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## A STUDY ON ASSESSMENT OF THE KNOWLEDGE AND BELIEF AMONG EXPECTANT MOTHERS OF KASHMIR IN THEIR LAST TRIMESTER ABOUT SIGNIFICANCE OF PRIMARY TEETH AND THEIR CARE

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### ABSTRACT

**Objective:** In the modern world cavities is the most common disease of mouth and teeth. Cavities although largely preventable but they are mostly common chronic diseases throughout the lifespan of a person. The main aim of our study was to assess the knowledge and belief of expectant mothers in third trimester of Kashmir valley about significance of primary teeth and their care to reduce the risk of early childhood caries.

**Materials and methods:** A total of 400 expectant mothers of Kashmir valley were randomly selected from LD hospital and from different places of Kashmir. A well designed questionnaire was prepared regarding the approach of pregnant women understudy toward infant oral health care and significance of primary teeth in their child's life.

**Results:** The results of our study revealed that expectant mothers under study had least knowledge about primary teeth and also the significance of teeth in child's life. The study also revealed that despite poor knowledge of respondents, majority of expectant mothers understudy were eager to know information regarding children's teeth health.

**Conclusion:** The knowledge of respondents understudy towards infant oral health care was not satisfactory. It is suggested that implementing educational awareness among women about primary teeth and their significance can bring change in mindset of expectant mothers, thus decreasing risk for early childhood caries.

**KEYWORDS:** Awareness, Expectant mother, Early childhood caries, Infant oral health, Primary teeth, Kashmir

## INTRODUCTION

Worldwide Dental caries (also known as tooth decay or dental cavities) is the most common non-communicable disease and dental caries affects general health of an individual and often causes pain and infection, resulting in tooth extraction of an individual. It has been reported in an earlier study that more than 40% of children had nursing bottle caries by the time they reach kindergarten (Pierce KM et al., 2002) and this disease affects the general population, but is 32 times more likely to occur in infants who are of low socioeconomic status, who consume a diet high in sugar, and whose mothers have a low education level (Drury et al., 1999; Mobley et al., 2009).

Pregnancy is the phase of both vascular and hormonal changes in a mother as well as in foetus. Certain changes can lead to oral problems in women like dental decay, gingival problems etc. (Offenbacher *et al.*, 1996). According to survey by United Nations Children's Fund (UNICEF) around 20% of the diseases in children under the age group of 5 are due to maternal health and malnutrition. Similarly, Oral hygiene in infants and children is also necessary as they can be chronic in them due to bacteria like *Streptococcus mutans* which is the principle bacteria that cause initiation of dental problems by colonizing in oral cavity of infants during eruption of primary teeth. It has been reported that pregnant women, parents, and caregivers of infants worldwide often do not receive timely and accurate education about preventive oral health as well as dental health care (Fitzsimons, 1998). It is important that pediatric oral health care should begin ideally with prenatal oral health counselling for parents, especially mothers who generally spend more time with the infants.

*Streptococcus mutans* show vertical colonization when it is transferred to child from mother forming direct influence (Dye *et al.*, 2011). This process usually starts from the age of two years as child is mostly attached to caregivers and for them it becomes mandatory to have knowledge regarding the child development mostly mother to have good information regarding oral health from pregnancy could be the key factor for developing good infant oral health (Berkowitz *et al.*, 1975, Caufield *et al.*, 1993 & Chacko *et al.*, 2013). One of the promising factor is the quality of care during initial developmental stages (Mallers *et al.*, 2010). Infant/ children can face severe tooth decay that affects the milk teeth leading to severe consequences on general health of child as well as on quality of life in future (Akpabio *et al.*, 2008 and Berkowitz, Jordan and White, 1976; Berkowitz and Jones, 1986; Berkowitz, 2003). Tremendous steps are taken by the American Academy of Paediatric Dentistry (AAPD) that there should be life time preventive education for oral diseases by recognizing the perinatal and infant oral health problems initially (AAPD, 2016). The current study is the attempt to make mothers aware as they are the key figures and major caregivers of child development and are the primary carriers for various oral bacteria so that infants and children can be saved from this trouble and burden (Shearer, 2011).

