KNOWLEDGE, ATTITUDE AND PRACTICE OF PEDIATRICIANS AND GENERAL MEDICAL PRACTITIONERS TOWARDS PEDIATRIC DENTISTRY IN TUMKUR DISTRICT, KARNATAKA -A CROSS SECTIONAL SURVEY

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Abstract:
Paediatric dentist emphasizes on the significance of prevention, diagnosis and treatment for infants, children and adolescents in order to restore and preserve their oral health. It is a specialty of dentistry oriented to the treatment and care of children's teeth.
Methods: A questionnaire- based survey was undertaken among the Paediatricians and General Medical Practitioners among 105 paediatrician and medical practitioners.
Results: The Results showed that the Pediatricians and Medical Practitioners have poor knowledge (46%) and moderate approach (52%) and moderate attitude (72%) towards pediatric dentistry.
Conclusion: This study concluded that paediatricians and medical practitioners in Tumkur have a positive attitude, but have limited knowledge, understanding and approach to paediatric dentistry.

Keywords: *Paediatrician, Medical practitioners, Knowledge attitude, Paediatric Dentistry*

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INTRODUCTION:

The American Academy of Paediatric Dentistry emphasizes the significance of prevention, diagnosis and treatment for infants, children and adolescents in order to restore and preserve their oral health.[1] As a result, complete health care will be impossible to attain unless paediatric dental care is given top priority in all health-care systems.[2]

Paediatric dentistry is still a new profession in India, and there is less awareness of it as a specialization than in Western countries, where it is a well-established practise. It is a specialty of dentistry oriented to the treatment and care of children's teeth. Paediatric dentistry has the following goals: To cultivate a favourable attitude and behaviour toward dental care, start practising preventive dentistry at a young age, parental counselling and guidance on various aspects of preventive dentistry and preventive measures.[7]

Infant oral health care is the cornerstone upon which a lifetime of preventive education and dental care is developed in order to help children and adults achieve optimal oral health.[2] Children's ability to sleep, eat, communicate, play and socialise with other children and society members can all be affected by poor dental health. If not treated early, that will have an impact on a child's general growth as well as other systemic issues.

Paediatricians are indeed the first and only health care providers that a child perceives. As a result, paediatricians are regarded as the most trustworthy source for oral health assessments and recommendations to paediatric dentists.[3]

Evidence is mounting that preventive interactions must begin within the first year of life for successful caries prevention. Closer collaboration between paediatricians and paediatric dentists can improve the quality of care given to children and children with special needs.[4]

Only a few research papers on paediatrician dental screening and referrals, as well as the implications of their dental caries preventative measures, have been undertaken. We conducted this study since there were no specific statistics on paediatric dentistry awareness of children's caries prevention in India.[5]

Hence, the purpose of this study is to assess the knowledge, awareness and practice of Paediatricians and General Medical Practitioners towards Paediatric Dentistry in Tumkur District, Karnataka.

MATERIALS AND METHODS:

In 2021, a questionnaire- based survey was undertaken among the Paediatricians and General Medical Practitioners in Tumkur district, Karnataka. Approval for this research was obtained by the ethical committee of Sri Siddhartha Medical college and hospital, Tumkur district. We gathered a list of Paediatricians and General Medical Practitioners from

- Indian Medical Association (IMA), Tumkur.
- Paediatricians and General Medical Practitioners working in government and private hospitals
- Paediatricians and General Medical Practitioners working in private clinics

There were 15 items in the questionnaire. The following four sections were included in the questionnaire: Demographic details of practitioners (Gender and medical background), Knowledge of Paediatricians and General Medical Practitioners about Paediatric Dentistry, Attitude of Paediatricians and General Medical Practitioners towards Paediatric Dentistry, Implementation of Paediatricians and General Medical Practitioners towards Paediatric Dentistry

A pilot study of ten paediatricians was conducted to test the questionnaire's reliability and validity. Each question in the knowledge, attitude, and practice segment was given a score. The correct response received the highest score, while the incorrect answer received the lowest.
According to Murthy, G.A .et al., 2010 criteria for scoring whereas:[5]
<50%: poor
50–75%: moderate
75%: good

STATISTICAL ANALYSIS:

The data was entered in Microsoft excel 2016 for Windows and SPSS version 21.0 were used to compile the results. The Frequencies and percentages of different domains were calculated. Scores were given to each question in the knowledge, attitude and practices section. The data was categorical, Pearson's chi-square test was applied for data analysis. P value < 0.05 was considered statistically significant. Data analyses were performed using version 21.0 of the Statistical Package for Social Sciences (IBM Corporation, Armonk, New York, USA).

RESULTS:

The present study was conducted to assess and evaluate the Knowledge, Attitude and Practice of Paediatricians and General Medical Practitioners towards Pediatric Dentistry.

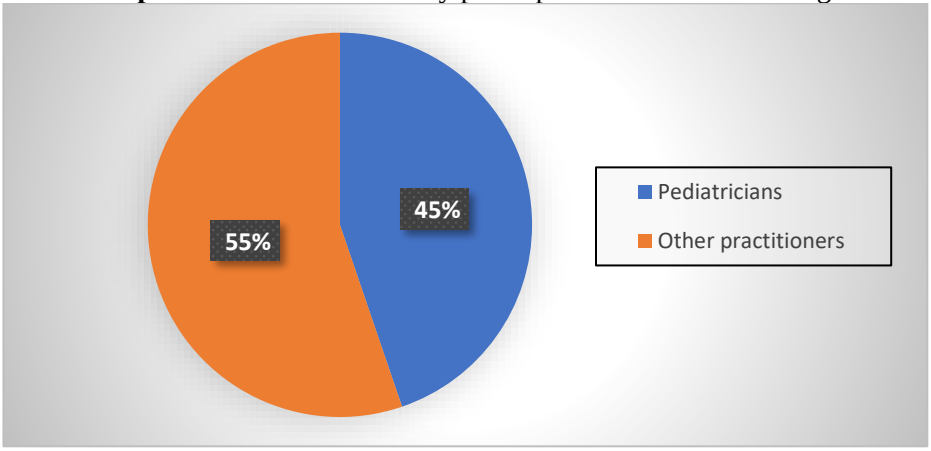
The data was entered in Microsoft excel 2016. The Frequencies and percentages of different domains were calculated. Scores were given to each question in the knowledge, attitude and practices section. P value < 0.05 was considered statistically significant. Data analysis was performed using version 21.0 of the Statistical Package for Social Sciences (IBM Corporation, Armonk, New York, USA).

A total of 105 participants (47 paediatrician and 58 general medical practitioners) responded to the questionnaire survey. Among them, 57% were male and 43% were female. Majority of the participants (81.9%) had within 5 years of experience in their practice followed by 12.3% who had 15 years of practice and remaining (5.7%) had 6-10 years of experience **(Table 1, Graph 1,2).**

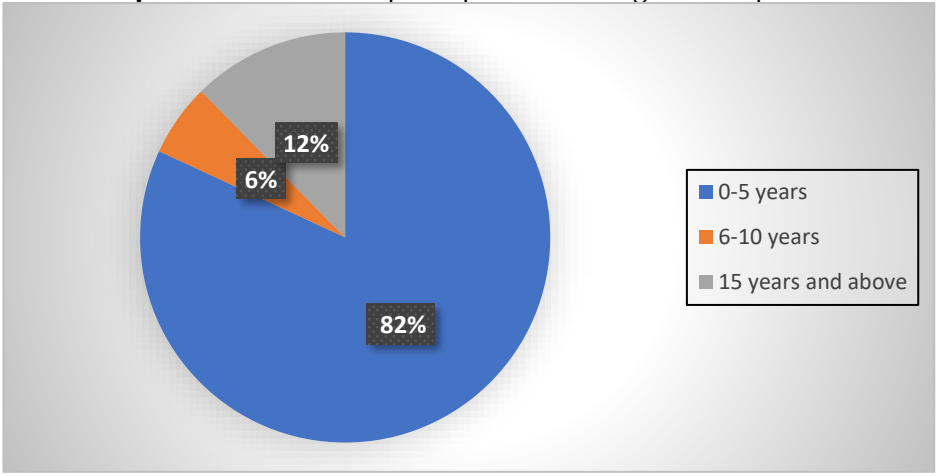
Table 1: Demographic characteristics of the study participants

Gender		**(%)**
Males	60	(57%)
Females	45	(43%)
Speciality		
Paediatricians	47	44.7
General Medical Practitioners	58	55.3
Experience		(%)
0-5 years	86	81.9
6-10 years	6	5.7
15 years and above	13	12.3

Graph 1: Distribution of study participants based on knowledge



Graph 2: Distribution of participants according to the experience

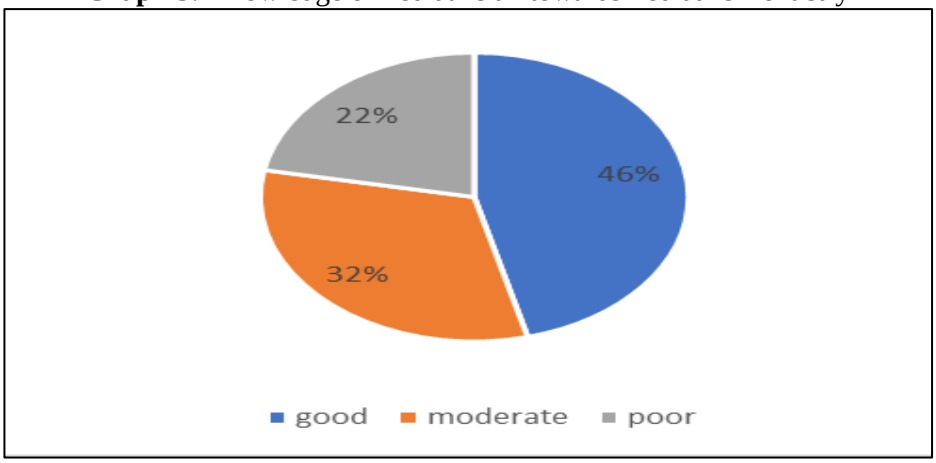


Majority of the practitioners approach/consult dentist when there is dental caries (74.3%) which shows a statistically significant difference. Most of the practitioners were aware that dental caries can be treated under general anesthesia/conscious sedation (70.5%) which was statistically significant. Among 105 practitioners, majority of the practitioners had good knowledge (46%) followed by moderate knowledge (32%) and poor knowledge (22%) regarding paediatric dentistry. **(Table 2 graph 3)**

Table 2: Frequency of question based on Knowledge assessment

Sl.no	Question	Options	Response	(%)	chisquare	p-value
1.	What type of case scenario would you approach/refer dentist	a. Caries	78	(74.3%)	7.8	0.0001*
		b. Oral habit (thumb sucking, mouth breathing etc.)	4	(3%)		
		c. Cleft lip and palate	8	(7.6%)		
		d. Oral hygiene	6	(5.7%)		
		e. All the above	9	(8.6%)		
2.	Are you aware that paediatric dentist are trained in behaviour management in their curriculum	a. Yes	56	(53.3%)	0.008	0.92
		b. No	49	(46.7%)		
3.	Are you aware of cariogenicity of medicated syrup	a. Yes	48	(46.2%)	0.35	0.837
		b. No	36	(34.6%)		
		c. Maybe	21	(20%)		
4.	Are you aware that, dental caries can be treated under general anesthesia/conscious sedation	a. Yes	74	(70.5%)	16.4	0.0001*
		b. No	31	(29.5%)		
5.	Do you know that cavity causing bacteria transfer from mother to child	a. Yes	49	(46.7%)	0.008	0.925
		b. No	56	(53.3%)		
6.	Do you think prolonged breast feeding/bottle feeding can lead to early childhood caries	a. Yes	50	(47.6%)	0.05	0.823
		b. No	55	(52.4%)		

Graph 3: Knowledge of Pediatrician towards Pediatric Dentistry

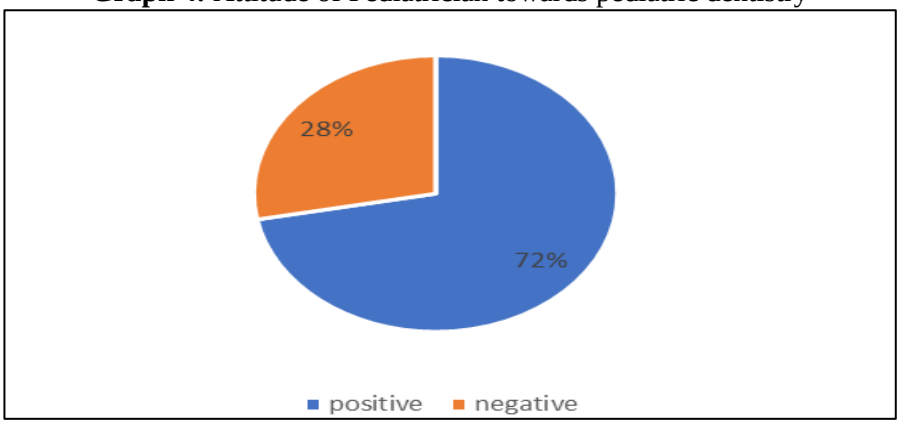


The attitude of Paediatricians and Medical Practitioners were assessed based on five questions, It was shown that 42.9 % of them admitted to occasionally viewing the patient's oral cavity, compared to 18.1 % who said they did so on a regular basis demonstrating a statistically significant difference, 93.3 % of them believed that paediatric dentists should be included as a part of paediatric care, which is extremely important. Overall, their performance demonstrated a positive attitude (72%) towards paediatric dentistry. **(Table 3 graph 4)**

Table 3: Descriptive analysis of question based on Attitude assessment

Sl.no	Question	Options	Response	(%)	Chi-square	p-value
1.	How frequently do you check patient's oral cavity	a. Frequent	19	(18.1%)	16.1	0.002*
		b. Often	34	(32.4%)		
		c. Occasionally	45	(42.9%)		
		d. Rarely	7	(6.7%)		
		e. Never	0	(0%)		
2.	Do you refer child to paediatric dentist	a. Frequent	5	(4.8%)	15.02	0.004*
		b. Often	31	(29.5%)		
		c. Occasionally	41	(39%)		
		d. Rarely	20	(19%)		
		e. Never	8	(7.6%)		
3.	When do you think fluoridated tooth paste and brush should be prescribed to a child to clean the teeth	a. 1st tooth erupt	22	(21%)	0.06	0.999
		b. All the primary teeth erupt	41	(39%)		
		c. After 5 years of age	19	(18.1%)		
		d. Not aware	23	(21.9%)		
4.	Do you feel Pediatric dentistry should be a part of Pediatric care	a. Yes	98	(93.3%)	5.23	0.02*
		b. No	7	(6.7%)		
5	Do you refer mentally challenged/handicapped children to Pediatric dentist for oral care	a. Yes	70	(66.7%)	0.22	0.63
		b. No	35	(33.3%)		

Graph 4: Attitude of Pediatrician towards pediatric dentistry

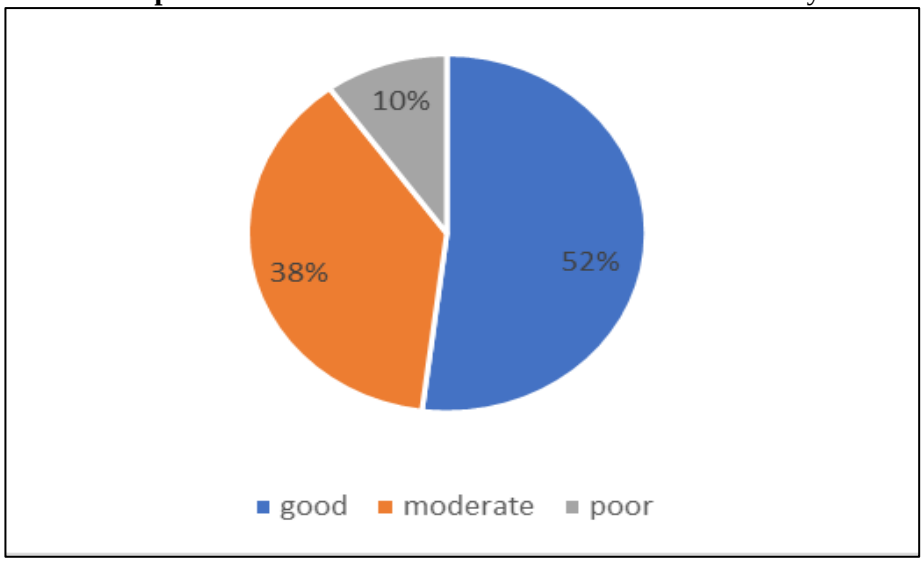


On assessing their practice towards paediatric dentistry, nearly 37.1% paediatricians prescribe analgesic and 56.2% refer to paediatric dentist when the child complains of tooth pain and 6.7% advise home remedy which was statistically significant. Most of the Paediatricians (92.4%) wanted to implement multidisciplinary approach in their practice along with the Paediatric Dentist which was highly significant. In general, this shows a good (52%) and moderate (38%) approach respectively, towards paediatric dentistry. **(Table 4 graph 5)**

Table 4: Descriptive analysis of question based on Practice assessment

Sl.no	Question	Options	Response	(%)	chisquare	p-value
1.	In case, of natal and neonatal teeth (teeth at birth), what do you recommend	A. Wait and watch	49	(46.7%)	0.15	0.99
		b. Referral to dentist	13	(12.4%)		
		c. Surgical removal	3	(2.9%)		
		d. Referral to Paediatric dentist	40	(38.1%)		
2.	What do you do when the child complains of tooth pain	a. Home remedy	7	(6.7%)	75.8	0.001*
		b. Wait and watch	0	(0%)		
		c. Prescribe an nalgesic	39	(37.1%)		
		d. Refer to Paediatric dentist	59	(56.2%)		
3.	What do you recommend for signs and symptoms of teething	a. Rubbing infant gums with a clear finger	32	(30.5%)	0.063	0.801
		b. Providing teething ring	41	(39%)		
		c. Teething gel	15	(14.3%)		
		d. Pain medication	17	(16.2%)		
4.	Will you counsel the parents and the child to visit dentist/pediatric dentist	a. Yes	70	(66.7%)	3.92	0.13
		b. No	5	(4.8%)		
		c. Maybe	30	(28.6%)		
5	Will you implement multidisciplinary approach in your practise with the pediatric dentist	a. Yes	97	(92.4%)	4.56	0.03*
		b. No	8	(7.6%)		

Graph 5: Practice of Pediatrician towards Pediatric dentistry



DISCUSSION:

Oral health is a crucial component of overall health and a key aspect in determining one's quality of life. Children are susceptible to a variety of oral diseases, the most prevalent of which being dental caries.[11] To measure the effectiveness of public health interventions and implement oral health promotion, dental, medical and other health care practitioners must all play an integrated role. Paediatricians, in particular, have regular interaction with young children and their families during the formative years of life, when prevention is crucial and lifelong habits are developed.[6]

Medical professionals, on average, have a better knowledge of dental practice and have a more favourable attitude than caregivers. By acting as a guide, they can improve the development of positive dental attitudes. Medical practitioners, on the other hand, appear to convey correct dental knowledge and favourable attitudes toward paediatric oral care, based on the conclusions of this research.

