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A Study to assess the prevalence of dental caries in children between 1-6 years with the view of administered video assisted teaching programme at selected hospital of Rajnandgaon (C.G.)

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Abstract

Background: Dental caries or tooth decay is one of the most common oral diseases that affect 60-90% of childhood. Dental caries leads to tooth pain, discomfort, eating impairment, loss of tooth and delayed language development in children. Dental caries caused by the interaction of bacteria mainly streptococcus mutants and sticky food on tooth enamel, Streptococcus Mutants can spread from mother to baby during infancy and can inoculate even prudential infant.

The year-long curbs imposed due to COVID-19 pandemic has predisposed children to unhealthy lifestyle

and altered behavioural profile. The prolonged indoor stay due to lockdown restrictions has led to a sedentary lifestyle, reduced outdoor physical activity, altered eating patterns, especially increased snacking and junk food craving, and increased screen time. Increased screen time also exposes children to commercials of caries-inducing foods and beverages. Several studies have ranked these factors to increased incidence of obesity and dental caries among children .However, unlike obesity, caries is often slowly progressive and sub-clinical, making early diagnosis challenging. The exact incidence of dental caries during COVID-19 pandemic may be underreported due to its sub-clinical progression and challenges in performing oral examination due to risk of aerosol transmission.

Aims and Objectives

1. To assess the decayed missing filled teeth in children between 1 - 6 years in selected hospital of Rajnandgaon (C. G.)
2. To assess the Socio-demographic variable of children between 1- 6 years in selected hospital of Rajnandgaon (C.G.).
3. To find out the association of prevalence of dental caries among children between 1 - 6 years of age in selected hospital of Rajnandgaon (C.G.).

Material and method: A descriptive cross-sectional research design was done. A total of 300 children between 1-6 years of age were selected over a period of 5 days through this technique. Daily out of total population 60 children diagnosed with Dental Caries. In the children between 1-6 Years age video assisted teaching programme was conducted after assessment of Dental Caries. Each day video assisted teaching programme was given for 8 subjects. Each session of video assisted teaching programme lasted for about 5 minutes for each children with their parents. The parents and children were participated with interest.

Result: Prevalence of dental caries majority of the study subjects 163(54.3%) had low risk of dental caries and 103(34.3%) had moderate risk and 34(11.3%) had high risk of dental caries. DMFT out of total, 206(68.7%) had low severity of dental caries, 84(28%) had high severity of dental caries and 10(3.3%) were caries free.

Keywords: DMFT, COVID -19, Dental.

Introduction

The global burden of disease study 2017 estimated that 2.3 billion people suffer from caries of permanent teeth and more than 530 million children suffer from caries of primary teeth. In most low and middle income countries which increasingly urbanization and changes in living condition. The prevalence of oral disease continues to increase. This is primarily due to fluoride (in the water supply and hygiene products such as toothpaste) and poor access to oral health services in the community. Dental caries or tooth decay is one of the most common oral diseases that affect 60-90% of childhood. Dental caries leads to tooth pain, discomfort, eating impairment, loss of tooth and delayed language development in children. Dental caries caused by the interaction of bacteria mainly streptococcus mutants and sticky food on tooth enamel, Streptococcus Mutants can spread from mother to baby during infancy and can inoculate even prudential infant. The presence of dental caries in the primary dentition of young children is known as early childhood caries. Which is defined as one or more decayed, missing or filled teeth in primary dentition in children up to 71 months of age? The term childhood caries include the sometimes called nursing caries or rampant caries. ‘Baby bottle syndrome ', nursing caries are names to describe a pattern of caries where the deciduous upper incisors and molars are disrupted. A

key pattern of these type of caries is the sparing of the lower incisors, which can be completely healthy or mildly affected. The rampant caries is given to extensive caries affecting children of three to four years of age that do not follow the nursing caries pattern. People with disability are not capable to do adequate oral hygiene , immune compromised patients because of their weak immune system and children whose enamel is weak have higher incidence and more prone to cause Dental Caries. During COVID-19 pandemic situation, COVID patient if does not maintain regular oral hygiene and are more susceptible to dental caries and other health problems. Dental caries caused by anaerobic bacteria , it spreads through blood stream and invades other organs in association with other virus , fungus such as heart disease , thyroid problems , mental problems etc. that is it affects the overall health and routine work of the children.

Operational Definition

Assess: Assess is to determine the present condition of the children and knowledge of the parents regarding the problem.

Prevalence: The prevalence is the number of disease in a specific population at a particular time period.

Dental Caries: Dental caries is the decaying of the teeth due to high consumption of sticky, sweet food and excessive bottle feeding.

Children: Children are those who belong to the age group of 1-6 years.

Video Assisted Teaching Programme: Video assisted teaching programme is a way of providing information through the videos to improve the educational knowledge of parents.

