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Knowledge and Practice of Contact Lens Wear and Care Among Contact Lens Users Medical Students of Rural Medical College, Loni, Maharashtra, India

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ABSTRACT

This cross sectional study was conducted in final year medical students of Rural Medical College, Loni with aim to find out the knowledge and practice of contact lens wear and care among contact lens users medical students. Data was collected by using a pre-tested, semi-structural questionnaire. There were total 339 final year medical students during the study period, out of which 58 students who has ever worn contact lens for any period of time and for whatever reason were included for the study. Thus the prevalence of contact lens wearers was 17.1%. Majority of the contact lens users were female (49, 84.4%), with female to male ratio being 5.4:1. Main reasons for using contact lenses were cosmetic and convenience. Most of the students (82.72%) were using contact lenses on regular basis. Maximum students (53.44%) were not aware of over wear syndrome. Most of the students were using commercial solution for cleaning contact lens, while some were using self prepared solutions. All contact lens users clean contact lenses daily. Many students (62.06%) were using kajal, though they knew its side effects. Some contact lens users suffered from complications like general discomfort and redness. Many students were knowing that cornea is deprived of oxygen due to use of contact lens, still most of them were happy with contact lenses as their vision was better and feeling comfortable with contact lens. Improper practice of contact lens wear and care even in educated users such as medical students could increase the risk of complications. Therefore, a need for more education to the consumers is desired.

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1. Introduction

Contact lenses are thin optical corrective lenses worn on the eye, resting on the surface of the cornea. Contact lenses are becoming popular in young generation specially students of school and colleges. Advantage of Contact lens is that it eliminate prismatic effects of spectacles and the field of clear vision is greatly increased. Contact lens in addition to correcting refractive error also increases aesthetic of person. Another probable reason for popularity of contact lenses use are good number of choices available not only in the terms of lens type and material alone but also the increased availability at large number of locations in the country at a much lower cost compared to past [1]. Use of contact lenses is increasing day by day yet people are not fully aware about various merits and

demerits of contact lenses. Complications most commonly associated with use include dry eye, giant papillary conjunctivitis, corneal abrasion, corneal edema, corneal ulcer, keratitis and neovascularization [2]. The awareness of these complications was found lacking amongst the younger users and 87% of these users preferred contact lens use in spite of the ocular problems related to their use [3]. Ocular health education especially knowledge in the correct and careful practice regarding contact lens wear can prevent complications resulting from the wearer's inappropriate behavior. One of the ways of investigating this is from the person's perception regarding his own knowledge of contact lens wear [4]. There is need of research to bring about better contact lenses. Medical students are future health providers for community and awareness needs to be increased in them. Hence the present study was conducted to assess the knowledge and practice of contact lens wear and care among contact lens users medical students of Rural Medical College, Loni, Maharashtra, India.

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2. Materials and Methods

A cross sectional study was conducted in Rural Medical College, Loni, Maharashtra during the period of 25th June to 24th August 2009. Final year medical students were considered for the study. There were total 339 final year medical students during the study period, out of which 58 students who has ever worn contact lens for any period of time and for whatever reason were included for the study. Thus the prevalence of contact lens wearers was 17.1%. Purpose of study was explained to students and informed consent was taken. Study was conducted by providing pretested, semi structured questionnaire. Questionnaire were in English and contained questions regarding use of contact lenses, maintaining cleanness of contact lenses, ocular complications due to use of contact lenses, benefits by using contact lenses etc. Data was collected and tabulated and percentage and proportion was calculated.

3. Results

It was observed from table 1 that, there were total 58 contact lens users, out of those, maximum 49 (84.44%) were female while 9 (15.48%) were male. Students wearing lens for cosmetic (8.62%) purpose; for refractive error (6.49%) and for both refractive error and cosmetic (84.48%) purpose. Majority of students (94.82%) wear soft lens followed by 5.17% wear semi-soft lens and none off wear hard lenses. Maximum students (82.75%) were wearing contact lenses on regular basis and (15.51%) wearing occasionally.

Table 1: Knowledge and practice of contact lens among study population (n=58)

