

Parental Awareness towards Oral Health and Dental Management Considerations in Children with Attention Deficit Hyperactivity Disorder (ADHD) In Srinagar, J&K – A Questionnaire Study

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ABSTRACT:

Background: Attention deficit hyperactivity disorder (ADHD) is a common psychiatric and neuro developmental disorder characterized by age-inappropriate levels of inattention, hyperactivity-impulsiveness or a combination of these. The symptoms of attention deficit/hyperactivity disorder (ADHD) may manifest before the child begins elementary school. The aim of the study was to evaluate and survey parent's knowledge and attitudes towards oral health in children with ADHD

Methods: In this cross-sectional study, a self-administered questionnaire concerning the parental knowledge and attitudes regarding ADHD was completed by the participants. 14 parents of subjects, 9 boys and 5 girls, aged 5-14 years with ADHD registered at 2 different centres across Srinagar were included in the study and administered a questionnaire containing 11 multiple choice questions. The parents completed the questionnaire and gave their reflections. The data collected were computerized and analyzed statistically.

Results: It was observed that majority of parents were not satisfied with the kind of dental treatment received by their child till now. Also, majority of parents were not satisfied with the knowledge of dentists and dental staff towards ADHD. The results indicate that better knowledge among parents would correlate with a better attitude towards oral health care. The lack of knowledge regarding ADHD among the dental practitioners may influence the outcome of dental treatment.

Conclusions: The parents in our study demonstrated positive attitudes toward ADHD. It is thereby recommended that in-service training regarding ADHD and other childhood developmental disorders be incorporated within the education system. Evaluation of children with ADHD from a dental and parental point of view is essential. Therefore, knowledge of parent's dental experience for their children with ADHD is of concern. The dental teams need to work mutually with the parents and educate parents regarding oral health education, oral hygiene aids, proper tooth brushing and dietary interventions. Dental professionals must learn how to manage these special patients and provide them optimal dental care.

Keywords - ADHD, dental care, dental treatment, oral hygiene

I. INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is a widespread psychiatric and neuro-developmental disorder characterized by age-inappropriate levels of inattention, hyperactivity-impulsiveness or a combination of these problems.¹ The characteristic features of ADHD include excessive motor activity, developmentally inappropriate activity level, poor impulse control, poor organizational behavior, distractibility and inability to sustain attention and concentration.² It is a combination of behaviors that impairs school activities and social interaction.³ This condition begins in childhood and has a significant impact on various aspects of an individual's social life.⁴ Behaviors associated with ADHD are exacerbated by stress and unstructured or group situations.² It is one of the most common childhood psychiatric disorders, present in 3-7% of school-aged children. In approximately half of the cases, ADHD persists into adulthood. Boys are more prone to ADHD than girls. Boys and girls manifest similar type of problems and the same degree of functional impairments.⁵

However, girls have a higher prevalence during adolescence.⁶ Children and adolescents with ADHD exhibit a greater hyperactive state than other children of the same age.⁷

At present, since more children are being diagnosed with ADHD, appropriate treatment strategies for them are of great interest to all caregivers, including those in the dental community. Dental treatment is a stress situation involving a number of unpleasant stimuli as a result of which children with ADHD encounter management problems. In a dental setting, the behavior management of children with ADHD may be demanding. Children with ADHD exhibit more problems interacting with a dentist and have more difficulties staying focused.⁸ Parents are often the first persons responsible for identifying children with attention deficit hyperactivity disorder (ADHD). Psycho education and other educational interventions for parents and teachers of children and adolescents with ADHD are an important and constructive part of the management of ADHD.⁹

Thus, the aim of this study was to analyze parental attitudes and experiences of dental care and oral hygiene and dietary habits in their children with ADHD.

II. MATERIAL AND METHODS

Parents of 15 subjects with ADHD, attending 2 different child development centres across Srinagar, were approached. Parents were given written and verbal information regarding the study and asked to give written consent to participate. This was a cross-sectional descriptive survey that made use of convenience sampling designed to assess parents' knowledge and attitudes toward ADHD.

The questionnaire consisting of 11 multiple choice questions was distributed among either parents. The parents completed the questionnaire which included questions on dental experience and feelings regarding it, dental fear/medical fear/general fear, and dental fear in the family, child's oral health including dietary habits, oral hygiene measures and fluoride exposure. In the questionnaire, the parents were able to give their reflections. Parents who agreed to participate in the study and signed an informed consent were included. One of the parents did not agree to participate in the study was excluded. The final study group thus consisted of 14 parents to 9 boys and 5 girls, aged 5-14 years, diagnosed with ADHD.

The inclusion criteria to participate in the study were full [Diagnostic and Statistical Manual of Mental Disorders \[DSM-IV \(1\)\]](#), diagnostic criteria for ADHD, and a normal IQ. The data collected were summarized and analyzed. All analyses were done using MedCalc version 12.2.1.0 (MedCalc Software Mariakerke, Belgium).

III. RESULTS

The results have been tabulated in Table-1 and Figure 1 & 2.

