

**Knowledge, attitude and skills of dental practitioners of Delhi-NCR on special health care dentistry: A questionnaire based survey**

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**Abstract**

**Background:** Special care dentistry (SCD) includes the provision of oral health care for individuals with any disability or impairment.

**Aim:** This study aimed to evaluate the knowledge, attitude, skills and preparedness of dental practitioners in Delhi NCR regarding the concepts of special health care dentistry.

**Materials And Methodology:** A cross-sectional survey was carried out in November 2019 on 100 dental surgeons of a dental hospital in Delhi NCR ITS Dental College , Greater Noida . A questionnaire was developed using literature and previously administered surveys to assess knowledge, attitude, and institutional provisions pertaining to special care patients. Data were subjected to appropriate statistical measures and analyzed.

**Subjects And Methods:** Data were collected through an online survey questionnaire based on awareness, knowledge, skills and practice of special health care dentistry basically Autistic spectrum disorder by dental practitioner.

**Results:** 36% were completely unaware of SADE (Sensory adapted dental environment) within the clinic to reduce dental anxiety in autistic patients which is an important modality to manage autistic child. 69.39% said

visual pedagogy help in step by step introduction of oral hygiene instructions to autistic children However, they had some idea regarding the institutional provisions for special care patients

**Conclusion:** This survey reported 58 % dentists take help from seniors and colleagues while handling an autistic child so an urgent need for professional associations is needed to reorient dental curriculum with regard to Special Care Dentistry and train students appropriately. This questionnaire was beneficial for educative purpose of dental professionals as well.

**Keywords:** Special care dentistry, autism, visual pedagogy

**Introduction**

Special care dentistry (SCD) provides oral health care for individuals with impairment or physical, sensory, intellectual, mental, medical, emotional, social or combination disability.<sup>1</sup> Autism is a complex neurodevelopment disarray defined as a behavioral syndrome of impaired social interaction, communication skills (verbal as well as nonverbal language), sensorimotor deficits (unpredictable reactions to environmental stimuli) combined with restricted behaviours.<sup>2</sup> World Health Organization (WHO) reports around one billion people accounting to 15% of the world's population have Special

Health Care Needs.<sup>3</sup> According to DSM-IV, Pervasive Developmental Disorders (PDD) also called as Autism spectrum disorder (ASD) is an umbrella term which includes autism disorder (AD), Asperger syndrome, rare disorders: Rett syndrome and childhood disintegrative disorder, and PDD not otherwise specified (or “atypical autism”).<sup>4</sup>

This study was done to evaluate the knowledge, attitude, skills and preparedness of dental practitioners in Delhi NCR regarding the management of patient with autism spectrum disorder and also educate the dental practitioner.

### Materials And Methodology

A cross-sectional study was conducted on 100 dental surgeons fulfilling inclusion criteria trained in pediatric dentistry during their undergraduate and internship period, mainly through lectures and clinical experience or those who have seen or managed an autistic child in various dental colleges and hospitals of Delhi NCR.

All the specialized pediatric dentist and dentist with or greater than 3 years of experience were excluded. The study was conducted in two phases (survey tool development and data collection) for 3 days through a whatsapp based survey to contacts of the invigilator who had completed internship from ITS Dental College with an experience of 2 years or less in November 2019.

### Survey tool development

A thorough literature search was done, and the survey tool was drafted in form of whatsapp based questionnaire using an app ‘Survey monkey’. A preliminary 9-item questionnaire was devised. The first section focused on the dentist background such as age, gender, and professional years of experience to measure the students general attitude toward patients with special needs. A 3-point scale was made to analyze the attitude, knowledge and skills regarding dental surgeons educational experiences and skills by giving option A as yes, B as No

and C as may be. The settings of the survey were such that one phone could only take the survey once to remove bias.

### Data collection

Questionnaire	A	B	C
1. Are you well aware about autism spectrum disorders?	Yes	No	I doubt my skills
2. Do you practice ‘tell show do’ approach when explaining treatment and procedures while treating a special kid?	Yes	No	I am aware
3. Are you aware about Autism speak resource –tool kit for dental professionals ?	Yes	No	A little bit
4. Do you provide sensory adapted dental environment within the clinic to reduce dental anxiety in such special care patients?	Yes	No	I have never heard about SADE before
5. Does visual pedagogy help in step by step introduction of oral hygiene instructions to autistic children?	Yes	No	I don’t know what visual pedagogy is
6. Does a deep touch like wrapping in the blanket on the autistic patient calm and relax the child making the dental treatment easy?	Yes	No	I will try it next time
7. Do you do appointment structuring for your autistic patients?	Yes	No	I miss out
8. Have you ever coordinated with a special school to provide oral health care facilities to such children?	Yes	No	I will
9. Do you feel anxious and lack complete command in the dental setting while handling autistic patient?	Yes	No	I take help from my colleagues and seniors

