

Tutoring Contact Lens Care: An Integral Part of an Optometrist in the Eye Health System

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ABSTRACT

One of the most promising methods for correcting refractive errors of the eye is the Contact Lenses right after the spectacles. For every change being done in the contact lens designs whether its materials or its manufacturing properties or varying the designs, patients' comfort and quality of vision has been always considered the priority. Even after numerous alterations and modifications have been done we still face a massive dropout in contact lens wearing cases every year. Surveying the various studies has shown us the major reason behind CL dropouts was primarily ocular redness, followed by burning sensation, discharge, stinging sensation, a significant drop in VA, and many as such. The purpose of this short communication is to make optometrists aware of their role in counseling and provide proper communication of contact lens teaching along with providing proper training to the patients regarding how improper handling of contact lenses is causing a major drawback to society causing a rapid increase in CL dropout cases.

Keywords: *Contact lens dropout, complications, instruction on wearing contact lenses, handling of contact lenses, ocular surface*

INTRODUCTION

Contact lenses are considered to be the commonest modes of correcting refractive error of the eye right after the spectacles. Prescribing contact lenses is quite easier for a patient in improvising the quality of vision in aspects of correcting vision at various fields of gaze and correcting oblique astigmatism and it also helps in avoiding the prismatic effects induced in the anisometropic eyes, where the spectacles prove to be unsuccessful. No matter how much variations you do with a contact lens by changing its materials, designs, material properties, etc the ultimate level of comfort can only be analyzed when we ask a patient to wear the lenses for more than 10-12 hours a day ideally. Studies show that among contact lens wearers often there are a huge amount of contact lens dropouts in a year. The most plausible reason has been found

among them is induced redness in eyes due to improper hygiene being maintained accompanied by misconducting methods being used to maintain the lens as well as the lens cases. The purpose of this writing is to summarize the current scenario related to the frequency of CL dropouts and the factors associated with it. We usually ask the patients to wear contact lenses for at least 10-12 hrs in a day where the amount of wearing time varies according to the type of lenses being suggested. As already discussed earlier, Contact lenses provide huge benefits for both children and adults, which include improving one's overall visual satisfaction, ability to play sports, and one's overall self-perception. ^{1,2}Studies done by Smith MJ et.al. and Walline JJ et.al. also suggest that two contact lens-based options, soft multifocal, and overnight orthokeratology contact lenses can slow down a child's myopic

progression,^{3,4} which has been considered to play a major public health victory as it reduces the overall amount of myopia with simultaneous improvement in overall visual performance causing the reduction in the development of vision-threatening conditions later in life.⁵ Thus, ensuring that every contact lens practitioner must be successful enough in providing proper lenses to the patients according to their needs is now more important than ever. Various studies have already been done in that case and it has already been noted that most of the contact lenses' comfort and discomfort can only be noticeable to the patients when they were the lenses for more than 10 hours in a day. The most common complaint that has been found among the patients has induced redness in the eyes, due to maintenance of poor hygiene accompanied by misconducting methods being used during the maintenance of the lens as well as the lens cases. These malpractices are often noticed or observed by the practitioners.

Even after the dominating success of Contact Lens wear by the various modifications and design enhancements been done on the lenses, it has been noticed that even after dispensing contact lenses every year we face a huge amount of contact lens dropouts among the wearers which is a huge question regarding the successful practice of contact lens wear. Looking after the complications and the subsequent challenges faced by the wearers we have briefed here on the basics of lens dropout. The cessation of contact lens use is also commonly referred to in the literature as contact lens dropout.⁶ To face such challenges several modifications have been done both in the contact lens designs and as well as in its materials but still, the industries have failed to curb the contact lens dropout cases across the world.^{7,8} which would have subsequently allowed practitioners to better meet the requirements of their patients.

