



Contents lists available at BioMedSciDirect Publications

International Journal of Biological & Medical Research

Journal homepage: www.biomedscidirect.com

Original Article

Practice and Knowledge of Contact Lens Wear and Care among Female Medical College Students in Kingdom of Saudi Arabia

Reem A. Alasiri^a, Wa'ad M. Alqulayti^b, Sara H. Neama^b, Israa A. Alsulami^b, Ahmed M. Bawazeer^c

^a*M.D. Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia.

^b Medical student, Faculty of medicine, King Abdulaziz university, Jeddah, Saudi Arabia.

^cMD, FRCSC, King Abdulaziz, university, Faculty of medicine, Jeddah, Saudi Arabia.

ARTICLE INFO

Keywords:

Contact lens

Knowledge

Lens care

Medical students

Saudi Arabia

ABSTRACT

Aim: this study was carried out to assess the knowledge and compliance of contact lens wear and care among female medical students at King Abdulaziz University, Jeddah, Saudi Arabia. **Method:** The knowledge and practice related to contact lenses wear and care among female medical students of King Abdulaziz University, Jeddah, was assessed through a pre-tested structured questionnaire. A total of 254 contact lens wearers participated in this study. All were female medical students who were aged between 19-25 years. **Results:** we found that 33% of female medical students are contact lens wearers, 36.6% of them were using contact lenses for cosmetic purposes and 34.6% for refractive purposes. There was a significant number (72%) of students were not informed about contact lenses complications by their contact lens prescribers. A large number of them had experienced some complications at some point during their usage such as dry eye 68.1% and red eye 45.3% also some experienced corneal ulcer 12.2%. **Conclusion:** Improper practice of contact lens wear and care even in educated users such as medical students could increase the risk of complications. Thus, a need for more education regarding proper practice of contact lens care to contact lens wearers is needed.

© Copyright 2010 BioMedSciDirect Publications IJBMR - ISSN: 0976:6685. All rights reserved.

Introduction

Contact lenses have become more and more common as an optical correction resource worldwide. Beside their use for refractive correction, they are also used for cosmetic reasons and therapeutically in eye diseases [1], [2]. Although contact lens use is common in our country many users are not aware of their proper handling and care. Non-compliance by contact lens users is associated with numerous complications [3].

Contact lens can act as a vector for microorganisms to adhere to and transfer to the ocular surface if not used and cared properly. In the presence of reduced tissue resistance, microorganisms or transient pathogens can invade and colonize the cornea or conjunctiva to produce inflammation or infection [4]. Noncompliance has been implicated as one of the causes of complications in contact lens wear; the inadequate adherence to the practitioner's instructions on the use of contact lenses and care products [5]. It is a major issue in contact lens wearers and it is seen in various aspects of contact lens wear and care [6]. The overall rates of noncompliance in contact lens wearers vary from 50% to 99% [7]. About 79.1% of lens wearers among the health workers admit that they do not take care of their lenses properly [8].

It has been reported that 80% of contact lens complications are directly related to improper maintenance care and that the perception of the wearer's own behavior is essential to minimize or prevent complications [9].

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 [10]. Self-evaluation regarding knowledge of contact lens wear and care can be an important indicator to how well the actual instructions of contact lens usage were given. Therefore, the study of knowledge can contribute to the planning of educational and health campaigns aiming to reduce the complications of contact lens wear in our society.

This study was carried out to assess the knowledge and compliance of contact lens care and awareness of complications related to their use among medical students.

MATERIALS AND METHODS

A cross sectional study was conducted using a pre-tested structured questionnaire among contact lens wearers of female medical students in King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia during the period of 11th July to 7th June 2015. Any female medical Student who has ever worn contact lenses for any period of time and for whatever reason was enrolled in this study. To obtain a better understanding of some questions and to capture appropriate information, a pilot study (pre-test) was conducted on

* Corresponding Author : **Dr. Ahmed M. Bawazeer**

MD, FRCSC, King Abdulaziz University, Faculty of Medicine.

Jeddah, Saudi Arabia, 21422

PO BOX 5095

Phone +966505353015

Email: drbawazeer@yahoo.com

10 students a week prior to the start of research work and after review few modifications were done in the questionnaire for the final research work.

A total of 254 contact lens wearers were handed over a questionnaire that covered all aspects of the study objectives after taking their consent for participating in this study.

The questionnaire was in English and consisted of 23 questions regarding period of contact lenses use, maintaining lens and hand hygiene, compliance to eye care provider's instructions, and knowledge about possible ocular complications due to use of contact lenses. The data collected were analyzed using SPSS 16.0 version program.