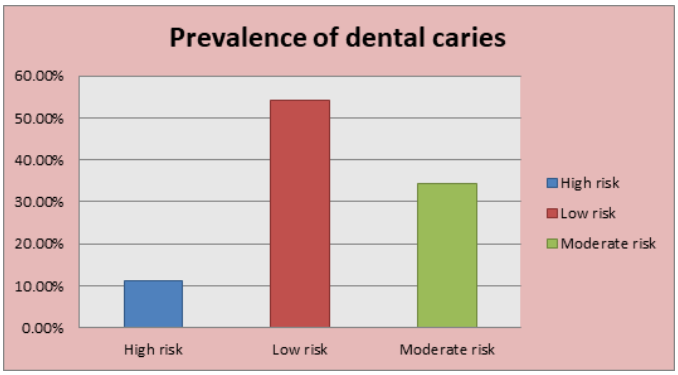
Result

In the present study purposive sampling technique was considered to be the appropriate sampling technique to select the sample for the study. Study was carried out in the selected Government Medical College and Hospital, Rajnandgaon (C.G.).Daily 250-350 children attended Paediatric OPD were sent to Dental OPD for their dental assessment for dental caries. Among 250-350 children daily 60 children age between 1-6 years were assessed for dental caries through the investigator under guideline of Dentist and assessment done by self- administered questionnaire and DMFT Index for children who were diagnosed with Dental Caries. A total of 300 children between 1-6 years of age were selected over a period of 5 days through this technique.

Table 1: Shows the prevalence of dental caries in high risk, low risk and moderate risk.

Dental caries risk	Frequency	Percentage
High risk	34	11.3%
Low risk	163	54.3%
Moderate risk	103	34.3%
Total	300	100%

Graph 1



The association of prevalence of dental caries in terms of percentage in children between 1-6 years out of total 300 children majority of the study subjects 163(54.3%) had low risk of dental caries and 103(34.3%) had moderate risk and 34(11.3%) had high risk of dental caries.

In the present study the association of prevalence of dental caries of children between 1-6 years with selected Socio-demographic variables (were as age of the

children, gender of the child, types of family, dietary pattern of the family, area of residence, education of father, education of mother, occupation of father, occupation of mother, sources of information regarding Dental caries, total income of family.)

Table 2: Socio-demographic variables of study subjects

Socio-demographic variables		Dental caries risk			Total	Chi-square, df, p-value	Significant difference
		High risk	Low risk	Moderate risk			
Age	1-2 years	0	4	1	5	17.323, 4, 0.002, Significant	HS
	3-4 years	17	38	45	100		HS
	5-6 years	17	121	57	195		HS
Gender	Female	19	73	59	151	4.415, 2, 0.11	NS
	Male	15	90	44	149		NS
Family Type	Joint	9	55	32	96	0.746, 2, 0.689	NS
	Nuclear	25	108	71	204		NS
							NS

And it is clear from the table that the variable Age is highly significantly associated with dental caries risk.

- *HS highly statistically significant (P<0.001).
- ** SS. Statistically significant (P<0.05).
- ***NSS statistically not significant (P>0.05).

Discussion

Dental caries or tooth decay is one of the most common oral diseases that affect 60-90% of childhood. Dental caries leads to tooth pain, discomfort, eating impairment, loss of tooth and delayed language development in children. Dental caries caused by the interaction of bacteria mainly streptococcus mutants and sticky food on tooth enamel, Streptococcus Mutants can spread from mother to baby during infancy and can inoculate even prudential infant.

The year-long curbs imposed due to COVID-19 pandemic has predisposed children to unhealthy lifestyle and altered behavioural profile. The prolonged indoor stay due to lockdown restrictions has led to a sedentary lifestyle, reduced outdoor physical activity, altered eating patterns, especially increased snacking and junk food craving, and increased screen time. Increased screen time also exposes children to commercials of caries-inducing foods and beverages.

Several studies have ranked these factors to increased incidence of obesity and dental caries among children. However, unlike obesity, caries is often slowly progressive and sub-clinical, making early diagnosis challenging. The exact incidence of dental caries during COVID-19 pandemic may be underreported due to its sub-clinical progression and challenges in performing oral examination due to risk of aerosol transmission.

A total of 300 children between 1-6 years of age were selected over a period of 5 days through this technique. Daily out of total population 60 children diagnosed with Dental Caries. In the children between 1-6 Years age video assisted teaching programme was conducted after assessment of Dental Caries. Each day video assisted teaching programme was given for 8 subjects. Each session of video assisted teaching programme lasted for about 5 minutes for each children with their parents. The parents and children were participated with interest.

Prevalence of dental caries majority of the study subjects 163(54.3%) had low risk of dental caries and 103(34.3%) had moderate risk and 34(11.3%) had high risk of dental caries. DMFT out of total, 206(68.7%) had low severity of dental caries, 84(28%) had high severity of dental caries and 10(3.3%) were caries free.

Conclusion

The variable age of the child, gender of the child, type of family, dietary pattern of family, area of residence, education of father, education of mother, occupation of father, occupation of mother, source of information regarding Dental Caries, total family income where age is highly significant in relation to dental caries in children between 1-6 years.

Recommendations

1. A similar study can be conducted among younger age group.

2. In future, similar studies can be conducted with different audio visual aids like video films, films strips.

3. A similar study can be conducted with experimental related pre-test and post-test.

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