# Awareness of the dental practitioners about the possibility to use spacemaintainers when premature temporary teeth extractions

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***Abstract-*** The incorrect tooth eruption of the permanent teeth and the disturbances of dental arches formation is closely related to the higher prevalence of caries lesions among children which leads to premature temporary teeth extraction.

**The aim** of our study is to explore the awareness of the dental practitioners of usage of spacekeepers in cases of premature temporary teeth extraction**.** We made a study through questionnaires among 200 dental practitioners, who answered questions concerning the application of the spacekeepers in their practice. 92% of the questioned dental practitioners indicated that they work with patients under 12 years old. 87 % of the dentists which work with children under 12 years old, have had children with premature extraction of primary teeth. Only 8 % of the questioned dentist use space maintainers, because of the lack of motivation of the parents and children . The most commonly used space maintainer is Band and loop spacekeepers. Our questionnaire shows that there is a underestimation of the occlusal problems caused by premature primary teeth extraction. It is necessary to include the primary prophylactics in the pediatric treatment plans to avoid severe teeth disalligments which are treated only by orthodontic specialists.

***Index Terms-*** spacemaintainers, premature extraction, prophylactics, deciduous teeth

## I. Introduction

The incorrect tooth eruption of the permanent teeth and the disturbances of dental arches formation is closely related to the higher prevalence of caries lesions among children which leads to premature temporary teeth extraction.

According to literature 6.2 % of the bulgarian children from 7 to 14 years (1) have prematurely lost teeth. The percent of prematurely extracted temporary teeth is much higher in Saudi Arabia -16,5 %, and Brazil 9,28% (2,4)

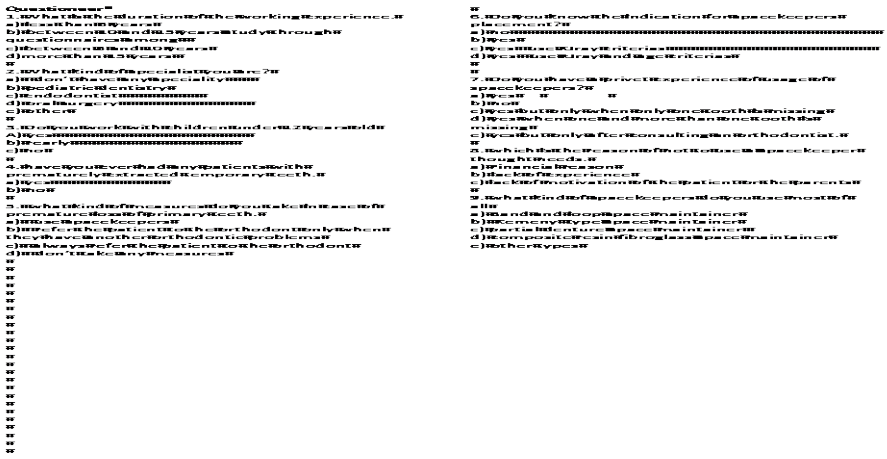
Sometimes the premature tooth loss can be caused by traumas, which also leads to the necessity of the spacekeepes(5). Severely destroyed tooth as a result of a trauma or large caries lesion, when can not be restored require extraction. This cases also require spacekeepers (6). The need of spacekeepers is related to the primary prophylactics of the malocclusion, keeping the space for the permanent teeth and establishing the chewing function. In the frontal area the is related to the esthetics, dislalia and the prophylactics of the psychological traumas related to them(7).

**The aim** of our study is to explore the awareness of the dental practitioners of usage of spacekeepers in cases of premature temporary teeth extraction

## II. Methods and materials

We made a study through questionnaires among 200 dental practitioners, who answered questions concerning the application of the spacekeepers in their practice. Orthodontic specialists were excluded from the study

**Fig. 1 Questioner for awareness of the dental practitioners in connection of usage of the spacemaintainers**



Questioners where given to dental practitioners during dental conferences in Shumen and Varna region. The questioners where anonymous filled and returned to the researcher. After benchmarking the following results were given.

## III. Results and Discussion

After the analysis of the data the fallowing results were obtained-92% of the questioned dental practitioners (184 dentists) indicated that they work with patients under 12 years old.

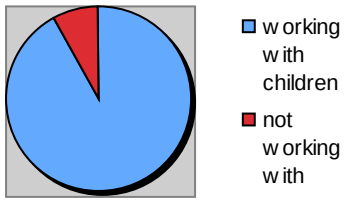



**Figure 1 The percentage of the dentist working with children up 12 years old**

A very small percentage - 8 % ( 16 dentists) do not work with children in their practices. 87 % (160 dentists) of the dentist which work with children under 12 years old have had children with premature extraction of primary teeth.(Fig1)

Figure 2 shows the personal experience of the questioned dentists in the usage of space maintainer. The values are shown as percentage.

