

ORIGINAL RESEARCH**Knowledge, Attitude And Practice Among Dental Practitioners On Early Childhood Caries And Oral Health Care In “Kumaon Region”**Dr. Anil Pandey¹, Dr. Harsh Vardhan Pant², Dr. Bharat Bhushan Awasthi³, Dr. Manisha Pandey⁴¹Assistant Professor, Department of Dentistry SSJGIMSR Almora Uttarakhand²Senior resident, Department Of Dentistry SSJGIMSR Almora Uttarakhand³Professor, Department Of Dentistry SSJGIMSR Almora Uttarakhand⁴Dental Surgeon S.A.D. Mahala Hawalbagh Almora**Corresponding author**

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Received: 12-01-2024**Revised: 24-02-2024****Accepted: 02-03-2024****ABSTRACT**

Aim: This study aimed to assess the knowledge, attitude and practice among dental practitioners on early childhood caries (ECC) and infant oral health (IOH) care in “Kumaon region”.

Methodology: A total number of 140 dental practitioners completed a structured closed-ended questionnaire composed of 22 closed-ended multiple-choice questions and divided into 3 sections as follows, knowledge assessment questions, attitude assessment questions, and practice assessment questions. The questionnaire was presented in two forms: hard copies (printed forms) and online google forms and distributed to dental practitioners of Kumaon region. The collected data were statistically analyzed to assess the KAP of the participants regarding ECC and IOH.

Results: Results: A significantly high percentage of the participants had good knowledge 132 (94%) good attitude 133 (95.0%) ($p < 0.001$). and good practice level 90 (63.8%) ($p = 0.001$) regarding ECC and IOH. There was no significant relation between the qualification and the level of knowledge ($p = 0.514$), attitude ($p = 0.739$), and practice regarding ECC and IOH ($p = 0.258$). There was no significant relation between the years of experience and the level of knowledge ($p = 0.881$), and practice ($p = 0.493$). While the correlation with the attitude level was significant ($p = 0.017$), with a significantly higher percentage of the respondents with good attitude having less than 5 years of experience 51 (98.1%) or having 5-10 years of experience 66 (97.1%) ($p < 0.001$).

Conclusions: Dental practitioners have an overall good KAP regarding ECC and IOH. There was a statistically significant correlation between the years of experience of the pediatric patients and attitude level regarding ECC and IOH.

KEYWORDS : Oral health, early childhood caries; Dental practitioners, knowledge; attitude and practice.

INTRODUCTION

Early childhood caries is a complex disease involving the maxillary primary incisors within a month after eruption and spreads rapidly to involve other primary teeth.¹ It is a serious socio-behavioral and dental problem that afflicts infants and toddlers worldwide.² The definitions of ECC in the published literature vary, making comparisons among studies difficult.^{1,3} For example, some of the definitions have included 1 or more incisors with decay,^{4,2} or more incisors with decay,⁵ and even 3 or 4 maxillary incisors with decay.⁶ Therefore, in 2003, the American Academy of Pediatric Dentistry (AAPD) defined ECC as the presence of one or more decayed (noncavitated or cavitated), missing (due to caries), or filled tooth surfaces in any primary tooth in a child up to 71 months of age or younger. The academy also specifies that, in children younger than 3 years of age, any sign of smooth surface caries is indicative of severe early childhood caries (S-ECC). From ages 3 through 5, 1 or more cavitated, missing (due to caries) or filled smooth surfaces in primary maxillary anterior teeth or decayed, missing, or filled score of ≥ 4 (age 3), or ≥ 5 (age 4), or ≥ 6 (age 5) surfaces constitutes S-ECC.⁷ ECC is a multi-factorial disease.² The factors include a susceptible host, fermentable carbohydrate diet, presence of dental plaque, high number of cariogenic micro-organisms such as mutans streptococci, lactobacillus and time.⁸ It is also thought that there may be unique

risk factors for caries in infants and young children. ECC has been associated with oral hygiene practices, parental attitudes, educational status of mother, temperament of the child, mouth breathing habit, siblings, pacifiers dipped in honey, children with chronic illness or special health care needs and other feeding habits, maternal nutrition, psychosocial issues, frequent use of medications and parenting practice.⁹⁻¹⁵ Even ethnicity has been identified as a factor, as the Infant's Oral Health (IOH) is the target on which preventive strategies and dental care must be formed to promote children's opportunity to have a life free from preventable oral disease. Good oral health positively influences children's physical, mental, and social well-being. Children can enjoy their lives by allowing them to eat, speak, and socialize without experiencing pain or even discomfort¹⁶ (Pattanshetti et al., 2020). Dental professionals often assume that medical professionals have adequate knowledge about infant oral health and will refer children before it becomes irreversible. Even though they are the first health professionals in contact with expectant parents, parents of infants and infants, they are not well informed about dental health and do not appropriately refer children with dental disease² Therefore this study was conducted to evaluate Knowledge, attitude and practices among dental practioners on Early childhood caries and Infant oral health care in kumaon region Uttarakhand State.

