

Knowledge and awareness of dental students on attention deficit hyperactivity disorder

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ABSTRACT

Attention deficit hyperactivity disorder (ADHD) is a prevalent psychiatric illness marked by a short span of attention, impulsive decisions, and behavioral issues. They are vulnerable to trauma and dental problems. The dental health team faces a challenge due to behavioral disorders, cognitive deficiencies, and short attention spans. At all stages of prevention and treatment, the management of these children necessitates various changes in approach. To collect data and analyze the awareness level of dental students toward ADHD. An online portal was used for the survey and distributed to 106 dentistry students with self-structured 10 questions. The findings were gathered through the survey portal, and graphs were drawn to compare the results. The SPSS software version 20.0 was used for statistical analysis. The Chi-square test was used to determine the correlation between the variables. Forty percent of those polled are aware of ADHD, which is a mental health condition characterized by excessively active and impulsive behavior. The symptoms of a child with ADHD are aware to 31.43% of voters. About 30.48% of the respondents know the symptoms of an adult with ADHD. About 29.52% of the respondents were aware of the causes of ADHD. To conclude that most dental undergraduates are not aware of the basic characteristics of ADHD. This means that there should be a spreading of knowledge on the subject. A dental student or dentist must know how to manage a patient diagnosed with ADHD. Careful management and treatment will lead to a satisfied and happy patient. Mismanagement may cause problems in the future for both the dentist and the patient.

Key words: Attention deficit hyperactivity disorder, awareness, dental students, innovative technology, novel method, oral hygiene, psychiatric disorder

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is considered a common disease in children.^[1] A classic trifecta

of symptoms includes a lack of focus, hyperactivity, and impulsivity. ADHD is of three types, depending on the intensity of the symptoms: mostly not attentive, persistently hyperactive-impulsive, and the combination form, in which all forms express themselves equally.^[2] ADHD symptoms (inattention, hyperactivity, and impulsivity) are most visible in the early stages of a child's education when they are in elementary school. It lasts into adolescence and adulthood in 30% of instances. Language deficits in children, oppositional defiant behavior, anxiety, fine motor

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and coordination problems, and specific learning challenges are all connected disorders.^[3]

Children with ADHD are more prone to dental caries, molar incisor hypoplasia, and dental trauma injuries.^[4] According to studies, the increased incidence of caries is related to inadequate oral hygiene practices among these youngsters, who are neglectful and unable to wash their teeth properly.^[5] Based on a 1997 Health Survey for England, Lalloo determined that hyperactive children are twice as likely as the control group to suffer a facial and/or dental injury.^[6] A study shows that these children have habits detrimental to their teeth such as bruxism and nail biting.^[7] Oral hygiene and eating habits are recognized to be more difficult for children with ADHD. They should be inspected more frequently and have more dental checkups scheduled to avoid the progression of dental caries as a result of their oral health habits. Diagnosed teens, on the other hand, have a much-increased prevalence of caries and an elevated gingival irritation layer, according to studies.^[8] Patients with ADHD complained more of toothaches, oral trauma, teeth grinding, and bleeding gums as well as having more decaying tooth surfaces.^[9] Patients with this disorder, even when medicated, are thought to have an increased risk of oral injuries due to their hyperactivity and impulsiveness.

When children visit dental clinics, they are more likely to experience greater anxiety. Nonpharmacological management approaches are critical for the successful management of these youngsters.^[10] These include:

- Preappointment preparation: Before beginning treatment, the child should be prepared by familiarizing himself or herself with the dental atmosphere by encouraging the parent to accompany the child for a preappointment visit to the clinic^[11]
- Early morning appointments are encouraged as the child and the dentist will not be much weary, and the child can pay attention better. Avoid appointments during rebound periods^[12]
- Multiple short visits are proved to be better than a few, prolonged visits
- Instructions should be reiterated in a clear and simple manner. The importance of repetition in the development of a child's self-confidence cannot be overstated^[13]
- The use of colorful and bright study materials has been found to be effective in the delivery of education on oral health^[14]
- The approach of Tell-Show-Do behavior management has been demonstrated to be quite beneficial in the treatment of children with ADHD^[15]
- Positive reinforcement in the form of praise and encouragement is crucial in the management of these youngsters, and positive behavior should be recognized
- When children do not react to other behavior management strategies, protective stabilization (physical restrictions) may be recommended.^[16]

