

# Presence of Paediatric Radiographic Equipments in Private Dental Clinics

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**Abstract:** *Aim: Aim of the study is to know the presence of paediatric radiographic equipments in private dental clinic. Objectives: The objective of this study is to know whether the private dental clinics have separate radiographic equipments for paediatric population. Background: Radiographs and other imaging modalities are used to diagnose and monitor oral diseases, as well as to monitor dentofacial development and the progress or prognosis of therapy. Dental radiographs are very safe provided they have minimal exposure to the child. When all standard safety precautions are taken, today's Radiographic equipments are able to prevent unnecessary radiations and allow the dentist to focus the X-ray beam on a specific part of the oral cavity. Hence separate radiographic equipments are highly essential for paediatric population for better diagnosis with minimal amount of X-ray exposure.(1) Reason: The reason for this study is to create awareness among the pedodontist and other dental practitioners on the usage of separate radiographic equipments and their benefits on the paediatric population.*

**Keywords:** paediatric radiographic equipments in private dental clinics

## 1. Introduction

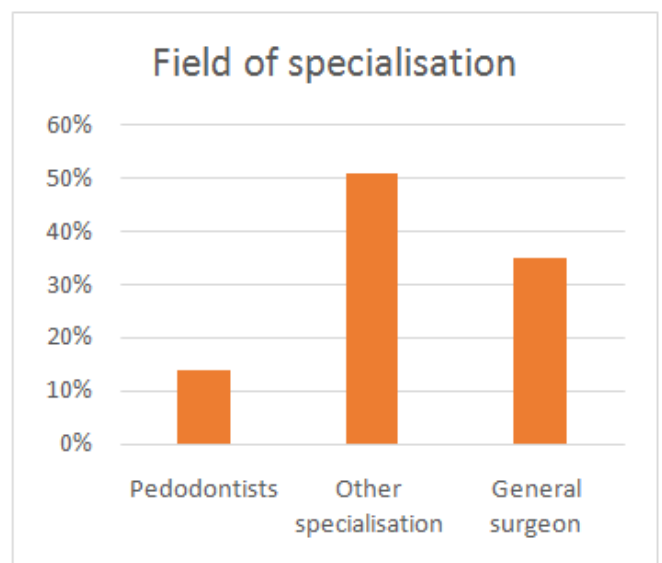
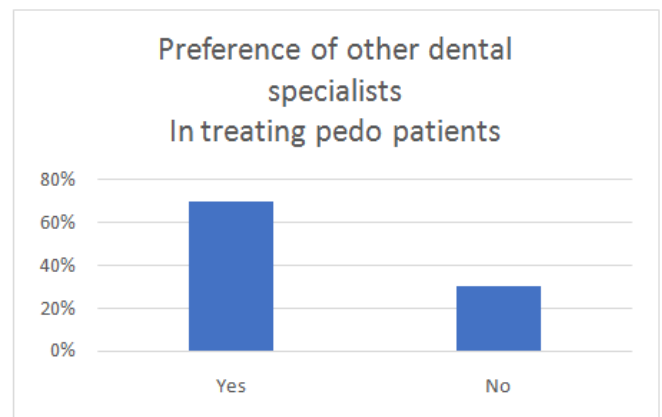
There are different imaging modalities which has led to the improvement in the diagnosis and treatment of many medical conditions in both adults and children. The different imaging techniques that are used in children are conventional radiography, computed tomography, fluoroscopy, etc... They use the same concept of ionising radiations to produce images which helps in the better diagnosis of various medical conditions. Among the above mentioned imaging modalities the most commonly used one is the conventional radiography. Although they are very essential, noninvasive, painless technique that is used in the diagnosis and monitoring, they have their own potential problems of causing DNA mutations in high doses and also increases the chances of occurrence of cancer. It also results in other tissue effects such as cataract, skin diseases and hair loss. Children are more radio sensitivity than adults and so they are at a higher risk. Hence, radiographs should be prescribed according to selection criteria guidelines and children should not be subjected to radiographs unnecessarily.(2) Radiographers should be adequately trained in order to avoid inappropriate exposure of children to X-rays. Separate radiographic equipments such appropriate films, 0 sized films (22\* 35) are highly essential for paediatric population. These paediatric films are more comfortable and helps in producing better images.(3)

