

## Parental Attitude and Knowledge Towards the Usage of Barrier Techniques by Pediatric Dentist

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### Abstract:

To assess the parental attitude and knowledge towards the use of barrier techniques by the pediatric dentist, parents of 200 preschool pediatric patients were randomly selected and asked to fill the questionnaire related to the usage of barrier technique by the pediatric dentists.

Seventy five percent of the parents felt, that pediatric dentist should wear gloves and 35% wanted their pediatric dentist to wear mouth mask, 70% of parents thought that both pediatric dentist and the patients will be protected from the spread of the infection. Thirtyfive percent of them also wanted pediatric dentist to wear protective glasses during the treatment procedure. Eightyfive percent of them refused the treatment by pediatric dentists who were not wearing the gloves; 72% wanted the gloves to be changed for each patient. Fifty five percent of them thought that dental assistant also should wear gloves during treatment; only 55% of the parents were satisfied with the barrier techniques protocol of their pediatric dentist; Ninety percent of them thought that using gloves and mouth mask will scare the child. Quite high level of positive attitude and knowledge was seen in the present group of parents and they were not willing to take their child to the pediatric dentist who didn't follow the proper barrier technique.

**Key Words:** Gloves, Pediatric dentist, Attitude, Infection.

### Introduction:

Dental practice has changed its attitude considerably towards the cross infection measures. A decade ago wearing gloves was considered necessary for the selected procedure, but with the increase in the incidence of the spreadable diseases like AIDS, hepatitis, SARS, H1N1, herpes simplex etc, dental community has changed its attitude towards cross contamination measures (Burke et al, 1992). Barrier techniques as mouth mask, gloves, protective eyewear, and protective clothing were recommended to protect both the operator and the patient from cross-infection during routine examination, as well as during dental treatment procedures, apart from providing patient with the sense of security and trust towards the dentist (Goldmann, 1991; Larson, 1995; Burke et al, 1991; Al-Moherat et al, 2008). Many authorities (Centers for Disease Control, 1993; British Dental Association, 1987; Rustage et al, 1987; Olsted, 1978; Crawford, 1985; Burke et al, 1991) have recommended the comprehensive guidelines for the cross infection control and usage of gloves as one of the measures to reduce the risk of infection, because hands are the major source of infection especially the nail folds (Burke et al, 1993; Allen & Organ, 1982; Al-Moherat et al, 2008). Mousa

et al (1997), Samaranayake & McDonald (1990), Porter et al (1993) and Bowden et al (1989) have found that high level of awareness existed in the patients towards the usage of barrier techniques. This high level of awareness in the patients have improved the behavior of dentist towards the usage of barrier techniques (Burke et al, 1991; Chenoweth et al, 1990). With wide spread increase in infectious diseases all over the world, it becomes a compulsion to re-evaluate the knowledge and attitude of the pediatric dentist as well as the parents in respect to infection control protocol. Even though, there are number of studies done with the intention of assessing dentists knowledge towards barrier technique, very few studies have reported parental attitude towards infection control protocol. Besides, these studies have mainly concentrated on the usage of gloves and none reported the knowledge related to other barrier techniques like mask, protective glasses etc. The present study aimed to assess the attitude and knowledge of the preschool children's parents towards the usage of different barrier techniques by the pediatric dentist.

### Materials and Methods:

Two hundred parents of the preschool pediatric patients were randomly selected utilizing simple randomization technique for the study. Out of 200 parents, 100 were males and 100 were females. The subject's age ranged from 30-40 years, with the mean

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age of 35±5 yrs. A questionnaire of 12 questions related to parent’s attitude and knowledge towards the usage of barrier techniques as mouth mask, gloves, protective eyewear, and protective clothing by pediatric dentist was designed by the expert panel, which included experienced pediatric dentists. The questions like do you think that pediatric dentist should wear gloves while treating patients & would you attend a Pediatric dentist who didn’t wear gloves, evaluated the attitude of the parents towards the infection control. Similarly questions like, are gloves worn to protect the Pediatric dentist or the patient and who will be protected from infection by wearing mouth mask, were framed to judge the knowledge of the parents. Questions were framed in both English and the native language (Hindi). Ethical approval was obtained by the ethical committee. Parents were informed regarding the purpose of the study and the questionnaires were distributed. Proper instruction pertaining to the filling of questionnaire utilizing the multiple choice question was provided. They were asked to fill them in the department itself. In case of the uneducated parents, one of the authors explained the question in the native language and the answer provided were ticked by either of the authors. Data was collected and statistically analysed.