For children who do not react well to nonpharmacological behavior control, pharmacological behavior management may propose sedation. Dentists should be alert in using sedative medicines because they are already taking stimulant drugs, which can counteract sedation. The dentist must get an opinion from the child's physician before prescribing these medications. Sedative medicines including demerol, promethazine, and nitrous oxide can be used to effectively manage these youngsters.^[17] Our team has extensive experience in research and vast knowledge which helped to produce publications of high quality.^[18-32] The aim of this article is to highlight the most important aspects of ADHD and analyze its awareness among dental undergraduates.

MATERIALS AND METHODS

A survey was done to examine and assess dental students' perceptions of ADHD. A self-structured questionnaire was designed, and a survey through an online portal was distributed to 100 dental students chosen at random using social media tools. The findings were gathered through the survey portal, and graphs were drawn for comparing the results. The results were statistically analyzed using the Statistical Package for Social Sciences version 20.0, IBM, India. Frequency and percentage were used to express descriptive statistics. The connection between the variables was determined using the Chi-square test. The poll was designed for determining the level of awareness among dentistry students about the syndrome.

RESULTS

Diagnosis of ADHD has a major effect on the condition of oral hygiene of the patient. It is a dentist's duty to identify such a condition and treat it accordingly, with special care and attention. Therefore, dental students' awareness of such a topic of mental illnesses is as equally important as their main subjects. The dental students were asked 10 questions inquiring about their knowledge of the basics of ADHD such as its signs, symptoms, its oral manifestations, and how to manage such cases.

DISCUSSION

Figure 1 showed the gender distribution of the participants where 49.06% are male and 50.94% are female. Figure 2 revealed that 40% of the respondents are aware of ADHD, a mental health condition characterized by excessively energetic and impulsive behavior. Figure 3 showed that 31.43% of respondents are aware of the symptoms of a child with ADHD, which include lack of attention and careless mistakes, does not seem to be listening, not willing to do things that require long sitting, forgetting about routine activities, has organizing problems, and is easily distracted. Figure 4 showed that 30.48% of the respondents know

the symptoms of an adult with ADHD which includes, anxiety, impulsiveness, low self-esteem, problems at work, substance misuse or addiction, trouble controlling anger, and trouble staying organized. Figure 5 showed that 29.52% of the respondents know the causes of ADHD, which include injury or disorder of the brain, brain changes, chemicals, genes, toxins, poor nutrition, smoking, drinking, infections, and substance abuse during pregnancy. Figure 6 showed whether the dental students think there is a cure for this disease. About 27.62% of the respondents answered yes, 33.33% said no, and the majority 39.05% said maybe. Figure 7 showed the responses to the question “following are the medicines used to treat ADHD.” About 41.90% of the respondents reported the correct answer; amphetamine.

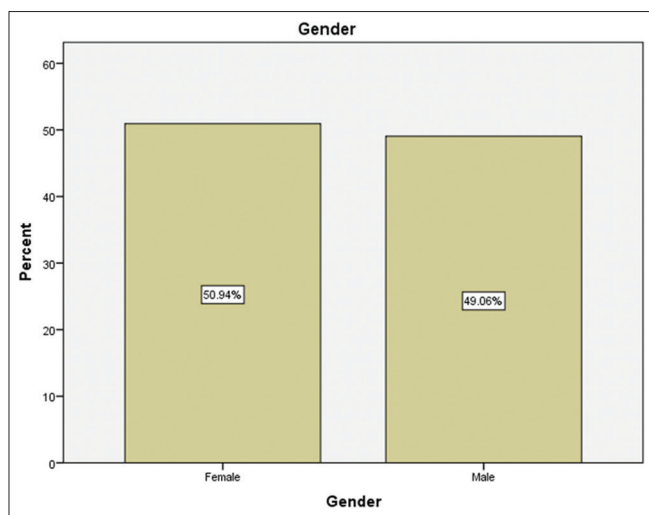


Figure 1: The gender distribution of the participants of the survey. About 49.06% are male and the remaining 50.94% are female

