using spectacles, contact lens by 69 subjects (27.3%), 19 (8%) were using both corrective options and few 13 (5.3%) individuals did not use neither of refractive corrections. Most of the respondents in this survey are students of about 44.66% and then followed by professionals of 18% and other occupations with least number of home makers (Figure 1). Out of the total 250 respondents, 105 subjects (42%) have preferred to use contact lens and remaining 145 subjects (58%) avoided using contact lens.

Figure 2 and 3 shows various reasons selected by the participants in the survey in preferring or avoiding the contact lens. The most common factor for opting contact lens was found to be highest for cosmetic reasons of about 32.6% (34) and followed by comfort and clarity 27.8% (29). The other reasons quoted are inconvenience with glasses 11.7% (12), not interested in glass wear 8.7% (9), eye condition 7.6% (8), motivation 6.8% (7). The least reason for choosing contact lens is found to be occupational needs and when a person is not suitable for refractive surgery.

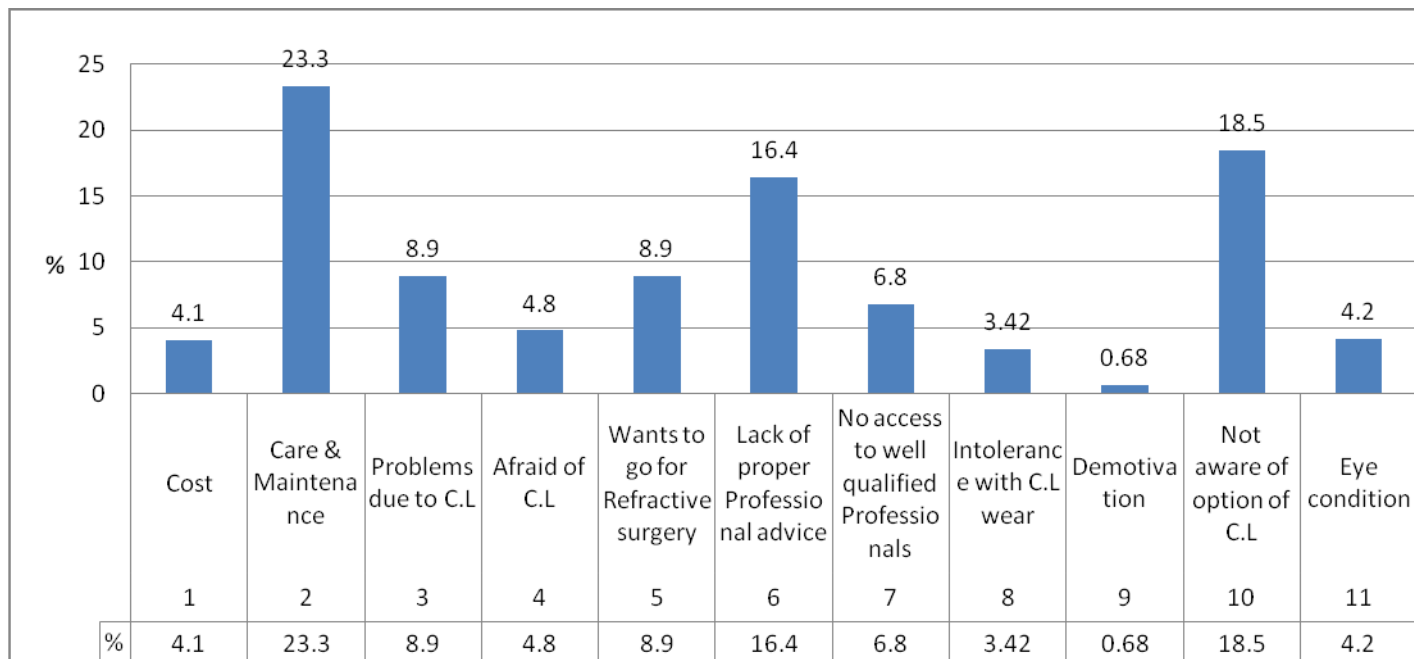
The three common factors which are found to be responsible for not opting or avoiding contact lens are care and maintenance of 23.3 % (34), subjects not aware of CL option 18.5% (27) and lack of proper professional advice 16.4%(24). However, there are other reasons like cost, eye condition, intolerance with CL wear and demotivation, but those are negligible.