RESULTS

Demographic characteristics:

Out of total 768 female medical students at king Abdulaziz University during the study period, only 254 of them were contact lens wearers; thus the prevalence of contact lens users among female medical students was 33%. The majority of contact lens users were sixth year students (58, 22.8%) followed by fourth year students (51, 20.1%) then fifth year students (50, 19.7%) and finally second year (49, 19.3%) and third year students (46, 18.1%). The age of students ranged between 19-25 years.

Regarding contact lens wear:

In reasons for using contact lenses, it was found that 36.6% (93) of respondents were using contact lenses for cosmetic purposes and 34.6% (88) for refractive purpose, while the remaining 28.7% (73) were using contact lenses for both purposes, cosmetic and refractive correction. Majority of participants 68.1% (173) got their contact lenses from cosmetic centers while 25.2% (64) got them from optical shops and only 6.7% (17) got their contact lenses prescribed from hospital. It was observed that 68.1% (173) of them consider comfort on wearing contact lenses as the main factor that influences them in choosing their contact lenses, cosmetic appearance 16.5% (42), brand name 14.6% (37), and conventional pricing of lenses 0.8% (2). Most of the students were found to use contact lenses since 1 to 5 years 57.1% (145), and 26.8% (68) were using contact lenses for more than 5 years, where only 16.1% (41) of students were found to use contact lenses for less than one year. Among these students mostly were occasional users of contact lenses 69.3% (176), while few were daily users 30.7% (78).

Regarding care of contact lenses and practice of hygiene:

22.4% (57) of students admitted to occasionally keep wearing contact lenses during sleep. 71.7% (182) of students wash their hands before handling contact lenses; 63.8% (73) of them adhere strictly to contact lenses cleaning and maintenance instruction while cleaning their contact lenses. Regarding the practice of changing the contact lens solution daily, only 28.7% (73) of students were actually doing so. 10.2% (26) of students admitted to occasionally using tap water as a cleaning solution for their contact lenses. It was also found that 43.7% (111) of students use contact lenses beyond their expiry date.

Regarding the knowledge of contact lenses wear complications:

72% (183) of students were not informed about contact lenses complications by their contact lens prescribers.

71.7% (182) don't know that contact lens solution can be used only for 3 months and must be replaced after 3 months of usage. Regarding the knowledge about complications associated with contact lens wear, 71.3% (181) of students were aware about the occurrence of dry eye, only 31.9% (81) of students were aware of *Pseudomonas aeruginosa* and *Acanthamoeba* as causative organisms for corneal ulcers secondary to using tap water as cleaning solution for contact lenses. A large number of students had experienced dry eye 68.1% (173) and red eye 45.3% (115) also some experienced corneal ulcer 12.2% (31) at some point during their usage. However only 23.2% (59) would seek for medical help and consult a doctor for treatment, while majority of them 55.5% (141) stated that they would definitely withhold wearing their contact lenses until symptoms resolved and 11.8% (30) of students answered that they would still continue wearing their lenses despite the symptoms.

DISCUSSION

There is no data available on the prevalence and pattern of contact lens use in the published literature from our country. The prevalence of contact lens usage among female medical students observed in our study was 33%. Indicating that a large number of young adults are frequent users of contact lenses, majority of them use contact lenses for cosmetic and refractive correction rather than other ocular morbidities.

This study was carried out to assess knowledge and awareness about complications resulting from the improper use of contact lenses and care of contact lenses in a population of medical students which are among the better educated part of our society. A similar study done recently in Kingdom of Saudi Arabia found poor compliance in a proportion of medical students using contact lenses [11]. We found that many medical students are unaware of the proper care of contact lenses and ignorant of the possible serious complications associated with contact lens misuse whereas others who may be aware of complications are still not careful with the handling and wearing schedule of contact lenses.

Many contact lens wearers see contact lens solely as a cosmetic item and not as a medical device. This attitude leads to the purchase of contact lens and care products from the cosmetic shops without prescription or instructions. It has been found that contact lenses obtained from cosmetic centers and optical shops are more associated with more ocular complications than the prescribed ones from hospitals [12]. In our study, 68.1% of students admitted to have purchased their contact lenses from cosmetic centers while 25.2% had obtained their lenses from optical shop and only 6.7% got them prescribed from an optometrist from hospitals. This supports the recent study in Kingdom of Saudi Arabia by Yousef Aldebasi [11], where it was found that majority of participants obtained their lenses from cosmetic centers (52%).

