

Effectiveness of oral health education among parents

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ABSTRACT:

Oral health education, as a part of oral health promotion, has been considered as essential and basic part of dental health services. Parents have an important role in making decisions about their child's oral health. The aim of the study was to assess the effectiveness of oral health education on oral health-related knowledge and attitudes of parents. A structured questionnaire was formulated and distributed as google forms pre and post oral health awareness program and it was found that there was a drastic increase in Knowledge among parents and caregivers which was statistically significant. It can be concluded that oral health education is an effective means of improving the knowledge and oral health practices among parents which will be beneficial to the Child's oral and hence overall health.

Keywords: *Oral health education, structured questionnaire.*

INTRODUCTION:

The health of a child is a result of an amalgamation of his family's culture, beliefs and knowledge, social surroundings, and physical conditions. The Global Burden of Disease Study 2019 estimated that oral diseases affect close to 3.5 billion people worldwide, with caries of permanent teeth being the most common condition. Globally, it is estimated that 2 billion people suffer from caries of permanent teeth and 520 million children suffer from caries of primary teeth. Dental caries often leads to a poor oral health status of a child and is often associated with a negative impact on the quality of life, and the eventual deterioration of health [1]. The consequences of dental caries include pain, decreased appetite, difficulty chewing and eating certain foods, drinking hot or cold beverages, weight loss, difficulty sleeping, changes in behavior and poor academic performance [2]. Children with poor oral hygiene are more likely to miss school when compared to children with good oral hygiene. A study by Moallemi et al showed that mother's oral health knowledge and attitudes are positively related to their children's sound dentition.[5] There is a common misconception among parents that deciduous teeth of their children will exfoliate and do not require good care as they shed off with time. However, problems in primary or deciduous teeth can distress the child leading to inability to chew or speak properly, pain and swelling affecting their quality of life. Oredugba F et al found inadequate knowledge of

preventive oral health care on assessing mother's oral health knowledge towards their children. Without basic knowledge of caries risk factors, importance of deciduous dentition and oral maintenance, employing disease preventive measures is difficult. Children spend a majority of their time with their parents/guardians and therefore parents play a vital role in instilling good habits and values to their children [3]. The maintenance and outcome of oral health is good if a young child is highly influenced by parents [4]. Prevention of oral health diseases is more cost effective than treatment and rehabilitation. It is hence imperative that parents have good oral health knowledge, and attitudes which will influence their child's oral health maintenance, dietary habits and encourage healthy behaviors. Hence, the aim of this study was to assess the awareness, knowledge, Attitude and Practices of parents towards oral health prior and post implementation of oral health awareness program.

MATERIALS AND METHODS:

Information regarding the demographic backgrounds, oral hygiene practices were collected from mothers using a structured questionnaire. The questionnaire consisted of 23 questions which included the demographic data, knowledge about oral hygiene, timing of eruption of primary teeth and its importance, the dietary and snacking pattern, preventive measures against Dental caries, trauma and measures to follow when

encountered. The questionnaires were distributed in the form of google forms and responses were received .An intervention was designed to enhance parents' motivations to engage in preventive oral health practices including improving children's dental visits. The intervention was in a form of one hour oral health education presentation involving a series of PowerPoint slides emphasizing the importance of oral health in general, importance of primary teeth , common problems associated with teeth, prevention of oral diseases, importance of oral hygiene and prevalence of oral habits in children and their consequences .

The post awareness questionnaire was circulated in the form of google forms and the responses obtained were recorded. Data were entered and analyzed using the

SPSS software version 23.Data analysis included frequency distribution with numbers, percentages, mean and standard deviation. A p value of 0.05 was set at a significant level.

RESULTS:

A total of 74 pre and post responses were obtained. Figure 1 represents the demographic characteristics of the study participants. Of the total population,28.4% were males and 71.6% were females .About 75 % of the population were professionals.45% had one child and 45 % had two children.

