A Case Study of Contact Lens Wearers - Awareness and Compliance

Meghna Verma, Satyendra Singh Sachan, Nidhi Agarwal
Faculty of Paramedical Sciences, Rama University, Mandhana, Kanpur, U.P India

ABSTRACT

Purpose: To assess the contact lens compliance rate by using a self-administrated validated questionnaire, the level of awareness, compliance & detectable behavioral changes, patterns or trends in contact lens users.

Methods: A questionnaire, Cross sectional prospective study to understand the compliance in contact lens wearers, the questionnaires were distributed randomly among the users at various clinical & optical outlets. Based on various studies, and taking into account time constraints the sample size of 50 was taken. The mean age of 24 years was taken without any ocular pathology and systemic disease affecting the ocular health.

Result: 87% of the individuals in the study preferred the monthly approach, whereas just 13% selected the conventional yearly replacement lens option. When the average wear time was taken into account, 64% of the participants demonstrated non-compliance and extended their wearing schedules past 8 hours. 38% of contact lens wearers were not giving their lens cases the best possible care. Better cosmetic appearance was considered the most essential factor by 50% of the individuals, while better vision and cosmetic appearance were evaluated as equally important by 25% of the subjects. 68% were aware that extended wear contact lenses were available to use while you sleep. Patients who are more motivated to wear soft contact lenses are found in optical stores.

Conclusion: Cost and convenience are two factors that must be considered when educating patients about proper lens care regimens. In addition, compliance is more likely if the patient is satisfied with the medical visit.

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INTRODUCTION

In any medical field, a major issue is when patients do not follow instructions. Compliance with contact lenses is crucial since it affects both the long-term viability of the device and the health of the wearers' eyes. According to Ramamoorthy (2014), the main areas of non-compliance were improper use of solutions, excessive contact lens usage, inadequate follow-up care, and poor hand and lens case hygiene. Over the last forty years, contact lens patients have had easier care and upkeep thanks to the development of single solutions like Multiple Solutions, which replaces various daily cleaners, washing solutions, and weaker protein remover when cleaning contact lenses.

Daily-disposable contact lenses offer the advantages of convenience, lack of contact lens care supplies and cleaning regimens, and the ocular health benefits associated with the frequent replacement of contact lenses (Suchecki 2000). It was shown that patients can forget one third to one half of the instructions and advice they are given, within minutes of completion of their Consultation. A review of the literature found overall rates of non-compliance with medical regimens varies from 24.8% to 44%, and the rates reported for contact lens wearers varies from 50% to 99% (Sokol 1990). Patient's awareness regarding availability of newer developments in Contact lens and contact lens complications also determines patient's Compliance towards contact lens wear (Ramamoorthy 2014). The availability of

contact lenses online contributes to their hazardous use (Fogel 2008). Purchase locations for contact lenses included doctor's offices (43.1%), stores (55.0%), and the internet (22.5%), with customers making numerous purchases. When it came to following the FDA's guidelines, people who bought contact lenses from a doctor's office followed them more frequently than people who bought them from stores or online.

Patient's education regarding care and maintenance plays an important role in compliance of patient to lens wear. Up to 80% of contact lens complications can be traced to poor patient compliance with recommended lens care guidelines (Bui 2010). Forty-Four percent of this group wore contact lenses for therapeutic reasons; the remainder wore them for either cosmetic reasons (34%) or convenience (22%). In the study by DiMatteo, variables such as age and sex were inconclusive, but it appeared that females were more compliant than males (Ley 1982).

MATERIALS AND METHODS

Using a self-administered, validated questionnaire, 50 students participated in this cross-sectional prospective study, which took place in optical stores, hospitals, colleges, and training facilities between September 2021 and February 2022. An ethical board approved the study on contact lens wearers' compliance. With a mean age of 24, the study covered the age range of 18 to 32. Prior agreement was obtained, and participants were informed of the study's significance.

A routine eye examination was performed including visual acuity, Retinoscopy, subjective refraction, colour vision assessment using Ishihara, Fundus examination was performed using 90 D lens after dilatation. All ocular pathological cases were excluded in the study, Systemic disease affecting the ocular health were also excluded from the study. Collected data included demographic details, previous ocular history, and Family ocular history and general systemic history were recorded.

