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ORIGINAL ARTICLE

Barriers in the Treatment of Early Childhood Caries amongst the General Dentists - A Cross Sectional Study in Bhubaneswar, Odisha, India

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Abstract

Objective: To find out the barriers in treating early childhood caries in children by general dentists. **Material and Methods:** A cross sectional descriptive study was undertaken among fifty general dentists in Bhubaneswar, Odisha, India, following a simple random sampling. Each selected candidate was given a barrier in childhood caries treatment (BaCCT) questionnaire. Descriptive statistics were used to calculate the absolute and relative frequencies, mean, median and standard deviation. **Results:** The general dentists exhibited quite a few barriers in providing treatment for early childhood caries. The children don't like to sit on dental chair (74%), they don't like the sound of drill (78%) and they are fearful of dental treatment (86%). Providing care for children can be stressful and troublesome for the dentist (80%) and that they feel time constrained, i.e they do not spend much time with children (70%). Training in the field of management of child behaviour enhances their ability to handle early childhood caries. **Conclusion:** The general dentists should be given proper training in handling children in their curriculum or through continuing education programmes so that they can act as a larger workforce to be able to treat early childhood caries effectively and efficiently for the benefit of society.

Keywords: Dental Caries; Child; Behavior Control; Dental Fear.

Introduction

Early childhood caries (ECC) is defined as the presence of one or more decayed, missing, or filled tooth surfaces in any primary tooth in a child at 71 months of age or younger [1]. It has several unique characteristics in clinical appearance such as rapid development of caries, which affects a number of teeth soon after they emerge in oral cavity [2]. These lesions involve tooth surfaces that are less prone to caries development [3].

ECC is a severe health condition found among children living in socially disadvantaged communities in which malnutrition is a social and health disparity [4]. ECC is associated with other health problems, ranging from local pain, infections, abscesses, leading to difficulty in chewing, malnutrition, gastrointestinal disorders, and difficulty in sleeping [5,6]. Early childhood caries is a serious public health problem in both developing and industrialized countries [5,7]. Early diagnosis of caries lesions is important since the dynamic nature of the lesion progression allows the continuous mineral loss interruption when the balance between minerals from teeth and oral fluids is restored [7].

In many countries, child dental health improved after the introduction of fluoridated toothpastes but there has been little or no improvement amongst young children during the 1990s [8]. Reviews have indicated that utilization of dental services among preschool children is not adequate [9].

Understanding the attitudes of dentists is likely to have an implication in identifying potential barriers within oral health-care delivery system. The study here tried to elaborate on the potential barriers for treating early childhood caries in the city of Bhubaneswar, Odisha, India.

Material and Methods

Study Design

A cross-sectional descriptive survey was carried out among the general dentists in Bhubaneswar, India (March 2018).

Sampling

The individuals who had given voluntary informed consent, registered general dental practitioner holding an undergraduate qualification (BDS) alone, practicing in Bhubaneswar were included in this study. The registered dentists who were not into clinical practice were excluded.

Selection of individuals was carried out using simple random sampling technique. General dentists were selected from the list of registered dentists as obtained. The recruited individuals (n=50) were asked to fill a pretested questionnaire at their work place.

The self-administered closed ended questionnaire, Barriers to Childhood Caries Treatment (BaCCT) used consists of five domains which cover potential barriers to dental care of children: Domain 1 (six items were based on child coping abilities), Domain 2 (seven items were based on dentist's own attitudes) Domain 3 (seven items regarding dentists' beliefs on the need to restore

primary teeth), Domain 4 (five items regarding parent expectations), and Domain 5 (four items regarding the healthcare system). A total of 22 statements (items) were included in the measure. Dentists were asked to rate their level of agreement with each statement on a 5-point Likert scale (1 - Strongly Disagree; 2 - Disagree; 3 - Neither Agree nor Disagree; 4 - Agree; 5 - Strongly Agree), regarding dental care for preschool children (≤5 years old). Items with a value >3 were considered barriers perceived by dentists.

Data Analysis

Data were analyzed using IBM SPSS Statistics for Windows Software, version 20 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to calculate the absolute and relative frequencies, mean, median and standard deviation.

Ethical Aspects

The ethical clearance was taken from the institutional ethical clearance board for the study.

Results

Among the dentists surveyed 54% were females and 46% were males. The mean age of dentists were 30 years (± 6.9) (median 28 years, minimum 22 years and maximum 27 years) and most of the dentists had at least 5 years of clinical practice.

