

Original Research

Dental Knowledge and Attitude Among Pediatricians In Referral To Pediatric Dentistry

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ABSTRACT

Introduction: Dental caries is a Universal dental health problem, affecting large number of population, in spite of best preventive strategies. Nowadays, we need a multidisciplinary approach to curb dental caries. Pediatrician is a first person who examines overall general health of the child. The Pediatrician should have thorough dental knowledge, and good attitude, in order to refer the child patient to Pediatric dentist.

Aim and Objectives: To measure the dental Knowledge and Attitude of Pediatricians in referral to Pediatric dentistry. **Materials and Methods:** A pre - tested questionnaire about knowledge and attitude was offered to Pediatricians at their place of working and the completed questionnaire was collected very next day. The data collected were sent for statistical analysis; Descriptive statistics was used in analyzing data. **Results:** 100% Pediatricians replied that nutritional deficiency can affect oral health, 46.9% were aware of First dental visit of child at 6-12 months age. 95.3% of respondents replied that they were able to manage cleft lip and palate patients. 25% replied that they refer to Pediatric dentist every month. The overall Knowledge regarding Pediatric dentistry was 77.6% and attitude of referring to Pediatric dentistry was found to be 70.5%. **Conclusion:** The knowledge of Pediatricians regarding Pediatric dentistry was adequate, but their attitude in referral to the Pediatric dentist was low. Hence Pediatricians should update their knowledge by attending continuing dental education and symposiums about the importance of child oral health to improve the overall health of the child.

INTRODUCTION

Today's children will drive growth and development in the societies of tomorrow. The United Nations Secretary - General's Global Strategy for Women's, Children's and Adolescents' Health 2016–2030 provides a foundation for such an intersect oral approach. Untreated oral disease frequently leads to serious general health problems.¹ The oral disease not only causes damage to the tooth, but also responsible for several morbid conditions of the oral cavity and other systems of the body.² Despite the pronounced improvement of oral and dental status. Nowadays, we need a multidisciplinary approach to curb oral disease which in turn effect overall general health of the child.

The factor which almost affects the preventive dentistry performance is the knowledge and function of the medical group concerning this issue. The medical office is considered an opportune site to reach large numbers of children who make a medical visit but not a dental visit.³ A key element of comprehensive care for children thus involves the coordination of services between medical and dental providers so that the appropriate health care professionals can provide appropriate services at the appropriate ages. Lewis et al in 2000, highlighted the role of Pediatricians in supporting Pediatric dentists by providing preventive guidance to parents of young children.² In 2009, Kressin et al found that

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Pediatricians who are properly trained in dental care can possibly reduce the rate of early childhood caries (ECC) by 77%.⁴ The role of Pediatricians in oral health was formalized in a policy issued by the American Academy of Pediatricians in 2003 and reinforced by another policy issue in 2008.⁵ Pediatrician is a first person who examines overall general health of the child. The Pediatrician should have thorough dental knowledge and attitude, in order to refer the child patient to Pediatric dentist.

Basic questions about the dental referral process and its outcomes remain unanswered, due to the bridging gap between Pediatrician and Pedodontist. Very few studies have been conducted on knowledge and attitude of Pediatricians in referrals to Pediatric dental surgery. This study was designed keeping in mind to gather the data from the Pediatricians on the level of knowledge of Pediatric dentistry, importance of the first dental visit, attitude towards management of cleft lip and palate, trauma, physically handicap, systemic and nutritional deficiency and referrals to a specialist for dental care. Therefore, the aim of this study was to investigate the dental Knowledge and Attitude of Pediatricians and their referral to Pediatric dentist.

MATERIALS AND METHODS

A cross sectional survey was undertaken among the Pediatricians in Raichur and Ballari district, of Karnataka, India. The study group included Pediatricians working at teaching hospital and in private practice. After their informed consent a pre - tested questionnaire about knowledge and attitude of Pediatricians in referral to Pediatric dentistry was offered to Pediatricians at the place of working and the completed questionnaire was collected very next day. The questions were related to knowledge and attitude.