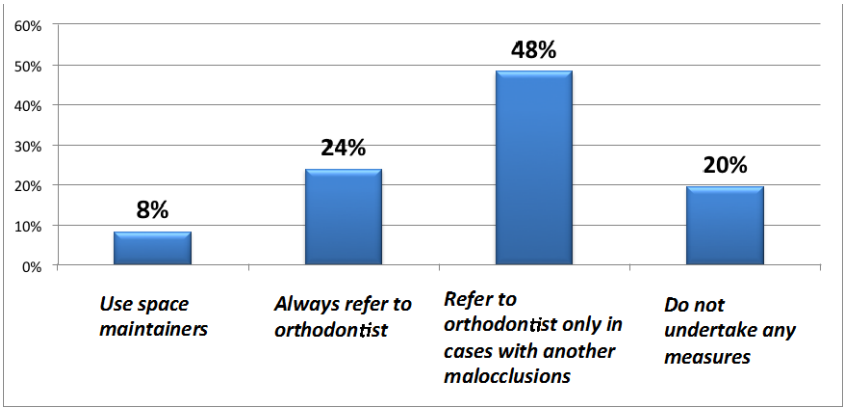



**Figure 2 Average frequency of usage of spacemaintainers by the dentists**

The figure 2 shows that 8 % of the questioned dentist use space maintainers. Most of them 72% prefer to refer the children to orthodontist (24%-always and 48%-only in cases with another malocclusions). 20 % of them do not undertake any measures. This shows that the primary prophylactics among dental practitioners is neglected. That explains the high percentage of children that require orthodontic treatment later. Most of the questioned dentist use space maintainer only one tooth is missing.

We studied the reasons of not to use a spacekeeper thought needs.( fig 3.) The highest percentage 41% point out that the lack of motivation of the parents and children is the main cause. 35% of dentist point out that the reason is the lack of experience, and 24 % point out financial reasons.

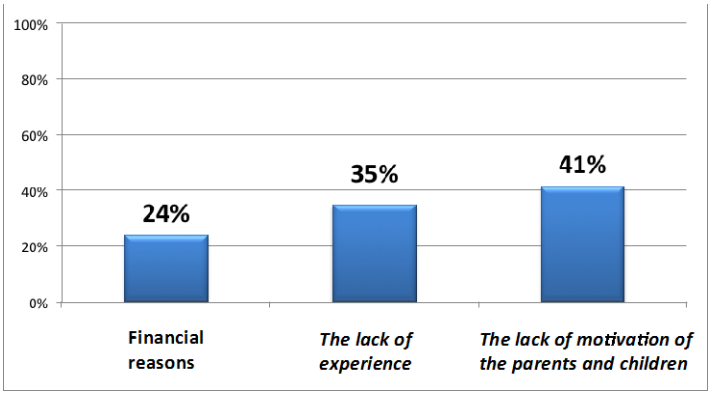



**Figure 3. The reasons of not using spacemaintainers by the questioners**

This shows the neglect of the primary prophylactics of dento-alveolar deformation among dentists and parents. A study of Saudi Arabia made by Hammad (2011) shows that only 25,60 % of the explored children had premature tooth loss and only 3,8 % of them had space maintainers (3).

Results of the analyses show that a high percentage of the questioned dentist does not have a personal experience. (fig 4).

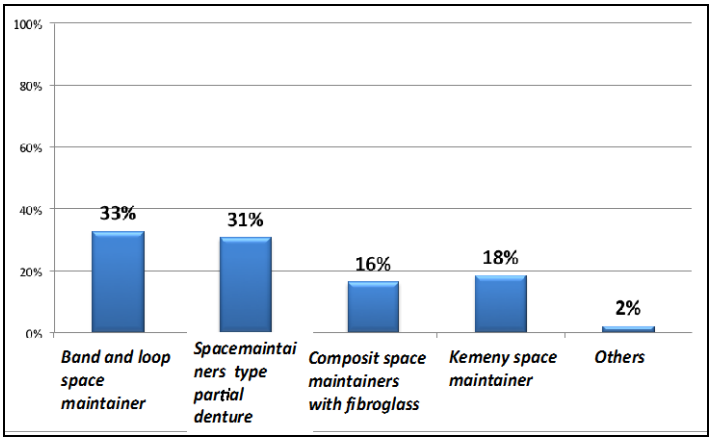



**Fig 4 Average percentage of different types of spacemaintainers using by the questioners**

The most commonly used space maintainer is Band and loop space maintainer 33%, fallowed by spacemaintainers type partial denture -31% and Kemeny 18%. This shows that premature tooth loss due to trauma is more rare than tooth loss in the distal region. This is the reason why Kemeny space maintainer used for frontal teeth premature loss is more rarely.

## IV. Conclusion

Our questionnaire shows that there is a underestimation of the occlusal problems caused by premature primary teeth extraction. The lack of prophylactics and the insufficient prophylactics by the dentist and mostly pediatric dentist in the children is the reason for the higher rate of orthodontic deformations. It is necessary to include the primary prophylactics in the pediatric treatment plans to avoid severe teeth disalligments which are treated only by orthodontic specialists. This requires more time and finances.

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