According to the findings of the survey, 74.3 % of paediatricians refer children to dentist when they have dental caries, which is one of the most common scenarios in practice. Dental caries is a prevalent chronic condition that affects children all over the world. Gonsalve et al. (2004) and Sanchez et al. (1997) in their research stated that paediatricians performed oral examinations and evaluated for caries in their patients, which is consistent with the findings of our study.[2] The formulations of medicated syrups are generally sweetened to make them more appealing to children. A large number of studies have already shown that these sweetened syrups induce tooth cavities. We discovered that just 46.2% of paediatricians were aware of this issue in our study.

Furthermore, Gupta, S.K. et al. (2019) found that a similar percentage of respondents were unaware of the cariogenecity of medicinal syrups.[3] They were well-informed about the concept that dental caries can be treated with general anaesthetic or conscious sedation. More than half the Paediatricians (53.3%) were not aware that cavity causing bacteria can be transmitted from the mother to child which is also cited in paediatric literature through vertical and horizontal transmission mode (Table-1). The majority of practitioners were unaware that prolonged bottle feeding and breastfeeding contributed to early childhood caries, because infant oral healthcare knowledge in relation to ECC, oral hygiene practise, and specific therapy for infants offered by physicians is unclear. The overall results of the study showed poor knowledge (46%) of the participants.

Regarding their attitude towards Pediatric Dentistry, Only 42.9% of them stated they examine the child's oral cavity occasionally. When queried about the referral, 39% of them (Table 3) said they referred occasionally followed by 31% who referred them quite often.

Over 29.5 % of paediatricians believe that the first dental appointment should take place at the age of one year. This is in agreement with AAPD (American Academy of Pediatric Dentistry) and AAP (American Academy of Pediatrics) guidelines, which indicate that the first dental visit should occur within 6 months following the eruption of the first teeth every year.[1,5] Systemic

and topical fluoride is one of the most effective preventive measures in reducing dental caries. However, a substantial number of physicians (39%) recommended fluoride dentifrice use when all the primary tooth erupt. According to our study, 93.3 % of the participants agreed that dental health is a part of overall health and that paediatric dentists should be included in paediatric healthcare. When asked if they would recommend a paediatric dentist to a mentally challenged or handicapped child, 66.7 % said positively.

By assessing the questions on clinical practice [Table-4], Only 12.4 percent indicated they would recommend a dentist for neonatal and natal teeth, while 46.7 percent said they would wait and watch, this reveals the participants' perceptions of an unique specialty of paediatric dentistry contrary to Siglikar et al findings, which showed that 20% of paediatricians answered "wait and watch".[9] Approximately 56.2 % of research participants said they would send a child to a paediatric dentist if the child complained of tooth pain. In terms of teething, 39 % said they would provide a teething ring and 30.5 % said they would rub infant gums with a clear finger. Among the participants, 66.7% were willing to carry out preventive measures and counsel the parents and the child to visit paediatric dentist, which was comparable to the findings of Preeti et al and Siglikar et al.[9] In the present survey, 92.4% physicians have positive attitudes towards Oral Health Care and believed in implementing multidisciplinary approach in their practice with paediatric dentist. The participants' overall approach towards paediatric dentistry was found to be moderate.

CONCLUSION:

Paediatric Dentistry was recognised as a separate speciality by the majority of the consultants and specialists. Our study concluded that paediatricians and medical practitioners in Tumkur have a positive attitude, but have limited knowledge, understanding and approach to paediatric dentistry. So, there should be more communication between the medical and dental professionals. Using the medical home concept, all public health centres can set up a dental home for all children starting at the age of one year. As a result, paediatricians' participation in screening children's oral health and referring them to paediatric dentists can help to improve children's overall oral health issues. To increase the quality of dental care, interaction between paediatricians and dental practitioners should be encouraged. Paediatricians and medical practitioners should also be encouraged to engage actively in continuing dental education programmes and courses focusing on infant oral health.

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