All completed questionnaires were sent for statistical analysis. Incomplete filled questionnaires were discarded. Data was presented as mean \pm SD values. The statistically analysis was done using Chi square test. The statistical analysis was performed using the software, Statistical Package for Social Sciences (SPSS).

RESULT

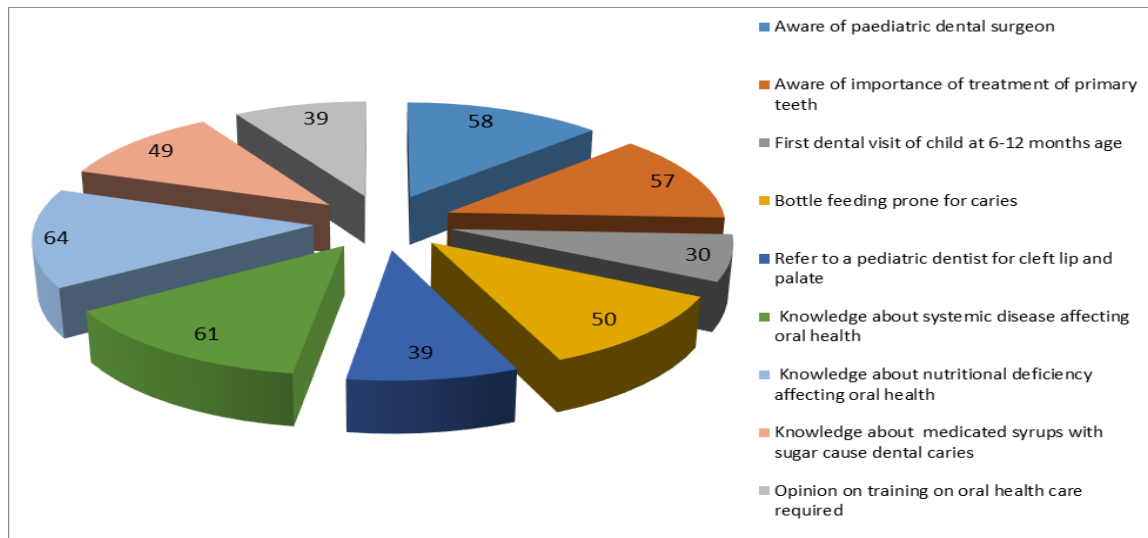
In the present study 64 Pediatricians participated and all completely filled the questionnaire giving the response rate of 100%. There were questions regarding Knowledge and attitude of Pediatricians in referral to Pediatric dentistry, as shown in Table (1 & 2). The total mean knowledge was 77.6%. The total mean attitude was 70.5%. The highest positive attitude (93.7%) was obtained for the statement "Knowledge about management of cleft lip and palate" by the Pediatricians. The statement "Referring to Pediatric dentist every month" received maximum passive attitude 25% (16).

The questions regarding Knowledge

100% (64) response was obtained for the question regarding nutritional deficiency affecting oral health, in which all Pediatricians said that nutritional deficiency adversely affect oral health. Regarding to question related to the effect of systemic disease on oral health, majority (95.3%) responded that systemic disease can affect oral health. 90.6% (58) of Pediatricians were aware about Pediatric Dental Surgeon. 89.1% (57), of Pediatricians were aware of importance of treatment of primary teeth. 78.1% (50) of Pediatricians were aware that bottle feeding was prone for caries. 76.6 % (49) of Pediatricians had knowledge about medicated syrups with sugar could

