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AWARENESS OF CONTACT LENS CARE AMONG MEDICAL STUDENTS

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ABSTRACT:

PURPOSE: *To assess the knowledge, attitude and practice of contact lens wear among medical students and to highlight the factors leading to complications of contact lens use.*
METHODS: *This is a cross sectional descriptive study. 300 contact lens users from the students of Dow and Sindh Medical Colleges were identified and enquired about the different aspects of contact lens wear through a questionnaire that covered all the aspects of study objectives.*
RESULTS: *Among all the contact lens users 62.2% were using these since more than 5yrs. Most were occasional users of contact lenses (72.7%). 66% of students were using extended wear lenses. 72.3% of the occasional users used them for cosmetic purposes. Daily users were comparatively less and 67.23% of them were using contact lenses for refractive errors. A small but alarming percentage (13.5%) of the students were not removing their lenses while sleeping. A significant number (7.7%) of students do not wash their hands before handling contact lenses. Also 5.8% of the students don't ever wash their lenses.*
Many(68.7%) of them were having problems at some stage which included irritation(46.6%), redness(41.7%), itching(28.5%), blurring(11.2%), pain(8.9%), discharge(8.4%), infection(2.6%).
CONCLUSION: *Many medical students are unaware of proper care and handling of contact lenses. Some of them are unaware of the potential complications associated with contact lens use. Even those who are aware still ignore proper handling and wearing schedule of contact lenses.*

KEYWORDS: Awareness, Contact Lens, Complications.

INTRODUCTION:

Contact lenses are used for refractive correction, cosmetic reasons and therapeutically in eye diseases where an uneven cornea blurs vision, such as keratoconus or corneal scarring[1,2]. Although contact lens use is common in our country many users are not aware of their proper handing and care. Non-compliance by contact lens users is associated with numerous complications[3]. The overall rates of noncompliance in contact lens wearers varies from 50% to 99%[4]. About 79.1% of lens wearers among the health workers admit that they do not take care of their lenses properly[5]. At least one third of patients have been reported to be non-compliant with healthcare recommendations which can result in poor outcome of treatment, secondary medical problems, dissatisfaction, frustration and wasting of health resources[3]. Non-compliance is a major issue in contact lens wearers and it is seen in various aspects of contact lens wear and care[6]. Side effects ranging from transient redness to severe keratitis[7] have been observed due to improper use. 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:

This is a cross–sectional descriptive study. It was conducted over a period of 2 months from 1st August, 2008 to 30th September 2008. 300 contact lens users were identified from medical students of Dow and Sindh Medical Colleges, Karachi and handed over a questionnaire that covered all the aspects of study objectives. Results were deduced from the 217 forms that were recovered . SPSS 15.0 Evaluation Version was used for the

TABLE 1:
Queries in the questionnaire

1. Since when are you using contact lenses?
2. How often do you wear them?
3. What kind of lens do you use?
4. What is the reason of your contact lens use?
5. Who persuaded you to the use of contact lenses?
6. Do you remove your lenses before going to sleep?
7. Do you wash your hands before handling the lenses?
8. Do you wash your lenses?
9. If yes, then how frequent?
10. Have you ever experienced any eye problem during contact lens use?
11. If yes, then what were the problems?
12. Do you think using contact lenses is harmful and one should not use them?

purpose of data management. The questionnaire enquired about the reason, duration and care of contact lens use as well as problems related to their use.

RESULTS:

Results were obtained from answers collected from the questionnaire distributed among the medical students. There was a total of 217 medical students and results were obtained in the form of pie charts and bar diagrams for better understanding and ease.Of the 217 medical students who returned their questionnaire 201 were females and 16 were males. Age ranged from 18 to 23 years. Most of the students were found to use contact lenses since about 1 to 5 years (62.2%), 23.4 % of the students were using contact lenses since less than one year where as 14.4% of students were found to use these lenses since more than five years(Figure 1). Among these students mostly are the occasional users of contact lenses (72.7) while few were daily users (23.3)(Figure 2). 66% of the students were using extended wear lenses and 34% of the students were using the daily wear lenses(Figure 3). Most of the occasional users of contact lenses were using them for cosmetic purposes (72.37%) while most of the daily users of contact lenses were using them for the correction of refractive error (67.23)(Figure 4). 86.5% of the students under study used to remove their lenses at bed time whereas 13.50% did not(Figure 6). 92.3% of the students washed their hands before wearing these contact lenses and 7.7% of students did not wash their hands before handling them(Figure 7). Most of the students used