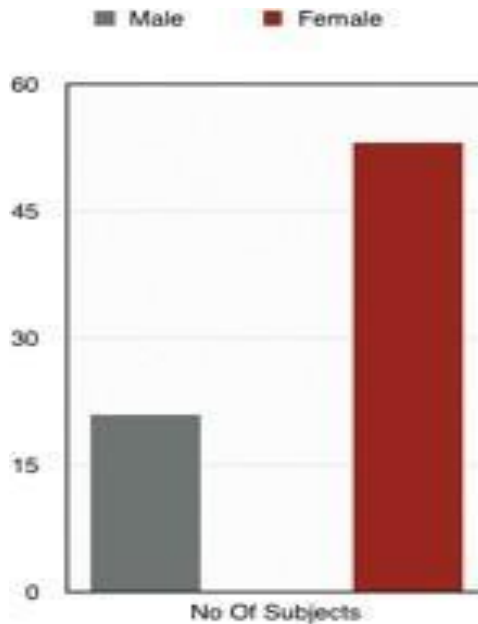


Table 2 showed the frequency distribution of answers to the knowledge and awareness questions .Only 35% could identify the number of primary teeth which was increased to 70 % post awareness lecture. Only 55% had answered that all the milk teeth will shed off whereas 80% agreed to the same later .67% of the participants agreed that oral hygiene measures should begin even prior to the eruption of milk tooth whereas only 40% agreed to this prior to the lecture .Initially only 32 % were aware that fluoride is an important constituent of tooth paste which prevents tooth decay where as after the lecture 68% agreed on the same. Before the awareness

program only 30 % were aware about space maintainers which raised to 66% later.

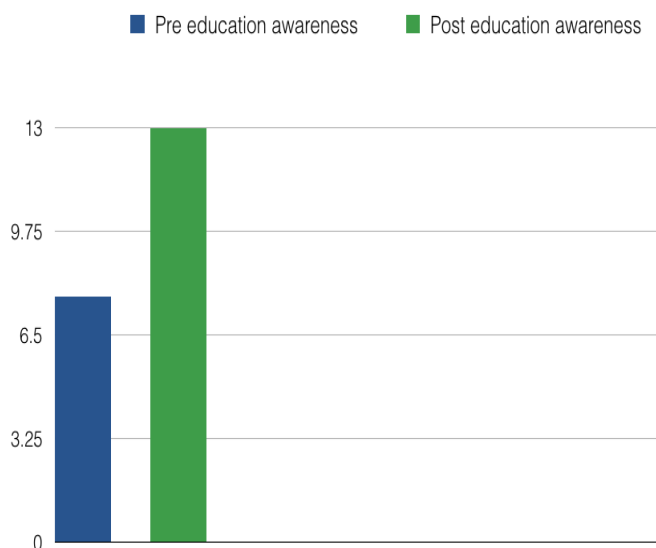
There was a drastic increase in knowledge for the questions pertaining to trauma. Most of the participants became aware that the broken piece of tooth can be used for repair, the medium in which they are supposed to be carried in order to maintain the viability and also that mouth guard play a vital role in prevention of dental trauma in children. Overall he percentage of correct responses increased significantly from prior to lecture to post lecture.

Pre and Post Intervention Oral Health Awareness

Mean Pre Oral Health Awareness Score : 7.702 ± 4.698

Mean Post Oral Health Awareness Score: 13 ± 3.750

	Pre Oral Health Awareness		Post Oral Health Awareness	
	Frequency [74]	%	Frequency [68]	%
Gender				
Male	21	28.4	21	28.4
Female	53	71.6	53	71.6
Employment status				
Professional	56	75.7	56	75.7
Self Employed	13	17.6	13	17.6
Currently not working	5	6.8	5	6.8
No of children				
Nil	2	2.7	2	2.7
One	34	45.9	34	45.9
Two	35	47.3	35	47.3
Three	2	2.7	2	2.7
More than Three	1	1.4	1	1.4
Oral health has great correlation to general health				
Yes	50	67.6	66	97.1
No	24	32.4	2	2.9