Compliance with proper contact lens care is considered to be the most important aspect of safe use of lenses. The use of contact lenses is known to increase the microbial load in the eye which can

adversely affect corneal health ranging from a mild ocular redness and irritation to a very severe sight threatening situation like Acanthamoeba keratitis [13]. Poor contact lens hygiene and microbial contamination of the lens storage case have been observed to be related to microbial keratitis [14], [15], [16]. A proper hand wash and hygiene plays an important role in controlling the risk of infection while handling contact lenses. In this study, 71.7% of subjects' clean their hands before handling contact lenses and the remaining 28.1% doesn't wash their hands.

This may put them at risk of ocular infections secondary to contact lens wear. Appropriate information about contact lens care, maintenance instructions, personal hygiene, adherence to prescribed replacement schedules, possible complications, and how to deal with it should be given to the subjects in the clear manner by eye care practitioners to ensure safety and comfort of use. In our study only 28% of students were informed by their prescribers about the complications related to contact lens wear. A study concerning over-the-counter decorative contact lens demonstrated that the uninformed patients who acquire lenses from unauthorized providers are significantly less likely be instructed on appropriate lens use and care, consequently have a higher incidence of acute vision threatening infection and inflammation [17].

There are some common ocular complications a contact lens user may experience including; dry eye, red eye, excessive tearing, pain in the eyes, photosensitivity, allergic conjunctivitis, and corneal ulcer. The students in this study mainly faced less severe complications; dry eye 68.1% (173) and red eye 45.3% (115) also some experienced corneal ulcer 12.2% (31) at some point during their usage. But it is surprising that 11.8% (30) of students would still continue wearing their lenses despite knowing about corneal ulcers and the risk of infection. 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.

CONCLUSION

We concluded that knowledge about contact lens usage alone may not ensure proper practice in contact lens wear and care as evidenced in our study. Educating contact lenses wearers about proper practice even in educated users such as medical students is needed to decrease the risk of complications associated with contact lens wear, which should be provided by all contact lens providers. Thus, a proper legislation is required to ensure contact lens dispensing is done by qualified personnel only.

ACKNOWLEDGMENT

None

REFERENCES

- [1] Stein H A. Contact Lenses Fundamentals and Clinical Use. Slack Incorporated(1997). 2: 59-74.
- [2] Mannis M J. Contact Lenses in Ophthalmic Practice. Springer-Verlag New York(2004).3: 7-14.
- [3] Claydon BE. Noncompliance in optometric practice. Ophthal & Physio Optics(2002). 18: 90-187.
- [4] Yousef Aldebasi. Assessment of Knowledge and Compliance Regarding Contact Lens Wear and Care among Female College Students in Saudi Arabia (2012). IJCRR. 4(20): 162-169.
- [5] Stapleton F. The incident of contact lens related microbial keratitis in australia. Ophthalmology(2008). 115:p. 1655-1662.
- [6] Dart JK. Contact lenses and other risk factors in microbial keratitis. Lancet (1991). 338: 650-53.
- [7] Radford CF. Acanthamoeba keratitis in England and Wales: incidence, outcome, and risk factors. Br J Ophthalmol(2002). 86: 536-42.
- [8] Butler TK. Six-year review of Acanthamoeba keratitis in New South Wales, Australia: 1997-2002. Clin Exp Ophthalmol(2005). 33(1): 41-6.
- [9] Szczotka-Flynn LB. Microbial contamination of contact lenses, lens care solutions, and their accessories: a literature review. Eye Contact Lens (2010). 36(2): 116-29.
- [10]Steinemann TL. Over-the-counter decorative contact lens Cosmetic or Medical Devices? A Case Series. Eye Contact Lens (2005). 3: 194-200.
- [11]Gray T. Acanthamoeba, bacterial, and fungal contamination of contact storage cases. Br J Ophthalmol(1995). 79: p. 601-605.
- [12]Morgan, P. The science of compliance: a guide for eye care professionals (2008).
- [13]Claydon BE. Non-compliance in contact lens wear. Ophthal Physiol Optics (2007). 14(4): 356-364.
- [14]Donshik PC. 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 (2007). Eye Contact Lens. 33:430-3.
- [15]Oliveira PR. Self-evaluation of contact lens wearing and care by college students and health care workers. Eye Contact Lens: Sci & Cl Prac (2003). 29: 164-167.
- [16]Ky W. Clinical Survey of lens care in contact lens patients (1998). CLAO J. 24: 216-19.
- [17]Oliveira PR. Selfevaluation of contact lens wearing and care by college students and health care workers. Eye & Contact Lens (2003). 29: 164-67.