In Domain 1, dentists agree that young children's coping skills limit their ability to accept dental care, in effect the age of the child constitutes a barrier. The children don't like to sit on dental chair (74%; n = 37), they don't like the sound of drill (78%; n = 39) and they are fearful of dental treatment (86%; n = 43) (Figure 1).

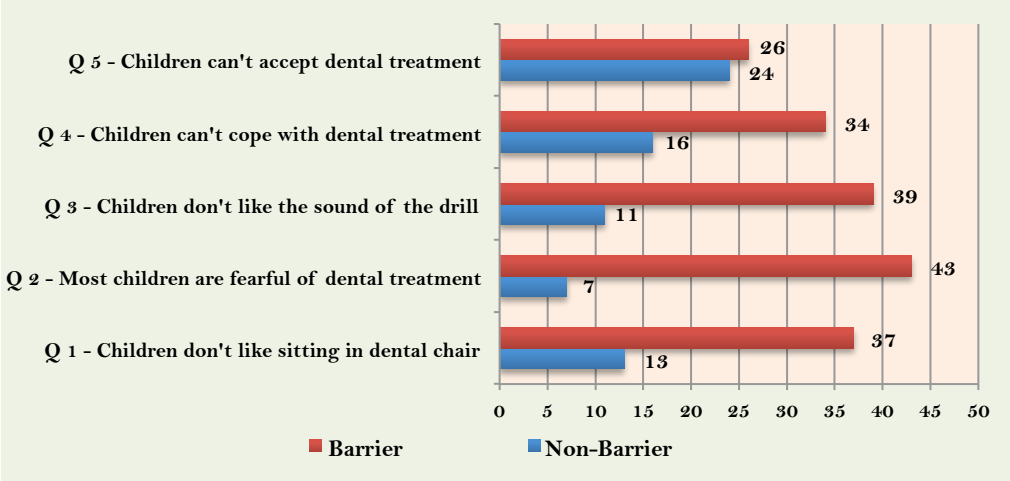

Figure 1. Distribution of dentists according to Domain 1 (Child Factor).

In Domain 2, many dentists agree with the statements comprising factor 2, e.g. that providing care for children can be stressful and troublesome for the dentist (80%; n = 40) and that they feel time constrained, i.e they do not spend much time with children (70%; n= 35) (Figure 2).

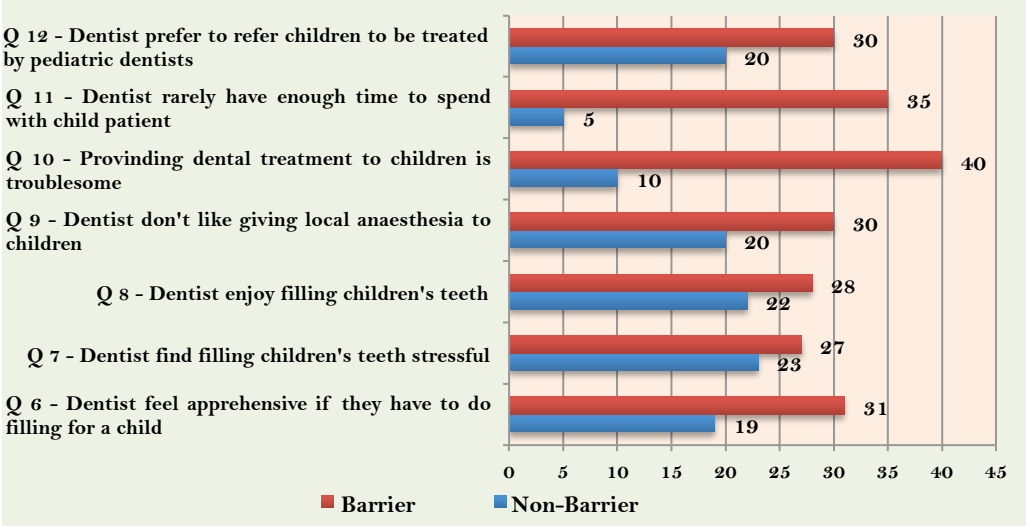

Figure 2. Distribution of dentists according to Domain 2 (Dentist's Attitude).

In Domain 3, the mean BaCCT scores were higher among general dentists, when it came to questions pertaining to their attitudes toward the necessity of restoring a primary teeth, Like I feel there is no reason to fill primary teeth, if decayed primary molars not causing any symptom, they are best left untreated, and feel there is little point in filling primary teeth. The majority of dentists disagree with statements that suggest that there is little value in restoring decayed deciduous teeth (Figure 3).

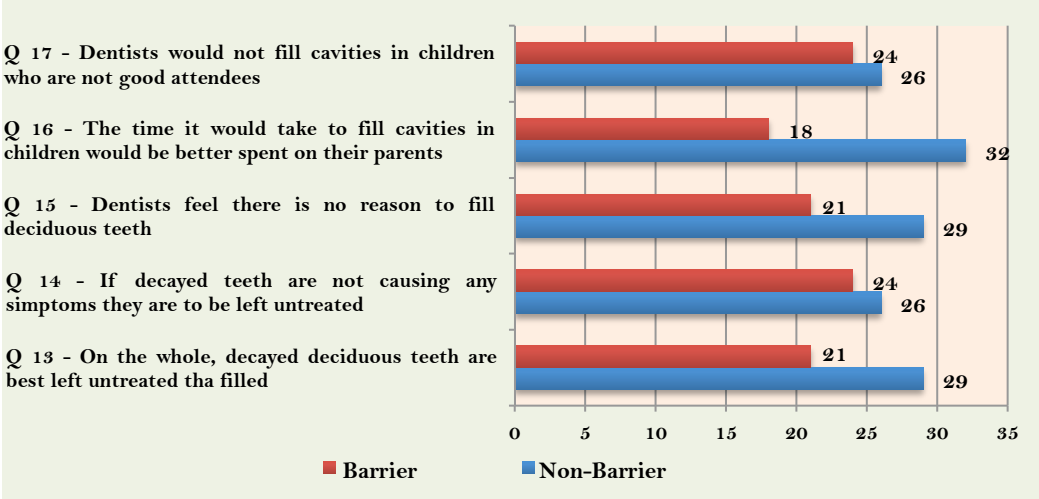

Figure 3. Distribution of dentists according to Domain 3 (Dentist's Belief on Restoring Teeth).

In Domain 4, parents' expectations about the care that they wish their child to receive were not seen as a barrier but they expected the decayed deciduous teeth to be extracted which was a barrier for treatment (76%; n = 38) (Figure 4).

The 5th Domain in the original model that related to dentists' opinions about whether the health care system posed barriers to the care of children did not produce a coherent factor in the analysis that used data from all the sites that participated. The fact that dentists operated under

many different health care systems meant that there was no common group of items that constituted a factor. There were certain barriers in each domain where the mean scores were more than 3 (Figure 5).

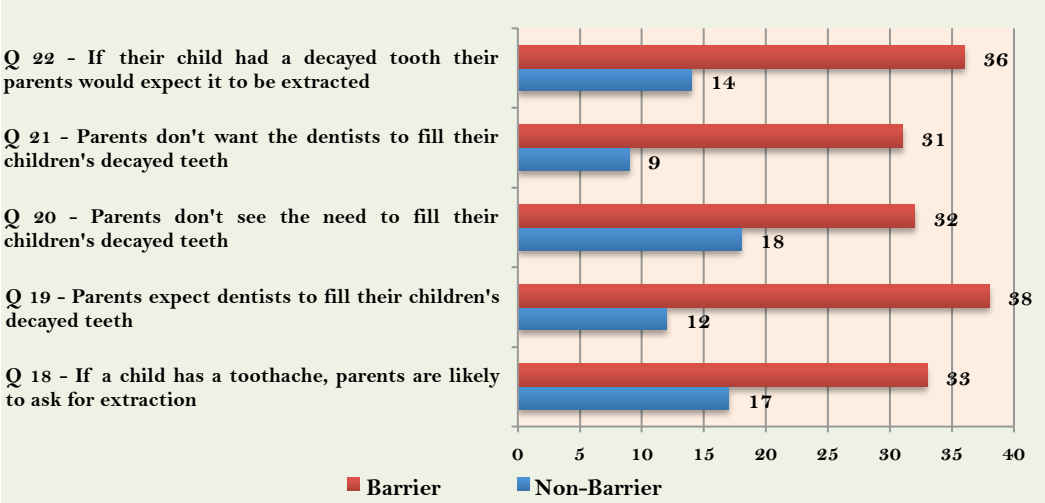

Figure 4. Distribution of dentists according to Domain 4 (Parent's Expectation).

