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Research paper

The pattern of contact lens uses among university female students at Hafr Al-Batin university, Saudi Arabia

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Abstract

Background: Contact lens (CL) are widely used in Saudi Arabia, and interest in the lens among the population is increasing rapidly especially among the younger population. CL has become more important as an optical correction method. Many people compromise their visual health due to bad habits for wearing a contact lens.
Aim: The present study aimed to assess the pattern of CL uses among university female students.
Methods: Descriptive cross-sectional study design was used. 225 students were agreed to participate in the study from four colleges. A structured questionnaire was developed to collect necessary information regarding; socio-demographic characteristics, history of using CL and eye complains.
Results: The findings revealed that the majority 74.7% of university students using lens mostly for cosmetic purpose and 45.2% wear CL from 5-12/day.
Conclusions: Based on the results of the present study, health education programs incorrect and careful practice regarding CL wear should be directed to the university students to prevent complications resulting from the wearer's inappropriate behavior.

Keywords: *Contact Lens; University Students; Saudi Arabia.*

1. Introduction

CL is a thin optical corrective lens worn on the eye, resting on the surface of the cornea. CL is becoming popular in the young generation especially students of school and colleges. The advantage of CL is that it eliminates prismatic effects of spectacles and the field of clear vision is greatly increased. CL in addition to correcting refractive error also increases aesthetic of person. Another probable reason for the popularity of CL use is a good number of choices available not only in the terms of lens type and material alone but also the increased availability at a large number of locations in the country at a much lower cost compared to past (Bowden & Harknet 2006).
Improper use and insufficient care of contact lens may lead to an infection and inflammation of cornea or conjunctiva by various types of microorganisms in the presence of reduced tissue resistance (Yousef 2012)
One of the major factors that cause contact lens complications is noncompliance to the practitioner's instructions on the use of contact lens and care products. [Stapleton 2008] these complications include dryness of the eye, giant papillary conjunctivitis, corneal abrasion, corneal edema, corneal ulcer, keratitis, and neovascularization. (Suchecki et al 2003)
Complications most commonly associated with CL use include dry eye, giant papillary conjunctivitis, corneal abrasion, corneal edema, corneal ulcer, keratitis, and neovascularization. (Suchecki et al 2003)
Despite the evolution of CL materials and designs, fitting success has been jeopardized by the occurrence of complications. The wearer's attitude and knowledge of CL care are often cited as the main causes of complications. These include incorrect cleaning, disinfection, and protein removal; keeping cleaning/storage solutions for longer periods than recommended; topping off solutions in lens cases rather than replacing them; poor hygiene of hands and cases; a period of wear exceeding the recommended regimen; and the lack of eye assessment prior to wear (Riley et al 2005). The awareness of these complications was found lacking amongst the younger users and 87% of these users preferred CL use in spite of the ocular problems related to their use (Roberts et al 2005)
Ocular health education especially knowledge in the correct and careful practice regarding CL 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 CL wear. (de Oliveira et al 2003). The present study aimed to assess the pattern of CL uses among university female students.

2. Subjects and methods

Descriptive cross-sectional study design was utilized. A convenient sample of 225 students who were responded and participated in an anonymous online questionnaire. A pilot study was done on 10 students to test the clarity of the tool and they excluded from the total study sample. The study sample representing four colleges affiliated to Hafr Al-Batin University (Applied Medical Sciences, Education, Arts and Sciences). Data collection took nearly one month started in March 2016. An electronic semi-structured questionnaire was developed by the researchers after in-depth reviewing relevant literature. The questionnaire was revised by a jury of three field investigators to test the validity of the tool. The questionnaire prepared by two languages; Arabic and English. It covers three parts of data; socio-demographic characteristics, history of previous wearing lens and practices of students toward using the lens. An approval to respond and complete the questionnaire was considered as consent from the students to participate in the study. Students were firstly fully explained about the aim of the study with a brief paragraph, and then they asked to read the questions and fill the answer. Data was saved into an excel sheet then it managed and analyzed using SPSS version 20.

3. Results

Table (1) shows the distribution of studied sample socio-demographic characteristics, the findings reveal that 11.1% of them were less than 20 years, the majority of the 81.3% were in the group 20-25 year and 7.6% represents the age group from more than 25 years. Regarding the marital status; 76.4% of them were single and 23.1% were married. The findings revealed that 40%, 20.9%, 27.1%, and 12% represented Applied Medical Science College, Sciences College, Education, and Arts colleges, respectively.

