Original Article

Consumption of caffeinated beverages among orthodontic students

Muhammad Azeem, Muhammad Ali Hashim, Iqra Pervaiz, Muhammad Imran Khan

Departments of Orthodontics, Faisalabad Medical University and de,Montmorency College of Dentistry/Punjab Dental Hospital, Lahore, Pakistan

Objective: To evaluate the frequency of usage of caffeinated beverages among orthodontic students and its relationship with sleep disturbances.

Methodology: This cross sectional study was conducted over 3 months and included 100 orthodontic students. Data was collected utilizing a self-administered questionnaire and then analyzed on SPSS version 21.

Results: Out of 100 students, 20 (20%) were using caffeinated drinks. Out of 20 students, 40% had no difficulty in falling asleep and 60% had difficulty in sleeping. Mean sleep duration per day during week days was 7.18 hours and at weekends was 9.18 hours. Final year was having highest percentage of caffeinated drink consumer i.e. 80%. Among users, 70% of males and 30% of females took caffeinated drinks.

Conclusion: Consumption of caffeinated drinks was low (20%) among orthodontic students. There was no relationship between caffeinated beverages consumption and sleep disturbances. (Rawal Med J 201;43:161-163).

Key Words: Caffeinated drinks, caffeine, dental students.

INTRODUCTION

Sleep is necessary part of a human's life, and its influence should not be ignored.[1,2] Importance of sleep can be judged from that facts that sleep deprivation (?7 hours per night) can result in daytime sleepiness, lethargy, inattentiveness, risks for obesity, diabetes, CVS disorder, increases mean arterial blood pressure and other health issues. Caffeinated drink, containing caffeine and taurine, if used excessively, can result in body wakefulness, restlessness, anxiety, difficulty in sleeping, irregular heartbeats and detrimental health consequences.[3,4]

In one study on 18-55 year old subjects, it was found that caffeinated drinks, as compared to placebo, had energizing effects, that lasted 30 to 90 minutes after consumption.[5] Caffeine in drinks promoted dieresis, natriurisis, reduced insulin sensitivity and resulted in hypertension.[3-7] In a study on taurine and caffeine in drinks it was found that if given at bed time it had significant effect on sleep.[8]

Sleep disorders have been associated with lower school grades and impaired social interactions.[9] There exists a long standing belief among students that caffeinated drink consumption before examinations gives them good results when compared with students that sleep eight hours per night.[2] Many studies have examined sleep patterns and quality in Pakistani students. To the best of our knowledge, very few studies have investigated the frequency of usage of such drinks and its relationship with sleep quality and pattern among orthodontic students. Therefore, aim of this study was to evaluate the frequency of usage of caffeinated beverages among orthodontic students and its relationship with sleep disturbances.

METHODOLOGY

This cross sectional study was conducted after ethical approval at de'Montmorency College of Dentistry, Lahore, Pakistan from January 10, 2017 to April 10, 2017. It included 100 postgraduate orthodontic students, with ages of 27-35 years, selected using purposive sampling technique, after taking informed consent. Data were collected utilizing a self-administered questionnaire. Data were analyzed using SPSS version 21.

RESULTS

Out of 100 students, 30% were male and 70% were female. Mean age was 31.2±2.16 years. Mean sleep duration per day during week days was 7.18 hours and at weekends was 9.18 hours. 20% students have

been taking caffeinated drinks and 80% were not using them (Table 1).

Table 1. Demographic data (n=100).

Age	Mean±S.D.	31.2±2.16
Gender	Male	30 (30%)
	Female	70 (70%)
Class	First Year	18 (18%)
	Second Year	30 (30%)
	Third Year	10 (10%)
	Fourth Year	42 (42%)
Sleep duration (Hours)	Weekdays	7.18±1.021
	Weekends	9.18±2.090
Intake	Yes	20 (20%)
	No	80 (80%)

Table 2. Effect modifiers and caffeinated drink intake.

	Yes	No	p
First Year	20%	80%	
Second Year	55%	45%	
Third Year	30%	70%	0.00
Fourth Year	15%	85%	
Difficulty	45%	55%	0.798
Male	70%	30%	0.00
Female	30%	70%	0.00

Final year students had highest percentage of caffeinated drink consumption i.e. 80%. Among users, 55% has no difficulty in falling asleep and 45% had difficulty in sleeping. Among users 70% of males take caffeinated drinks while 30% of females take caffeinated drinks (Table 2).

DISCUSSION

In our study, 20% students were taking caffeinated drinks and 80% were not using them. Among students, 55% had no difficulty in falling sleep while 45% had difficulty in sleeping. A well-known management for sleep issue is regular exercise.[10] Improvement in sleep quality is beneficial for dental and medical students in their routine, study performance, and health status.[11-15] A modern society may be the reason many medico-dental students overlook significance of adequate sleep.

Studies have shown that 34% of 18-24 year old are addicted to caffeinated drinks.[16] Recent US surveys on college students showed that 51% were consuming at least one caffeinated drink during the previous 30 days; while majority of them were consuming these caffeinated drinks several times per week.[17,18] This is in contrast to our findings, which found that 20% of college students reported using caffeinated drink. Our findings are were not consistent with similar studies done elsewhere.[19]

Our study is an important scientific contribution, focusing on orthodontic students, as local studies are rare on this subject.[20-23] Orthodontic students in Pakistan should be educated of the influence of caffeinated drink uptake on sleep.

There are certain limitations of our study, cross-sectional study design, utilizing of error prone self-administered performa, limited sample size, lack of quantification of dose of caffeinated drink consumption, sample selection from one centre only and, not ruling out effect of routine exercise on sleep pattern. Further multi centric research with larger sample size is suggested

CONCLUSION

Consumption of caffeinated drinks was low (20%) among Pakistani orthodontic students. There was no relationship between caffeinated beverages consumption and sleep disturbances.

Author contributions:
Conception and design: Muhammad Azeem
Collection and assembly of data: Iqra Pervaiz, Ali Hashim
Analysis and interpretation of the data: Iqra Pervaiz, Ali Hashim
Drafting of the article: Imran Khan
Critical revision of the article for important intellectual content: Muhammad Azeem
Statistical expertise: Ali Hashim
Final approval and guarantor of the article: Ali Hashim
Corresponding author email: Muhammad Azeem: Dental Concepts:dental.concepts@hotmail.com
Conflict of Interest: None declared
Rec. Date: Aug 1, 2017 Revision Rec. Date: Oct 15, 2017 Accept Date: Nov 12, 2017

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