

Background

Dry eye disease (DED) is considered one of the most prevalent ocular diseases worldwide, it is a multifactorial disease that is considered a growing public health concern.[1,2] Symptoms of DED like burning, itching and blurred vision may significantly contribute to decreased quality of life in DED patients, as well as reduced performance in many daily activities.[3,4] In Saudi Arabia, as shown by a recent study, the prevalence of DED was 32.1%.

Methods

This cross-sectional study was conducted on a population of Saudi workers, both males and females who are 20 years old and above. The data were collected via a self-administered survey that was distributed electronically through social media. Ocular Surface Disease Index (OSDI) questionnaire was used to diagnose DED patients and to assess the severity of the symptoms. The statistical analysis was performed using RStudio version 1.1.363 (RStudio Inc., Boston, MA).

Work hours missed due to dry eye weekly		Severity of dry eye								P-value
		Mild dry eye		Moderate dry eye		Severe dry eye		Count	Percent %	
		Count	Percent %	Count	Percent %	Count	Percent %			
1-2 hours	23	5.0%	3	4.3%	0	0.0%	20	6.1%	.094	
3-5	2	0.4%	0	0.0%	0	0.0%	2	0.6%		
6-8	8	1.8%	0	0.0%	0	0.0%	8	2.5%		
>8	2	0.4%	1	1.4%	1	1.5%	0	0.0%		
I don't miss work	428	92.4%	66	94.3%	65	98.5%	297	90.8%		

Table 2: HAVE PROBLEMS WITH YOUR EYES LIMITED YOU IN PERFORMING ANY OF THE FOLLOWING DURING THE LAST WEEK:

	Reading		Driving at night		Working with a computer		Watching TV	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
None of the time	59	11.5	73	14.2	90	17.5	74	14.4
Some of the time	132	25.7	141	27.5	128	25.0	154	30.0
Half of the time	178	34.7	120	23.4	130	25.3	139	27.1
Most of the time	58	11.3	41	8.0	77	15.0	68	13.3
All of the time	49	9.6	30	5.8	31	6.0	40	7.8
N/A	37	7.2	108	21.1	57	11.1	38	7.4

Discussion

We assess the impacts of DED on participants during work and during performing their daily activities finding that most of patients did not think that DED can make them miss a workday and did not affect their functional performance however almost two third of them indicated that they need to take a break during work because of DED. Furthermore, we found that DED had a negative impact on performing daily activities as reading, driving, watching the TV and working on computer. Many studies had been conducted to assess the impacts of DED on work and economy as study of Yamada 2011 [1], who found that productivity was significantly lower in population with dry eye than that in control group. In the same study when this reduction was converted into amount of money, it was found that the annual difference between the two groups was 799 USD indicating that DED had a significant burden on individual office workers. Moreover, Nichols 2016 [2] found that DED resulted in loss of 0.36 % of work time and reduce about 30 % of work performance and daily non-job related activities.

Objectives

To assess the impact of DED on the work productivity, as well as to investigate the factors associated with severity of DED.

Results

All three severity groups reported loss of work productivity. The percent of participants reporting difficulty focusing on work due to DED were 17.1% in the mild dry eye group, 22.7% in the moderate dry eye group, and 59% in the severe dry eye group, indicating significantly worse productivity with the progression of the DED severity ($P < 0.05$). Participants with severe DED (35.8%) reported significantly higher affected work hours weekly than participants with moderate (6.1%) and mild DED (7.1%).

		Severity of dry eye								P-value
		Mild dry eye		Moderate dry eye		Severe dry eye		Count	Percent %	
		Count	Percent %	Count	Percent %	Count	Percent %			
Work hours missed due to dry eye weekly	1-2 hours	23	5.0%	3	4.3%	0	0.0%	20	6.1%	.094
	3-5	2	0.4%	0	0.0%	0	0.0%	2	0.6%	
	6-8	8	1.8%	0	0.0%	0	0.0%	8	2.5%	
	>8	2	0.4%	1	1.4%	1	1.5%	0	0.0%	
	I don't miss work because of dry eyes	428	92.4%	66	94.3%	65	98.5%	297	90.8%	
Work hours affected due to dry eye weekly	1-2 hours	81	17.5%	2	2.9%	3	4.5%	76	23.2%	0.00*
	3-5	23	5.0%	3	4.3%	1	1.5%	19	5.8%	
	6-8	13	2.8%	0	0.0%	0	0.0%	13	4.0%	
	>8	9	1.9%	0	0.0%	0	0.0%	9	2.8%	
	My functional performance is not affected by dry eyes	337	72.8%	65	92.9%	62	93.9%	210	64.2%	
face difficulty in focusing due to dry eyes	Yes	220	47.5%	12	17.1%	15	22.7%	193	59.0%	0.00*
	No	243	52.5%	58	82.9%	51	77.3%	134	41.0%	
Take a break from work due to DED	Yes	311	67.2%	27	38.6%	27	40.9%	257	78.6%	0.00*
	No	152	32.8%	43	61.4%	39	59.1%	70	21.4%	
The necessity to stay away from air-conditioning, office equipment, or make any other changes in the work environment to reduce dry eye impact of dry eye on work performance during past week (0-10)	Yes	289	62.4%	23	32.9%	17	25.8%	249	76.1%	0.00*
	No	174	37.6%	47	67.1%	49	74.2%	78	23.9%	
Mean (SD)		2.542 (2.73)		0.84 (1.28)		1.272 (1.74)		3.16 (2.88)		0.000*

* significant at p-value < 0.05

Table 6: The impact of dry eye disease on the daily activities

Conclusions

DED and its severity had a significant effect on work performance and daily activities. Providing the treatment for the DED symptoms may improve work productivity. Furthermore, we found that DED had a negative impact on performing daily activities as reading, driving, watching the TV and working on computer. Increasing awareness of population, reducing hours of work and providing a break during work are the most important recommendations.

References

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