### Statistical Analysis

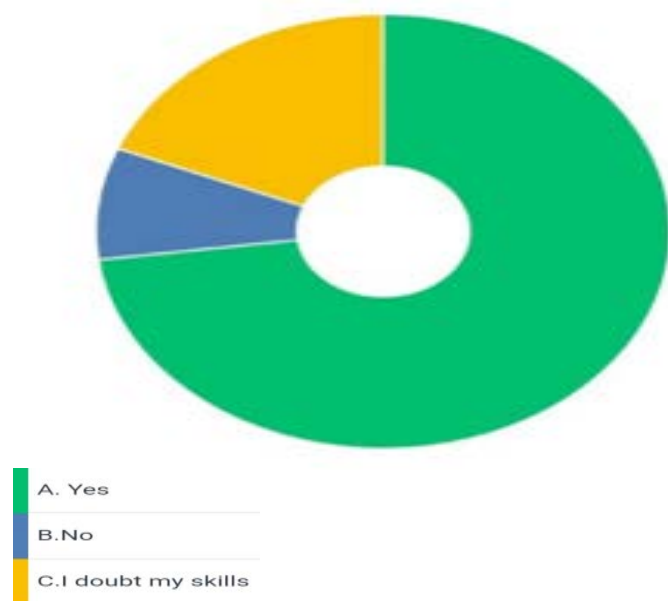
The students' knowledge, awareness, skill, social work and attitude as well as newer approaches in management were expressed in proportions. The 3-point scale was adapted for each of the following 9 questions.

### Result

S.No	A	% Age	B	% Age	C	% Age	Skipped
Q1	70	72.92	8	8.33	18	18.75	4
Q2	84	85.71	6	6.12	8	8.16	2
Q3	18	18.37	48	48.98	32	32.65	2
Q4	34	34	30	30	36	36	0
Q5	68	69.39	4	4.08	26	26.53	2
Q6	36	36.73	10	10.2	52	53.06	2
Q7	76	77.55	12	12.24	10	10.2	2
Q8	36	36	34	34	30	30	0
Q9	24	24	18	18	58	58	0

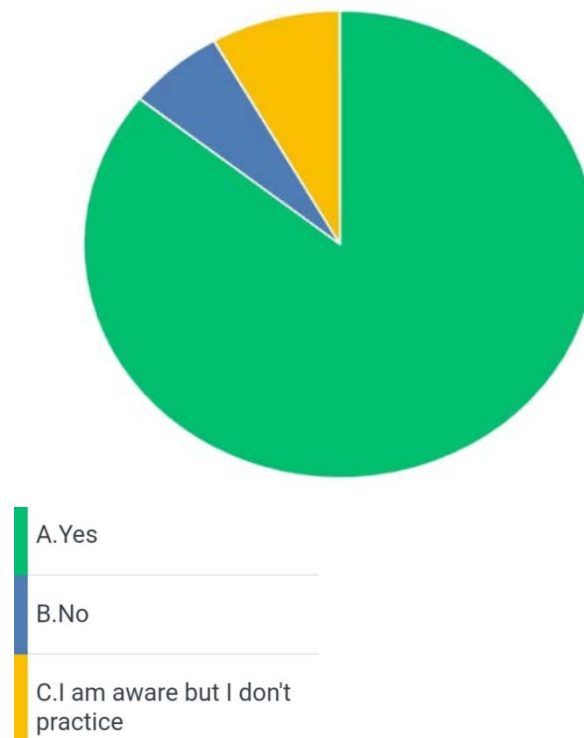
Table 1 : The percentage of dentist that choose option A,B and C for particular questions.

72.92% ( n=70) of the dental surgeons were well aware and had knowledge about Autism Spectrum Disorders ( **Figure 1**).