Table 1: Socio-Demographic Characteristics of the Studied Sample

Item	No.	(%)
Age in years:		
• Less than 20	25	11.1
• 20-25	183	81.3
• More than 25	17	7.6
Marital status:		
• Single	172	76.4
• Married	53	23.5
College:		
• Applied medical science	90	40.0
• Science	47	20.9
• Education	61	27.1
• Arts	27	12.0
Total	225	100.0

Table (2) shows the distribution of CL wearers, it was observed that the vast majority (74.7%) of them reported wearing CL. As regard to reasons for using CL, it was observed that 75% of them use it for a cosmetic purpose, while 8.9% use it for sight correction and 16.1% use it for both cosmetic purpose and Sight correction. The results also show that 63.1% of the respondents use CL without consultation from medical specialist while 36.9 % of them reported making a medical examination with eye specialist before use lens.

Table 2: Reasons for Using the Contact Lens

Item	Total No. (225)	
	No.	%
History of wearing CL:		
• Yes	168	74.7
• No	57	25.3
Reason for the use of the lens (No.=168)		
• Cosmetic purpose	126	75
• Slight correction	15	8.9
• Cosmetic/ Sight correction	27	16.1
Medical checkup before using (No.=168)		
Yes	62	36.9
No	106	63.1

As regards to CL wearers sources of information about lens side effects, it was noticed that more than half 54.8% of lens wearers mentioned having information about the side effect of CL. Personal experience represents 54.2% of students sources of information, followed by 30.4% had information from others such as (friends, family members, and peer group), and 15.5% had knowledge from reading and internet (Table 3).

Table 3: Students Information Sources About Contact Lens

Item	Total No. (168)	
	No.	%
Having information about the long use side effect of contact lens:		
• Yes	92	54.8
• No	76	45.2
Source of information:		
• Personal experience	91	54.2
• Reading & internet	26	15.5
• Others (relatives/friends/ peer group)	51	30.3

Regarding the average number of hours of wearing CL per day; the findings reveals that nearly half 50.6% of the lens wearers put on lens less than 5 hours, while (45.2%) of them put on an average from 5-12 hours and 4.2% put on lens for more than 12 hours/day (Fig.1)

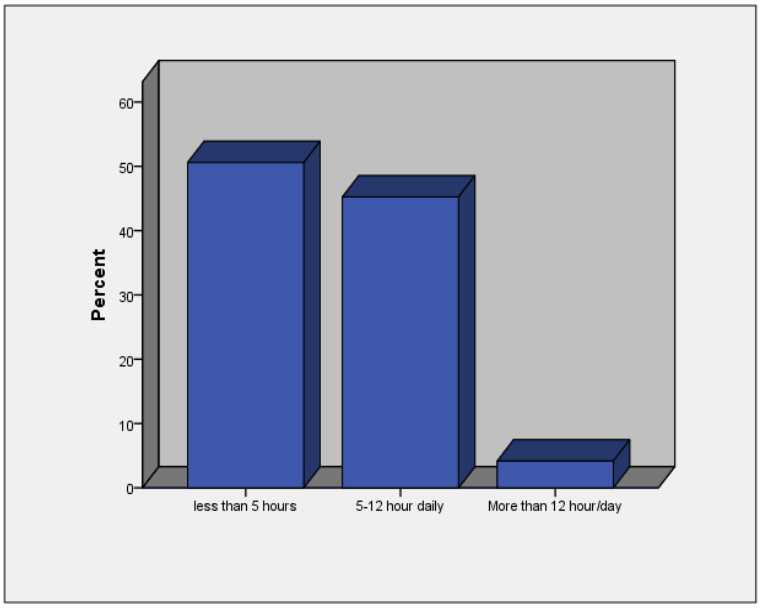

Fig. 1: Duration of Daily Contact Lenses Wears.

Concerning the eye complaints as mentioned by students, table 4 revealed that more than half (54%) reported poor CL vision with far distance and about one third (30%) had poor vision with near distance. Other complaints reported by the students include eye redness 67%, eye dryness 41%, & lens solution sensitivity 21%. It was observed also that the majority 74% of students claim a lack of comfort while wearing CL.

Table 4: Student Eye Complaints History

Complaint	Yes		No	
	No.	%	No.	%
Eye crusts	9	5.4	159	94.6
Poor CL vision with far distance	54	32.1	114	67.9
Poor CL vision with near distance	30	17.9	138	82.1
Eye redness	67	39.9	101	60.1
Eye dryness	41	24.4	127	75.6
Lens solution sensitivity	21	12.5	147	87.5
CL damage while wearing	17	10.1	151	89.9
Lack of comfort while wearing CL	74	44	94	56
Total	168 (100%)			

Table 5 revealed that more than half (56.5%) of lens wearers always wash their hands before the handle lens. While, 20.8%, 20.2% reported often sleeping and bathing with the lens respectively. On the other hand, the results reveal that 17.3% of the wearers mentioned exchange lens with others and only 9.5% of them mentioned follow up with an ophthalmologist.