Previous dental experience and treatment

Majority of subjects had a previous experience of dental treatment. According to the parents, their children had experienced administration of local anaesthesia, tooth fillings, undergone tooth extractions and undergone X-ray's. Majority of the parents also expressed that the children had exhibited fear and anxiety upon administration of local anaesthesia.

Oral health

50 % parents stated their child's dental health was not good, while 28.6 % parents thought it was good and 14.3 % were not aware. 21.4 % parents stated their child cooperated with oral hygiene measures, while 50 % parents stated their children were un-cooperative.

Fear/Anxiety

According to the parents, dental fear and anxiety were exhibited by 42.8 % of children upon Local anaesthesia, 21.4 % of children who had undergone extractions, 21.4 % of children who had undergone fillings and 14.3% of children upon X rays.

Parent's report of oral hygiene routines and fluoride exposure

It was observed that an ordinary toothbrush was used by 42.8 % of children, 28.6 % used an electric toothbrush and 28.6 % children used both an electric and an ordinary brush.

28.6% of parents considered Fluoride based dentifrice, 7% considered Dental floss and 7% considered Mouth rinse as most important oral hygiene measure for their children.

Parental satisfaction

According to the questionnaire, 50% of parents were not satisfied and 35.7% of parents were satisfied with the kind of dental treatment received by their child.

Diet

According to the questionnaire, 50% of parents were of the opinion that Cookies and biscuits were most cariogenic.

Parental Satisfaction

It was observed that half of the parents were not satisfied with the kind of dental treatment received by their child till now. It was also observed that 57.1% of the parents were not satisfied with the knowledge of dentists and dental staff towards ADHD.

IV. DISCUSSION

This study shows that parents of children with ADHD were not generally satisfied with the dental treatments. However, the questionnaire indicates parents experience a lack of knowledge, care and patience from the dental staff regarding ADHD. Therefore, more information and knowledge in this area would be beneficial for the patients and also for the dental team. This lack of knowledge may influence the dental treatment in many ways. According to the parents, children with ADHD need preparation in advance, more time, frequent visits and better care and structure.

According to the present study, dental fear and anxiety were exhibited by less than half of children upon administration of local anesthesia and only less than one third of children who had undergone extractions and fillings. Similar results were found from studies, where children with ADHD did not exhibit a higher degree of dental anxiety except if they had several symptoms of hyperactivity or impulsivity.^{10,11} In general, parents are more likely to estimate dental fear in their children slightly higher than their children do.^{12,13} This indicates that the parents fail to recognize dental fear as being the main problem for this group of children when visiting the dental clinic.

Dental care for individuals with special needs requires specialized knowledge acquired by additional training and accommodative measures beyond what is considered routine. The need for increased dental appointment time should be recognized so the office staff is prepared to accommodate the patient's distinctive circumstances at each subsequent visit.¹⁴

According to the present study, half of the parents were of the opinion that cookies and biscuits were most cariogenic. The results were similar to a study conducted among Swedish children, which indicated that the parents were well aware of their child's passion for sweets, with 20% of consuming sweets every day.^{15,16} The risk factors for caries should be recognized and a reduction of the consumption of sweets, soft drinks and snacks should be emphasized to the parents promoting non-cariogenic alternatives. Therefore, caries-risk assessment should be performed to assess changes in an individual's risk status at each visit.

It was observed that an ordinary toothbrush was used by less than half children and an electric toothbrush was used by less than one third of the children. Also, 28.6% of parents considered Fluoride based dentifrice, 7% considered Dental floss and 7% considered Mouth rinse as most important oral hygiene measure for their children. According to a study conducted among Swedish children's it was observed that more than 90 percent of all individuals brushed their teeth twice or at least once a day.¹⁷ This can be attributed to higher awareness regarding oral hygiene maintenance among Western countries as compared to Indian population. This study was designed to assess dental treatments and everyday oral care for a group of children with the neuropsychiatric diagnosis ADHD. Given that parents in our study were of the opinion that there was lack of knowledge, care and patience from the dental staff regarding ADHD, we recommend that in-service training concerning ADHD and other childhood developmental disorders be incorporated within the education system and evaluation of children with ADHD from a dental and parental point of view is needed. Therefore, a thorough understanding of the parent's dental experience for their children with ADHD is of interest. We believe that the dental treatment for children with ADHD would be considerably enhanced by an understanding of their behavior management needs.

A dental setting may be challenging both for the dental team, the child and the parents. Thus, it is important to listen to the parents, obtain a more profound medical history, interview parents regarding oral hygiene/tooth brushing/dietary habits and provide fluoride when needed. These findings focus on the importance of early recognition of this disorder for prevention and early intervention strategies for management of children with ADHD. Dental professionals caring for patients with ADHD must exhibit compassion. They must understand that ADHD is a complex disorder that could require modification in scheduling their appointments and treatment plan.

One limitation of this study is that the number of individuals included in the study, were relatively small as children with ADHD are difficult to find in a place like Srinagar, where there is less awareness amongst general population regarding ADHD. Also there were less number of such children of the age group included in our study registered at various centre's and deficiency of schools catering to such special children due to lack of specialized training staff available at such schools.