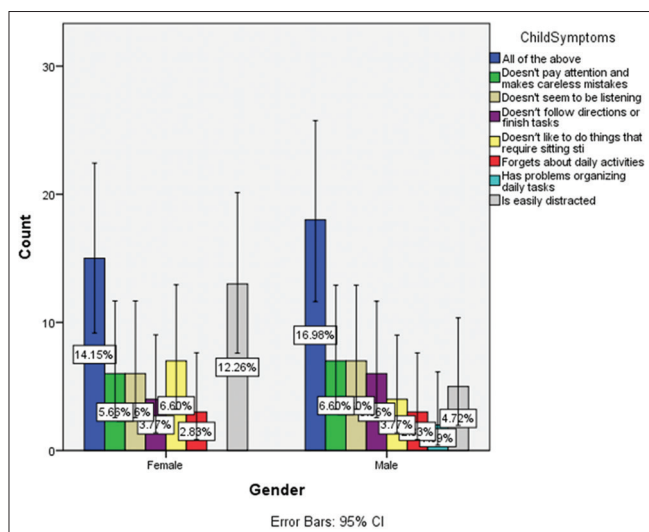


Figure 3: The association between gender and answer to the question “which of the following does a child with ADHD experience?” The X-axis indicates the gender of the participants and the Y-axis indicates the answer ($P = 0.029$, statistically insignificant). ADHD: Attention deficit hyperactivity disorder

Figure 8 showed the response to the question “following is a medical device for diagnosed children who are not undergoing treatment through medication.” Only 27.62% of the respondents reported the correct answer; monarch external trigeminal nerve stimulation. Figure 9 showed the responses to the question “which of the following types is the most common in ADHD?.” Only 34.29% of the respondents reported the correct answer; combined

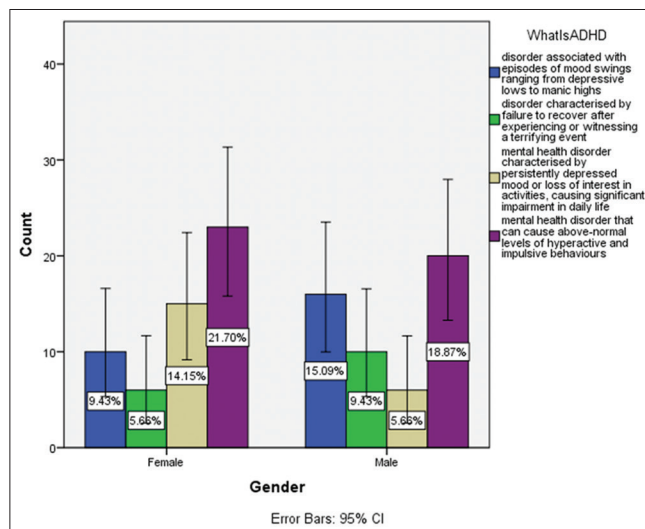


Figure 2: The association between gender and answer to the question “what is ADHD.” The X-axis indicates the gender of the participants and the Y-axis indicates the answer (Chi-square = 13.939, $P = 0.083$, statistically insignificant). ADHD: Attention deficit hyperactivity disorder