How many milk teeth does a child have				
10	20	27.0	11	16.2
20	26	35.1	48	70.6
28	9	12.2	6	8.8
32	19	25.7	3	4.4
Will all the milk teeth shed off ?				
Yes	41	55.4	55	80.9
No	33	44.6	13	19.1
Decay on the milk teeth is OK as they tend to shed eventually				
Agree	42	56.8	37	54.4

Disagree	32	43.2	31	45.6
Maintenance of oral hygiene should begin				
Before the eruption of first teeth	30	40.5	46	67.6
After all the tooth erupt	26	35.1	2	2.9
Right after the first tooth erupt	18	24.3	20	29.4
What component of tooth paste prevents tooth decay ?				
Fluoride	24	32.4	46	67.6

Milk	18	24.3	14	20.6
Fruit juices	19	25.7	2	2.9
Cheese	5	6.8	5	7.4
All the above	32	43.2	47	69.1
Gum inflammation is known as				
Ulcer	30	40.5	4	5.9

Gingivitis	35	47.3	58	85.3
Pericoronitis	9	12.2	6	8.8
Device used to maintain space due to premature loss of teeth is known as				
Mouth guard	23	31.1	14	20.6
Oral screen	29	39.2	9	13.2
Space maintainer	22	29.7	45	66.2
What procedure is done to prevent the occurrence of cavities				
Root canal treatment	28	37.8	20	29.4
Restoration	24	32.4	16	23.5
Pit and fissure sealants	22	29.7	32	47.1
Risk factors for dental injuries				
Proclined teeth	32	43.2	41	60.3
Crowded teeth	29	39.2	15	22.1

Calcium carbonate	44	59.5	17	25.0
Methyl paraben	6	8.1	5	7.4
When does the first milk tooth erupt ?				
At birth	9	12.2	1	1.5
Six Months	29	39.2	53	77.9
One Year	36	48.6	14	20.6
How often should one visit a dentist				
As and when problem arises	34	45.9	4	5.9
Every six months	22	29.7	55	80.9
Once in a year	18	24.3	9	13.2
How often should you change your tooth brush				
Every 6 months	31	41.9	52	76.5
When the bristles fray	31	41.9	15	22.1
Once in a year	12	16.2	1	1.5
When is the best time to give snacks				
In between meals	25	33.8	31	45.6
During meals	11	14.9	19	27.9
Before meals	38	51.4	18	26.5
Diet component which helps to prevent cavities				

Spaced teeth	13	17.6	12	17.6
What is knocking off tooth out of the socket called ?				
Avulsion	19	25.7	46	67.6
Displacement	38	51.4	11	16.2
Shedding	17	23.0	11	16.2
If tooth is broken ,can the broken piece be used for repair ?				
Yes	30	40.5	50	73.5
No	44	59.5	18	26.5
Which is the best medium to carry the broken piece of tooth				
Hydrogen peroxide	26	35.1	11	16.2
Milk	48	64.9	57	83.8
Name the device which helps to protect the teeth from injuries due to trauma				
Denture	23	31.1	7	10.3
Mouth guard	38	51.4	54	79.4
Oral screen	13	17.6	7	10.3

	Pre Oral HA			Post Oral HA		
	Male	Female	p value	Male	Female	p value
Oral health has great correlation to general health						
Yes	17	33	2.397	23	43	0.195

No	4	20		1	1	
How many milk teeth does a child have						
10	10	10	9.836	5	6	2.783
20	8	18		16	32	
28	2	7		1	5	
32	1	18		2	1	
Will all the milk teeth shed off ?						
Yes	15	26	3.047	19	36	.071
No	6	27		5	8	
Decay on the milk teeth is OK as they tend to shed off eventually						
Agree	12	30	.002	16	21	2.246
Disagree	9	23		8	23	
Maintenance of oral hygiene should begin						
Before the eruption of first teeth	10	20	1.650	13	33	3.08
After all the tooth erupt	5	21		1	1	
Right after the first tooth erupt	6	12		10	10	