QUESTIONNAIRE

1) From how many days/months/years are you using Contact Lens?
2) Which brand of Contact Lens are you using?
   a) Bausch and Lomb
   b) Johnson & Johnson
   c) CIBA Vision
   d) Others
3) Which types of Contact Lens are you using?
   a) Yearly
   b) Disposable
   c) Don't know
4) After how many days do you discard your Contact Lens?
5) How many hours do you wear Contact Lens?
6) Have you ever slept overnight with you contact lenses how many days in total?
7) Whom would you go to if you had a red eye and thought it was due to your Contact lenses?
8) From where did you take your Contact Lens?
   a) Clinic
   b) Optical out-let
   c) Online shopping
9) What is the power of Contact Lens not aware
10) Why do you wear Contact Lens?
   a) Cosmetic reasons
   b) for good vision
11) In how many days do you clean your Contact Lens storage case?
12) How many times do you clean your Contact Lens?
13) How did you come to know of Contact Lens?
14) Do you know that lenses are available that can be worn during sleep?(yes/no)
15) Which solution do you use to clean your lenses?

RESULTS

A total of 50 Indian subjects were assessed on awareness, compliance & detectable behavioral changes, patterns or trends in contact lens users. The mean age of the subjects is 24 ± 6 years. Monthly disposable contact lenses are the most preferred modality for this age group, a majority of 87% of the subjects studied, preferred the same modality and 13% preferred conventional yearly replacement lenses. Considering average duration of wear 64% of the subjects showed noncompliance and prolonged their wearing schedules beyond 8 hours. 38% of the contact lens users were not taking optimum care of the lens cases.

A majority of 50% of the subjects rated better cosmetic appearance the most important factor, while 25% of them rated cosmetic & better vision equally important & motivating for their regular use of contact lenses. 68% knew the availability of extended wear contact lenses that can be worn during sleep. More than 50% approach

Ophthalmologist in case of red eye during contact lens and 33% consult prescribed optometrist in optical in case of any complication with the contact lens. Optical outlets are the places where the patient is more motivated for soft contact lens 55% then from their friends by 24%. A majority of 87% of the subjects studied, preferred the same modality as shown in figure 1 and 13% preferred conventional yearly replacement lenses. The contact lens wearers prefer to make their purchase at optical outlets. They are very well aware of and convinced about the use As per figure 3.

of disposable Contact lenses. They mostly seek and adhere to the recommendations given by optometrists or ophthalmologists (Fogel 2008).

The study group showed a high percentage of noncompliance to the general instructions given regarding care and maintenance. Considering average duration of wear 64% of the subjects showed non-compliance and prolonged their wearing schedules beyond 8 hours. 38% of the contact lens users were not taking optimum care of the lens cases.