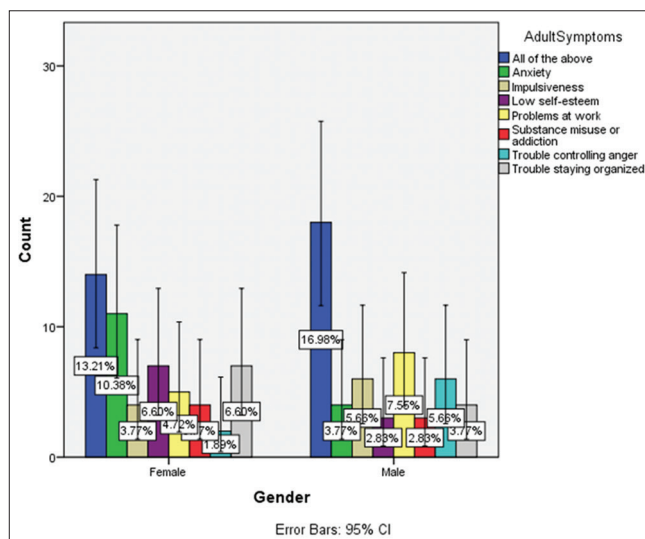


Figure 4: The association between gender and response to the question “which of the following does an adult with ADHD experience?” The X-axis indicates the gender of the participants and the Y-axis indicates the answer ($P = 0.012$, statistically insignificant). The correct answer is all of the above includes anxiety, impulsiveness, low self-esteem, problems at work, substance misuse or addiction, trouble controlling anger, and trouble staying organized. ADHD: Attention deficit hyperactivity disorder

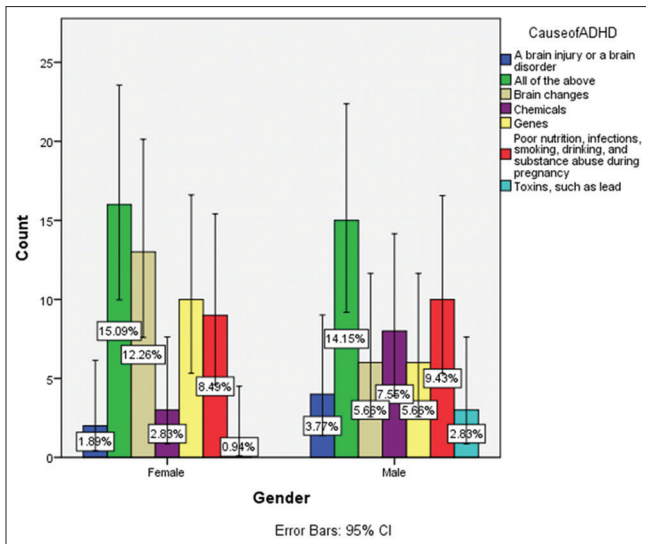


Figure 5: The association between gender and answer to the question “which of the following is a cause of ADHD?” The X-axis indicates the gender of the participants and the Y-axis indicates the answer ($P = 0.015$, statistically insignificant). The correct answer is all of the above includes a brain injury or a brain disorder, brain changes, chemicals, genes, toxins, poor nutrition, smoking, infections, drinking, and substance abuse during pregnancy. ADHD: Attention deficit hyperactivity disorder

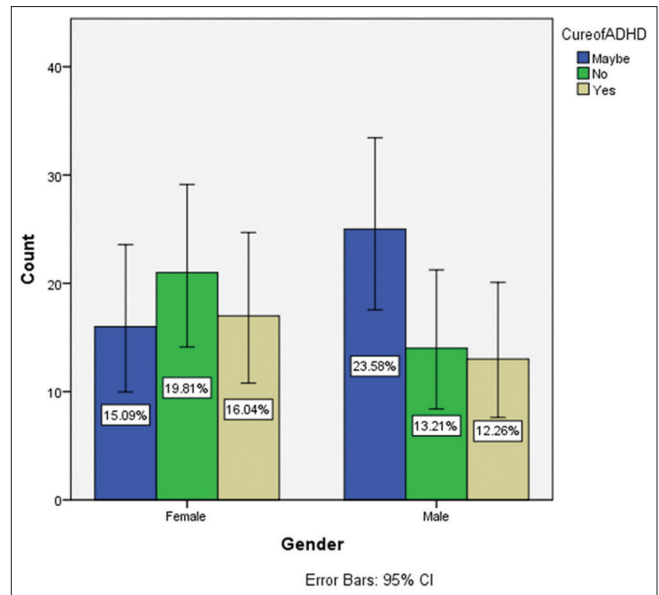


Figure 6: The association between gender and answer to the question “do you think there is a cure for ADHD?” The X-axis indicates the gender of the participants and the Y-axis indicates the answer ($P = 0.006$, statistically insignificant). ADHD: Attention deficit hyperactivity disorder

