Consumption of caffeinated beverages among orthodontic students
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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.

Key Words: Caffeinated drinks, caffeine, dental students.

INTRODUCTION
Sleep is necessary part of a human's life, and its influence should not be ignored. 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).

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

Table 2. Effect modifiers and caffeinated drink intake.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>20%</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>Second Year</td>
<td>55%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>Third Year</td>
<td>30%</td>
<td>70%</td>
<td>0.00</td>
</tr>
<tr>
<td>Fourth Year</td>
<td>15%</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>Difficulty</td>
<td>45%</td>
<td>55%</td>
<td>0.798</td>
</tr>
<tr>
<td>Male</td>
<td>70%</td>
<td>30%</td>
<td>0.00</td>
</tr>
<tr>
<td>Female</td>
<td>30%</td>
<td>70%</td>
<td>0.00</td>
</tr>
</tbody>
</table>

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 asleep and 45% had difficulty in sleeping. A well-known management for sleep issue is regular exercise. Improvement in sleep quality is beneficial for dental and medical students in their routine, study performance, and health status. 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. 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.

REFERENCES

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Consumption of caffeinated beverages among orthodontic students