ADHD and oral health

Learning outcomes:

- develop a basic knowledge of ADHD, its diagnosis and management;
- gain an understanding of the relevance of ADHD to dental care;
- identify specific oral health risks related to ADHD; and,
- obtain clinical tips for helping people with ADHD in the dental setting.

Introduction

Attention deficit hyperactivity disorder (ADHD) is a common condition, occurring in approximately 5% of children, and in 60% of cases it persists into adulthood. This paper brings together the work of a patient representative (KK), an advanced nurse practitioner (EK) and a dentist (KF), to discuss ADHD, its diagnosis, its management, and the relevance of ADHD to dental care. Specific oral health risks related to ADHD are outlined, and a number of resources for helping people with ADHD in the dental setting are suggested.

ADHD

ADHD is a neurodevelopmental condition that is estimated to affect 5% of children in Ireland (60,000 children). The condition persists into adulthood for over 60%, meaning that there are well over 100,000 adults in Ireland who also have the condition.[1]

The rates for assessment and treatment are low – ADHD is underdiagnosed. Although 30-50% of all children using Child and Adolescent Mental Health Services (CAMHS) are there for ADHD assessment and treatment, this does not capture all children with the condition. There are no figures for the treatment rates for adults, but estimates place this at around 10%. Many individuals with ADHD go undiagnosed, so dentists are very likely to meet individuals with a diagnosis of ADHD and others who have it but may not be aware of the condition. ADHD is a highly heritable condition. The most common age for diagnosis is pre-pubescence (eight to 12 years); however, boys are diagnosed at a rate of 4:1 compared to girls in that age range, highlighting that there can be misunderstanding about ADHD. For example, not all those with ADHD are hyperactive. Inattention and impulsiveness are other key behavioural features of the condition. Indeed, girls with ADHD tend to have more of the inattentive features – they may be known as a 'dreamer'. It is also worth bearing in mind that ADHD is highly comorbid with other conditions such as dyslexia, dyspraxia and autism.

The science around ADHD has improved significantly in the past 20 years and we now know that the aetiology of ADHD is around abnormal dopamine signalling in the frontal cortex and a deficiency of noradrenaline in the reticular activating system.[1,2] However, even with this knowledge, the greatest challenge in having ADHD is not the condition itself but rather the stigma and the low self-esteem that it brings.

Child

On sensory overload:

"It's just like a lot of talking and like whispering going on like you know that's just normal…but…I just don't really like that either but there's a lot of sounds. They're working on your mouth and the light's in your face, and they have like glasses on. I don't know what's going on. Only they know what's going on."

Why do dental teams need to know about ADHD?

- It is helpful for people with ADHD to know that their dental team understands their condition, allowing a partnership approach to dental care;
- an ADHD-friendly dental practice will empower people with ADHD to achieve their best oral health, reduce the stigma associated with the condition, and contribute towards improved self-esteem;
- for the team, the principles of care when looking after someone with ADHD are quite universally applicable, so the suggested approaches can be useful for many patients, regardless of whether or not they have a diagnosis of ADHD; and,
- ADHD and its management can impact on oral health risks and behaviours, and it is important for the dental team to understand this so that preventive approaches can be tailored to work for an ADHD patient.

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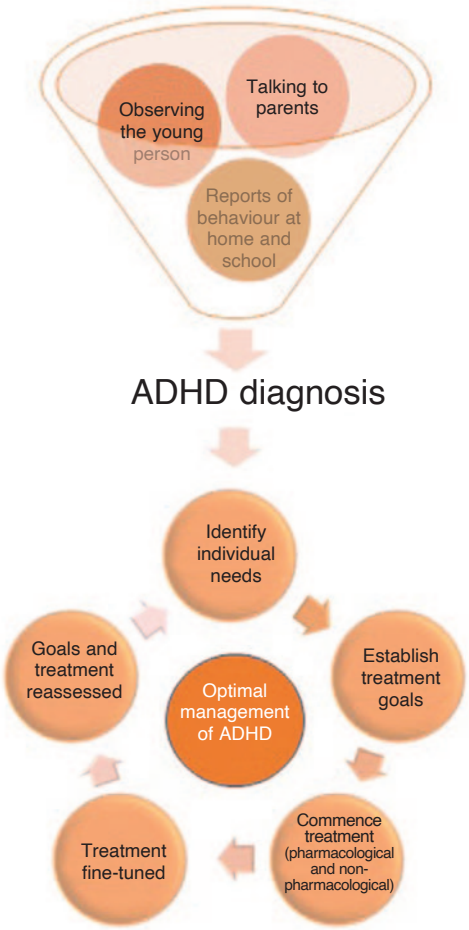

FIGURE 1: Optimal assessment, diagnosis and management of ADHD.

