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RESEARCH ARTICLE

KNOWLEDGE OF FEMALE MEDICAL STUDENTS IN TABUK UNIVERSITY. REGARDING CONJUNCTIVITIS (EYE FLU) AS A COMMON HEALTH PROBLEM

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Abstract

Background: Conjunctivitis (eye flu) is a common health problem. Supportive care and isolation helps to control the disease and limit its adverse outcomes. Having enough knowledge of conjunctivitis is necessary for prevention and spread of conjunctivitis.

Objectives: To assess knowledge of different aspects of conjunctivitis and their determinants among female medical students in Tabuk University.

Subjects and methods: A cross-sectional descriptive study design was carried out during November, 2016 at Tabuk city including female students in the second to the sixth academic years registered at Faculty of Medicine, Tabuk University city. Data were collected through a self-report questionnaire including demographic data and questions regarding knowledge of causes of conjunctivitis, signs and symptoms and spread of diseases.

Results: The study included 107 female students. Their age ranged between 18 and 25 years (21.8±1.6 years). Majority of them were singles (85%). The most known cause of conjunctivitis was bacteria/viruses (88.8%) while the least known was over crowding (41.1%). Concerning signs and symptoms of conjunctivitis, the most correctly recognized was eye turn reddish (83.2%) while the least recognized was green or white discharge from the eyes (48.6%). About 41.1%, 31.8% and 27.1% of female medical students had poor knowledge regarding conjunctivitis causes, signs/symptoms and overall, respectively. Among studied socio-demographic factors, the only factor proved to be significantly associated with knowledge of symptoms and sigs as well as overall knowledge of conjunctivitis was the academic level of students.

Conclusion: knowledge of conjunctivitis among female medical students is considered poor among at least one quarter of them in some aspects which should be considered in their education to prevent spread of infection to and from their future patients.

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Introduction:-

Conjunctivitis is the inflammation of the conjunctiva. It has four main causes; namely viruses, bacteria, allergens, and irritants. Out of these types, the acute infective types caused by viruses and bacteria are the most frequently reported ocular disorders in primary care settings.[1,2] Clinically, it is hard and difficult to differentiate between bacterial and viral forms of conjunctivitis.[3]

The commonest reported symptoms of acute infective conjunctivitis include foreign body sensation, mild pruritus, and mild photophobia while the most prominent signs include generalized conjunctival infection, crusted eyelids that are often matted shut, especially after sleep, and either purulent or watery discharge from one or both eyes, but no loss of visual acuity.[4]

These symptom of conjunctivitis are not uncommon accounting for approximately 15% of consultations for ophthalmologists and 6% for general medical practitioners in Eastern Europe.[5] It also represented 40% of all outpatients seen in Ghana in 2004.[6] In Nigeria, Lawan observed 14.8% of patients attending their teaching hospital eye clinic presenting with conjunctivitis.[7]

A major cause of concern to health care professionals is the late presentation of patients with conjunctivitis at a standard health facility.[8] Oftentimes, in developing countries, individuals try various forms of medications, both orthodox and traditional, which they consider as first aid measures. This has been shown to result in severe ocular complications, including blindness.[9]

The knowledge and attitude of a community regarding a disease often influence members' practices including health seeking behavior. Studies carried out in developing countries showed a sub-optimal level of knowledge, attitude, and perception of ocular conditions and eye health in general.[10-12]

This study aimed to assess awareness of different aspects of conjunctivitis and their determinants among female medical students in Tabuk University.

Subjects and methods:-

A cross-sectional descriptive study design was carried out at Tabuk city which is the capital city of the Tabuk Region in Northwestern Saudi Arabia. Tabuk has a population of 534,893 (2010 census). In Tabuk, there is one university. The study included female students in the second to the sixth academic years registered at Faculty of Medicine, Tabuk University city and present at the period of the study (November, 2016).

Data were collected through a self-report questionnaire. It has been used in another study,and proved to be valid and reliable as Kappa (k), weighted kappa (kw) were used to evaluate the test-retest reliability of the questionnaire and internal consistency was assessed by Cronbach's alpha (α) coefficients (k = 0.86), (kw = 0.9), (α =0.78). It comprised of demographic data like age, sex, nationality, marital status, experience since graduation, position and qualification and questions regarding causes of conjunctivitis, signs and symptoms, spread of diseases.