**Results:**

Out of 200 parents, 50% of the parents were well educated and most of them came from high to medium level of socioeconomic status.

Seventyfive percent of the subjects wanted their pediatric dentist to wear the gloves, 35% of subjects wanted pediatric dentist to wear the mouth mask and an equal percentage of parents believed that pediatric dentist should wear protective glasses. Majority of subjects believed that wearing mouth mask and gloves will protect both pediatric dentist and patients from infection. Fifty percent of the parents thought that dental assistant should also wear gloves (Fig. V). Eighty percent of the subjects refused to take their child to the pediatric dentist who didn’t wear gloves (Fig. III).

When the purpose of wearing gloves was considered, 45 % of parents thought that wearing gloves will prevent transmission of infection from patient to pediatric dentist (Fig.VI). Fifty five percent of them were satisfied with the type of barrier techniques used by the pediatric dentist (Fig. VIII). Ninty percent of the parents thought that child will be scared by seeing

a gloved hand and masked face of the pediatric dentist (Fig. VII).

The knowledge and attitude of the parents regarding usage of different barrier technique by the pediatric dentist is illustrated in the (Fig. VII).

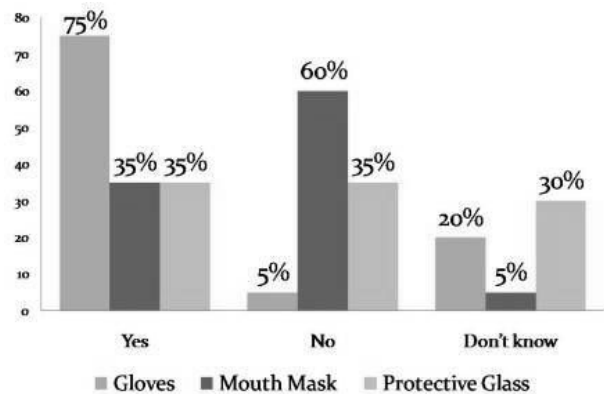


Fig. I: Parent’s attitude towards the usage of protective barriers by pediatric dentist

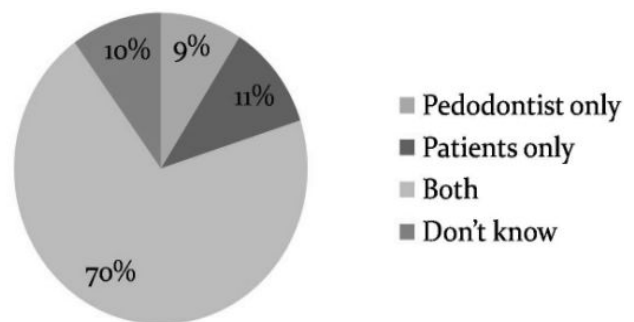


Fig. II: Parent’s opinion on whether gloves are worn to protect pediatric dentist or patient

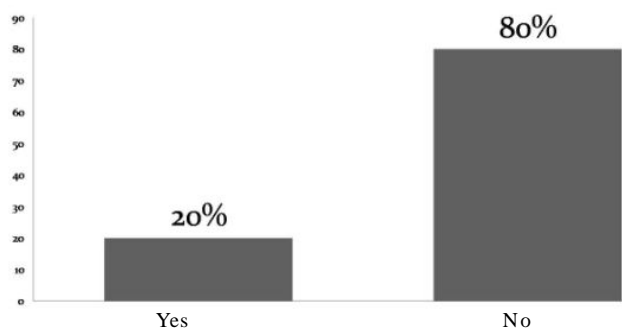


Fig. III: Parent’s opinion on whether they will go to pediatric dentist who doesn’t wear gloves.

**Discussion:**

Drastic changes are noticed in dental practice since the introduction of the infectious diseases like AIDS, hepatitis, different kind of flues in different parts of world. The media coverage on this topic has been extensive and has contributed substantially in increasing

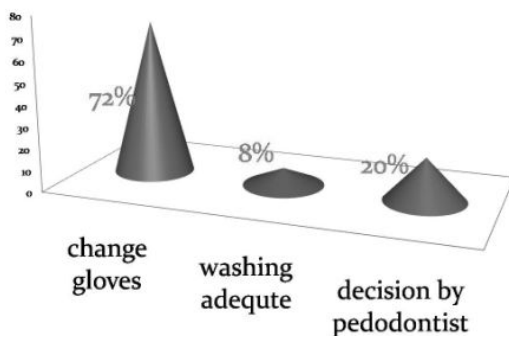


Fig. IV: Parent's opinion on whether a pediatric dentist should change gloves between patients or washing is sufficient

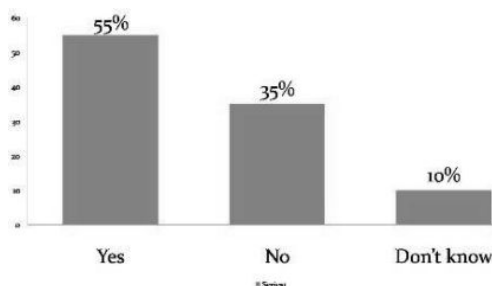


Fig. V: Parent's opinion on whether dental assistant should wear gloves or not.

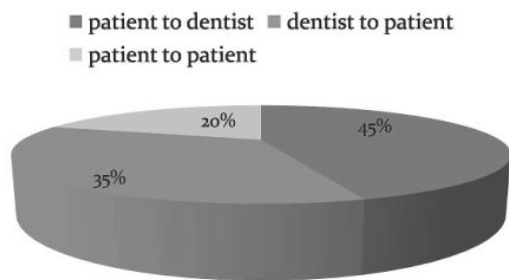


Fig. VI: Knowledge regarding the purpose of wearing gloves

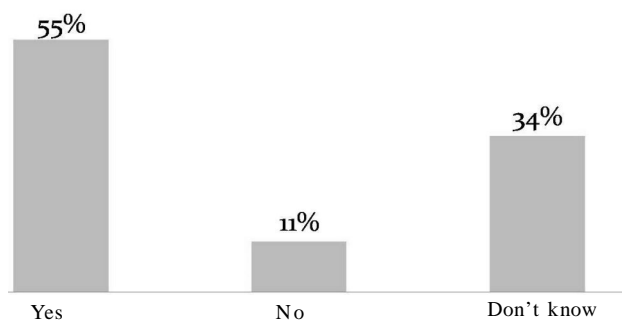


Fig. VII: Parent's opinion on whether they are satisfied with barrier technique used by the pediatric dentist.

the awareness of public in this regard (Thomson et al, 1997). The present study was undertaken with the aim to assess parental attitude towards usage of barrier

technique by the pediatric dentist. Preschool children lack the ability of abstract concept and abstract reasoning and the decision related to them, therefore, should be taken by the parents. Thus, the parent's opinion in relation to cross infection control procedure used by the pediatric dentist carries great importance.

Majority of the parents felt that pediatric dentist should wear gloves routinely during dental treatment, indicating the positive attitude of parents towards the use of gloves. The results were in accordance to the reports of Al-Moherat et al (2008) who did a study to assess the knowledge of glove usage by the parents as well as the children. Similar results were also reported by Burke et al (1991); Mousa et al (1997); Bowden et al (1989) and Kerans et al (1998), reiterating the high level of public awareness. In response to this, several pediatric dentists have changed some aspects of the infection control procedures. A survey by Chenoweth et al (1990) reported that 85.9% of the pediatric dentist used gloves routinely.