Particulars	Number (%)
1.Contact lens users	
Male	09 (8.65%)
Female	49 (72.06%)
2.Purpose of use of contact lens	
Refractive error	04 (6.89%)
Cosmetic	05 (8.62%)
Both	49 (84.48%)
3.Types of contact lens used	
Soft	55 (94.82%)
Semisoft	03 (5.17%)
Hard	00 (0.00%)
4.Duration of contact lens use	
Daily (5-10 hours)	08 (13.73%)
Daily (10-15 hours)	38 (65.51%)
Occasional overnight use	11 (18.96%)
Habitual overnight use	01 (1.07%)
5.Complications due to contact lens use	
General Discomfort	25 (43.10%)
Redness	12 (20.68%)
No symptoms	21 (36.20%)
6.Cleaning material	
Lens solution	46 (79.31%)
Water/Tap water	12 (20.69%)
7.Use of contact lens beyond expiry date	
No	52 (89.65%)
Yes	06 (10.35%)
8. Knowledge about over wear syndrome	
Yes	27 (46.55%)
No	31 (27.45%)
9.Knowledge about side effect of kajal use	
Yes	51 (87.93%)
No	07 (12.07%)
10.Knowledge about duration of solution used for cleaning contact lens (lens solution can be used only for three months)	
Yes	22(37.93%)
No	36(62.07%)
11.Knowledge of deprivation of cornea from oxygen due to prolong use of contact lens	
Yes	30(51.07%)
No	28(48.27%)
12. Hygiene about contact lens use	
Cleaning lens before and after use	58 (100.0%)
Not cleaning lens	00 (00.0%)
13. Application of kajal	
Using kajal	36 (62.06%)
Not using kajal	22 (37.93%)
14. Knowledge about acanthamoeba infection due to use of water as cleaning material for contact lens	
Yes	24 (41.37%)
No	34 (58.63%)

About 13.79% students wear daily (5-10 hrs), 65.5% wear daily (10-15 hrs) but not overnight; 18.96% wear occasional overnight (< once per week) and only 1.72% wears habitually overnight (>once per week). Students facing redness were 20.68% while facing general discomfort were 43.10%. Around 10.34% have continued using lenses beyond the expiry date while 89.65% have not. About 46.55% were aware of the over wear syndrome while 53.44% were not. Maximum students (79.31%) use lens solution regularly, while 20.68% use water to clean lenses. All 100% students clean lenses daily before and after use. Only 22 (37.93%) students were aware that the lens solution can be used only for 3 months, once the seal of the solution bottle is broken. Near about half of the students were aware, that the cornea is deprived of oxygen due to contact lens use.

4. Discussion

The prevalence of contact lens usage among medical students observed in our study (17.1%) is much lower than a similar study reported by Vidotti et al [5] from Brazil (27.4%). In the present study, majority of the contact lens users were female (49, 84.4%), with female to male ratio being 5.4:1. Main reasons for using contact lenses were cosmetic and convenience. Same observations were made by Tajunisah I et al [6] i.e. 87.6% females were using contact lenses.

Most of the students (79.31%) claim to change their solution daily and more worryingly, while 20.68% were using self prepared solutions i.e. boiled water/ tap water. This is a dangerous practice as they could be at risk for acanthamoeba infections as these organisms are commonly found in tap water [7]. Majority of students (94.4%) were using soft contact lenses as these are most comfortable and well tolerated. Same observation was noted by Tajunisah I et al [6], in his study 82% students were using soft contact lenses.

In our study, 18.96% of the students were sleeping with the contact lenses which predisposes to corneal infection. Another study by Feys J [8] also noted 'overnight wear' as one of the important predisposing factors of bacterial keratitis besides poor hygiene, contaminated contact lens solution and contamination of contact lens storage case. People wearing contact lens while sleeping are more prone to eye complications due to longer period of contact of the lens on the cornea resulting in corneal anoxia [7]. In the present study, 65.5% students were using contact lenses for 10-12 hours. This observation is contradictory to observation of Tajunisah I et al [6] as in their study only 4% students were using contact lens for 10-12 hours but in relation to occasional use of observations are near about same 18.96% (present study) and 13.2% (Tajunisah I et al [6]).

Students using contact lenses for prolong time have faced problems like general discomfort (43.10%) and (20.68%) redness. Similarly study by Unnikrishnan B. et al [9] has revealed that general discomfort (47.7%) and (19.2%) redness. There are many eye symptoms a contact lens user can face including dry eye(s) or gritty sensation, red eye(s), excessive tearing, pain in the eyes, photosensitivity, blurring of vision and presence of haloes in the vision [10].

In our study, 82% of students were changing lenses regularly while the same was noted in lesser percentage of students (47%) from Brazil [5]. Ten percent of students in our study were not following the time schedule of replacing lens. A similar observation (Tendency to replace lens at interval longer than prescribers' recommendations) was reported by Coopersmith et al 11 from New Jersey USA. Education must be given that removal of contact lens at the first hint of eye symptoms is absolutely vital for early recovery from the complications.

5. Conclusion

We conclude that knowledge of contact lens usage alone may not ensure correct practice care in contact lens wear and care as evidenced in this study. The lack of proper practice even in educated and knowledgeable users such as medical students may increase the risk of complications associated with contact lens wear. There is a need for more education to the consumers about the contact lens care and complications related to contact lenses, which should be provided by all contact lens providers so that the prevalence of eye complications will be lessened among the contact lens wearers.

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