During meals	5	6		8	11	
Before meals	7	31		9	9	
Diet component which helps to prevent cavities						
Milk	5	13	2.682	5	9	0.718
Fruit juices	5	14		1	1	
Cheese	3	2		1	4	
All the above	8	24		17	30	
Gum inflammation is known as						
Ulcer	6	24	1.746	2	2	1.312
Gingivitis	12	23		21	37	
Pericoronitis	3	6		1	5	
Device used to maintain space due to premature loss of teeth is known as						
Mouth guard	8	15	0.734	6	8	1.025
Oral screen	7	22		4	5	
Space maintainer	6	16		14	31	
What procedure is done to prevent the occurrence of cavities						
Root canal treatment	9	19	2.505	8	12	1.415
Restoration	4	20		7	9	
Pit and fissure sealants	8	14		9	23	

What component of tooth paste prevents tooth decay ?						
Fluoride	9	15	1.746	15	31	1.688
Calcium carbonate	10	34		8	9	
Methyl paraben	2	4		1	4	
When does the first milk tooth erupt ?						
At birth	1	8	2.824	0	1	0.961
Six Months	11	18		20	33	
One Year	9	27		4	10	
How often should one visit a dentist						
As and when problem arises	7	27	2.718	1	3	0.228
Every six months	9	13		20	35	
Once in a year	5	13		3	6	
How often should you change your tooth brush						
Every 6 months	12	19	2.937	19	33	0.606

When the bristles frey	6	25		5	10	
Once in a year	3	9		0	1	
When is the best time to give snacks						
In between meals	9	16	4.146	7	24	4.285

Risk factors for dental injuries						
Proclined teeth	10	22	1.624	15	26	2.703
Crowded teeth	6	23		3	12	
Spaced teeth	5	8		6	6	
What is knocking off tooth out of the socket called ?						
Avulsion	7	12	10.047	14	32	1.470
Displacement	5	33		5	6	
Shedding	9	8		5	6	
If tooth is broken ,can the broken piece be used for repair ?						

Yes	12	18	3.353	19	31	0.606
No	9	35		5	13	
Which is the best medium to carry the broken piece of tooth						
Hydrogen peroxide	5	21	1.650	5	6	0.593
Milk	16	32		19	38	
Name the device which helps to protect the teeth from injuries due to trauma						
Denture	6	17	1.775	3	4	0.442
Mouth guard	13	25		18	36	
Oral screen	2	11		3	4	

DISCUSSION:

Tooth decay remains a substantial problem in many children and is even made worse by the existing barriers that prevent them from obtaining proper care. Findings of the study done by Almarshed et al showed the difference in mean values and overall knowledge scores pre-and post video demonstration shared through social media which was in accordance with our study. A study done by Mridula et al in 2021 suggested that the overall attitude and practice scores of parents in maintaining the children's oral hygiene was low with the COVID-19 pandemic. This was also reported by parents in our study that there was an increased frequency of snacking in children especially during this pandemic. A study conducted by Christina et al in 2014 revealed that parents with higher education levels had better scores. Likewise in our study the awareness of parents with regards to the employment status was high Traditional teaching and learning methods may not be suitable for the current scenario. The Internet has become a boon and valuable supplement allowing the traditional teaching to become interactive, collaborative and more visually-based. Imparting oral health education by virtual means like in our study is very much beneficial since it is economical ,large masses can be gathered at the same time, decreased manpower and reduced contamination .

CONCLUSION:

There is a need for intensive coordinated efforts by pediatricians, pediatric dentists & other health care professionals to cultivate and support the positive Attitudes among parents .Preventive programs in schools & PHC need to generate awareness. Caregivers who are less educated should be encouraged to participate in OHE program .Barriers to attend oral health care such as fear factor must be eliminated .The attention should be focussed not on the child but on the family as a whole .Hence it can be concluded that oral health education is effective in improving the knowledge and oral hygiene related practices of target population especially the parents who would bring about the higher quantum of change in improving the oral health and children.

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