| Knowledge of Pediatricians | Frequency N=64 | Percent |
|--|----------------|---------|
| 1. Do you know who is a Pediatric Dental surgeon? | | |
| a) Yes | 58 | 90.6 |
| b) No | 6 | 9.4 |
| 2. Do you think Primary teeth are important to be treated? | | |
| a) Yes | 57 | 89.1 |
| b) No | 7 | 10.9 |
| 3. At what age should the child have his first dental visit? | | |
| a) At 2 years | 10 | 15.6 |
| b) At 3 years | 5 | 7.8 |
| d) I don't know | 14 | 21.9 |
| 4. Which type of feeding is prone for caries? | | |
| a) Bottle feeding | 50 | 78.1 |
| b) both | 14 | 21.9 |
| 5. If Cleft lip & palate patient comes to you, whom do you refer such patient? | | |
| a) Instruct patient to visit a dentist | 18 | 28.1 |
| b) Refer to a general dentist | 7 | 10.9 |
| c) Refer to a Pediatric dentist | 39 | 60.9 |
| 6. Does any nutritional deficiency effect on oral cavity? | | |
| a) Yes | 64 | 100.0 |
| b) No | 0 | 0 |
| 7. Does any systemic disease effect on oral health? | | |
| a) Yes | 61 | 95.3 |
| b) No | 3 | 4.7 |
| 8. Do you believe that medicated syrups with sugar addition cause dental caries? | | |
| a) Yes | 49 | 76.6 |
| b) No | 14 | 21.9 |
| c) I don't know | 1 | 1.6 |
| 9. Do you think Training on oral health care is necessary for pediatricians? | | |
| a) Yes | 39 | 60.9 |
| b) No | 25 | 39.1 |

Table1: Knowledge questions and Pediatricians response



Graph 1. Distribution according to knowledge of Pediatrician in referral to Pediatric dentistry

cause dental caries. 60.9% (39) of Pediatricians interested in getting training on oral health. 60.9% (39) of Pediatricians referred to a Pediatric dentist for cleft lip and palate management. Some questions revealed that the level of Pediatricians knowledge was minimal or low. These included responses to questions concerning the appropriate age for dental visit for which 46.9% (30) of Pediatricians were aware of First dental visit of child at 6-12 months age. The overall Knowledge was 77.6% Given in table and graph (1).

The questions regarding attitude 95.3% (61), of Pediatricians replied that they were able to manage cleft lip and palate patients. 92.2% (59) of Pediatricians instructed their child patients about oral hygiene maintenance. 84.4 % (54) respondents referred to a Pediatric dentist. 78.1% (50), of Pediatricians recommended for breast feeding. 73.4% (47) of Pediatricians said they can manage a physically handicap child with extra oral, head and neck swelling. 59.4% (38) of Pediatricians referred to dentist in case of teeth trauma. 56.3% (36) of Pediatricians referred

new born with erupted teeth to Pediatric dentist. 25% (16) of Pediatricians referred to Pediatric dentist every month. The overall attitude was 70.5%. Given in table and graph (2).

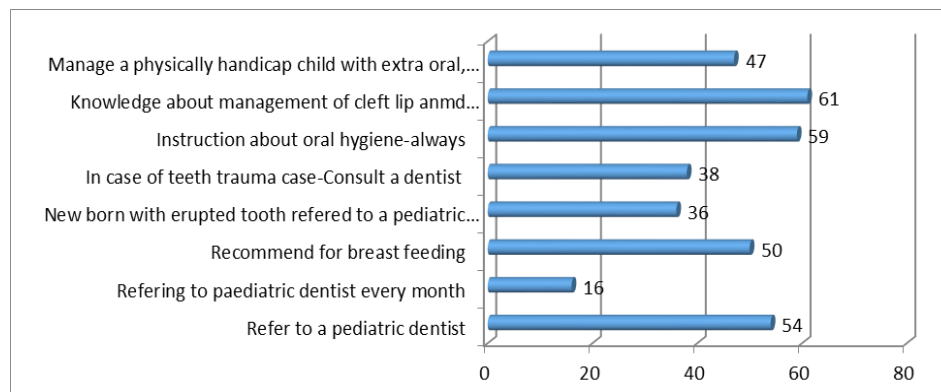
The knowledge of Pediatricians regarding Pediatric dentistry was adequate, but their attitude in referral to Pediatric dentistry was found to be inadequate.

