

Community Awareness about Common Problems Associated With Contact Lenses Wear

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Abstract: Non-compliance with practitioner recommended contact lens wear and care regimens remains a persistent clinical problem that is why this study was conducted to identify common eye problems associated with contact lenses wear, and to estimate the actual causes and risk factors of eye problems in contact lens wearers, Also to understand the patient's behaviors during contact lens wear and their awareness about the eye problems in relation with contact lens wearing, this study was conducted in the outpatient's clinic of ophthalmology in security forces hospital in Riyadh, Patient non-compliance with instructions for proper lens care is partly at fault. The general phenomenon of patient non-compliance has been widely studied, We report here on 100 consecutive patients fit with contact lenses. The results from this study indicate that the discouraging majority of contact lenses users illustrate a reasonable level of knowledge with regard to conformity with specialist recommended wear and care techniques. This was particularly obvious with regard to overall contact lens utilization, the significance of using fresh solution regularly and regular contact lens case replacement.

1. INTRODUCTION

Though contact lenses officially been around for over a century, their blast in reputation really started about 50 decades ago. In the Nineteen fifties, all contacts were "hard" contact lenses, and made from an impenetrable content called polymethylmethacrylate (PMMA). Contact lens users at time had relatively few associated eye circumstances, and these involved problems with fit and convenience, conjunctivae ("red" eyes), corneal corrosion and hydropsy (swelling), and serious DRY EYES. Attacks sometimes happened, but this was less common. How well a person accepted the contacts lenses was, back then, generally identified by how relaxed the connections were, rather than by more purpose physical dimensions that are possible today. The eyes usually change somewhat eventually, so it's a wonder that most get in touch with lens wearers' use their contact lenses for many decades without any issues at all. Soft contacts became hugely well known when they were presented around 1970 because they were so much more relaxed and better accepted than their previously forerunners. But along with smooth contact lenses came a variety of problems, which we'll talk about below. For example, attacks became an issue when prolonged use connections became well-known in the 1980's.

It's well known that contact lens discomfort continues to remain the primary reason for discontinuation of lens wear and most of those wearing contact lenses report discomfort at the end of the day. The mystery of contact lens discomfort is that there are many wearers with contact lens discomfort without noticeable signs and who note relief almost immediately upon lens removal. A combination of intellect, detective skills and science and technology will be necessary to solve this complicated problem. Key questions can provide focus and help lead to a better understanding. While there are no definitive studies linking non-compliant behavior with increased risk of lens-related complications, high levels of lens case contamination leading to heavy biofilm formation combined with the inappropriate use of currently available contact lens care solutions are inarguably suspect. In support of this view, a recent report evaluating the relationship between non-compliance and lens-related adverse events suggest a potential correlation with an increased incidence of contact lens-related complications evident among non-compliant lens wearers. Current strategies to improve compliance are limited.

Patient education is paramount and has been the gold standard for decades. Recent findings however, suggest that recommendations amongst eye care practitioners are highly variable necessitating more effective practitioner educational programs to eliminate this ambiguity. Likewise, the ability to identify and correct non-compliant behavior is confounded by the fact that many patients are unaware that their behavior practices are non-compliant. We recently investigated the relationship between patient compliance and awareness of risk factors associated with contact lens-related adverse events.

2. OBJECTIVES

This study was conducted to identify common eye problems associated with contact lenses wear, and to estimate the actual causes and risk factors of eye problems in contact lens wearers, also to understand the patient's behaviors during contact lens wear and their awareness about the eye problems in relation with contact lens wearing, and one of the objectives of this study were to assess current recommendations for replacement frequency of daily disposable lenses, to determine compliance with these recommendations, and to investigate the reasons given for noncompliance.

3. METHODS AND MATERIALS

Established contact lens wearers (n=100) aged between 14 to 37 years old in different levels of education, 93% females and 7% males, completed an anonymous written questionnaire upon presenting to their habitual eye care practitioner in ophthalmology clinic at the security forces hospital in Riyadh, Saudi Arabia the Clinical populations were evaluated in this study they all wear contact lenses either for cosmetics or visual disorders reasons, All patients were questioned regarding his or her lens care practices and knowledge of complications and risk factors associated with contact lens wear. And these questions including:

1. Types of lenses, 2. Frequents of replacing the lenses, 3. Removing the lenses without the solution case, 4. Awareness of that can cause bacterial infections, 5. Enzymatic cleaning, 6. Uses of disinfectant, 7. Uses of disposable lenses A correct response was identified as "yes" or "no", a patient was considered to have good compliance when receiving a score of 90% or better. Average compliance was defined as receiving a score of 70 – 89% and poor compliance was defined as 69% or below.

4. RESULTS

Throughout the results which came out of those conducted questionnaire we have come up with some estimations of causes of eyes infections related to the lenses wearing and behaviors of lenses wearers that may lead to many complications through the period in which the patient uses the lenses either for cosmetics or for vision support reasons, the participants were from different age groups and different educational levels and find out that 58% of those participants were using the lenses for cosmetics reasons while only 42% were using it because suffering either decreases or increasing of visual acuity, secondly we can see that most 42% uses artificial tears to refresh their eyes during and after wearing the lenses. And only 61% of those suffer from dryness and itching of their eyes while the others did not.

