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Knowledge and Awareness of Food Pouching Habit While Using Multimedia Device among Parents of 2-8 Years of Children: A Questionnaire Study

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ABSTRACT:**Background:** With emerging technologies and changing world , the kids are being exposed to fascinating gadgets and multimedia at a very young age. The purpose of this study was to assess the knowledge and awareness of food pouching habit while using Multimedia device among parents of 2-8 years of children.

Materials and Method: A questionnaire study was conducted in cities of Maharashtra and Gujarat. The structured, self-administered, and close ended questionnaire was designed was comprised of Demographic details and 29 questions related to the topic. The Reliability and Validity of the questionnaire were calculated(Cronbach alpha-0.72).Informed consent was also taken from the participants. Statistical analysis was done using descriptive statistics.

Results: There were a total of 152 participants between 2-8 years of age. Out of 152 participants, there were 80 males and 72 females .Around 42.8% of children watch various types of screen while eating meals and 64.9% hold food in their mouth without swallowing. 5-7 years of age group is most commonly affected.

Conclusion: The study concluded that the overall knowledge and awareness of foodpouching habit amongst parents of 2-8 years of children was average, while its practice during usage of multimedia device was high among children.

KEYWORDS: Awareness,Children, Food Pouching , Knowledge, Multimedia device, Mobile

I. INTRODUCTION

With constantly changing world and technologies everywhere, there is no time for family and friends. Children, who all once used to have a toy in their hand is now replaced with mobiles and tablets. We all know that feeding a child is a hectic job, the child gets fussy and finds excuses to not eat boring food. To overcome this task, parents and caretakers have come up with an idea of handing over mobile phones and tablets to a child while feeding them unaware of the long-term effects it cause. Even parents due to their busy schedule, distract their kids by giving them electronic gadgets. So that in such a way they can work in peace and enjoy their "Quiet Time".[1]

These tiny tots aimlessly look at the cold screen not knowing what is entering into their stomach. Unable to concentrate on chewing ,they keep on stuffing food in their mouth and hold it in their cheeks leading to so called Food Pouching.[1] As a result the food comes in contact with teeth for a longer period of time which increases theretention of food and also compromises with oral clearance.[1,5]

Epidemiological studies have identified multimedia device viewing as a possible risk factor for chronic health conditions that are associated with sedentary lifestyle and lack of nutrition intake. Long hours spent watching TV and using mobile phones leads to reduction in physical activities and an increase in consumption of unhealthy snacks leading to obesity.[2] . Sedentary lifestyle and unhealthy eating habits could lead to poor oral hygiene statuses and increase the tendency to develop periodontitis and obesity at young ages.[3]Several studies have reported that the frequency and the time of food advertisement could have a similar impact on dental caries. Food advertising accounts for the largest percentage of the advertisements in virtually all countries. Furthermore, advertisements for confectionery represented 20% of all food advertising.[4] There isa positive association between

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length of television viewing per day and dental caries.The longer the time spent watching TV, the greater the number of decayed teeth and DMFT score.[5]Longer screen viewing time during mealtime also compromises the oral clearance of food, which is also a predisposing factor for dental caries .The greater the adhesiveness of food, the greater the time to be eliminated from oral cavity.[6] High retention rates were found in sweet and salty snacks and potato chips, commonly consumed by children. Therefore snacking during Television and mobile viewing results in increased caries among children.[7] Elimination of cariogenic sugar can be done by ingestion of hard and fibrous food which stimulates saliva and promotes natural teeth cleaning.[8] With regard to prevention of the habit reduction of television viewing, videogames and use of tablets and mobile phones can be done.[9]

The purpose of this study was to assess knowledge and awareness of food pouching habit while using multimedia device among parents of 2-8 years of children.And preventive measures that can be taken.

II. MATERIALS AND METHODS:

A questionnaire study was conducted among general population to assess knowledge and awareness of food pouching habit while using multimedia device among parents of 2-8 years of children .The objective of this study was to evaluate the effect of multimedia on food pouching habit. The input parameter for sample size calculation used as follows: 90% power of the study, alpha error 0.05, effect size 0.5 (medium), and degree of freedom as 5. The calculated sample size was 140 using G* Power software version 3.1.9.2 (Henrich Heine University, Dusseldorf). The final considered sample size for the study was around 152, who were the participants. The convenient sampling technique was used in the study. A structured, selfadministered, and closed ended questionnaire was designed to collect data which considered of two parts and comprised 29 questions related to use of social media. The first part consisted of demographic data such as gender and age and second part consisted of knowledge-,attitude-, and practice related questions. The questionnaire was prepared using Google Forms (Google LLC, Mountain View, California, United States) and link was distributed to the selected participants through Email, WhatsApp ,Facebook and Instagram The reliability statistics were calculated and Cronbach alpha value was 0.683. A brief introduction about the study was given and informed consent was also taken from all the participants. Data collected were entered in a spreadsheet (Microsoft Excel, 2016). Statistical analysis was done using descriptive statistics (number and percentage) Statistical Package for the Social Science 23.0 version software (IBM Chicago, Illinois, United States) was used. P-value was set at 0.05 or 5%.

