



Research Article

ORAL HEALTH STATUS OF CHILDREN WITH CEREBRAL PALSY IN AND AROUND RAICHUR DISTRICT

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ABSTRACT

**Aims:** The aim of the present study is to assess the oral health status of children with cerebral palsy in and around Raichur District, Karnataka.

**Materials and Methods:** The oral health status of 60 healthy children and 60 children diagnosed with cerebral palsy with the age group of 6-12 years, residing in and around Raichur district were examined. Caries was assessed by the criteria decayed, extracted and filled teeth (deft) for deciduous teeth and Decayed, Missing and Filled teeth (DMFT) for permanent teeth indices.

Key words:

Cerebral Palsy, Oral Health, deft, DMFT

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INTRODUCTION

Cerebral palsy (CP) is the result of a combination of events either before, during, or after birth that can lead to an injury in a baby's developing brain. About 45% of children diagnosed with Cerebral Palsy are born prematurely.<sup>1</sup>

Children with Cerebral Palsy are at an increased risk for having developmental enamel defects associated with gestational age of the children. Patients with Cerebral Palsy are at an increased risk of developing dental caries which negatively affect their quality of life.<sup>2</sup>

Patient Assessment are medical history, apprehension, convulsions, difficulty of communication, posture, inability to cooperate. Special dental clinics should have specific techniques to manage uncooperative behavior which includes Restraining patient chairs and Sedation or general anesthesia.<sup>3</sup> The aim of the present study is to assess the oral health status of children with cerebral palsy in and around Raichur District, Karnataka.

MATERIALS AND METHODS

The oral health status of 60 healthy children and 60 children diagnosed with cerebral palsy with the age group of 6-12 years, residing in and around Raichur district were examined. Data for the study was collected from patients visiting Navodaya Dental College, Navodaya Medical College and

also private hospital setup at Amrutha hospital, Raichur. The study protocol was approved by the Institutional Ethical Committee. Voluntary informed written consent was obtained from their Parents/Care takers after explanation of the nature of the study. No radiographs were utilized to detect dental caries because of the difficulties in cooperative behaviour from these participants. So, all data reflect clinical findings only; dental examination were performed under good lighting conditions, using a plain disposable mirror. When the dental examination was completed, instructions about dental hygiene were given to the children and their parents, caregivers.

Caries was assessed according to the 2013 World Health Organization (WHO) criteria for dental caries to identify decayed, extracted and filled teeth (deft) for deciduous teeth and Decayed, Missing and Filled teeth (DMFT) for permanent teeth indices.<sup>4</sup> The overall values of both groups deft and DMFT were evaluated separately. The scores were given, and the severity of dental caries was expressed based on  $\text{deft} + \text{DMFT} = 0$  caries free and  $\text{deft} + \text{DMFT} > 0$  {zero} presence of caries.

Inclusion Criteria includes Children Aged 6-12 years old, Healthy children; children diagnosed with cerebral palsy. The cerebral palsy was confirmed through a clinical examination of the children by the qualified doctor with the base of Clinical diagnosis with required neurological examination, stable course, and the absence of an underlying genetic disorder.

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Exclusion Criteria includes Children with systemic diseases like diabetes mellitus, hypertension, and severe anaemia were excluded. Children with repetitive seizures and Children whose parents/care taker who didn't give the consent are also excluded.

**Statistical Analysis**

The data was collected over a period of 6 months. Data was analysed using SPSS v16.0 software package. Descriptive statistics such as mean, standard deviation, and percentage were used. Association was evaluated using Un-paired 't' test. Any p value less than 0.05 was considered significant.

**RESULTS**

Study revealed that the DMFT (decayed, missing and filled permanent teeth) Index of children with cerebral palsy was 7.84 which was significantly higher than that of healthy children at 4.13.

**Table 1** Descriptive statistics of DMFT B/W study and control group.

		DMFT					
GROUP	N	Mean	St.dev	$\chi^2$ value	p-value	Result	
D	Cerebral Palsy	60	2.41	1.85	78.72	<0.001	HS
	Healthy Children	60	0.42	0.79			
M	Cerebral Palsy	60	1.47	1.74	59.68	<0.001	HS
	Healthy Children	60	0.36	0.73			
F	Cerebral Palsy	60	0.57	1.12	75.92	<0.001	HS
	Healthy Children	60	1.24	1.59			
DDMFT	Cerebral Palsy	60	3.39	2.00	23.027	0.002	Sig
	Healthy Children	60	3.11	1.72			

Study revealed that the deft (decayed, extracted and filled primary teeth) Index of children with cerebral palsy was 6.05 which was significantly higher than that of healthy children at 3.36.

**Table 2** Descriptive statistics of deft B/W study and control group.

		Deft				
GROUP	N	Mean	St.dev	p-value	Result	
D	Cerebral Palsy	60	1.28	0.85	<0.01	S
	Healthy Children	60	0.24	0.30		
E	Cerebral Palsy	60	1.40	0.74	<0.01	S
	Healthy Children	60	0.20	0.73		
F	Cerebral Palsy	60	0.57	0.12	<0.01	S
	Healthy Children	60	1.24	1.59		
Deft	Cerebral Palsy	60	3.25	2.00	0.01	Sig
	Healthy Children	60	1.68	1.12		

**DISCUSSION**

The present study showed a statistically significant increase in Dental caries of children suffering with cerebral palsy as compared to the healthy children. The possible causes of caries are Cerebral Palsy Children often have physical, sensory, communication and cognitive difficulties in performing routine activity such as brushing the teeth etc. Nutritional deficiency also causes decay.<sup>5</sup> flink *et al*, stated that Salivary flow rate is reduced due to various factors such as insufficient food intake and malnutrition.<sup>6</sup>

Pope and Curzon *et al*, reported that children with Cerebral Palsy had more decayed teeth and missing teeth. Regular dental care within the framework of dedicated prophylactic and therapeutic programs for patients with cerebral Palsy are advocated.<sup>7</sup>

Government Policies for patients with Cerebral Palsy are VIKAAS (Day Care) is a day care scheme for persons with autism, cerebral palsy, for enhancing interpersonal and vocational skills.

GHARAUNDA (Group Home for Adults) is the scheme which provides housing and care services throughout the life of the person with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities.

NIRAMAYA (Health Insurance Scheme) is the scheme which provides affordable Health Insurance to persons with Cerebral Palsy, Mental Retardation and Multiple Disabilities.

GYAN PRABHA (Educational support) is the scheme to encourage people with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities for pursuing educational/vocational courses.

PRERNA (Marketing Assistance) is a marketing scheme for the product, produced by persons with cerebral palsy.<sup>8</sup>

**CONCLUSION**

Oral health is increasingly recognized as a foundation for general health and wellness. The role of the Pediatric healthcare provider is not only to promote good oral health but also boost the confidence among Cerebral Palsy patients. It is also important to educate mothers to seek oral healthcare services at the correct time for Cerebral Palsy children so as to prevent worsening of oral health-related problems in this susceptible group of children.

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