Exploring the literature it has been found that since the introduction of reusable soft contact lenses several key factors related to the frequency of contact lens dropout. A study

done by Weed et al (1993) surveyed contact lens wearers in Ontario, Canada determined the frequency of contact lens dropout.⁹ This university-based survey received responses from 568 subjects and found that 51% of subjects had a history of contact lens dropout cases with 48% who tried to return to contact lenses primarily for cosmetic reasons. On further study in the survey, the reason behind the dropout is due to ocular discomfort and irritation. A later study done by Briggs (1996), performed a survey of 200 patients with a history of contact lens dropouts from Saudi Arabia within the past 10 years, and it was found that the top reason for contact lens dropout was ocular discomfort, followed by inconvenience, poor vision, cost, and refractive surgery.¹⁰

As per our earlier discussion, looking at the dropout results, huge advancements have been made regarding the modifications of contact lenses where the introduction of silicone hydrogel lenses has been started on the market. Later on, multiple studies failed to provide support for silicone hydrogel contact lenses Study done by Richdale et al (2007) analyzed contact lens dropout in a sample that contained silicone hydrogel contact lens wearers in the United States.¹¹ Specific symptoms were noted by the subjects which included: discomfort (69%), dryness (59%), grittiness (37%), itchiness (21%), photophobia (21%), soreness (24%), and pain (21%), contact lens cost or convenience (33%), and poor vision (14%).¹¹ After looking at the huge amount of contact lens dropouts cases study done by Sulley et. al. (2017) concluded that practitioners should actively investigate every contact lens patient regarding how they are using and what problems they are facing while using the lenses in the eye and must try to solve the problems of the lens wearers.¹² A study done by Sulley et al (2017) reviewed patient records where practitioners reported huge dropout rates of contact lens wear.¹² After reviewing these cases it has been noticed that, a thorough evaluation of the ocular surface is required to determine potential risk factors causing ocular

discomfort which includes signs of dry eye disease, meibomian gland dysfunction, not only after fitting a contact lens patient, regular follow up visits or calls which readily makes the part of our job easier in allowing the patients comfortably wear contact lens for prevention of future dropout. We should also provide psychometrically validated questionnaires such as the Contact Lens Dry Eye Questionnaire (CLDEQ)-8 or Standardized Patient Evaluation of Eye Dryness (SPEED) to screen patients for the development of contact lens-related dry eye and its associated discomfort.¹³⁻¹⁵ Although it is not always necessary to follow the protocols and questionnaires being provided by them it is always better to provide direct questions to the wearers according to their wearing schedule so that proper management of the study can be given which can further prevent the discontinuation of contact lens wear.

The purpose of this writing is to make the practitioners get accustomed to ethical contact lens practice and help society in removing the fear of the discomfort that happens after wearing contact lenses. The most common clinical challenge being faced by the practitioners is the increased occurrence of meibomian gland dysfunction among wearers which refers to the stagnation of the sebaceous secretion of the meibomian gland, mostly found in the lower lid, which occurs due to external compression from an adjacent expanding mass (like a granuloma or tumor) or due to internal obstruction due to plugging of the excretory duct.

At the time of prescribing contact lenses, we as practitioners must provide patients with proper instructions not only verbally but also in a handwritten document to them make sure that the patient cannot forget about the steps that must be followed during lens wear. While teaching them practically, we must try to utilize our resources i.e. by showing them videos and visuals of proper contact lens wear which have not been downloaded directly from websites but prepared separately by each practitioner to make them unique and will let the patient keen to know

about the visuals well. We should update ourselves with the research ideas being published in various journals by the researchers as such inventions in the contact lens field by providing alternate options in contact lens design and must motivate them in wearing the lenses. Even in a year among the massive crowd of contact lens dropouts if we can input proper ethical modes of contact lens dispensing at least to one or three of the wearers the others will likely want to come back for contact lenses resulting in a grand success in the contact lens industry.

CONCLUSION

Contact lenses are one of the predominating factors in our optometry field which has got huge advantages in delivering the best mode of proper eye care other than spectacles. It is not that the practitioners are unaware of the usage, counseling, and teaching methods for contact lens wear but it is the less time being provided to each wearer given in contact lens teaching that creates a lack of adequate training and proper counseling of the lenses. Most of the time while prescribing lenses we think just like dispensing spectacles i.e. we just think about the cost and business we do not think about the effectiveness of keeping the client to us for their next visit. For spectacles, this does not cause any harm as such since spectacles are not in contact with the biological tissues of the eye whereas, at the time of contact lenses wear according to our habit specifically while dispensing soft contact lenses we only think about the business but we do not think about the aftermath effect. This problem is quite less in cases of specialized contact lenses and a year among 100 cl wearers only 20 of them will be specialized cl wearers rest are the soft cl wearers which are causing a huge lag in making a successful practice in the contact lenses. So here the optometrist must be adequately trained with providing proper statistical criteria that ensure about prevention of further cl dropouts. Further studies are required to provide the ultimate success in the wear and modified management strategies must be given to the

patients to provide the ultimate comfort with the lenses.

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