III. RESULTS

In Table 1, there were a total of 152 participants between 2-8 years of age, maximum participants were between 5-6years of age of which 80 were males and 72 were females .

In Table 2, it was found that mostly children hold their food in cheek without swallowing(64.4%) and it commonly affects age group of 5-7 years. Mobile is most commonly used device amongst children(80%) followed by Television(28.5%). Middle income group is most commonly affected(39.5%).Most of the children suffer from Multiple caries(35.5%) and toothache(35.5%). Majority of them(27.8%) visits dental clinics every 6 months .

In Table 3, Majority of them agree(50%) that there are drawbacks of food pouching habit and there is relationship between multimedia devices and food pouching habit(52%). About 49.3% parents think that dentist play an important role in detecting and stopping the food pouching habit .About 37.1% parents agree that children of working parents are more likely to come across with this habit. Majority of parents agrees with the fact that there is relationship between food pouching habit and dental problems(50%).

In Table 4, it is given that majority of children are addicted to multimedia while having food(47%) and 42.4% eat junk food while watching multimedia. About 37.5% of parents instruct their children to clean their mouth after eating or snacking and majority(38.2%) of them give water to children in order to gulp the food.

Table 1:Demographic Details of Study Participants(N=152)

Sr. no.	Questions	Responses	N	%	Total N(%)
1	Age of a Child (years)	2	1	0.6%	152(100)
		3	8	5.2%	
		4	17	11%	
		5	26	17%	

International Journal Dental and Medical Sciences Research
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		6	21	13.8%	
		7	21	13.8%	
		8	21	13.8%	
2.	Gender	Male	80	52.6%	152(100)
		Female	72	47.4%	
3.	Locality	Rural	19	12.5%	152(100)
		Urban	133	87.5%	
5.	Parent Occupation				152(100)
		Teacher	17	11.1%	
		Doctor	16	10%	
		Dentist	5	3.2%	
		Business	32	21%	
		Housewife	30	20%	
		Engineer	12	7.8%	
		Other	42	27.6%	

Note: N-Number, % - Percentage.

Table 2:Knowledge related questions' responses of study participants(N=152)

Sr. No.	Questions	Responses	N	%	Total N(%)
1)	What is food pouching habit?	When a child holds on to food in mouth without swallowing.	96	64.9%	152(100)
		When food residue is left in mouth after eating?	29	19.6%	
		Eating Disorder	8	5.2%	
		Overstuffing	15	10.1%	
2)	Where does child mostly hold food in mouth?	They hold it in their cheeks	96	64.4%	152(100)
		Tucked behind or in front of their gums.	32	21.5%	
		Either way as if they are sticking their food in little pocket.	17	11.4%	
		Labial vestibule	4	2.6%	
3)	What is your main source of knowledge about food pouching habit?	Educational Course	59	38.8%	152(100)
		Online source	45	29.6%	
		Other source	27	17.8%	
		Don't know	21	13.8%	
4)	Which age group	Below 3 years	24	16%	152(100)

	does it affect commonly?				
		3 to 5 years	78	52%	
		5to 7 years	43	28.7%	
		Above 7 years	5	3.2%	
5)	What do you do when your child puts too much food in mouth?	Wait for child to chew food	40	26.3%	152(100)
		Switching off the media(TV, Mobiles,etc)	38	25%	
		Threatening the child.	11	7.2%	
		Give them water to gulp.	16	10.5%	
		Try all the above possible methods	47	30.9%	
6)	How much time does your child take to chew food?	<30 minutes	107	70.4%	152(100)
		30-60 minutes	37	24.3%	
		>60 minutes	8	5.3%	
7)	What factors influence your child's eating behavior?	Availability of food	31	20.4%	152(100)
		Eating routine.	29	19.1%	
		Emotions	22	14.5%	
		Food Marketing	12	7.9%	
		All of the above	58	38.2%	
8)	Which all multimedia devices your child use?	Mobile	80	53%	152(100)
		TV	43	28.5%	
		Laptop	20	13.2%	
		Tablet	8	5.3%	
9)	Which socio-economic status plays a role in food pouching habit?	Low income	15	9.9%	152(100)
		Middle income	60	39.5%	
		High income	23	15.1%	
		Don't know	54	35.5%	
10)	What efforts can you make as parents to stop the	Restrict the use of TV and mobile phone	69	45.4%	152(100)