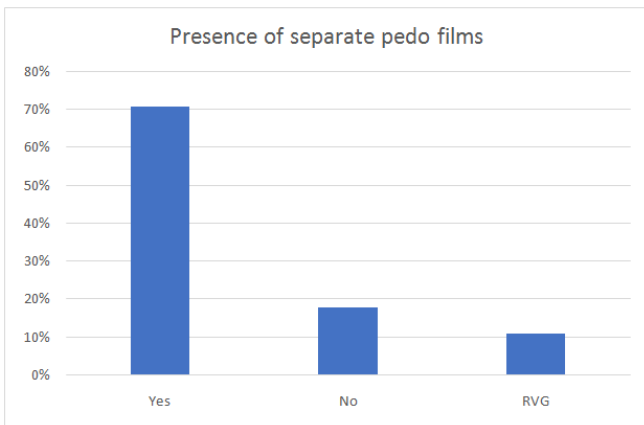
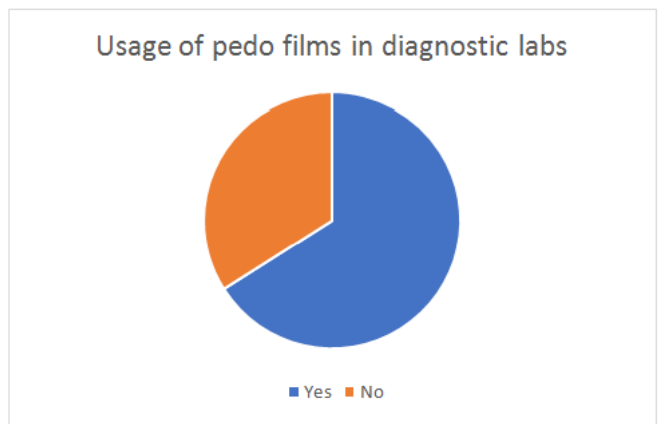
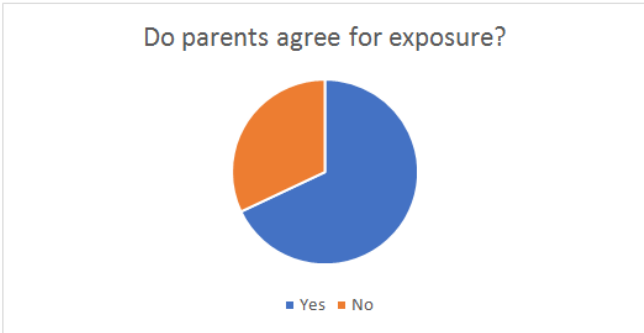
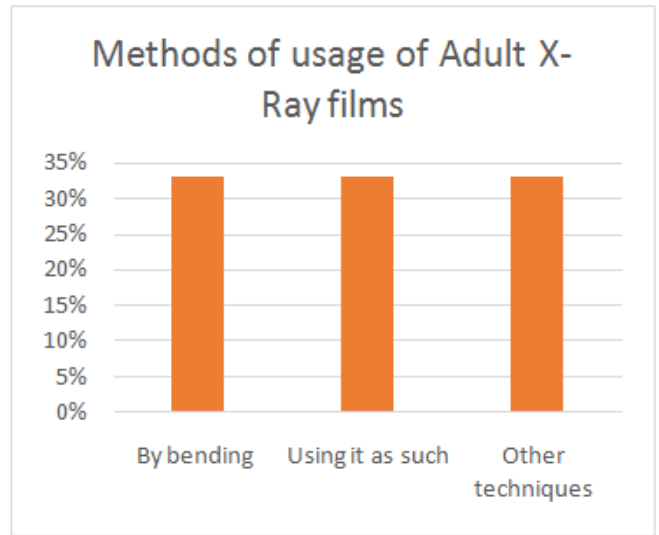
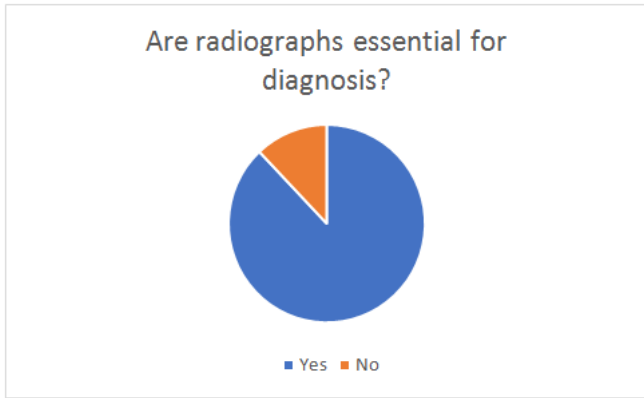
## 2. Materials and Method

This is a questionnaire based study of 100 dental practitioners in and around Chennai. Each questionnaire comprised of 13 questions interrogating the presence of separate radiographic films for pedo patients. The questions included the field of specialisation, preference of other dental specialists in treating paediatric patients, essentiality of radiographs for children, parents' opinion towards exposing their children to radiations, presence of separate paediatric films in their clinics, other alternatives

to paediatric films, different methods of using adult X-ray films.(4)

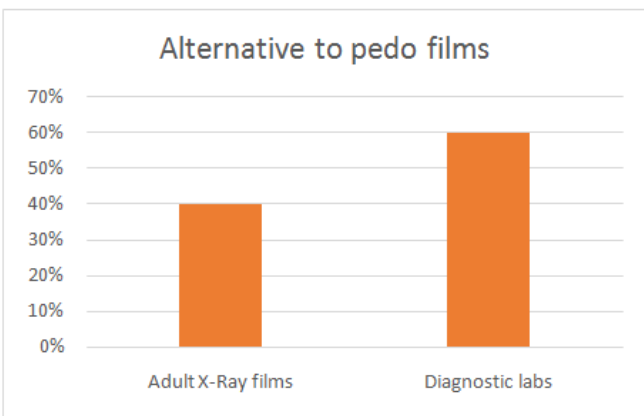
## 3. Results





#### 4. Discussion

Out of total number of dental practitioners surveyed, 14%, 51%, 35% were found to be pedodontist, other dental specialists and general surgeons respectively. The population of pedodontist surveyed is found to be less when compared to other dental practitioners due to decrease in the population of pedodontist in Chennai (5).70% of other dental specialists preferred treating paediatric patients. It has been found that majority of the population prefer treating paediatric patients which shows their level of confidence and interest towards treating the paediatric population. It has been found that 60% of the parents of the paediatric patients allow their children to be exposed to radiations. This reveals that parents are well educated and are aware about its importance in diagnosis. Dentists should be well aware about the handling, exposure and hazards of radiations which prevent the inappropriate exposure of children to the radiations. (6) 70% of the dental specialists were found to use separate X-ray films for pedo patients. Hence, dental clinics are well equipped to comfort the patients and also to harness confidence in both patients and parents. Separate paediatric X-ray films are required which help the dentists to produce better radiographic images with less exposure. Children also feel comfortable and they seem to cooperate well with separate X-ray films. Out of 30% of the specialists who did not use separate films, 40% of them preferred using adult X-Ray films and 60% referred the patients to diagnostic labs. Some modify adult IOPA films



to be used in children. This is done in patients who require multiple intraoral periapical radiographs for diagnosis and treatment. For this technique size 2 IOPA film is taken and it is divided into two halves. One of halves is covered with two layers of lead foil that is present in IOPA film packet. (7)The film is then placed in the disposable plastic sleeve and is positioned in the patient mouth. Later the foil should be covered in the second half of the film and placed in the required quadrant and exposed. This technique has its own disadvantages that it cannot be used in children with limited mouth opening. The advantage is that it is cost effective as size 0 films are highly expensive.(8)

## 5. Conclusion

Therefore it has been concluded that paediatric radiographic films are highly essential for better images.

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