Mothers should be aware of the fact that proper oral hygiene is essential not just only for current oral health but for future as well. The colonization rate in children depends upon the *S. mutans* level during transmission which in turn is depend on the mothers's oral health condition. This suggests that mothers play very important role for maintaining the oral hygiene in infants. The survey on the present topic from literature review showed that there existed the poor knowledge and attitude among the mothers forming the major loop hole for bad oral conditions among the children (Berkowitz., 2013). Most of the dentist associations like the American Academy of Paediatric Dentistry (AAPD) mostly recommend the general awareness and assessment of mothers knowledge for effective control of oral health programmes (AAPD, 2009). Thus, the aim of the present study was to access the knowledge

and belief among the expected mothers in Kashmir in their last trimester about the significance of primary teeth and their care by collecting base line data from a well validated questionnaire.

## MATERIALS AND METHODS

The study was conducted in Kashmir valley in which 400 expectant mothers (200 rural and 200 urban) in their last trimester were randomly chosen for our study from LD hospital and from different places of Kashmir. A self-developed validated questionnaire was used to collect the information from the respondents on their consent after explaining them the purpose of our study. The respondents were assured that the data collected will be used for research purpose only. The scores of our study were calculated based on Likert rating scale, i.e., Agree (yes), Disagree (no), and No Idea (Undecided).

The sample size for current study was computed using following formula (Cochran, 1977)

$$n = \frac{Z_{\alpha}^2 P(1 - P)}{d^2}$$

Here, we take  $p=0.5$ ,  $Z_{\alpha}=1.96$  and  $d=0.05$ . That gives the appropriate sample size  $n \sim 384$  and we decided to chose sample size  $n = 400$ . The data collected was analysed statistically using standard statistical tools with the help of MS-Excel and SPSS (Version 20).

## RESULTS AND DISCUSSION

The data presented in Table 1, revealed that in response to statement 1, i.e., Is it necessary to maintain oral hygiene for healthy living, majority of the respondents (urban=95.5%, rural=94.0%) agree, in response to statement 2, i.e., Are milk teeth important, majority of the respondents (urban=48.0%, rural=49.0%) had no idea, in response to statement 3, i.e., If caries are not treated, will it affect child's health in general, majority of the respondents (urban=57.5%, rural=52.5%) agree, in response to statement 4, i.e., Do you think breastfeeding can lead to dental caries, majority of the respondents (urban=40.0%, rural=43.5%) had no idea, in response to statement 5, i.e., Can artificial sweeteners like packed juices, cold drink initiate caries process, majority of the respondents (urban=49.0%, rural=46.5%) had no idea, in response to statement 6, i.e., Have you heard about fluorosis (salt in water leading to yellowish discoloration of teeth), majority of the respondents (urban=52.0%, rural=57.0%) had no idea, in response to statement 7, i.e., Have you heard about the term "Early Childhood Caries/Nursing bottle Caries", majority of the respondents (urban=72.0%, rural=70.0%) had no idea, in response to statement 8, i.e., Do you think problems with milk teeth can affect permanent teeth, majority of respondents (urban=56.0%, rural=62%) said no idea, in response to statement 9, i.e., According to you, is it necessary to treat caries in primary teeth, majority of the respondents (urban=44.0%) said no idea, whereas majority of respondents (rural=43.5%) disagreed. In response to statement 10, i.e., Is it important to visit a dentist if milk teeth does not erupt, majority of the respondents (urban=55.5%, rural=56.0%) said no idea, in response to statement 11, i.e., Habits like thumb sucking, lip biting can affect appearance of teeth, majority of the respondents (urban=51.5.0%, rural=57.5%) disagreed, in response to statement 12, i.e., Diet during pregnancy can affect baby's teeth, majority of the respondents (urban=54.0%, rural=51.5%) had no idea, in response to statement 13, i.e., Do you notice when first milk teeth erupts in oral cavity, majority of the respondents (urban=50.5%, rural=47.0%) had no idea, in response to statement 14, i.e., Do you visit dentist for your problems, majority of the respondents tied (urban=34.5) agreed and had no