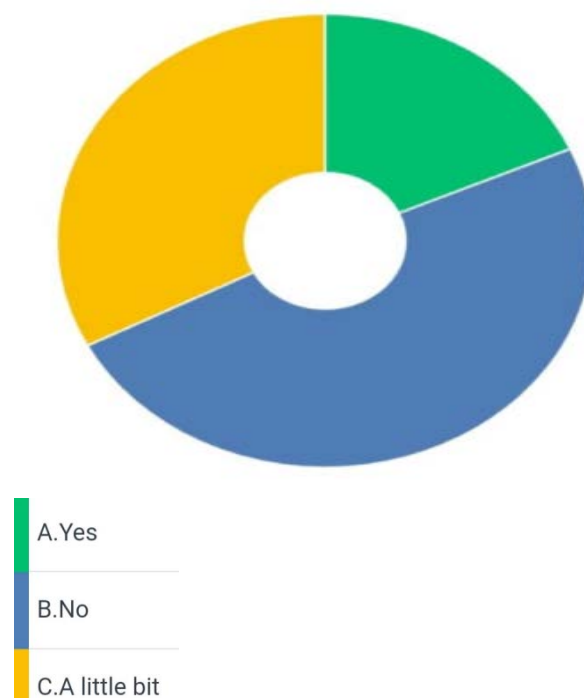
**Figure 1**

85.41% of dentists said that they practice tell show do approach while treating a special kid and 8.16% said they were aware but didn't practice the approach (**Figure 2**).



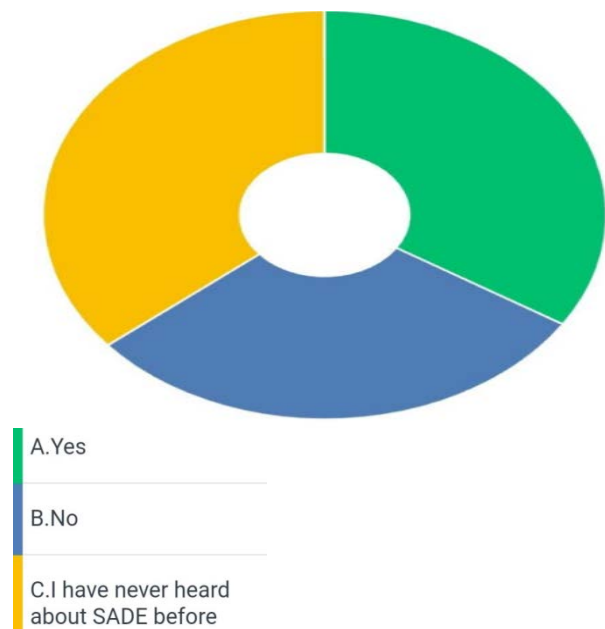
**Figure 2**

48.98% weren't aware of Autism Speaks Resource-Tool kit for dental professional (**Figure 3**).



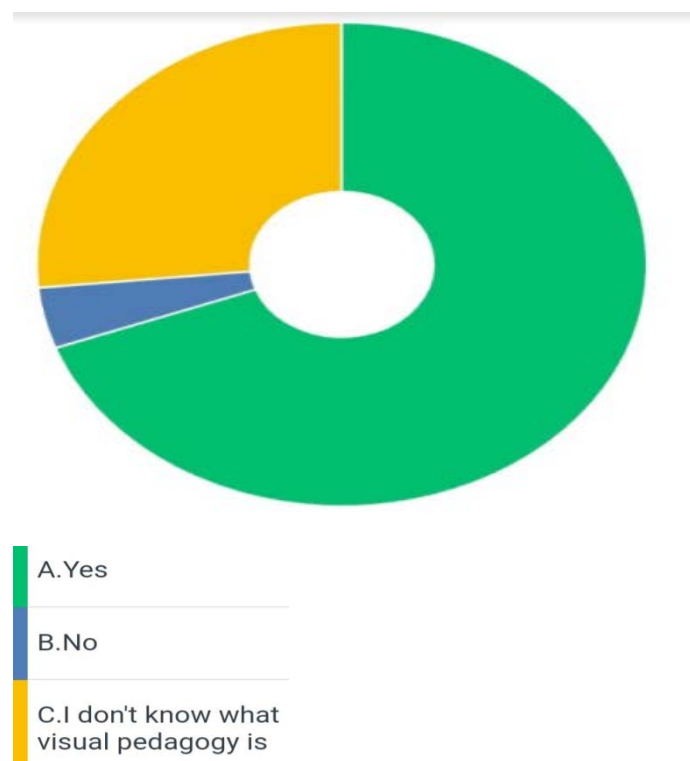
**Figure 3**

36% were completely unaware of SADE (Sensory adapted dental environment) within the clinic to reduce dental anxiety in autistic patients (**Figure 4**).



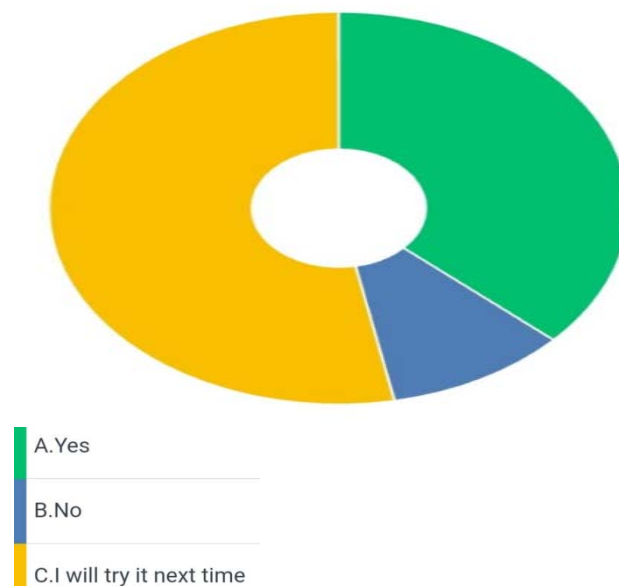
**Figure 4**

69.39% said visual pedagogy help in step by step introduction of oral hygiene instructions to autistic children (**Figure 5**).



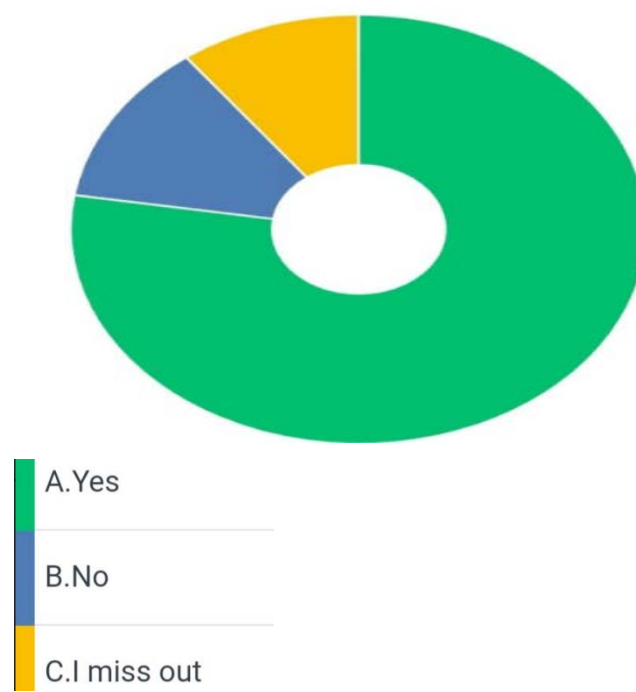
**Figure 5**

53.06% said that they will try to provide deep touch by wrapping in blanket on the autistic patient to calm and relax the child making the dental treatment easy (**Figure 6**).



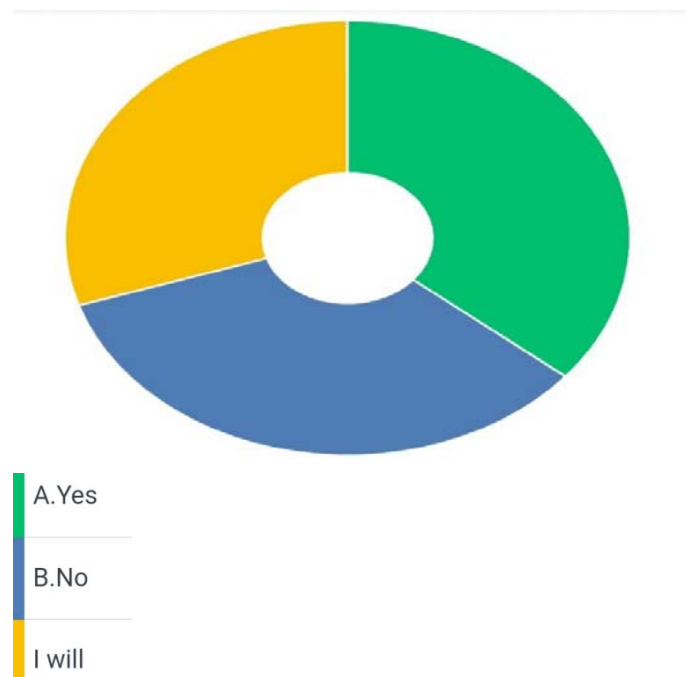
**Figure 6**

77.55% of dental surgeons planned an early morning appointment for autistic child and 10.2% say they miss out. (**Figure 7**) (**Table 1**).



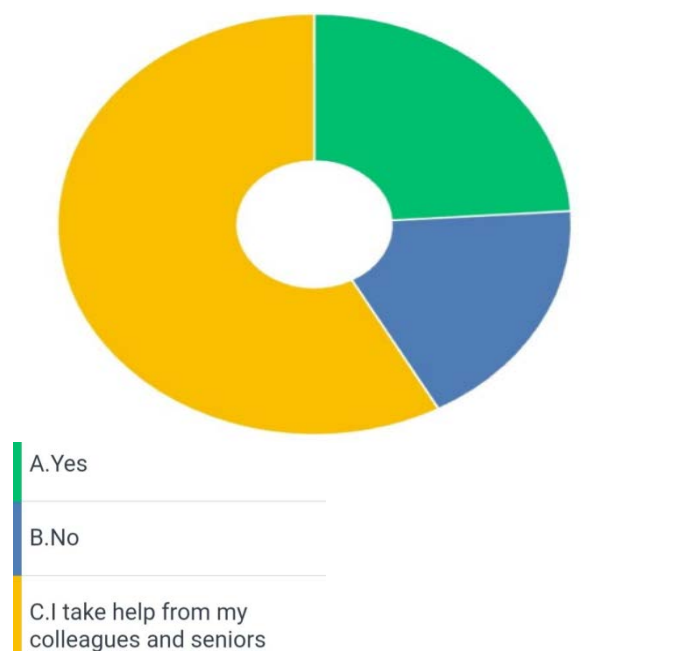
**Figure 7**

36 % dentist have coordinated with special school to provide oral health care facilities to such children and 30% said they will in future after filling the questionnaire (Figure 8).



**Figure 8**

58 % dentists said they take help from seniors and colleagues while handling an autistic child (Figure 9) (Table 1).



**Figure 9**

## Discussion

In 1911 Bleuler coined a greek word ‘autism’ where “autos,” means self and “ismos,” meaning a state of self-absorbed to the exclusion of everyone around them.<sup>5</sup>. CNTNAP2 gene, *de novo* mutations, mitochondrial defects, increased level of inflammatory cytokines, maternal bleeding during pregnancy, metabolic syndromes, and advancing maternal age are etiological agents linked to autism.<sup>6</sup> Mental retardation is associated with autism in 75% of autistic patients.<sup>7</sup>

A child with autism doesn’t enjoy group activities , show temper tantrums, are hyperactive, have short attention span, are anxious, angry, echolalia and have a tendency for aggressive and self-injurious behaviors (SIBs). In a dental clinic a dentist may observe self-biting or head banging, poor tongue coordination, bruxism ,non-nutritive chewing , erosion, malocclusions, crowding, open bite ,delayed eruption of teeth due to gingival hypertrophy caused by phenytoin, lip biting and deep gingival cleft on canine caused by scrapping with finger nail. The patient is best managed in a calm environment secured sole operatory with reduced decoration and dimmed lights based on SADE to reduce distress, sensory discomfort, and perception of pain. <sup>8</sup> “Tell-Show-Do” is a basic and effective exposure therapy and a way to introduce dental instruments, equipment, or procedures to a patient. <sup>6</sup>

Deep touch like wrapping in blanket has a soothing effect whereas light pat can be a tonic to the nervous system.<sup>8</sup> Visual pedagogy introduces oral hygiene to autistic children through colored photographs in step-by-step manner because they are visual learners.<sup>9</sup> The dental team should be skilled, knowledgable , organized for changeable and atypical responses to sensory stimuli as these patients are sensitive to even minute changes in their surroundings and require resemblance in continuity. A better understanding of the characteristics associated with ASDs and supportive

evidence based strategies make a positive and successful dental office visit for best possible oral health outcomes.<sup>10</sup>

The questions of survey were such framed that it could educate simultaneously and be knowledgeable to the dental practitioners about the management of autistic child and autistic spectrum disorder child in a dental clinic. A new emerging branch of dentistry in the near future called "WhatsApp Dentistry" will be coming into picture.

### Conclusion

The ability to handle the special patients should be guided by instinct, flexibility and creativity, rather than by strict reasoning. The study was projected on slight modifications of each behavior management techniques that are helpful for treating autistic patients. This questionnaire had a positive effect in raising awareness and knowledge in the dental surgeon who took part in the study.

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