Specific oral health risks of ADHD

- Higher risk for dental trauma in individuals with ADHD – bruxism is also common;
- decreased attention span may pose a challenge with plaque control;
- stimulant medication may reduce saliva flow (even if not noted by the patient), increasing caries risk;
- stimulant medication causes a reduction in appetite – when this wears off in the evening, there can be a rebound in appetite, with consumption of high levels of food, especially carbohydrates, not long before bedtime; and,
- medications can have interactions with local anaesthesia.

Assessment and diagnosis

ADHD symptoms can present at an early age, and tend to become more noticeable with a change of circumstances (e.g., starting school). Symptoms can vary from mild to severe. The impulsive, fearless and chaotic behaviours typical of ADHD can be challenging for parents and carers. In Ireland, when ADHD is suspected, children and young people are generally referred to CAMHS for assessment. **Figure 1** illustrates the process of diagnosis and management of ADHD. To help diagnose ADHD, clinicians use the guidelines in the American Psychiatric Association's Diagnostic and Statistical Manual, Fifth Edition (DSM-5).[3] This diagnostic standard helps to ensure that young people are appropriately diagnosed and treated for ADHD.

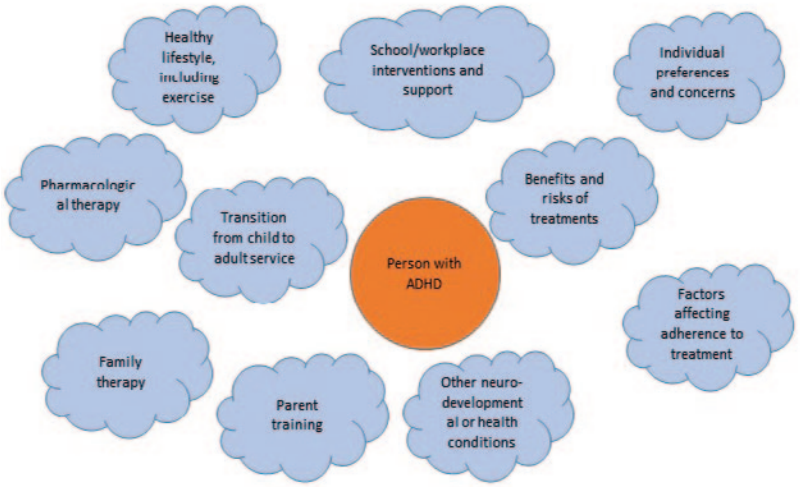

FIGURE 2: Individually tailored approach to ADHD management.

Management

CAMHS clinicians ensure that young people with ADHD have a comprehensive, holistic, shared treatment plan that addresses psychological, behavioural, occupational and educational needs. **Figure 2** illustrates optimal management of ADHD using a tailored approach according to individual needs.

Adult ADHD

With increasing awareness of ADHD in our communities, many more adults are now assessed for and diagnosed with ADHD. An ADHD in Adults Model of Care was launched in 2021.[1] Adults in three of the HSE's Community Healthcare Organisations (CHOs 1, 3 and 6) should now be able to access a care pathway, with new CHO services on the plan for 2023. Referral can be from a GP to the HSE's Adult Mental Health Team (AMHT), who can screen for the condition and refer on to the Adult ADHD Service as appropriate. The link with the AMHT is important due to the high levels of comorbidity with depression and anxiety in this patient group.[1]

On managing hyperactivity at the dentist:

"Even when I'm like going to sleep my foot has this thing where it just goes up and down over and over again subconsciously… I had just one experience where the dentist kept telling me to stop, and I was like, 'I can't, I can't'…"

"If I was able to have something in my hands [e.g., a fidget toy], so I can move without disrupting the dentist or something, but I know I'm still moving."

Pharmacological management

As part of a comprehensive programme, pharmacological management of the symptoms of ADHD can be very effective. Medication does not cure ADHD but can help with symptoms. Untreated ADHD has been linked with higher rates of unemployment, sickness absence, illicit drug use and alcohol addiction, lack of academic achievement, antisocial behaviour, depression, anxiety, sleep disorders, unplanned pregnancy, and sexually transmitted diseases.[4]

Mother on brushing vs sleep routine:
"The morning is very routine you know so brushing the teeth is just part of the routine, but at bedtime… he takes melatonin [a prescribed sleep aid] for bedtime so if he's just about to fall asleep, and then we realise he has to brush his teeth, sometimes I have to make a judgment call on whether it's worth getting him back up, because it could literally be an entire night of no sleep if he misses that sleep window."

Reliable and useful information about ADHD medication, and ADHD in general, can be found online from the Trinity College Dublin School of Medicine.[2] The main classes of medications used in ADHD are: a) stimulants; and, b) non-stimulants.

Examples of stimulant medications include: methylphenidate (Medikinet and Ritalin as immediate release, Medikinet MR, Equasym XL and Concerta XL as slow release); and, lisdexamfetamine (Tyvense). Non-stimulant medications include atomoxetine (Strattera) and guanficine (Intuniv).

ADHD, oral health and dental care

Children, adolescents, and adults with ADHD can have functional impairments that impact on their day-to-day lives. This impact extends to oral health and associated behaviours. Through interviews with individuals with ADHD, their perspective on oral health and dentistry is demonstrated in the quotes seen featured throughout this article.