V. CONCLUSION

The results show that parents of children with ADHD experience a lack of knowledge from the dental staff. This lack of knowledge influences dental treatment in many ways. The dentists should use alternative management skills and behavior modifications for each patient to minimize patient's anxiety and stress. The dentists must not misinterpret a patient's inattention and hyperactivity as a sign of non-cooperation, but as a manifestation of the disease. The dental teams need to work together and must learn how to manage these special patients and increase parents awareness regarding oral hygiene, tooth brushing and altering their dietary habits for optimal dental care. Awareness regarding the importance of oral health among parents of children with ADHD should be stressed upon and oral hygiene maintenance should not be neglected by the parents.

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VI. TABLES AND FIGURES

Table 1: Responses to questions by the participants

S. No	Questions	Options (n=14)			
1	Are you satisfied with the oral hygiene of your child ?	Yes 04 (28.6%)	No 07 (50%)	Can't say 02 (14.3%)	
2	Which dental treatment out of these exhibited fear and anxiety in your child ?	Local anaesthesia 06 (42.8%)	Fillings 03 (21.4%)	Extractions 03 (21.4%)	X Ray 02 (14.3%)
3	Do you feel a child with ADHD is more prone for developing dental problems ?	Yes 07 (50%)	No 04 (50%)	Can't say 03 (21.4%)	
4	Do you think your child is more prone for suffering from dental trauma ?	Yes 08 (57%)	No 04 (28.6%)	Can't say 02 (14.3%)	
5	Which oral hygiene measures are most important for your child's oral hygiene ?	Fluoride based dentifrice 04 (28.6%)	Non Fluoride dentifrice 08 (57%)	Dental floss 01 (7%)	Mouth rinse 01 (7%)
6	Does your child co-operate with you in oral hygiene measures ?	Yes 03 (21.4%)	No 07 (50%)	Occasionally co-operates 04 (28.6%)	
7	Which kind of tooth brush does your child use ?	Ordinary tooth brush 06 (42.8%)	Powered tooth brush 04 (28.6%)	Both 04 (28.6%)	
8	Which of the following foods are most cariogenic for your child ?	Soft drinks 03 (21.4%)	Flavoured medications 02 (14.3%)	Sweet cereals 02 (14.3%)	Cookies and biscuits 07 (50%)
9	What are the sources of information regarding oral hygiene for children with ADHD ?	Dentist himself 06 (42.8%)	Books 03 (21.4%)	Internet 03 (21.4%)	Pediatrician 02 (14.3%)
10	Are you satisfied with the kind of dental treatment received by your child till now ?	Yes 05 (35.7%)	No 07 (50%)	Can't say 02 (14.3%)	
11	Were you satisfied with the knowledge of dentists and dental staff towards ADHD?	Yes 04 (28.6%)	No 08 (57.1%)	Can't say 02 (14.3%)	

Figure-1:

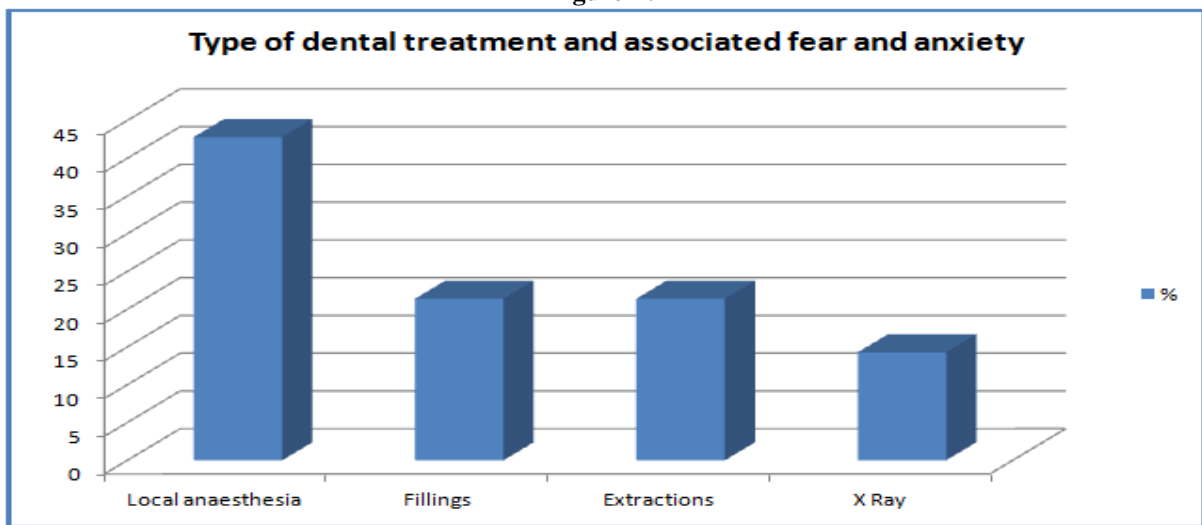


Figure-2:

