AWARENESS AMONG GENERAL PRACTITIONERS ABOUT EARLY CHILDHOOD CARIES

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Early Childhood Caries (ECC) is a particular virulent form of dental caries affecting the primary teeth of children which in turn affects the general health of the children. Hence the study was intended to evaluate and compare the amount of awareness regarding ECC among dental (BDS) and medical (MBBS) general practitioners.

The study was carried out using self administered questionnaire distributed to 50 Medical general practitioners and 50 Dental general practitioners, selected by randomized sampling method from the region of Hubli – Dharwad city.

The result showed that 58% of Dental general practitioners had adequate knowledge about ECC while only 2% of Medical practitioners were aware about ECC. There was no statistical significant difference in the awareness among male and female general practitioners (male – 29.17%, female – 26.92%) whereas 80% of general practitioners in the age group of 41 – 50 years had adequate awareness about ECC as compared to general practitioners in the age group of 31-40 yrs (22.41%) and 21-30 yrs (11.11%).

Key Words: Early Childhood Caries, General Health, General Practitioners, Knowledge, Oral Health.

Early Childhood Caries (ECC) is a specific form of devastating caries that affects the primary dentition and many begin as soon as the infant tooth erupts. Prolonged atwill bottle feeding with sugar containing fluids, especially before sleep and delayed weaning are frequently cited risk factors for ECC. Epidemiological studies have also documented low socioeconomic status, minority status, low birth weight and transfer of microbes from mother to child through the sharing of spoons and soothers as ECC risk factors. In the developed countries, 1% - 12% of children younger than 6 year experience ECC (1). The treatments of children with ECC need to be done under general anesthesia, incurring heavy costs. The prevalence of ECC is as high as 70% (2). It is unclear to what extent all the Medical and Dental practitioners are aware of preventive strategies and to what extent they impart them. Thus, the present study was designed to begin from the grass root levels to assess the base line knowledge and awareness regarding ECC. Thus the present study aimed to assess the awareness among dental and medical general practitioners about Early Childhood Caries and to compare the awareness among dental and medical general practitioners about ECC.

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MATERIALS AND METHODS:

A stratified cluster random sample included general practitioners of Hubli – Dharwad region where 100 general practitioners were stratified into two groups, Group 1: 50 Dental general practitioners with BDS qualification and Group 2: 50 Medical general practitioners with MBBS qualification, as a research design for survey purpose. For the ease of statistical analysis the general practitioners were categorized based on ages 21-30yrs, 31-40yrs and 41-50yrs and were represented as A,B and C respectively. The survey was in the form of questionnaires distributed personally to the general practitioners in the specified region. There were 22 questions that focused on four sections

like risk factors, diagnosis, prevention and treatment of ECC that used a three point scale (Agree, Disagree and Don't Know).

The data obtained were statistically analyzed by the Unpaired t – test, One way ANOVA test, Tukey Multiple post hoc procedure and Chi – Square test and were divided as quartiles – Q1, Q2, Q3, where Q1=24.5, Q2=31, Q3=36.

Scores less than or equal to Q1 were considered to have inadequate awareness.

Scores between Q1 and Q3 were considered to have satisfactory awareness.

Scores more than or equal to Q3 were considered to have adequate awareness.

The study was approved by the ethics review board at SDM school of dentistry .Dharwad, India.

RESULTS:

Out of the 100 responses obtained from both groups, there were significant differences in awareness about ECC in Group 1 i.e. Dental practitioners, 54% had adequate knowledge and 46% with satisfactory knowledge and none of them were found under the category of inadequate knowledge about ECC with p=0.0000. Only 2% of Medical practitioners showed adequate knowledge, 40% of them with satisfactory knowledge and 58% with inadequate knowledge on total awareness about ECC (Table 1). It was also found that there is no statistical significant difference between male and female general practitioners (Table 2) with p=0.0097. The results showed that 80% of general practitioners in age group of 41-50yrs have adequate awareness about ECC in relation to age groups 31-40 yrs (22.41%) and 21-30 yrs (11.11%) with p=0.0000 (Table 3). Medical and Dental general practitioners practicing in the study area showed t=-10.1849, P<0.01 at 1% level of significance with respect to their total awareness towards ECC (Table 4). It means that the Dental general practitioners have significantly higher awareness towards ECC as compared to Medical general practitioners in all Variables i.e. risk factor, diagnosis, prevention and treatment.