	habit?				
		Reading a story to child other than use of mobile phone while feeding him/her.	45	29.6%	
		Feeding the child by making him/her sit in the balcony or at window.	33	21.7%	
		Bribe the child by giving him/her(ice-cream, chocolate)	0	0	
11)	How can you educate your child about stopping the habit?	By explaining them the drawbacks of this habit.	57	37.7%	152(100)
		By explaining them through cartoon or animated video.	47	31.1%	
		By explaining them the importance of chewing properly.	36	23.8%	
		By conducting school plays	11	7.3%	
12)	How can we make parents aware of this habit?	By conducting lectures in school and kindergarten.	41	27.3%	152(100)
		Pediatrician and dentists educating parents.	44	29.3%	
		By conducting dental camps in schools	37	24.7%	
		By advertisement.	28	18.7%	
13)	Which all dental problems does your child suffer from?	Caries and decayed teeth	31	32.6%	152(100)
		Multiple caries(Cavity)	34	35.5%	
		Tooth ache	34	35.5%	
		Early exfoliation of teeth	9	9.2%	
		Stains in teeth	8	17%	
14)	How often does your child visit the dentist?	Monthly	10	6.6%	152(100)
		Every 3 months.	24	15.9%	
		Every 6 months	42	27.8%	
		Yearly	41	27.2%	
		never	34	22.5%	
15)	How did your child come across the habit of using mobile and watching TV while eating?	You followed the same habit	32	21.5%	152(100)

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		Their friends followed the habit	36	24.2%	
		You yourself induced the habit due to busy schedule	39	26.2%	
		Don't know	42	28.2%	

Note: N-Number, % - Percentage.

Table 3: Attitude based questions' responses of study participants(N=152)

Sr. no.	Questions	Responses	N	%	Total N(%)
1)	Do you think there are drawbacks related to food pouching habit?	Strongly Agree	43	28.3%	152(100)
		Agree	76	50%	
		Neutral	21	13.8%	
		Disagree	6	3.9%	
		Strongly disagree	6	3.9%	
2)	Do you think there is a relationship between watching multimedia devices and food pouching habit ?	Strongly Agree	41	27%	152(100)
		Agree	79	52%	
		Neutral	21	13.8%	
		Disagree	9	5.9%	
		Strongly disagree	2	1.3%	
3)	Do you think that dentists have an important role in detecting and stopping the food pouching habit (multimedia devices) amongst children ?	Strongly Agree	45	29.6%	152(100)
		Agree	75	49.3%	
		Neutral	22	14.5%	
		Disagree	8	5.2%	
		Strongly disagree	2	1.3%	
4)	Do you think that the parents play a role in influencing the habit of food pouching?	Strongly Agree	43	28.3%	152(100)
		Agree	61	40.1%	
		Neutral	28	18.4%	
		Disagree	18	11.8%	
		Strongly disagree	2	1.3%	
5)	Do you think that the child of the working parent/s are most likely to come across this habit?	Strongly Agree	38	25.2%	152(100)
		Agree	56	37.1%	
		Neutral	39	25.8%	
		Disagree	14	9.3%	
		Strongly disagree	4	2.6%	

6)	Do you think that there is a relationship between food pouching habit and dental problems in child?	Strongly agree	34	22.7%	152(100)
		Agree	75	50%	
		Neutral	24	16%	
		Disagree	11	7.3%	
		Strongly disagree	6	4%	
7)	)Do you think that, as a parent it is necessary to stop the habit?	Strongly agree	54	35.5%	152(100)
		Agree	65	42.8%	
		Neutral	25	16.4%	
		Disagree	6	3.9%	
		Strongly disagree	2	1.3%	

Note: N-Number, % - Percentage.