DISCUSSION

Indian Society of Pediatric and Preventive Dentistry (ISPPD) also strives to achieve this goal with the motto 'Every child has the fundamental right to his/her total oral health'.⁶ In the current scenario there is big gap existing between Pediatrician and Pedodontists, due to this, still there is evident of many occult diseases without proper communication. With this background to bridge the communication gap between two professionals this study was conducted to investigate the knowledge, and attitude of Pediatricians in referral to Pediatric dentistry, in order to ensure for the overall general health of the child. In the present study 64 Pediatricians participated, all the

| Attitude of Pediatricians | Frequency N=64 | Percent |
|---|----------------|---------|
| a) Yes | 54 | 84.4 |
| b) No | 10 | 15.6 |
| 11. Referring to Pediatric dentist to visit ? | | |
| a) Not referring | 10 | 15.6 |
| b) Every Day | 16 | 25.0 |
| c) Every week | 2 | 3.1 |
| d) Every month | 16 | 25.0 |
| e) Yearly once | 20 | 31.3 |
| 13. Do you recommend breast feeding or bottle feeding? | | |
| a) Breast feeding | 50 | 78.1 |
| b) Both | 14 | 21.9 |
| 14. If a new born infant presents to your clinic with an erupted tooth/ teeth, how do you manage? | | |
| a) Refer to a general dentist | 21 | 32.8 |
| b) Refer to a pediatric dentist | 36 | 56.3 |
| c) Provide treatment by your self | 5 | 7.8 |
| d) Ignore the problem | 2 | 3.1 |
| 15. How do you manage a child presented to your clinic with trauma to his teeth? | | |
| a) Consult a dentist | 38 | 59.4 |
| b) Refer to a dentist | 26 | 40.6 |
| 16. Do you instruct your patients about oral hygiene? | | |
| a) Always | 59 | 92.2 |
| b) Sometime | 2 | 3.1 |
| c) Never | 3 | 4.7 |
| 17. If Cleft lip & palate patient comes to you, whom do you refer such patient? | | |
| a) Instruct patient to visit a dentist | 18 | 28.1 |
| b) Refer to a general dentist | 7 | 10.9 |
| c) Refer to a pediatric dentist | 39 | 60.9 |
| 18. Can you manage a physically handicap child with extra oral, head and neck swelling? | | |
| a) Yes | 47 | 73.4 |
| b) No | 17 | 26.6 |

Table 2: Attitude questions and Pediatricians response



Graph 2. Distribution according to attitude of Pediatrician in referral to Pediatric dentistry

QUESTIONNAIRE**Knowledge and Attitude of Pediatricians referral to Pediatric Dentistry****KNOWLEDGE QUESTIONS**

1. Do you know who is a Pediatric Dental surgeon?

- a. Yes
- b. No
- c. Don't know

2. Do you think Primary teeth are important to be treated?

- a. Yes
- b. No

If yes, then why?

- 2. i) Help in mastication
- ii) Space maintainer
- iii) I don't know

3. At what age should the child have his first dental visit?

- a. By 6 – 12 months
- b. At 2 years
- c. At 3 years
- d. At 4 years
- e. At 5 years
- f. I don't know

4. Which type of feeding is prone for caries?

- a. Breast feeding

b. Bottle feeding

c. Both

d. Don't know

5. If Cleft lip & palate patient comes to you, whom do you refer such patient?

- a. Instruct patient to visit a dentist
- b. Refer to a general dentist
- c. Refer to a pediatric dentist
- d. Provide the treatment by your self
- e. Ignore the problem