Approval of the Regional Research and Ethics committee at Tabuk University was obtained as well as written permission from concerned authorities was obtained. Additionally, individual consent was a prerequisite for data collection.

The demographics data were checked. Total awareness and knowledge score was computed for students and comparison was performed according to their demographic characteristics. Continuous variables were presented as mean and standard deviation (SD) while categorical variables were presented as frequency and percentage. Chi square test (χ^2) was used to compare 2 or more qualitative variables. Multivariate logistic regression analysis was adopted to control for confounders. Significance was determined at p value ≤ 0.05 and confidence interval of (95%CI) did not include 1. This was done using Statistical package for Social sciences (SPSS, 22) software.

Results:-

The study included 107 female students. Their age ranged between 18 and 25 years (21.8±1.6 years). Majority of them were singles (85%). Their fathers` and mothers` education was university or above among 54.2% and 38.4% of

them, respectively. Regarding their fathers` job, 37.4% and 31.8% were civil workers or militaries, respectively. Almost two-thirds of their mothers (68.2%) were house wives. Table 1

Table 1: Socio-demographic profile of the participants (n=107)

	Frequency	Percentage
Age in years		
≤22	62	57.9
>22	45	42.1
Academic level		
Second	27	25.2
Third	15	14.0
Fourth	16	15.0
Fifth	25	23.4
Sixth	24	22.4
Marital status		
Single	91	85.0
married	16	15.0
Father`s education		
Illiterate	6	5.6
Primary	8	7.5
Intermediate	13	12.1
Secondary	22	20.6
University	44	41.1
Postgraduate	14	13.1
Father`s job		
Civil	40	37.4
Military	34	31.8
Business/trading	7	6.5
Retired	17	15.9
Not working	9	8.4
Mother`s education		
Illiterate	6	5.6
Primary	15	14.0
Intermediate	24	22.4
Secondary	21	19.6
University	34	31.9
Postgraduate	7	6.5
Mother`s job		
House wife	73	68.2
Working	34	31.8

Table 2 presents the correct responses of female medical students regarding causes, symptoms and signs of conjunctivitis. Regarding causes, the most known was bacteria/viruses (88.8%) while the least known was over crowding (41.1%). Concerning signs and symptoms, the most correctly recognized was eye turn reddish (83.2%) while the least recognized was green or white discharge from the eyes (48.6%).

Table 2:- Knowledge of female medical students, Tabuk University regarding conjunctivitis (n=107)

	Right answer	
	N	%
Causes of conjuntivitis		
Direct contact with infected person	80	74.8
Over crowding	44	41.1
Unhygienic surroundings	75	70.1
Eye strain	52	48.6
Bacteria/viruses	95	88.8
Irritating substances or materials in the eye	75	70.1

Allergies	84	78.5
Environmental factors such as smoke, dust or pollen	64	59.8
Chemical splash in the eye	69	64.5
Signs and symptoms of conjuntivitis		
Eye turn reddish	89	83.2
Itching in the eye	78	72.9
Watery secretion from the eyes	82	76.6
Pus formation in the eyes	73	68.2
Redness in the inner eyelid	72	67.3
Increased amount of tears	78	72.9
Thick yellow discharge from eyes, which crust over the eyelashes, especially after sleep	76	71.0
Green or white discharge from the eyes	52	48.6
Burning eyes	75	70.1
Blurred vision	75	70.1
Increased sensitivity to light	80	74.8
Inflamed eyes	76	71.0

As evident from figure 1, 41.1%, 31.8% and 27.1% of female medical students had poor knowledge regarding conjunctivitis causes, signs/symptoms and overall, respectively.

Among studied socio-demographic factors, the only one proved to be significantly associated with knowledge of symptoms and sigs as well as overall knowledge of conjunctivitis was the academic level of students where the highest level of good knowledge was reported among students of the fourth academic year (100%) whereas the lowest level was reported among those of the third academic level (53.3%), p=0.024 and 0.006 for knowledge of symptoms and signa and overall knowledge, respectively. Table 3

Table 3:- Socio-demographic factors associated with knowledge of conjunctivitis among female medical students, Tabuk University.