Table 4: Practiced based questions' responses of study participants(N=152)

Sr. No.	Questions	Responses	N	%	Total N(%)
1)	Does your child watch various types of screen while eating meals?	Always	43	28.3%	152(100)
		Often	65	42.8%	
		Rarely	32	21.1%	
		Never	12	7.9%	
2)	Is your child addicted to TV or multimedia while eating?	Always	44	29.1%	152(100)
		Often	71	47%	
		Rarely	24	15.9%	
		Never	12	7.9%	
3)	How often does your child suffer from dental problems ?	Always	27	17.9%	152(100)
		Often	54	35.8%	
		Rarely	49	32.5%	
		Never	21	13.9%	
4)	Do you clean by yourself or instruct your child to clean his/her mouth after eating or snacking?	Always	57	37.5%	152(100)
		Often	65	42.8%	
		Rarely	22	14.5%	
		Never	8	5.3%	

International Journal Dental and Medical Sciences Research
Volume 4, Issue 6, Nov-Dec 2022 pp 702-711 www.ijdmsrjournal.com ISSN: 2582-6018

5)	Do you give your child water to gulp down the food?	Always	39	25.7%	152(100)
		Often	58	38.2%	
		Rarely	34	22.4%	
		Never	21	13.8%	
6)	Does your child over eat?	Always	20	13.2%	152(100)
		Often	47	30.9%	
		Rarely	48	31.6%	
		Never	37	24.3%	
7)	How often does your child eat junk food?	Always	34	22.5%	152(100)
		Often	64	42.4%	
		Rarely	42	27.8%	
		Never	11	7.3%	

Note: N-Number, % - Percentage.

IV. DISCUSSION

Food pouching habit is a major problem around the globe. Health-care professionals are at forefront in emphasizing the harmful effects food pouching habit in children. They also play a critical role in guiding patient through discontinuation of habit. The present study explores the knowledge and awareness of food pouching habit during multimedia devices viewing. Anand et al. observed that children who watched more TV had worse oral hygiene and consumed larger amounts of soft drinks compared with children who watched less [3]

In the present study, 71% of children watch various types of screen while having food. And 21% of children watch rarely. Which is similar to study conducted by Das, et al. Around 92% of children are addicted to multimedia devices and 86.2% of children suffer from dental problems such as multiple caries and toothache.[1]

Children, especially those marginalized by their peers use TV which decrease their stresses and meet their social needs . Parents watch more television on regular bases also affects children habit of watching television. Hoyos et al.[17] stated that the child is 5 times likely to watch television if their parents do the same. The increased television viewing in children has resulted in poor peer relationships , anxiety disorder, agoraphobia,antisocial behaviour and increase the risk for social isolation , they also spend less time with friends and family Bick ham et al. [16]

Arikan and Bekar also reported that more than half of the children (58.2%) ate while watching TV, and 34.4% of these children ate once a day while watching TV and 31.2% always ate while watching TV. This study also demonstrated that 71.8% of children watch various types of screens while eating meals and 37.9% watches during snack time.[6] It was also found that 51.8% of children were addicted to screens while eating. The higher dmft score was reported among children who watch screens during both mealtime and snack time than those who do not watch. The score was also higher among children who are addicted to screens during eating.[1]

Stevenson and Allaire suggested in their study that the younger the child, the lower the oral motor development, and therefore, the less control of the tongue and cheek, which results in delayed elimination and digestion of food and hence more caries. They also suggested that most adhesive food determines greater permanence in the oral cavity, expanding their cariogenic effect.[7] High starch-containing foods remain longer on the teeth than high sucrose- or low starch-containing foods. Compromised oral clearance and prolonged periods of acid production occurs due to retention of high starch-containing foods promotes tooth decay.[1]

The increased oral clearance times of foods have been identified as a cause of dental caries in elderly patients, in patients with myotonic dystrophy[12] and rheumatic patients with dry mouths[13] and cleft patients. Longer screen viewing time also compromises oral clearance of food and increased retention of food within the oral cavity.[5]

With regard to efforts in stoppage of habit, 45% of the parents voted for restriction of TV and mobile phones, while the remaining supported alternative methods such as reading story to the child or making the child sit in the balcony while feeding him/her during meals. 37.7% of the parents agreed to educate the child by explaining them the drawbacks of the habit, 31.1% emphasized on explaining the child through cartoons and animated videos. 7.3% chose to explain by conduction of school plays. Coming to awareness amongst parents, 27.3% of them demanded conduction of lectures in schools and kindergarten on Food Pouching habit. 29.3% wants dentists and pediatrician educating them.

V. RECOMMENDATIONS:

1. Health care professionals should educate and spread awareness regarding drawbacks of food pouching habit.
2. Parents should make efforts in stoppage of habit by minimizing the use of mobiles and television, and by explaining children the importance of chewing properly.