Period since use commenced

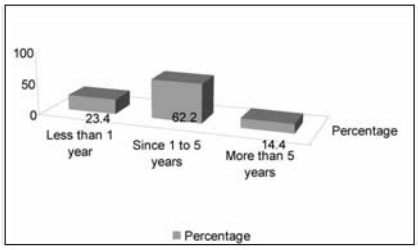


Figure-1

Frequency of use

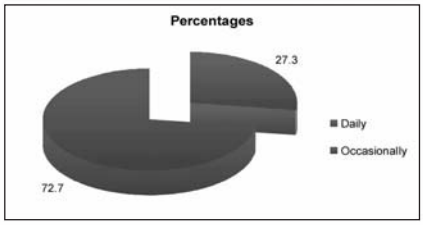


Figure-2

Type of lens used

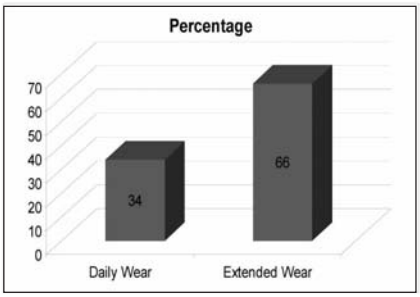


Figure-3

Reason of contact lens use

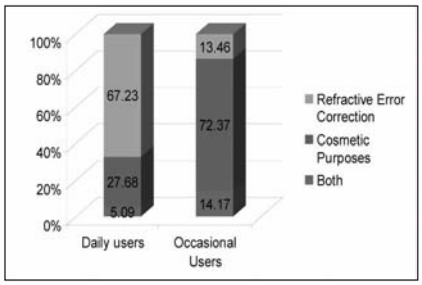


Figure-4

Introduction to use

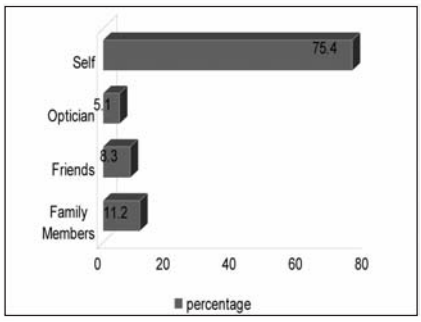


Figure-5

Removal before sleeping

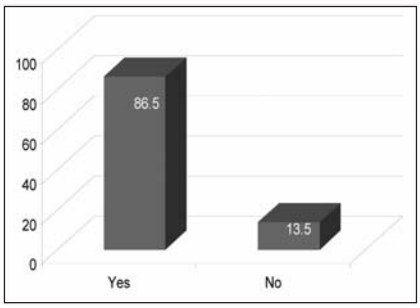


Figure-6

Handwash before handling the lenses

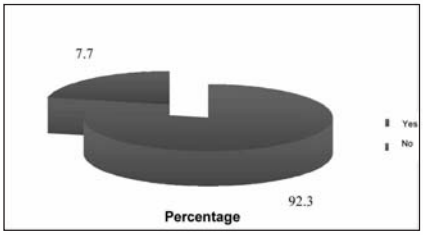


Figure-7

Contact lens cleaning

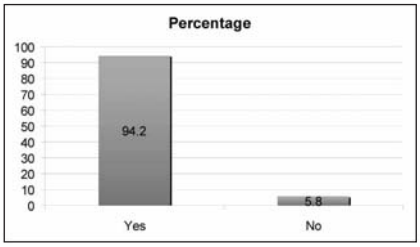


Figure-8

to wash their lenses (94.2%) amongst them 58.3% of the students washed them when they wore these lenses, 21.5% of the students washed them weekly and 20.2% of the students washed them monthly(Figures 8 & 9). The remaining 5.8% of the students did not wash their lenses before wearing them(Figure (9). 63.6% of the students were found to have different sorts of difficulties at some period of contact lens wear(Figure 10). Mostly the complain was of irritation (46.6%) and redness (41.7%), some students experienced itching (28.5%) and few complained of blurring (11.2%), pain(8.9%), discharge (8.4%) and infection (2.6%). According to 58.1% students wearing contact lenses is not harmful, 13.7% of the students were of the view that it is dangerous while 28.2% of the students knew that wearing contact lenses can be dangerous but they are reluctant to stop using them(Figure 11).