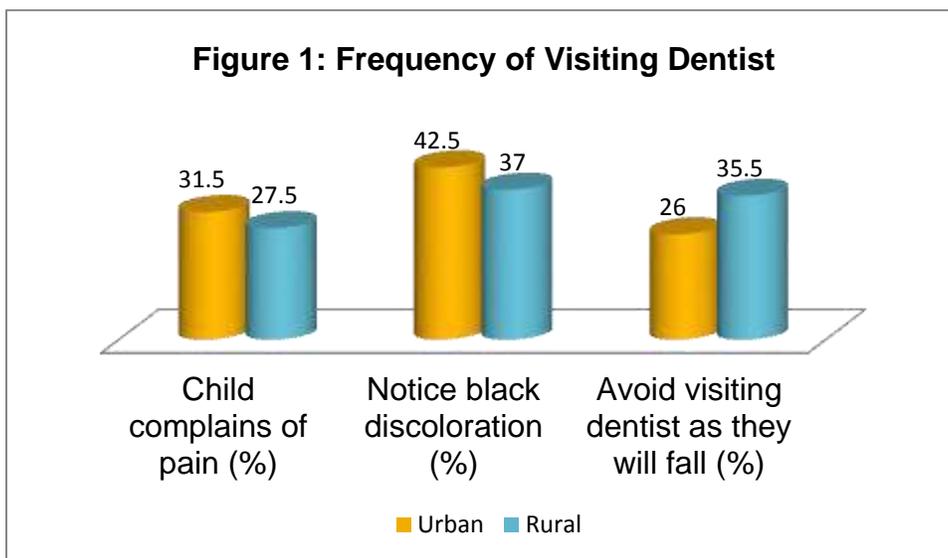
idea no idea, whereas majority of rural=38.5% agreed. In response to statement 15, i.e., Do you clean your child's mouth before going to bed at night, majority of the respondents (urban=61.0%, rural=47.0%) had no idea, in response to statement 16, i.e., Do you think you should visit dentist at your child's first birthday, majority of the respondents (urban=80.5%, rural=83.5%) no idea, in response to statement 17, i.e., Can feeding child at night develop caries, majority of the respondents (urban=46.5%, rural=42.5%) agreed. Tooth decay is a global issue as it does not discriminate between male and female or nationality; however, it is generally concentrated among disadvantaged population in the world. Parent's role is very important and studies (e.g., Nagarajappa, 2013) revealed that pregnant mothers as well as parents/caregivers of infants have inadequate knowledge regarding infant feeding, weaning, and bottle feeding practices and cleaning of the mouth of infant. In another study (Thomas et al., 2015), it was found that expectant mothers followed poor oral hygiene practices and had poor knowledge and attitude toward infant's oral health. Our findings are in agreement with the earlier studies discussed. In brief, current study displayed the pressing need to take adequate measures and guide women folk right from the start of their motherhood to bring change. It is necessary, in case parents doubt/think there is any dental issue with their child, they should visit pediatric dentist and their check up their child as no child is too young for good dental health.

**Table 1:** Knowledge, attitude, and practice of third trimester expectant mothers  
*Questionnaire Agree Disagree Do not know*

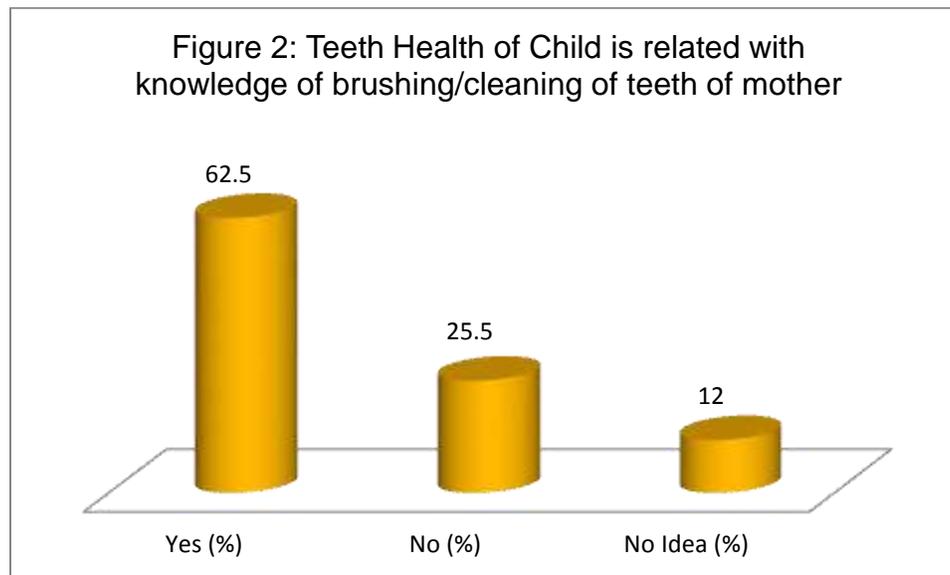
S.No.	Statement	Residence	Agree (%)	Disagree (%)	No Idea (%)	Chisquare	P-value
1.	Is it necessary to maintain oral hygiene for healthy living?	Urban	191(95.5)	1(0.5)	8(4.0)	0.579	>0.05
		Rural	188 (94.0)	2(1.0)	10(5.0)		
2.	Are milk teeth important?	Urban	95(47.5)	9(4.5)	96(48.0)	1.872	>0.05
		Rural	87(43.5)	15(7.5)	98(49.0)		
3.	If caries are not treated, will it affect child's health in general?	Urban	115(57.5)	14(7.0)	71(35.5)	1.382	>0.05
		Rural	105(52.5)	19(9.5)	76(38.0)		
4.	Do you think breastfeeding can lead to dental caries?	Urban	59(29.5)	61(30.5)	80(40.0)	1.291	>0.05
		Rural	49(24.5)	64(32.0)	87(43.5)		
5.	Can artificial sweeteners like packed juices, cold drink initiate caries process?	Urban	43(21.5)	86(43.0)	98(49.0)	2.772	>0.05
		Rural	26(13.0)	81(40.5)	93(46.5)		
6.	Have you heard about fluorosis	Urban	42(21.0)	52(26.0)	104(52.0)	4.151	>0.05
		Rural	27(13.5)	59(29.5)	114(57.0)		