DISCUSSION:

As caries is an infectious disease, interventions are needed to prevent transmission or improve the host's defense mechanisms. Caries risk assessment models indicate that a primary predictor of future caries is the past caries (3). Young children cannot intervene on their own hence; assistance is required from parents or care givers, health professionals and the community. We need a comprehensive, multi – disciplinary approach for the prevention and treatment of ECC. In the present study, Table 1 showed 54% of dental practitioners with adequate knowledge, 46% of dental practitioners with satisfactory knowledge and none with inadequate knowledge about ECC. Majority of them reported to play an important role in promoting the oral health of children. Although the knowledge of dental practitioners was significantly better, there is a need to emphasize on updating of their knowledge as they lack capability in diagnosing and providing the initial treatment at the early stages of the disease. Being Dental practitioners, regular exposure to the cases with oral health complaints, better knowledge and in depth study of oral health care could be the reason for more awareness about ECC.

58% of Medical practitioners showed inadequate knowledge on ECC (Table 1). However, very few (2%) medical practitioners reported adequate knowledge. This may be due to significant differences in the number of hours of training in oral health topics between Medical practitioners and Dental practitioners. Compared with Medical practitioners, Dental practitioners received more training on oral health topics. The study done by Preeti Prakash et al 2006 showed physicians having received 3 hour or more of oral health training during medical school were nearly twice as likely to provide dental care counseling than those who received less than 3 hour of training (1).

Their lack of dental knowledge is a significant barrier in being more involved. Hence, there is need

TABLE – 1: Association of levels of total awareness among Group 1 and Group 2 practitioners

Factor	Inadequate	%	Satisfactory	%	Adequate	%	Total
Group 1	0	0.00	23	46.00	27	54.00	50
Group 2	29	58.00	20	40.00	1	2.00	50
Chi-square=53.3520 df=2 p=0.0000							

TABLE – 2: Association of levels of total awareness among male and female practitioners

Factor	Inadequate	%	Satisfactory	%	Adequate	%	Total
Male	20	41.67	14	29.17	14	29.17	48
Female	9	17.31	29	55.77	14	26.92	52
Chi-square= 9.2601 df=2 p=0.0097							

TABLE – 3 : Association of levels of total awareness among different age group of practitioners

Age	Inadequate	%	Satisfactory	%	Adequate	%	Total
21-30 yrs	4	14.81	20	74.07	3	11.11	27
31-40 yrs	23	39.66	22	37.93	13	22.41	58
41-50 yrs	2	13.33	1	6.67	12	80.00	15
Chi-square= 34.3110 df=4 p=0.0000							

TABLE – 4: Comparison of Medical and Dental practitioners with respect to awareness of Early Childhood Caries and its Variables by t – test.

Variables	Group	Mean	SD	t-value	p-value
Total awareness	Group 1	34.5400	3.9549	-10.1849	0.0000, HS
	Group 2	24.6200	5.6384		
Risk factors	Group 1	7.6800	1.5444	-6.8683	0.0000, HS
	Group 2	4.9000	2.4096		
Diagnosis	Group 1	7.5600	1.9500	-6.0668	0.0000, HS
	Group 2	5.1000	2.1020		
Prevention	Group 1	10.3800	1.8394	-3.9932	0.0001, HS
	Group 2	8.5400	2.6894		
Treatment	Group 1	8.9200	1.1753	-9.0861	0.0000, HS
	Group 2	6.0800	1.8718		

to upgrade their knowledge regarding oral health care through effective strategies, similar to the study of Preeti Prakash et al (1) Medical practitioners also need training regarding ECC even after the completion of the course. Lack of training and unfamiliarity among the medical practitioners could have made it difficult for them to assume a more active role in the oral health promotion of children with ECC. This gap of knowledge observed in the present study, may be addressed with Continuing Medical Education (CME), so that non dental health professionals would adopt these practices (4) Physicians with 1 hour of CME training in oral health topics in the past five years were nearly four times more likely to recommend a child's first dental visit before one year of age. Earlier visits within six months of the first tooth eruption or before one year of age are now recommended by the American Academy of Pediatric Dentistry, the Canadian Academy of Pediatric Dentistry and the Canadian Dental Association (1). Lewis et al reported that 14% and 19% of pediatricians recommended the first preventive dental visit before six months of age. Many respondents were unaware of first sign of tooth decay. Consistent with these findings, respondents frequently requested more information and resource for the diagnosis, prevention of Early Childhood Caries in children (5).

Table 2 showed that the practitioners of age group more than 40 years had adequate awareness (80%) about ECC when compared to other age groups of 21-30 yrs (22.41%) and 31-40yrs (11.11%). This emphasizes, need for providing basic knowledge to the younger age group of practitioners in diagnosing, preventing and treating ECC. More awareness among 41 – 50 age groups of general practitioners could be due to more experience gained over the years. Hence the present study accounts for the younger practitioners to be competent in acquiring more information on oral health topics.

Table 3 showed, no statistically significant variation among the two sex groups of practitioners (male-29.17%, females-26.92%) about the adequate knowledge of ECC, in contrary with the study done by Khalid Almas et al 2003 (6).

CONCLUSION:

The medical practitioners need to improve and impart ECC counselling; provide anticipatory guidance to parents; and serve as a guide in developing positive dental attitude. For this, the general practitioners need to be well educated on the preventive aspects of ECC, which calls for the joint advocacy between two professions. The medical practitioners could link oral health screening and easily implemented low cost interventions with immunization schedules and public health nursing activities. This will enable the practitioners to give adequate counselling and dental care; provide early intervention and prevention of oral diseases which will maintain good health of a child. It also helps to make appropriate referrals to address the serious problems of disparities in obtaining access to professional dental service in treating ECC.

The dental practitioners, though have comparatively better awareness, there is a need to update the knowledge and play a vital role in preventing and treating ECC, provide early intervention which will maintain good health of a child.

LIMITATIONS:

The study however had limitations.

- The practitioners were surveyed from limited region and hence the results cannot be generalized to the whole body of dental and medical general practitioners.
- Method of collection of data was different for each group because of varying accessibility of them. However, a recent report suggested that such bias may be of less concern in physician surveys than in surveys of the general public because physicians have more homogenous knowledge, training, attitudes and behaviors (7).

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that the lips were habitually parted with the lower one sucked in behind the upper incisors. Functionally, hyperactivity of mentalis was also observed when the patient made conscious effort to bring both the lips together (Figure 1(a)).

Intraorally, all permanent teeth except the third molars were present in the oral cavity. Premolars, however, were only partially erupted at the start of the treatment. Although the molar relationship was class I bilaterally, both overjet and overbite were increased (Figure 1(b)). Infact, maxillary maladies like increased overjet with proclined upper incisors became self perpetuating and encouraged entrapment of lower lip that continued to move maxillary incisors forward while preventing the mandible to express its growth to its full potential.

Amongst several other findings which were in accordance with the clinical examination, cephalometric analysis revealed mild class II skeletal bases with lower anterior facial height matching the upper anterior facial height.

Considering the above findings, it was decided to undertake two phase treatment:

Phase I : one year of active treatment with Frankel II appliance (Figure 2). Frankel appliance was primarily designed to not so much change the form of the dental arches as eliminate abnormal perioral muscle functional effects on the developing dento- alveolar area. Following phase, a longer period of functional retention was advised to stabilize the training effect of the appliance and to protect the further dentoskeletal development from the adverse influence of the functional disorders.

Phase II (Figure 3) : This was the finishing phase after the complete eruption of all permanent teeth (except the third molars). Preadjusted edgewise appliance was used for this phase of therapy. Extrusion of molars as compensated by the vertical growth of ramus led to stable correction of deep bite (Figure 4(a, b)).

Conclusion:

Recognition of the need for two phase treatment followed by its execution is important because its benefits, both for the patient as well as the clinician, far outweigh the increased cost of the treatment.

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