Frequency of washing

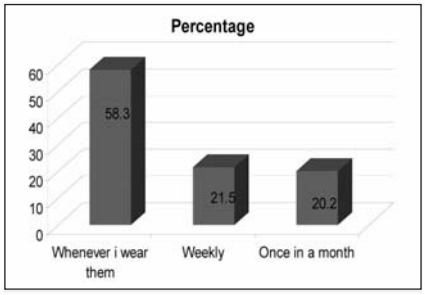


Figure-9

Eye problem

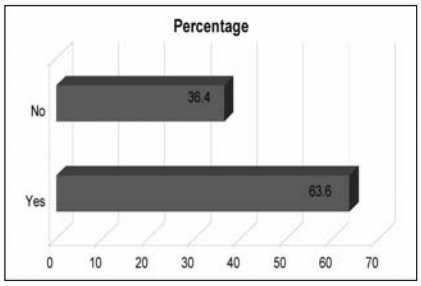
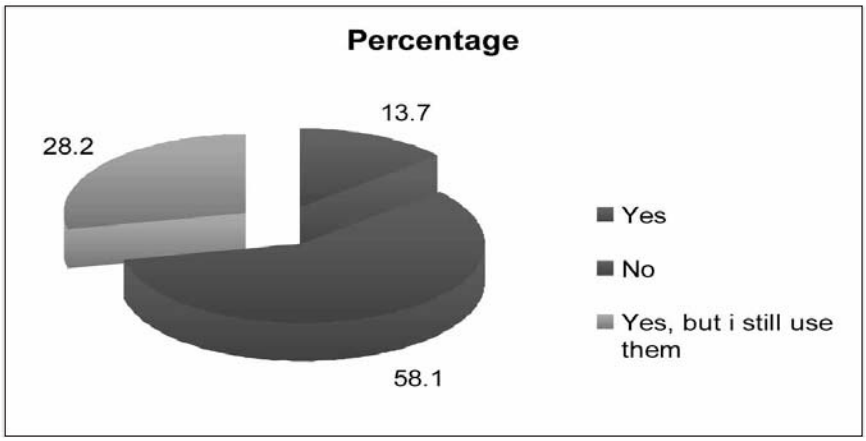


Figure-10

Do you think using contact lenses are harmful and one should not use them?

Chart-11



DISCUSSION:

Contact lenses are thin, curved plastic disks designed to cover the cornea. They cling to the film of tears over the cornea because of surface tension. They provide a safe and effective way to correct vision when used with care and under proper supervision. In Pakistan the exact number of contact lens wearers is not known but a large number of contact lens users are present. In Pakistan many people use them to correct refractive errors and others use them to change the colour of their eyes. A smaller number use them for keratoconus and other corneal disorders. In Pakistan lack of appropriately trained optometrists has lead to a proliferation of dispensing optician outlets some of which are manned by illiterate or under qualified personnel. This results in dispensing of contact lenses to individuals who may not understand the care of contact lenses or implications of their mishandling. In some cases the dispenser is unaware of the care of contact lenses or their proper dispensing.

Contact lenses are basically of three types; hard, gas-permeable and soft[1]. Rigid or "hard" contacts were the first lenses, they were developed in the 1960's. They are made of PMMA (polymethyl methacrylate)[1]. They are very durable. Oxygen does not permeate PMMA lenses, therefore they must be used on daily wear basis. When the eye blinks, the lens moves, which allows the oxygen dissolved in the tears to reach the cornea. Rigid lenses are the least comfortable type of contacts and are rarely used now. Gas permeable lenses are made from a mixture of hard and soft material. They are newer rigid or "hard" lenses made of plastics combined with other materials, such as silicone and fluoropolymers, which allow oxygen in the air to pass directly through the lens[1]. For this reason, they are called "gas permeable." They are often used in patients unable to wear soft lenses due to allergies. In the soft(hydrophilic) lenses the basic plastic used is hydroxyethyl methacrylate (HEMA). Degree of hydration varies from 30 to 81 %. They have water absorbing properties and are made to overlap the limbus[1]. The water makes them soft and flexible, as well as allowing oxygen to reach the cornea.

The soft daily wear frequent replacement lenses are the most common lens type associated with corneal ulcers (43%)[7].Contact lens use may lead to disorders of the eyelids, conjunctiva and cornea. In eyelids it may induce allergy, toxicity and ptosis[8]. Contact lens induced conjunctival complications include conjunctival injection, edema, giant papillary conjunctivitis[9], superior limbic keratoconjunctivitis[10], bacterial conjunctivitis and viral conjunctivitis. Contact lenses can lead to, abrasion, solution reactions, sterile corneal infiltrates[11], corneal hypoxia[12], epithelial staining, edema, infiltration, neovascularization, microbial corneal infections including acanthamoeba infection[13], and infection by pseudomonas aeruginosa[14], staph aureus, staph epidermidis, and fungal infections. Among cases of fungal keratitis in 54.1% cases the fusarium species were found[15.]

This study was carried out to assess the degree of awareness of complications resulting from the 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 Malaysia found poor compliance in a proportion of medical students using contact lenses[16]. We found that many medical students are unaware of proper care of contact lenses and do not take good care of their lenses. Many medical students are ignorant of the potential of serious complications associated with contact lens use whereas others who may be aware of complications are still not careful with the handling and wearing schedule of contact lenses.

CONCLUSION

Lack of proper awareness of contact lens care among medical students may expose

them to potential complications of contact lens use. Appropriate counseling regarding contact lens wear and care should be done by contact lens dispensers. Proper legislation is required to ensure contact lens dispensing is done by qualified personnel only.

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