Contact lens mostly found to be worn by the students (21-25 yrs) and professionals between 26-30 years. Mostly, inconvenience with glasses, is seen in

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**Figure 2: Reasons for opting contact lens**



**Figure 3: Reasons for avoiding contact lens**

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Contact lens mostly found to be worn by the students (21-25 yrs) and professionals between 26-30 years. Mostly, inconvenience with glasses, is seen in occupations like software professionals, homemakers. In case of software professions where most of the males had difficulty with glasses had opted for contact lens. Most of the home makers were interested in refractive surgeries rather than spectacles or contact lens. This might be because of their busy home tasks and their day to day activities requiring adjusting of spectacles or maintaining of contact lens most frequently which they considered as a disturbance to their work. The results were found to be similar with the previous telephonic survey based study done in households (Edwards *et al.*, 2009). Participants involved with Sports are very much worried about care and maintenance of contact lens. So, they are more interested in refractive surgeries than choosing contact lens.

Females are mostly worried about cosmesis and prefer contact lens mostly for cosmetic reason when compared to males. Professionals in age group of 26-30 years lead an active life style and having a busy schedule are mostly concerned with care and maintenance and problems arising due to contact lens wear, restricts themselves from contact lens wear. The age group of 31-35 years consisting of businessmen's, farmers and illiterates are not opting for contact lens because they are not aware of the option of contact lens. This reason also holds true for home makers of age groups 26-30 years for not preferring contact lens.

### DISCUSSION

Although spectacles contact lens and refractive surgeries are equally common forms of refractive correction (Bowers, 2008). Of the three corrective options, our survey showed that 59.3% are wearing spectacles then followed by contact lens and refractive surgery. Of the total surveyed 60% females are contact lens users which is of almost same percentage (79.5%) seen in a cross-sectional study in coastal Karnataka. In all the occupations students are found to prefer contact lens at higher percentage (Unnikrishnan and Hussain, 2009). 21.8% used contact lens in Singaporean community which correlates with the present study in which 27.3% have been found wearing contact lens (Lee *et al.*, 2000).

In a series of survey based studies it was found that convenience and cosmesis were the main reasons cited for contact lens wear especially in students which is also the main reason for opting contact lens in our study (Lee *et al.*, 2000). Since there is no other option for improving the vision because of eye condition like keratoconus 7.6%

have choose to wear contact lens. Only 6 % of subjects are motivated towards contact lens through the practitioner which shows the practitioners inability to explain the options available to them. So Practitioners need to proactively stress on care and maintenance through a discussion as subjects are lacking proper advice which is considered as high priority for the success rate (Ioannis and Anna, 2010).

The most bothering things for not wearing contacts as a vision correction are care & maintenance and their complications (Szcotka-Flynn, 2005, Unnikrishnan and Hussain, 2009). In spite of good socio-economic status due to the lack of awareness and proper professional instructions most of them are not showing interest in use of contact lens. A study done by London business school states that contact lens are expensive than spectacles (Ritson, 2006) however, in the present study it was found only about 4% of the total population are not preferring contact lens as they are cost effective. Even though 42% are using contact lens, there are some kind of symptoms like redness, watering, CL deposits and dryness noted in about 8.9% of individuals which made them to avoid contact lens. This factor was also found by Chawla *et al* in a study done in chennai population.

As per W.H.O. estimates, the minimum requirement of optometrist in India is 40,000. But current data reveals that India has only 6,000 optometrist and 12,000 ophthalmologists. So this might be one of the reason for people to choose the option of "no access to well qualified professional."

Thus the availability of qualified eye care providers in sufficient numbers can ensure standard eye care practices that would reduce incidence of spectacle dispensing and reduce contact lens associated challenges including care and maintenance Spectacle wearer and prospective candidates should be educated on contact lens, emphasizing positive attitudes and practices, and eliminating unfounded fear of contact lens during consultations.

The major limitations of the present study are less sample size and unequal proportion of individuals with different occupations. The modality of CL type (daily disposable, bi-weekly, monthly or conventional), type of refractive error (myopia, hyperopia and astigmatism) and quality of vision were not considered.

This survey based study provides a gross idea of preferring and non-preferring reasons for using contact lens in individuals with different occupations. As expected care and maintenance has been found as the most common reason to avoid contact lens which if the individuals were educated about them might change the scenario. This

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indeed helps an optometrist or a contact lens practitioner in developing their professional skills and motivating patients to use contact lens there by reducing the fear from care and maintenance and other factors.

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