MATERIALS AND METHODS: A cross-sectional survey was done among 140 dental practioners at kumaon region of the Uttarakhand State. A self-administered questionnaire with 22 items was prepared based on studies done by (Yahya et al, Gabriella D et al, Lewis W et al et al and Prakash et al) was distributed to 140 dental practioners all were participated in the study. The Survey questions were divided into 3 domains.

Data sources and management

Questionnaire Design: The questionnaire comprises 22 closed-ended multiple-choice questions divided into 3 sections: knowledge assessment questions, attitude assessment questions, and practice assessment questions.

Section (a) Knowledge assessment questions: This section is composed of twelve questions (from Q1 to Q12) related to the importance of the primary teeth and timing of eruption, importance of the timing of the first child's dental visit, the child's oral hygiene practice, use, and amount of fluoridated toothpaste. Another three questions were about the relation of caries with a child's diet, sucrose, juice, and carbonated beverages. There were two questions to assess the knowledge regarding the first signs of dental caries and the effect of caries on child development and growth. The minimum score was 0 and the maximum one was 12, of which a score of six and less was considered poor knowledge, and a score of seven and more was considered good knowledge.

Section (b) Attitude assessment questions: This section is composed of four questions (from Q 13 to Q16) for the participants belief of having a role in several aspects, including; prevention of dental caries, parents education, childrens teeth examination, and referral of required cases. . The minimum score was 0 and the maximum one was four, of which a score of two and less was considered poor attitude, and a score of three and more was considered a good attitude.

Section (c) Practice assessment questions: This section comprises six questions (from Q17 to Q22) regarding; parents' dental counseling, diet analysis, children's teeth examination, and type of action that will be carried out once dental caries has been identified. The minimum score was 0 and the maximum one was six, of which a score of three and less was considered poor practice and a score of four and more was considered good practice.

Statistical analysis

Categorical data were presented as frequencies and percentages and were analyzed using Fisher's exact test. The significance level was set at $p \leq 0.05$ within all tests and p-values were adjusted for multiple comparisons using Bonferroni correction.

RESULTS

This study included 140 dental practioners who agreed to complete both questionnaire forms (hard copy and online Google form). KAP of the participants regarding ECC and IOH were assessed.

Knowledge assessment regarding ECC and IOH The frequency and percentage values for the answers to the knowledge questions (from Q1 to Q12) regarding ECC and IOH are presented in table (1). Regarding knowledge about the date of the eruption of the first primary tooth in most children (Q1), a high percentage of the participants (92.9%) were aware of it, (70.9%) of participants lacked knowledge about the time of the child's first dental visit(Q2). On the other hand, (90%) of the participants did not know that bacteria can be transmitted from the mother to the child (Q9).

TABLE (1): Frequency and percentage (%) for the answers to the knowledge assessment questions regarding ECC and IOH:

Question number (Q)	Question	Answers	n	%	p-value
Q1	The first primary tooth in most children erupts at age of 6 months?	No	10	8%	<0.001*
		Yes	130	92%	
Q2	Children should have their first dental visit after eruption of first primary teeth?	No	100	71%	<0.001*
		Yes	40	29%	
Q3	Parents should start cleaning their children's oral cavity from time of birth after every feed?	No	64	46%	0.247ns
		Yes	76	54%	
Q4	Children should start using fluoridated toothpaste at age of 6 months?	No	112	80%	<0.001
		Yes	28	20%	
Q5	Tooth paste's amount to be used when starting brushing child's teeth is smear or the size of a grain of rice	No	23	17%	<0.001
		Yes	117	83%	
Q6	Bottle feeding at night for sleep might cause teeth decay?	No	32	23%	<0.001
		Yes	108	77%	
Q7	Sucrose is the most cariogenic sugar (can cause teeth decay)?	No	22	16%	<0.001
		Yes	119	84%	
Q8	Juice and carbonated beverages can cause teeth decay?	No	6	5%	<0.001*
		Yes	134	95%	
Q9	Bacteria that are responsible of teeth decay can be transmitted from the mother to her child?	No	90	64%	0.001*
		Yes	50	36%	
Q10	White spots are the first sign of tooth decay?	No	55	39.0%	0.009*
		Yes	85	61.0%	
Q11	Early Childhood Caries if untreated it could affect child general health and development?	No	14	10%	<0.001
		Yes	126	90%	
Q12	Primary (baby) teeth have a significant role in child's health and development?	No	10	8%	<0.001
		Yes	130	92%	