Figure 1 Preferred modality of contact lens

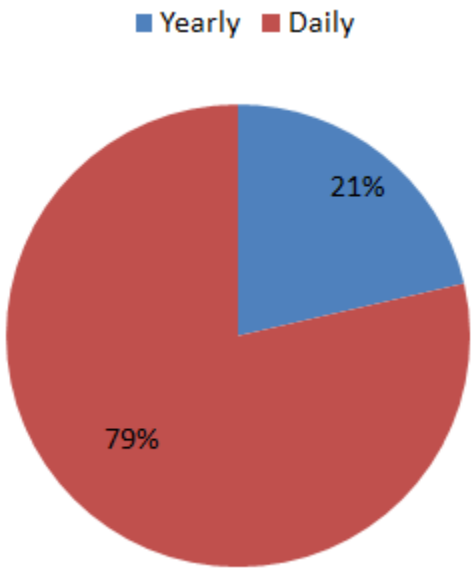


Figure 2 Hours of wear in a day

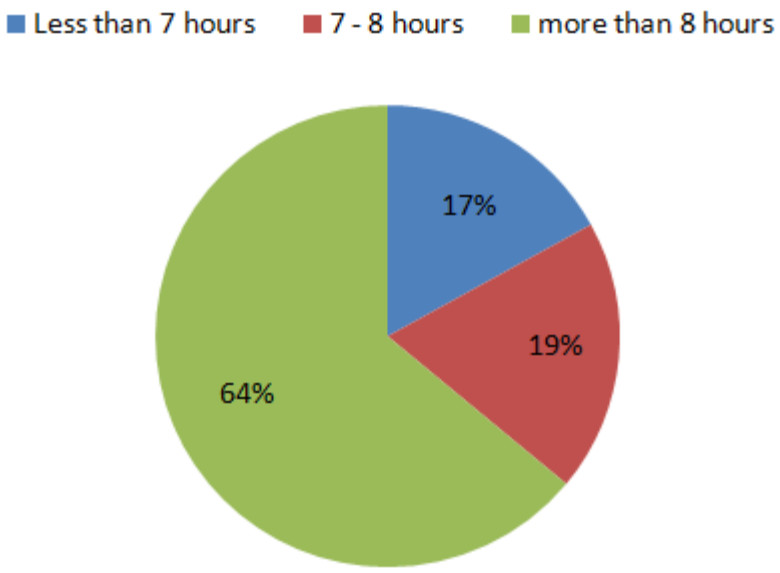
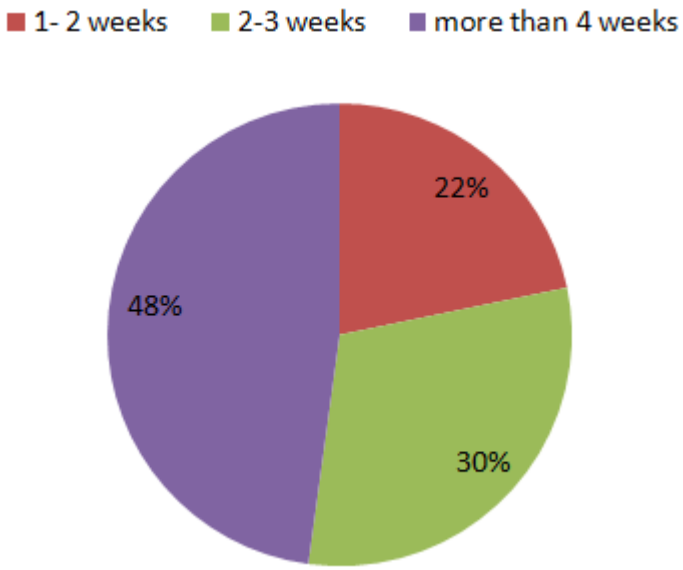
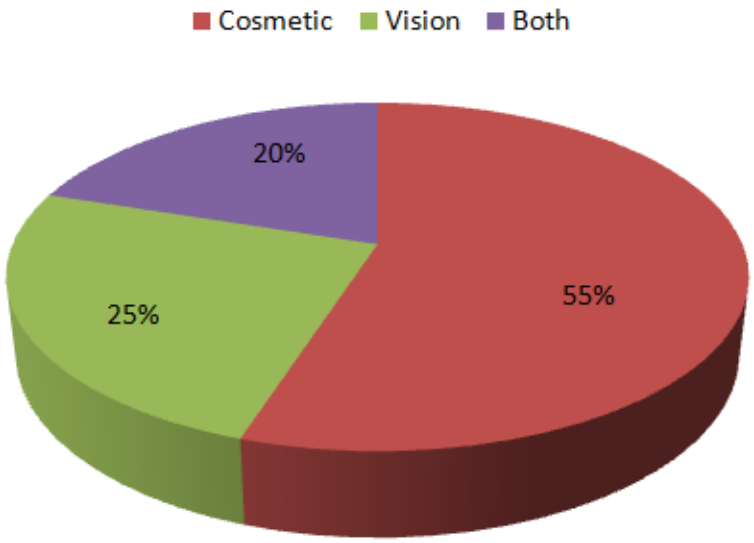


Figure 3 Lens case cleaning interval





Better cosmetics continue to be the primary driving reason for the usage of contact lenses, as this survey demonstrates. Better cosmetic appearance was ranked as the most significant factor by 50% of the individuals, while better vision and cosmetics were evaluated as equally significant and motivating factors for 25% of the subjects' frequent contact lens use. Better cosmetics are more essential to most people, yet they are unsure of their preferences in later life, i.e. when one is presbyopic.