	Causes		Symptoms/signs		Total	
	Poor N=44 N (%)	Good N=63 N (%)	Poor N=34 N (%)	Good N=73 N (%)	Poor N=29 N (%)	Good N=78 N (%)
Age in years						
≤22 (n=62)	28 (45.2)	34 (54.8)	21 (33.9)	41 (66.1)	21 (33.9)	41 (66.1)
>22 (n=45)	16 (35.6)	29 (64.4)	13 (28.9)	32 (71.1)	8 (17.8)	37 (82.2)
p-value	0.319		0.585		0.064	
Academic level						
Second (n=27)	12 (44.4)	15 (55.6)	11 (40.7)	16 (59.3)	11 (40.7)	16 (59.3)
Third (n=15)	9 (60.0)	6 (40.0)	7 (46.7)	8 (53.3)	7 (46.7)	8 (53.3)
Fourth (n=16)	4 (25.0)	12 (75.0)	0 (0.0)	16 (100)	0 (0.0)	16 (100)
Fifth (n=25)	12 (48.0)	13 (52.0)	10 (40.0)	15 (60.0)	8 (32.0)	17 (68.0)
Sixth (n=24)	7 (29.2)	17 (70.8)	6 (25.0)	18 (75.0)	3 (12.5)	21 (87.5)
p-value	0.203		0.024		0.006	
Marital status						
Single (n=91)	35 (38.5)	56 (61.5)	30 (33.0)	61 (67.0)	25 (27.5)	66 (72.5)
Married (n=16)	9 (56.3)	7 (43.8)	4 (25.0)	12 (75.0)	4 (25.0)	12 (75.0)
p-value	0.182		0.376		0.553	
Father`s education						
Illiterate(n=6)	3 (50.0)	3 (50.0)	3 (50.0)	3 (50.0)	2 (33.3)	4 (66.7)
Primary (n=8)	3 (37.5)	5 (62.5)	3 (37.5)	5 (62.5)	2 (25.0)	6 (75.0)
Intermediate (n=13)	3 (23.1)	10 (76.9)	4 (30.8)	9 (69.2)	2 (15.4)	11 (84.6)
Secondary (n=22)	15 (68.2)	7 (31.8)	11 (50.0)	11 (50.0)	11 (50.0)	11 (50.0)
University (n=44)	15 (34.1)	29 (65.9)	10 (22.7)	34 (77.3)	8 (18.2)	36 (81.8)
Postgraduate (n=14)	5 (35.7)	9 (64.3)	3 (21.4)	11 (78.6)	4 (28.6)	10 (71.4)
p-value	0.084		0.238		0.123	

Father`s job						
Civil (n=40)	18 (45.0)	22 (55.0)	11 (27.5)	29 (72.5)	12 (30.0)	28 (70.0)
Military (n=34)	11 (32.4)	23 (67.6)	11 (32.4)	23 (67.6)	7 (20.6)	27 (79.4)
Business/trading (n=7)	4 (57.1)	3 (42.9)	1 (14.3)	6 (85.7)	1 (14.3)	6 (85.7)
Retired (n=17)	8 (47.1)	9 (52.9)	6 (35.3)	11 (64.7)	6 (35.3)	11 (64.7)
Not working (n=9)	3 (33.3)	6 (66.7)	5 (55.6)	4 (44.4)	3 (33.3)	6 (66.7)
p-value	0.637		0.437		0.692	
Mother`s education						
Illiterate (n=6)	0 (0.0)	6 (100)	2 (33.3)	4 (66.7)	1 (16.7)	5 (83.3)
Primary (n=15)	8 (53.3)	7 (46.7)	5 (33.3)	10 (66.7)	5 (33.3)	10 (66.7)
Intermediate (n=24)	9 (37.5)	15 (62.5)	5 (20.8)	19 (79.2)	4 (16.7)	20 (83.3)
Secondary (n=21)	11 (52.4)	10 (47.6)	10 (47.6)	11 (52.4)	8 (38.1)	13 (61.9)
University (n=34)	12 (35.3)	22 (64.7)	10 (29.4)	24 (70.6)	8 (23.5)	26 (76.5)
Postgraduate (n=7)	4 (57.1)	3 (42.9)	2 (28.6)	5 (71.4)	3 (42.9)	4 (57.1)
p-value	0.182		0.564		0.503	
Mother`s job						
House wife (n=73)	31 (42.5)	42 (57.5)	24 (32.9)	49 (67.1)	20 (27.4)	53 (72.6)
Working (n=34)	13 (38.2)	21 (61.8)	10 (29.4)	24 (70.6)	9 (26.5)	25 (73.5)
p-value	0.679		0.720		0.920	