*: significant ($p \leq 0.05$)ns; non-significant ($p > 0.05$)

Attitude assessment regarding ECC and IOH The frequency and percentage values for the answers to the attitude assessment questions (from questions number 13 to 16) regarding ECC and IOH are presented in table (2). From the total number of participants, a significantly high percentage of respondents had a good attitude in believing in their role in caries prevention, infant's oral health promotion, and oral health education to the caregivers. Moreover, they approve of their role in the examination of children's teeth and advising the parents in case of suspected cases of dental caries.

TABLE (2): Frequency and percentage (%) for the answers to the attitude assessment questions regarding ECC and IOH:

Question number (Q)	Question	Answers	n	%	p-value
Q13	Dental practioners play an important role in prevention of dental caries and promotion of infants' oral health	No	8	6%	<0.001
		Yes	132	94%	
Q14	Dental practioners have to educate parents or caregivers regarding preventive dental measurements?	No	7	5.0%	<0.001
		Yes	133	95.0%	
Q15	Dental practioners have to examine children teeth for presence of caries?	No	21	15%	<0.001
		Yes	119	85%	
Q16	Pediatricians have to refer or advice parents in case of suspected cases of dental caries ?	No	3	3%	<0.001
		Yes	137	97%	

*: significant ($p \leq 0.05$)ns; non-significant ($p > 0.05$)

TABLE (3): Frequency and percentage (%) for the answers to the practice assessment questions regarding ECC and IOH:

Question number (Q)	Question	Answers	n	%	p-value
Q17	I counsel parents or caregivers regard teething, dental care and check-up of their children?	No	32	23%	<0.001
		Yes	108	77.7%	
Q18	I do diet counseling with parents or caregiver regard cariogenic food?	No	50	35.5%	0.001*
		Yes	90	64.5%	
Q19	I routinely examine children's teeth for presence of decay?	No	73	51.8%	0.674ns
		Yes	67	48.2%	
Q20	When I identify a child with a teeth decay, I record it in the medical chart?	No	74	52.5%	0.556ns
		Yes	66	47.5%	
Q21	When I identify a child with a teeth decay, I advise parents to see a dentist?	No	5	4%	<0.001
		Yes	135	96%	
Q22	When I identify a child with a teeth decay, I do a referral to a pedodontist?	No	105	75.2%	<0.001
		Yes	35	24.8%	

*; significant ($p \leq 0.05$) ns; non-significant ($p > 0.05$)

DISCUSSION

Many oral conditions in the child population can be prevented by timely spotting problems and the application of the adequate dental interventions. In order to be recognized on time, it is necessary to educate parents about basic oral diseases of preschool children age¹⁷

The first systematic examination of a newborn is carried out at the age of one month. If we follow calendar of regular vaccinations in Band H, only in the first year of life, a healthy child visits a pediatrician on average 5-6 times¹⁸. The usual period of eruption of the first milk teeth is between the fourth and the sixth month of the child's life. This is the period when the pediatrician is visited regularly. Also, in case of any health problem, even of a dental nature, the parents will take the child to the pediatrician. This survey was done to know the areas where the dental practioners need to improve the knowledge of oral health and to recognize the importance of pediatric dentistry.

Collecting the data using a survey questionnaire is one of the most appropriate and convenient methods for participants and investigators. The participants in the research always prefer an easy to-follow and complete tool (Ikart, 2019). The results of the present study revealed an overall good knowledge, attitude, and practice of the participants regarding ECC and IOH. It was very encouraging that the majority of dental practioners (95.0%) in the current study have an overall good attitude with (p -value<0.001) toward IOH and a willingness to contribute to the prevention of ECC. Despite holding these positive views, (63.8%) of the dental practioners reported an overall good but lower level of practices (p -value =0.001) related to ECC and IOH during their daily work. These results correspond with the results of Alsunaiber et al¹⁹.

Conclusions: Dental Practioners have an overall good KAP regarding ECC and IOH. There was no significant relationship between the qualification or the years of experience and the level of KAP regarding ECC and IOH. There was a significant correlation between the years of experience of dental practioners and attitude level regarding ECC and IOH, with a significantly higher percentage of the respondents with good attitude having less than 5 years of experience or having 5-10 years of experience. Most dental practioners did not receive dental training regarding oral health before the study.

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