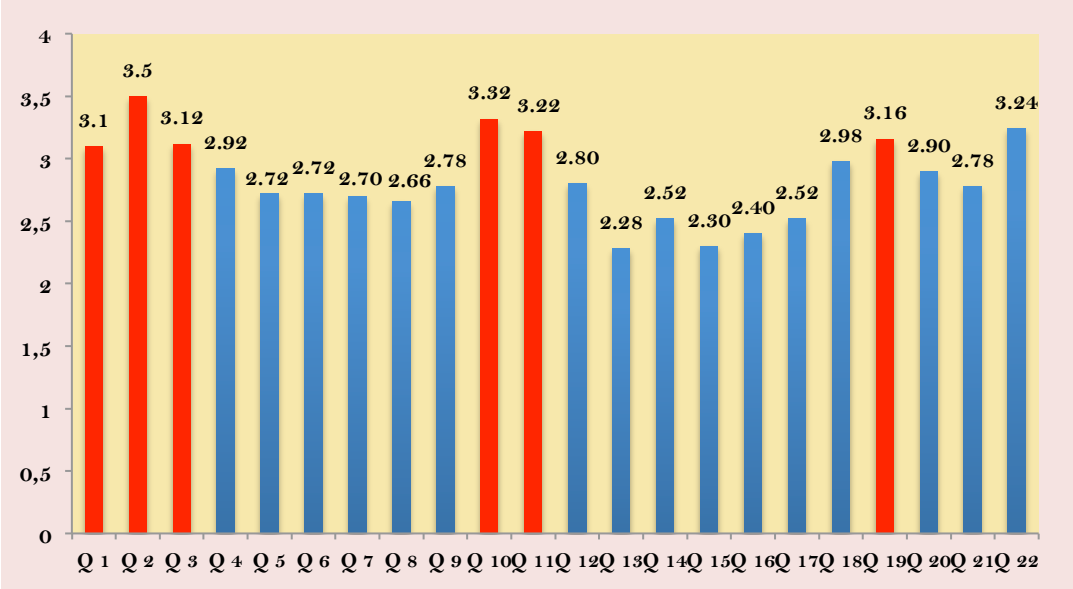

Figure 5. Comparison of significant barriers for each statement.

Discussion

This cross sectional descriptive study was done to note the barriers considered by general dentists in Bhubaneswar city in treating early childhood caries. There are very few studies done which have tried to find the attitudes of general dentists towards treatment of child patients [10,11]. This study was done as a pilot study for a larger study to be done with national representation. The clinicians treatment options always depend on the knowledge and attitude of the clinician towards the patients.

In the present study, child coping abilities (children get upset easily; most children are fearful; do not like the sound of the drill) were evident as barriers from general dentist's perspective. This was similar to the previous studies, in which child coping abilities were the barriers perceived by the general dentists [12,13].

The general dentists perceived treating children as troublesome and stressful which was in line with some other studies [14]. There was a consensus among dentists regarding treatment of primary teeth i.e. they want restorations to be done for primary teeth whenever possible.

In the present study, the general dentists did not report time consumption as a barrier in treating children. A study conducted in Saudi Arabia, reported the same finding [16]. Whereas in another study time consumption was found to be a major barrier in treating children [15]. Parents expectation of restoring children teeth was not considered a barrier in this study, but it was considered to be a barrier in Libyans [17]. Parents were in favour of extraction of the deciduous teeth if carious which was again considered a barrier for treatment of ECC.

Pediatric patient referral was not considered a barrier as most general dentists tried to manage child patients on their own. Those who referred the cases were usually male dentists and those having more experience. These findings were similar to those observed among Canadian dentists [18].

Limitations of this study should be addressed. First, the study had a small sample size. Since this was a cross sectional study cause effect relation could not be realised. The fifth domain, which was for healthcare system, was completely missed as, here in India we do not have proper health care systems in place like National Health Service in the United Kingdom and the dentists work in different set ups here.

Conclusion

There are very few studies giving importance to know the barriers, the general dentists face when treating early childhood caries. The general dentists hugely outnumber the pediatric dentists so the onus is on the general dentists to provide care to pediatric dental patients. The general dentists should be given proper training in handling children in their curriculum or through continuing education programmes so that they can act as a larger workforce to be able to treat ECC effectively and efficiently for the benefit of society.

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