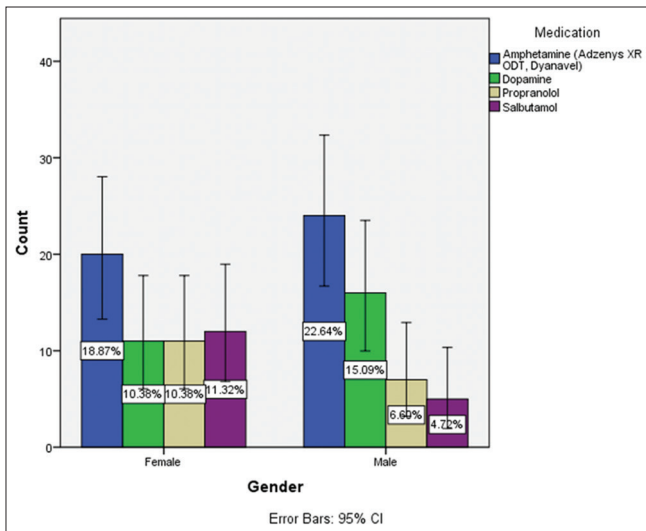


Figure 7: The association between gender and answers to the question “following are the medicines used to treat ADHD.” The X-axis indicates gender and Y-axis indicates the answer ($P = 0.011$, statistically insignificant). The correct answer is amphetamine. ADHD: Attention deficit hyperactivity disorder

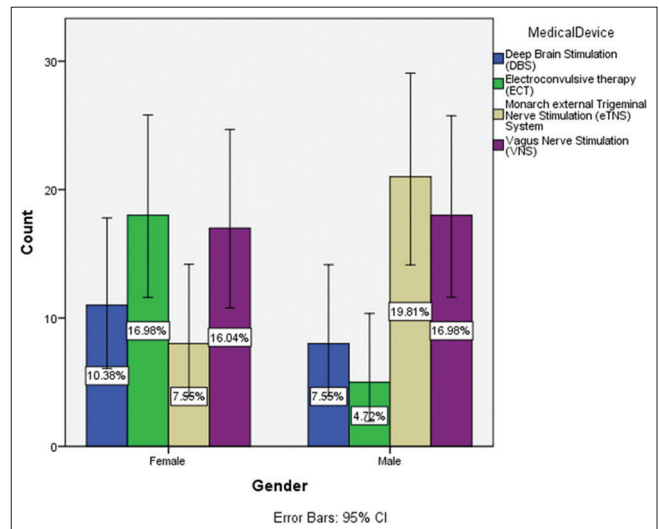


Figure 8: The association between gender and the answer to the question “following is a medical device for diagnosed children who are not undergoing treatment through medication.” The X-axis indicates gender and Y-axis indicates the answer ($P = 0.007$, statistically insignificant). The correct answer is monarch external trigeminal nerve stimulation. ADHD: Attention deficit hyperactivity disorder

presentation. Figure 10 showed the participants’ responses to the question “which of the following techniques is helpful in managing ADHD?” The correct answer is 28.57%, which includes developing healthy eating habits, adequate sleep, limiting watching of televisions, computers, phones, and other electronics, and engaging in daily physical activity based on age. Figure 11 showed the answer to the question “do you think therapy is important in helping ADHD

patients cope with the difficulties of daily life?” About 45.71% of the respondents reported yes, 22.86% said no, and the rest 31.43% said maybe.

Limitations

The small sample size and inclusion of only a single type of population are the limitations of this survey.

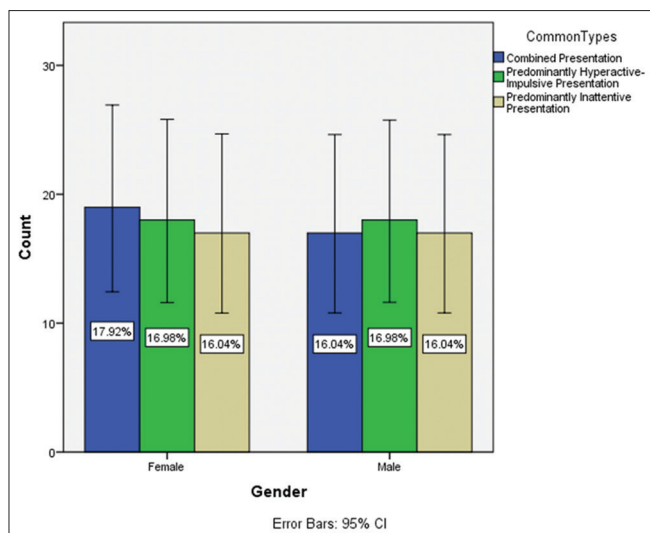


Figure 9: The association between gender and the answer to the question “which of the following types is the most common in ADHD?” The X-axis indicates gender and Y-axis indicates the answer ($P = 0.007$, statistically insignificant). The correct answer is combined presentation. ADHD: Attention deficit hyperactivity disorder