Comparatively, higher number of the parents didn't like to go to a pediatric dentist who does not wear gloves; the percentage of the present study was low as compared to the results of Kearns & Burke (1998) and Al-Moherat et al (2008). Contrasting results have been reported by the Burke et al (1991) and Otuyemi et al (2001) who reported that 51.51 and 34% of patients respectively attended the dentist even if he was not wearing gloves. Most of the parents opined that even though wearing gloves and mask may scare the child patient in the first visit but during the subsequent visit the child might get used to it. Similar results were reported by Siegel et al (1989). Nevertheless, the parents thought that this should not hinder the barrier technique used by the pediatric dentist and there was no need to compromise the infection control measures. Further, a study on evaluation of changes in children's dental fear has reported that framework of conditioning and gradual exposure in children will prevent dental fear (Klaassen et al, 2008).

The aim behind wearing gloves is to protect the dentist and patients from infection and to avoid transmission of disease from patient to patient. In the present study, the overwhelming majority of parents considered gloves to be worn for protection of both the dentist and patients, but only 45% felt that wearing gloves will prevent transmission of the infection from patients to dentist. Even though parents had high level of awareness, but the knowledge seemed to be

superficial. In contrast, Bowden et al (1989) reported that will 31% percent patients believed that glove wearing protect dentist only; Otuyemi et al (2001) had also reported similar results.

In the present study, high level of awareness was again proved by the fact that only 8 percent of the parents didn't mind if their pediatric dentist used the same gloves after washing in between the patient. But this percentage was quite high in comparison to the reports of Kearns et al (1998) who reported that only 2.5 percent of patients felt that washing the gloved hands will be enough. Such favourable results were reported in the earlier studies by Crawford, 1985; Otuyemi et al, 2001; Klaassen et al, 2008. Wearing gloves by the dental personnel has been advised as an essential element of cross-infection control in dental surgery (Rustage et al, 1987; Olsted, 1978; Crawford, 1985).

A Study showed that 55 percent of parents considered that wearing gloves was necessary for the dental assistant, owing to the fact that dental assistants will be assisting the pediatric dentist during dental treatment and their hands were considered to be a major source of infection (Burke et al, 1993).

Only 35 percent of parents in the present study felt that pediatric dentist should wear mouth mask, which was less than the percentage of parents who wanted the pediatric dentist to wear gloves and the reason why it has to be worn. In contrast, rather a high percentage (55%) was reported by Mousa et al (1997). Chenoweth (1990) reported that around 77 percent of the patient preferred their dentist to wear mouth mask. They felt that the purpose behind wearing mask was to protect both pediatric dentist and the child, but routine use of mask by pediatric dentist was reported by 45.6% in their study, which was undertaken with the aim to evaluate the barrier technique used by the pediatric dentist.

Craig & Quayle (1985) in their study mentioned that the mask worn for more than 20 minutes will potentially harbour micro organisms and that it is better to work unmasked than to wear the same mask for longer duration. Nearly 55 percent of patients were satisfied with the barrier techniques followed by their pediatric dentist.

Wearing a protective glasses by the pediatric dentist was considered unnecessary by 35 percent of the parents in the present study; in contrast, Chenoweth (1990) reported rather a high percentage of pediatric dentists who wore protective glasses routinely. However, Shulman & Brehm (2001) observed that 54.1

percent of patients preferred their dentist to wear protective glasses when doing the treatment. Askarian & Assadian (2009) conducted a study on the knowledge, attitude and practice of the infection control in the Iranian dentist and dental students. They reported that the subjects had high level of knowledge attitude but they didn't adhere strictly to the infection control guidelines.

### Conclusion:

A high level of infection control awareness was seen in this particular group of the parents. They preferred not to visit pediatric dentist, who didn't wear gloves. Only 55% of the subjects were satisfied with the barrier technique used by the pediatric dentist.

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