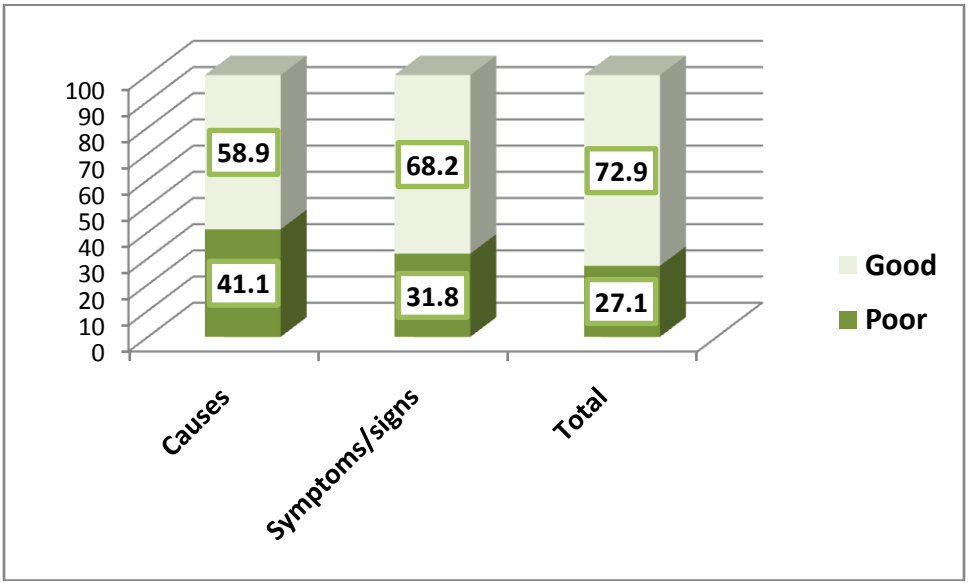

Figure 1:- Knowledge level of female medical student, Tabuk University regarding conjunctivitis.

Discussion:-

Medical students as future doctors are at higher risk for catching infection from patients including conjunctivitis as it has been reported that bacteria may remain in suspension in the air for up to half an hour [13] and there is a risk that the protective mechanisms of the eye may be overwhelmed by high concentrations of pathogen.[14] Therefore it important for future physicians to be aware of conjunctivitis, particularly cause, symptoms and signs. Therefore, this study was carried out to assess their awareness regarding this health problem. Up to our knowledge, this is the first study to explore knowledge and awareness of conjunctivitis among female medical students in Tabuk region. The results of the study were reasonable and can be generalized over other regions in the Kingdom.

The present survey showed that 41.1%, 31.8% and 27.1% of female medical students in Tabuk University, Saudi Arabia had poor knowledge regarding causes, signs and symptoms of conjunctivitis.

Regarding common symptoms and signs of conjunctivitis, majority of female medical students (83.2%) could recognize that eye turn reddish in conjunctivitis. This figure is lower than that reported in another study carried out

among dentists and dental auxiliaries in India (95.4%) [15] and that reported in United kingdom among general practitioners (90.9%). [16]

In the current study, almost three quarters of female medical students reported that direct contact with infected person was the cause of conjunctivitis. This figure is slightly lower than that reported among dentists and dental auxiliaries in India (80.9%), [15] whereas it is higher than that reported in UK among general practitioners (58.5%).[16] Bacterial and viral forms of conjunctivitis can be spread easily from infected person to others. They can be spread by coughing or sneezing. Bacteria or viruses can get in eyes through contact with contaminated objects, including hands, cosmetics, washcloths or towels, artificial eyelashes and even soft contact lenses.[17]

In conclusion, awareness and knowledge of conjunctivitis among female medical students is considered poor among at least one quarter of them in some aspects which should be considered in their education to prevent spread of infection to and from their future patients.

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