On this point, 58% of the respondents were considered to be unsure. The main cause of that can be ignorance. The persistent misconception that contact lenses are primarily used for cosmetic purposes. It is important to educate people who wear contact lenses about the benefits of improved eyesight over spectacles and the broad factors that contribute to this. The user's education must now be more in-depth and educational. Sixty-eight percent were aware that sleep-wearing extended use contact lenses are available.

Figure 5 Awareness of extended wear contact lens

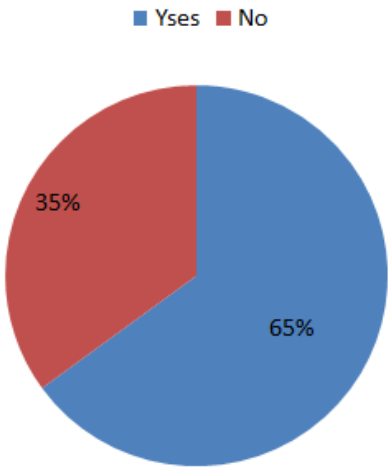
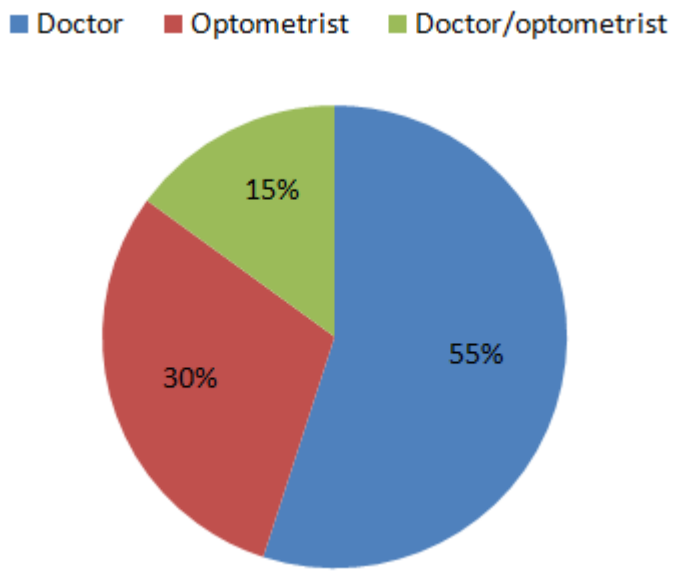


Figure 6 Consultation in case of red eye



More than 50% approach Ophthalmologist in case of red eye during contact lens and 33% consult prescribed optometrist in optical in case of any complication with the contact lens. Optical is the places where the patient is more motivated for soft contact lens 55% then from their friends by 24 %. It is seen that very few patient are motivated for contact lens from clinics because of the refractive surgeries are more preferred by the doctors. It was seen that highest level of non-compliance was seen in subjects using cosmetic contact lenses in terms of cleaning the lens and lens storage case as they used their lenses occasionally.

DISCUSSION

The noncompliance with the contact lens replacement schedule, cleaning protocol, lens case cleaning, and wearing duration was brought to light. The risks of sleeping with contact lenses, the availability of multifocal and extend wear lenses, and who to contact in the event of a contact lens issue were all addressed as ways to raise awareness of contact lenses. Regarding the fact that the lens they are using has a clearly labeled trade name on the lens box, it was significant to observe that the majority of the subjects were only aware of the brand name of the lens manufacturer—Bausch & Lomb or J&J. This might be the case because they only see the lens box when a new lens is needed.

Prior university research demonstrating a high rate of compliance with follow-up visits could be attributed to the free contact lenses and solutions provided to study participants as well as the optometrist's extra valuable advice. It is crucial to take into account the definition of compliance evaluation technique when comparing study outcomes (Donshik 2007). Being aware does not always mean that the wearer of contact lenses is complaining. Our analysis also demonstrates a high degree of awareness based on the previously listed criteria. This might also be the result of a larger sample size of students chosen. However, the degree of compliance is not very high for the same.

These results suggest that the conventional contact lens techniques used in our study area are not the most effective. Another problem is the inadequacies in enforcing the intended behavior from contact lens wearers. These tasks become severely ignored over time, which worsens compliance levels even more (Bui 2010). Expert advice is more accurate and sticks in the user's memory for a longer period of time. They ought to be urged to avoid intermediaries, who

offer no advice on the matter, and to always see an optometrist before making any further purchases.

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