VI. CONCLUSION:

The study concluded that the overall knowledge and awareness of food pouching habit amongst parents of 2-8 years of children was average, while its practice during usage of multimedia device was high among children. Therefore, more comprehensive awareness programs should be needed in the population.

The study has also provided the detrimental effect TV and other multimedia device usage during mealtime on oral and general health in children in the study area.

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REFERENCES

[1]. Das A, Agarwala P, Kar S, Kundu GK. Influence of food pouching habit during television and multimedia device viewing on dental caries: A cross-sectional study. Int J Health Allied Sci 2020;9:258-61

[2]. Ravishankar TL, Malik A, Tirth A, Tandon V. Association of dental caries and obesity with television viewing practices among school children of Moradabad city. J Clin Diagn Res 2016;4:124.

[3]. Anand N, Suresh M, Chandrasekaran MC (2014) (Effect of Obesity and Lifestyle on the Oral Health of Pre-Adolescent Children. Journal of Clinical and Diagnostic Research 8: 196-198.

[4]. Rodd HD, Patel V. Content analysis of children's television advertising in relation to dental health. Br Dent J 2005;199:710-2.

[5]. Zeng X, Sheiham A, Sabbah W. The association between dental caries and television viewing among Chinese adolescents in Guangxi, China. BMC Oral Health 2014;14:138.

[6]. Veiga KA, Porto AN, Costenaro AP, Borges AH, Soares AM, Bandéca MC, et al. Time of eliminating foods with different degrees of adhesion by preschool children. World J Dent 2017;8:430-3.

[7]. Kashket S, Van Houte J, Lopez LR, Stocks S. Lack of correlation between food retention on the human dentition and consumer perception of food stickiness. J Dent Res 1991 Oct;70(10): 1314-1319

[8]. World Health Organization. WHO Guidelines Approved by the Guidelines Review Committee. Guideline: sugars intake for adults and children. Geneva: World Health Organization; 2015

[9]. Robinson, Thomas N. "Reducing children's television viewing to prevent obesity: a randomized controlled trial." Jama 282.16 (1999): 1561-1567.

[10]. Arikan D, Bekar P. Children's eating habits and obesity while watching television. Iran J Pediatr 2017;27:1-6

[11]. Stevenson RD, Allaire JH. The development of normal feeding and swallowing. Pediatr Clin North Am 1991;38:1439-53.

[12]. Edgar WM, Bibby BG, Mundorff S, Rowley J. Acid production in plaques after eating snacks: Modifying factors in foods. J Am Dent Assoc 1975;90:418-25.

[13]. Linke HA, Birkenfeld LH. Clearance and metabolism of starch foods in the oral cavity. Ann NutrMetab 1999;43:131-9.

[14]. Kashket S, Yaskell T, Murphy JE. Delayed effect of wheat starch in foods on the intraoral demineralization of enamel. Caries Res 1994;28:291-6.

[15]. Lundgren M, Birkhed D, Steen G, Emilson CG, Osterberg T, Steen B. Oral glucose clearance in nonagenarians in

relation to functional capacity, medication and oral variables. Gerodontology 1997;14:17-27.

[16]. Engvall M, Birkhed D. Oral sugar clearance and other caries-related factors in patients with myotonic dystrophy. Acta OdontolScand 1997;55:111-5.

[17]. Risheim H, Arneberg P, Birkhed D. Oral sugar clearance and root caries prevalence in rheumatic patients with dry mouth symptoms. Caries Res 1992;26:439-44.

[18]. Lin YT, Tsai CL. Caries prevalence and bottle-feeding practices in 2-year-old children with cleft lip, cleft palate, or both in Taiwan. Cleft Palate Craniofac J 1999;36:522-6

[19]. Jorge Mota, Carlos Ribeiro J, Carvalho J, Paula Santos M, Martins J (2010) Television Viewing and Changes in Body Mass Index and Cardiorespiratory Fitness Over a Two-Year Period in School children. Pediatric Exercise Science 22: 245-253

[20]. Bick ham DS, Rich M (2006) Is television viewing associated with social isolation? Roles of exposure time, viewing context, and violent content. Arch Pediatric Adolescent Med 160: 387-392.

[21]. Hoyos Cillero, Itziar, and Russell Jago. "Sociodemographic and home environment predictors of screen viewing among Spanish school children." Journal of public health 33.3 (2011): 392-402.