6. Does any systemic disease effect on oral health?

- a. Yes
- b. No

7. Does any nutritional deficiency effect on oral cavity?

- a. Yes
- b. No
- c. I don't know

8. Do you believe that medicated syrups with sugar addition cause dental caries?

- a. Yes
- b. No
- c. I don't Know

9. Do you think Training on oral health care is necessary for Pediatricians?

- a. Yes
- b. No

ATTITUDE QUESTIONS

10. If your patient faces any oral problems, how do you manage?

- a. Instruct patient to visit a dentist
- b. Refer to a general dentist
- c. Refer to a pediatric dentist
- d. Provide the treatment by your self
- e. Ignore the problem

11. Do you refer any children to Pediatric Dental surgeon?

- a. Yes
- b. No

If yes how often do you refer to Pediatric Dental surgeon?

- 12a. i) Every Day
- ii) Every week
- iii) Every month
- iv) Yearly once

12. Do you recommend breast feeding or bottle feeding?

- a. bottle
- b. breast feeding
- c. both

13. If a new born infant presents to your clinic with an erupted tooth/ teeth, how do you manage?

- a. Refer to a general dentist
- b. Refer to a pediatric dentist
- c. Provide treatment by your self
- d. Ignore the problem

14. How do you manage a child presented to your clinic with trauma to his teeth?

- a. Consult a dentist
- b. Refer to a dentist
- c. Provide treatment at your clinic

16. Do you instruct your patients about oral hygiene?

- a. Always
- b. Sometimes
- c. Never

17. Do you know how to manage cleft lip & palate patient (Pediatrician)?

- a. Yes
- b. No
- c. Don't Know

18. Can you manage a physically handicap child with extra oral, head and neck swelling?

- a. Yes
- b. No

participants gave a response to the questionnaire [100% response rate]. The questions offered were regarding Knowledge and attitude of Pediatricians in referral to Pediatric dentistry.

In our study, many Pediatricians responded that nutritional deficiency can affect oral health. World health organization (WHO) is committed to support countries with implementation and monitoring of the "Comprehensive implementation plan on maternal, infant and young child nutrition", endorsed by the Member States in May 2012.⁶

In our findings most() of the Pediatricians replied that systemic disease can effect oral health and few() replied that it doesn't effect, which was in agreement with study done by Nammalwar RB et al, (2012) who has concluded that the knowledge of effect of systemic disease on oral health had a response rate by around 53% of Pediatricians.³

In the present study, most (90%) of the respondents knew the existence of Pediatric dentistry as the specialty, whereas very few (9.4%) had no knowledge on existence of the specialty. Further awareness among Pediatricians should be created regarding the existence of specialty. Similar findings were reported by Nammalwar RB et al, (2012) who concluded that 80% of Pediatricians and around 60% of general practitioners knew the existence of the specialty.³

In this study, the majority (89.1%) of Pediatricians felt that treatment of primary teeth was important in governing the future dental health and quite a few (10.9%) replied that primary teeth treatment was not important. The findings of this study is in agreement with the previous study by Nammalwar RB et al, (2012), who concluded that majority (97.03%) of Pediatricians were aware of importance of treatment of primary teeth.

78.1% (50) of Pediatricians were aware that bottle feeding was prone to caries. Health care professionals should encourage breast feeding in order to support health-promoting practices. Bhatt S S et al (2016) stressed that Pediatric dentist need to emphasize to Health care professionals about the importance of oral hygiene, duration of breast feeding in association with preventive methods to decrease the possibility of dental caries.⁷

76.6 % (49) of Pediatricians acknowledged the cariogenicity of medicated syrups prescribed in their practice, which was in accordance with the study done by Walimbe H et al (2015) who concluded that about 68% of Pediatricians were aware that long-term use of pediatric liquid medicaments can cause tooth structure defects.⁸