In generally 50% of patients having or had problems associated with lens wearing. the most important of result we think is that 89% are aware of infectious way that depending on a low quality care of the patients with his or her contact lenses, and with this still 68% mentioned that they took their lenses off even when they did not have the solution case with them when they are weather at school or work or hospital or even at their offices at home. And about the usage of daily disposable lenses only 27% uses that kind of lenses.

What are possible hypotheses for contact lens discomfort?

To explore whether end-of-day contact lens discomfort is due to the time of day we conducted a very important question in our survey to see in how long time the patients are replacing their lenses and we have come up with 46% replacing their contact lenses in each 6 to 10 hours while only 15% keep wearing them for whole day.

Within the medical center, 89% of patients stated they were able to identify a contact lens-related complication. In contrast to the medical center practice, a significantly fewer number of patients were able to identify a lens-related complication and of those that could, the majority of patients identified issues directly related to comfort and handling, with dryness being the most frequent response among this category. The difference in the ability of the two populations to identify complications appeared to be a bias that existed between these groups of patients.

5. CONCLUSION

The results from this study indicate that the discouraging majority of contact lenses users illustrate a reasonable level of knowledge with regard to conformity with specialist recommended wear and care techniques. This was particularly obvious with regard to overall contact lens utilization, the significance of using fresh solution regularly and regular contact lens case replacement, however 89% of our participants are aware of many care and strategies that could protect them from problems associated with contact lenses wearing but unfortunately over time the patients comes to a point when he or she does not care anymore about main care methods of using contact lenses, which may lead to many complications such as infections. The ability of patients to identify contact lens-related complications outside a medical center environment was not as strong. We put in consideration sex, pre-op and post-op but because of the time of the research I was unable to include them all.

6. RECOMMENDATION

1- We recommend any contact lens wearer to change the solution every day even if use the lens once a week to keep it clean and in a good condition

2- Do not use long-extended contact lens even if it is recommended in Europe and America due to changeable climate conditions in middle east (high temperature, dust)

3- Any patient with dryness should consult ophthalmologist before using contact lens

REFERENCES

- [1] Collins MJ, Carney LG. Patient compliance and its influence on contact lens wearing problems. *Am J Optom Physiol Opt.* 1986;63:952–956. [PubMed]
- [2] De Oliveira PR, Temporini-Nastari ER, Alves MR, Kara-Jose N. Self-evaluation of contact lens wearing and care by college students and health care workers. *Eye Contact Lens.* 2003;29:164–167. [PubMed]
- [3] Claydon BE, Efron N. Non-compliance in contact lens wear. *Ophthalmic Physiol Opt.* 1994;14:356–364. [PubMed]
- [4] Donshik PC, Ehlers WH, Anderson LD, Suchecki JK. Strategies to better engage, educate, and empower patient compliance and safe lens wear: compliance: what we know, what we do not know, and what we need to know. *Eye Contact Lens.* 2007;33:430–433. [PubMed]
- [5] Efron N. The truth about compliance. *Cont Lens Anterior Eye.* 1997;20:79–86. [PubMed]
- [6] Sokol JL, Mier MG, Bloom S, Asbell PA. A study of patient compliance in a contact lens wearing population. *CLAO J.* 1990;16:209–213. [PubMed]
- [7] Dumbleton K, Woods C, Jones L, Fonn D, Sarwer DB. Patient and practitioner compliance with silicone hydrogel and daily disposable lens replacement in the United States. *Eye Contact Lens.* 2009;35:164–171. [PubMed]
- [8] Dumbleton KA, Richter D, Woods CA, Jones LW, Fonn D. Relationship between compliance with lens replacement and contact lens-related problems in silicone hydrogel wearers. *Cont Lens Anterior Eye.* 2011 Apr 12; Epub ahead of print. [PubMed]
- [9] Dumbleton K, Richter D, Woods C, Jones L, Fonn D. Compliance with contact lens replacement in Canada and the United States. *Optom Vis Sci.* 2010;87:131–139. [PubMed]
- [10] Wu YT, Zhu H, Willcox M, Stapleton F. Removal of biofilm from contact lens storage cases. *Invest Ophthalmol Vis Sci.* 2010;51:6329–6333. [PubMed]
- [11] Pens CJ, da Costa M, Fadanelli C, Caumo K, Rott M. *Acanthamoeba* spp. and bacterial contamination in contact lens storage cases and the relationship to user profiles. *Parasitol Res.* 2008;103:1241–1245. [PubMed]
- [12] Bowden T, Nosch DS, Harknett T. Contact lens profile: a tale of two countries. *Cont Lens Anterior Eye.* 2009;32:273–282. [PubMed]
- [13] Wu YT, Carnt N, Stapleton F. Contact lens user profile, attitudes and level of compliance to lens care. *Cont Lens Anterior Eye.* 2010;33:183–188. [PubMed]
- [14] Wu YT, Tran J, Truong M, Harmis N, Zhu H, Stapleton F. Do swimming goggles limit microbial contamination of contact lenses? *Optom Vis Sci.* 2011;88:456–460.