Table 5: CL Wearers' Practices Toward Contact Lens Use

Item	Total No. (168)			
	Always %	often	sometimes	rarely/No
Washing hands before put on the lens	56.5	20.8	12.5	10.1
Wash lens with tape water	8.9	20.8	9.5	60.7
Preservation of CL in tape water	5.9	19.1	7.1	67.9
Changing the CL solution every- one/two days	31.5	21.4	18.5	28.6
Sleeping with lens	3	20.8	7.7	68.5
Bath with lens	2.9	20.2	4.2	72
Exchange wearing contact lens with relatives &friends	11.3	17.3	11.9	59.5
Follow up with an Ophthalmologist	9.5	16.7	6.5	67.3
Total	100%			

4. Discussion

Despite a large number of young adults wearing CL in KSA and the fact that it has been identified as one of the most rapidly growing markets in the world (Briggs & Oduntan 1996). The present study reveals that the vast majority of university students use the lens. This is agreed with that reported by Abu Hussein et al, 2014 who found that 70.2% of the studied sample uses CL. Regarding the reasons for use CL, the study findings show that cosmetic purpose was the most reported reason stated for CL use, this finding within conjunction with that mentioned by Abu Hussein et al, 2014 where cosmetic reason represents (63.3%), also this result agreed with that reported by Giri et al, 2012 who mentioned that the main reasons for using CL were cosmetic and convenience. Another similar study finding by Alobaidan 2018 who found that six out of ten use them for cosmetic purpose. Concerning medical examination before use CL, the results illustrate that more than half of the study participants use CL without medical consultation. This finding supported by Abu Hussein et al 2014 who reported that approximately 38.7% of the respondents used CL without consultation with an eye care practitioner. The current study shows that nearly half 45.2% of the CL wearers using the lens for an average of 5-12 hours. This finding is contradictory to that reported by Tajunisah et al 2008 who found that only 4% of students were using contact lens for 10-12 hours. Regarding the eye com-

plaints, the current study revealed that eye redness represents 67%, eye dryness 41%, & lens solution sensitivity 21%. As regards to the practices of CL users, the current study findings show that more than half 56.5% of the respondents reported that they thoroughly washed their hands always before handling. This result supported by Tajunisah et al 2008, Abu Hussein et al 2014, Neyaz et al 2017 & Alobaidan, et al 2018 who found that majority of the respondents adequately washed their hands before handling CL. While this findings contradicted the result in another study conducted by Briggs & Oduntan 1996 on fifty randomly selected young female CL users, who were students of King Saud University, the author expressed concern about the following: poor hand hygiene, inadequate care of lens and lens cases, improper use of cleaning solutions, and irregular follow-up visits In addition to the selection bias introduced by the study, their small sample size limits the generalization of their findings. Moreover, the findings reveal that about 17.3% of CL wearers reported often exchange lens with relatives and friends. This was similar to that reported by Abu Hussein et al, 2014 where 27.6% sometimes shared their CL with friends. Another supported study findings reported by Bamahfouz et al 2016 who found that 21.1% of students share their CL with others. As regarding medical eye follow up care, the present study shows that nearly half of the studied CL wearers reported not follow up with an ophthalmologist. This in conjunction with that reported by Bamahfouz et al 2016 who found that 62.9% of the participants did not request any special assistance for eye or CL follow-up. On the other hand, 20.8 and 20.2% of the CL wearers mentioned often sleeping with lens and 24.7% bath with it, respectively. This finding matched with that reported by Neyaz et al 2017 who found that 17.9% of the study undergraduate medical students slept while wearing the contact lens.

5. Conclusion & recommendations

It can be concluded that a great segment of students nearly two thirds 74.7% use CL, the most reported reason 75% is for cosmetic purpose and more than half 63.1% of them use CL without consultation from a medical specialist. The findings also reveal an acceptable good level of practices among CL wearers toward using it. So, a directed health education programs should be implemented to the consumers about the contact lens care and complications related to CL, which should be provided by all CL providers so that the prevalence of eye complications will be decreased among the CL wearers and further studies should be conducted to assess the prevalence CL use, knowledge and practice.

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