	(salt in water leading to yellowish discoloration of teeth)?						
7.	Have you heard about the term “Early Childhood Caries/Nursing bottle Caries”?	Urban	17(8.5)	39(19.5)	144(72.0)	2.478	>0.05
		Rural	11(5.5)	49(24.5)	140(70.0)		
8.	Do you think problems with milk teeth can affect permanent teeth?	Urban	47(23.5)	41(20.5)	112(56.0)	5.282	>0.05
		Rural	29(14.5)	47(23.5)	124(62.0)		
9.	According to you, is it necessary to treat caries in primary teeth?	Urban	35(17.5)	77(38.5)	88(44.0)	3.481	>0.05
		Rural	43(21.5)	87(43.5)	70(35.0)		
10.	Is it important to visit a dentist if milk teeth does not erupt?	Urban	55(27.5)	34(17.0)	111(55.5)	0.693	>0.05
		Rural	49(24.5)	39(19.5)	112(56.0)		
11.	Habits like thumb sucking, lip biting can affect appearance of teeth?	Urban	29(14.5)	103(51.5)	68(34.0)	7.841	<0.05
		Rural	15(7.5)	95(47.5)	90(45.0)		
12.	Diet during pregnancy can affect baby’s teeth?	Urban	19(9.5)	75(37.5)	108(54.0)	1.271	>0.05
		Rural	14(7.0)	83(41.5)	103(51.5)		
13.	Do you notice when first milk teeth erupts in oral cavity?	Urban	57(28.5)	42(21.0)	101(50.5)	1.711	>0.05
		Rural	69(34.5)	37(18.5)	94(47.0)		
14.	Do you visit dentist for your problems?	Urban	69(34.5)	62(31.0)	69(34.5)	14.348	<0.01
		Rural	67(38.5)	87(43.5)	36(18.0)		
15.	Do you clean your child’s mouth	Urban	63(31.5)	15(7.5)	122(61.0)	10.238	<0.01
		Rural	75(37.5)	31(15.5)	94(47.0)		

	before going to bed at night?						
16.	Do you think you should visit dentist at your child's first birthday?	Urban	27(13.5)	12(6.0)	161 (80.5)	1.655	>0.05
		Rural	19(9.5)	14(7.0)	167(83.5)		
17.	Can feeding child at night develop caries?	Urban	93(46.5)	38(19.0)	69(34.5)	1.089	>0.05
		Rural	85(42.5)	36(18.0)	79(39.5)		



The data presented in Figure 2, revealed that majority of respondents (62.5%) reported that dental health of infant is related with knowledge of brushing as well as knowledge of cleaning teeth of mother. The results of our study are in agreement with the earlier studies, showing it is a global issue and we must pay attention towards it (Schiller E., 2006).



## CONCLUSION

The present study conducted in Kashmir valley was to assess the mindset of primary caregivers among pregnant women of Kashmir valley. Generally we talk of advancement in various approaches to treat dental caries, but practically we pay less attention to prevention measures. However, with one little step forward, i.e., by creating awareness among women, imparting knowledge, and counselling of primary caregivers, the scenario of ECC can be reshaped and positive attitude can be instilled in expectant mothers of Kashmir valley.

### Recommendation

In order to prevent cavity, one must:

- Visit dentist every 6 months for regular cleanings and examinations.
- Brush teeth once or twice daily with a toothpaste that contains fluoride.
- Establish a habitual flossing routine, cleaning between your teeth at least once a day with floss or a water flosser.

**Source of support:** Nil

**Conflict of interest:** None

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