Most (60.9%) of Pediatricians were willing to undergo training in oral health, but very few (39.1%) were not willing to undergo training in oral health, which was in accordance with the study done by Bhatt S S et al (2016) in that 90% of the practitioners were willing to undergo training in oral health and also stressed that oral health education must be included in pre-clinical curriculum of medical and paramedical courses.⁷

60.9%(39) Pediatricians preferred to refer to a Pediatric dentist for cleft lip and palate, which was in agreement with study done Nammalwar RB et al, (2012) who has concluded that Pediatric dentistry as a trained specialty provided its early role in cleft lip and palate as recognized by 50-60% of the Pediatricians.³

Some questions revealed that the level of Pediatrician's knowledge was found to be poor. In our study, only 46.9% (30) Pediatricians were aware of the First dental visit of the child at 6-12 months age, which is a major concern. American Academy of Pediatric Dentistry (AAPD) guidelines and American

Academy of Pediatrics (AAP) advise that the first dental visit should be within 6 months of the eruption of the first teeth.^{9,10}

The overall Knowledge was found to be good (77.6%).

The questions regarding attitude

In our study 95.3% (61), Pediatricians replied that they were able to manage cleft lip and palate by themselves, which was in agreement to the study done by Poornima P et al, Chennai (2015) in which most (65.4%) of Pediatricians replied that they were able to manage cleft lip and palate by themselves.⁵

As per our findings, 92.2% (59) of Pediatricians instructed their child patients about oral hygiene maintenance. Sanchez et.al (2011) reported that 83% of physicians performed oral examinations during children's physical examinations and also instructed their child patients about oral hygiene maintenance.⁴

In our observations 84.4% (54) of Pediatricians refer children with oral disease/dental caries to a Pediatric dentist, which was in accordance with the study done by Poornima P et al, (2015) in which 86% of Pediatricians indicated that they refer children with oral disease/dental caries to Pedodontist.⁵

In the present study 78.1% (50), of Pediatricians recommended for breast feeding. Appropriate, health promoting practices, such as breastfeeding, should be encouraged by healthcare professionals.

In the current study 73.4% (47) of Pediatricians responded that they were able in handling handicapped children and only 26.6% of Pediatricians acknowledged that Pediatric dentists are well trained professionals in handling handicapped children with dental problems. Above finding is in contrast with the study done by Nammalwar RB et al, (2012) who has found that many (53%) of Pediatricians responded that Pediatric dentist are better equipped in handling

handicapped children with dental disease.³ Proper awareness and motivation should be created among Pediatrician in the referral of handicapped children with dental problems to Pediatric dentist.

59.4% (38) of Pediatricians referred Pediatric dentist in case of teeth trauma in children, which was in accordance with the study done by Sabbagh et al (2011), at Jeddah, Saudia Arabia who has found that 53% of Pediatricians referred child patient with dental trauma to Pediatric dentist.⁴

56.3% (36) of Pediatricians referred new born with erupted teeth to Pediatric dentist, which was in accordance with the study done by Nammalwar RB et al, (2012) in which 52.6% of Pediatricians referred new born child with erupted teeth to Pediatric dentist.⁴

In the present study, only 15.6% of Pediatricians instructed their patients to visit to the Pediatric dentists, when the patient faces any oral problems. This was in agreement with the study done by Sabbagh HJ et al 2011, who concluded that only few (23.4%) of Pediatricians instructed their patients to visit to the Pediatric dentists.⁴

The knowledge of Pediatricians regarding Pediatric dentistry was encouraging, but their attitude in referral to Pediatric dentistry was found to be unsatisfactory.

CONCLUSION:

The knowledge of Pediatricians regarding Pediatric dentistry was adequate, but their attitude in referral to the Pediatric dentist was low. Hence Pediatricians should understand the importance of child oral health by regularly attending continuing dental education and symposiums which will bring more knowledge and positive attitude among Pediatricians. It's important for the Pediatricians to possess better knowledge and positive attitude about child oral health for the referral

to Pediatric dentist which will improve overall health of the child.

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