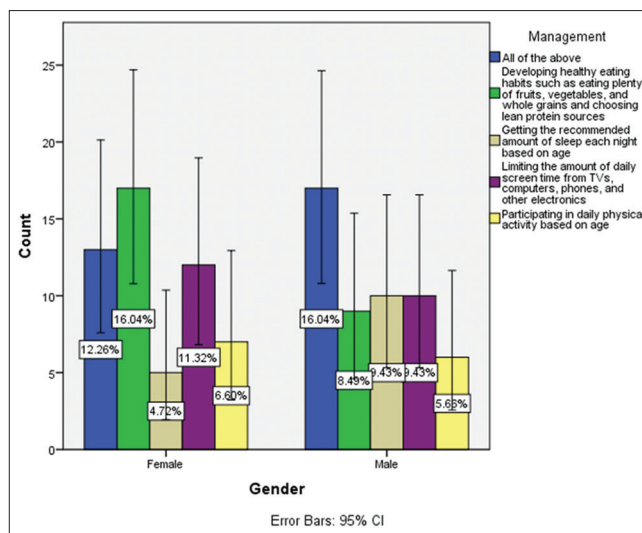


Figure 10: The association between gender and the answer to the question “which of the following techniques is helpful in managing ADHD?” The X-axis indicates gender and Y-axis indicates the answer ($P = 0.049$, statistically insignificant). The correct answer is all of the above which includes, developing healthy eating habits, getting adequate sleep, limiting the time of watching TV, computers, phones, and other electronics, and daily physical activity based on age. ADHD: Attention deficit hyperactivity disorder, TV: Television

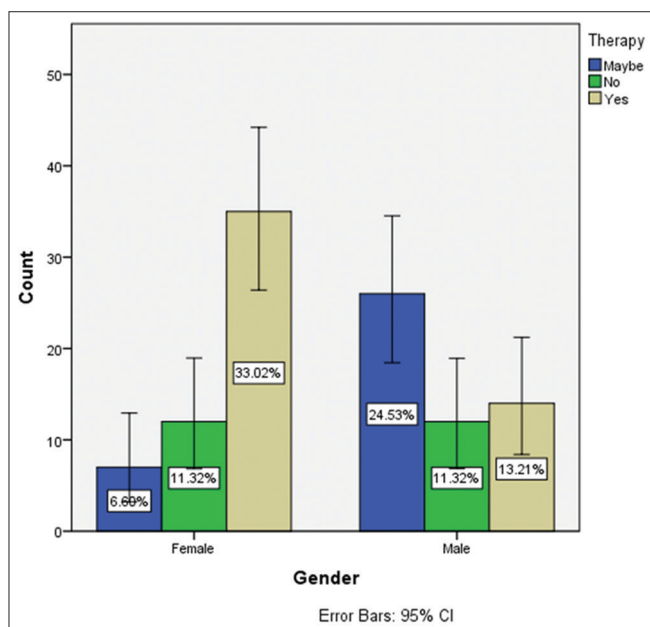


Figure 11: The association between gender and answers to the question “do you think therapy is important in helping ADHD patients cope with the difficulties of daily life?” The X-axis indicates gender and Y-axis indicates the answer ($P = 0.072$, statistically insignificant). ADHD: Attention deficit hyperactivity disorder

CONCLUSION

To conclude, most dental students are unaware of the basic characteristics of ADHD. This means that there should be a spreading of knowledge on the subject. A dental student or dentist must know how to manage a patient diagnosed with ADHD. Careful management and treatment will lead

to a satisfied and happy patient. Mismanagement may cause problems in future for both the dentist and the patient.

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Conflicts of interest

There are no conflicts of interest.

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