A helpful suggestion:
"She [the interviewee's previous dentist] was really fantastic, and she just kept making sure that I couldn't feel anything before she did anything at all… you know, stopping straight away if that person is showing any tension so you didn't have to have a signal even to tell her to stop."

The following are some examples of how ADHD can impact on oral health and dental care. Having knowledge and understanding of these issues can help dental teams (both clinical and administrative staff) to make reasonable accommodations to improve access to care and patient outcomes. There are also online resources to help oral health practitioners caring for children and adults with ADHD.[5,6]

1. Executive functioning

Difficulties with executive functioning can mean that making (and keeping) appointments is harder for those with ADHD. Text/email reminders may help. Combining written and verbal instructions is of value. For home oral care (e.g., brushing, flossing, antibiotic dosing), alarms and reminders can help, but let the patient tell you what works for them.

2. Emotional regulation

Difficulties with emotional regulation are a core facet of ADHD, but this is often overlooked. There can be difficulties with the ability to:

- inhibit behaviour triggered by strong emotions;
- self-soothe and refocus attention from emotional events; and,
- reorganise/substitute healthier emotional responses for future use.

A gentle, empathetic and responsive approach from the team is vital. Knowing when enough is enough is also key!

3. Sensory processing

As we now see ADHD as part of the neurodiversity of the human brain, it is increasingly recognised that sensory processing can be a problem for those with ADHD. The dental environment is busy and noisy, and there are a lot of smells, tastes and textures to deal with. Try to schedule people with ADHD for quiet times, reduce footfall, and consider turning off the music/radio and limiting chatter. Limit tastes, textures and smells where possible and, where unavoidable, introduce them carefully.

Adult
On dental fear:
"You're constantly overthinking so if you've got any nerves or fear of the dentist and any kind of like phobia style of thing it is going to make any kind of pain an awful lot more pronounced…I ended up having nightmares for days afterwards."

4. Hyperactivity/impulsivity

Not everyone with ADHD is hyperactive, but those who are may struggle to sit still. Planning and taking breaks during dental care (counting helps) is useful. Some are impulsive – like having a Ferrari engine for a brain, but with bicycle brakes! This might manifest as an inability to wait, distractibility, or blurting out thoughts.

5. Inattentiveness

With inattentive ADHD, taking in information, especially verbally, can be hard. Written information may be easier to digest, and having a habit of 'checking in' can be helpful to establish how much has been understood, e.g., "Can you tell me in your own words what we have talked about today?" Give short, clear instructions, one at a time where needed, e.g., "Can you open wide?...Thank you…Now can you stick your tongue out…Thank you.."

On emotions:
"When it comes to emotions we [people with ADHD] tend to feel emotions a lot more intensely."

6. Language in ADHD

ADHD can be associated with language and communication difficulties (expressive, receptive and pragmatic). This may impact on social interactions, and it may be harder and take longer to build a trusting relationship. Patience, compassion and empathy from the dental team will go a long way.

7. Positive aspects of ADHD

Many ADHDers are great fun – the life and soul of a party. Take time to enjoy the craic! ADHDers are often bright, funny, creative, have a strong sense of fairness, and can be highly motivated when they are interested in the subject. Focus on the positives and encourage these behaviours and traits.

8. Reducing risk – suggested increased dental preventive measures in ADHD

- Consider all patients on stimulant medications to be at moderate or high risk for dental caries due to the reduction in saliva flow caused by these medications.

> Top tip: **Document caries risk using a validated caries risk assessment tool and review at appropriate intervals.**

- Increase fluoride exposure – consider 5,000ppm toothpaste for twice-daily use.

> Top tip: **Be sure to warn patients that this is not generally available on drug treatment/long-term illness/medical card schemes, so they will need to pay for it.**

- Sealant placement on all susceptible pits and fissures.

> Top tip: **Use a glass ionomer sealant for ease of placement and fluoride uptake/release.**

- Consider placement of silver diamine fluoride (SDF) on early caries lesions to arrest progression.

> Top tip: **Be sure to discuss inevitable tooth discolouration before use.**

- Suggest products that will make oral care quicker and more effective for the patient, e.g., three-sided toothbrushes, interdental brushes, chlorhexidine products.

> Top tip: **Avoid using product formulations that alter taste perception, such as 0.2% chlorhexidine. Try 0.12% chlorhexidine or other antimicrobial rinses instead.**

Summary

ADHD is a complex condition that impacts on all aspects of day-to-day living, including oral health-related behaviours and risks. Understanding the condition and reducing the barriers to optimal oral health that are experienced by this patient group is important. Dental team members can learn about ADHD to help reduce the stigma and low self-esteem that can come with the condition, to help patients access compassionate ADHD-aware dental care, and to apply appropriate preventive measures to reduce disease risks and improve oral health.

Acknowledgements

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For more information, go to www.ADHDIreland.ie.

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