KNOWLEDGE OF PAEDIATRIC PATIENTS AND THEIR GUARDIANS ABOUT MOUTH GUARDS

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Palavras-chave: Protetores Bucais. Adolescentes. Prevenção.

RESUMO

Introdução: Os protetores bucais são usados para prevenir lesões durante atividades esportivas. **Objetivo**: O objetivo deste estudo é avaliar o conhecimento sobre os protetores bucais dos pacientes pediátricos e seus responsáveis. **Métodos**: Pacientes pediátricos de 9 a 15 anos, que procuraram atendimento na Clínica Pediátrica da Faculdade de Odontologia e seus responsáveis foram convidados a participar. Seu conhecimento sobre protetores bucais foi coletado através de um questionário em duas partes com perguntas abertas e fechadas. A primeira parte do questionário continha algumas questões sociodemográficas e uma questão principal sobre o que é um protetores bucais. A segunda parte era apenas sobre protetores bucais e foi aplicada imediatamente após uma explicação sobre os protetores bucais no final da primeira parte. Todos os dados coletados foram tabulados e analisados de forma descritiva. **Resultado**: Um total de 122 guardiões foram entrevistados, 39.3% tiveram crianças que praticavam algum tipo de atividade esportiva e 32% relataram um episódio de trauma. A maioria (54.9%) não sabia o que é um protetor bucal, mas após a explicação, 57.4% tinham visto alguém usando um. Um total de 33 pacientes pediátricos foram entrevistados, 60.6% praticaram algum esporte e 27.3% deles já sofreram algum tipo de trauma dental durante a atividade. Nenhum dos entrevistados usa um protetor bucal durante a atividade esportiva, embora 97% acreditem que usar um protetor bucal é importante e 78.8% acreditam que o protetor não interfere com a atividade. **Conclusão**: Em conclusão, os guardiões e pacientes pediátricos têm pouco conhecimento sobre os protetores bucais.

Keywords: Mouthguards. Adolescents. Prevention.

ABSTRACT

Introduction: Mouth guards are devices used to prevent injuries during sports activities. **Objective**: The aim of this study is to evaluate the knowledge of paediatric patients and their guardians about mouth guards. **Methods**: Paediatric patients from 9 to 15 years old and their guardians who sought care in the Paediatric Clinic of the Dentistry School were invited to participate. Their knowledge about mouth guards was collected through a two-part questionnaire with open and closed ended questions. The first part of the questionnaire contained sociodemographic questions and a main question about what a mouth guard is. The second part was solely about mouth guards and was applied immediately after an explanation about mouth guards at the end of the first part. All data collected were tabulated and analysed descriptively. **Results**: A total of 122 guardians were interviewed; 39.3% had children who practised some type of sports activity and 32% reported a trauma episode. Most (54.9%) did not know what a mouth guard was but, after explanation, 57.4% had seen someone using one. A total of 33 paediatric patients were interviewed, 60.6% of whom practised some sport; 27.3% of these had already suffered some type of dental trauma during the activity. None of the interviewees used a mouth guard during their sports activity, although 97% believed that using a mouth guard was important and 78.8% believed that the protector did not interfere with the activity. **Conclusion**: Guardians and paediatric patients have little knowledge about mouth guards.

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INTRODUCTION

Orofacial trauma is characterized as being a serious injury that occurs with great frequency in children and adolescents.[1–3] Factors considered to be predisposing to the occurrence of trauma include sex, age, overjet, Angle's class II occlusion, mouth breathing, anterior open bite, short or hypotonic upper lip, obesity and the presence of neurological disorders.[1,4–7] The most common causes are falls, collisions with other people and objects, sports activities, automobile accidents and physical aggression.[1,4–7]

Due to social, aesthetic and functional damage, injuries have a negative impact on patients' quality of life and on their guardians'.[8,9] Thus, initiatives aimed at preventing orofacial trauma should be encouraged. Mouth guards are considered devices for individual protection against traumatic injuries, being fundamental for the protection of individuals' dental, soft and bone tissue during sports practice.[10]

Sports-related oral injury in school children is mainly seen between the ages of 7 and 11 years.[11] Participants in sporting and recreational activities are often susceptible to dental injury, so use of a mouth guard is recommended in any athletic or recreational activity.[12] The mouth guards do not totally prevent the occurrence of dental trauma; however, the sequelae of the trauma can be minimized.[13]

Dental trauma is considered a public health problem; however, little is invested in its prevention. Although cheap, easy and of recognized importance by dentists, mouth guards are still not used worldwide.[14,15] Since the family has a fundamental role in teaching and establishing habits in young people,[16] the objective of this study was to evaluate whether paediatric patients and their guardians knew about mouth guards.

MATERIALS AND METHODS

This descriptive cross-sectional study was approved by the Research Ethics Committee (no.1,153,278) and all subjects were treated according to the Declaration of Helsinki. Each participant signed a consent form with detailed information, according to their comprehension capacity.

Paediatric patients of both genders aged 9 to 15 years, who sought care in the Paediatric Clinic of the Dentistry School of the Federal University of Rio de Janeiro from October to December 2016, and their guardians were invited to take part in the present study. Illiterate participants, those with neurological deficiency or who had difficulty understanding, and those who refused to participate in the study were excluded.

The participants' knowledge about mouth guards was collected through a two-part questionnaire with open and closed questions elaborated by the authors of this study. The questionnaires were elaborated in three stages. In the first stage, the questionnaires were evaluated by Master's and PhD students. In the second stage, the questionnaires were re-evaluated by the same postgraduate students and by high school students. In the third stage, the questionnaires were applied to five patients aged 9 to 15 years and their guardians. At each stage, the questions and answers were evaluated in order to improve the understanding of the text and to obtain more information for data collection.

The final questionnaire for guardians had 14 items; that for paediatric patients had 13 items. All interviews were conducted by a single researcher. The first part of the questionnaire contained some sociodemographic questions and a main question: 'Do you know what a mouth guard is?' Subsequently, the researcher explained to each individual what a mouth guard is. The second part was solely about mouth guards. Ultimately, participants were instructed about the importance of using mouth guards during physical/sports activity. All questions are described in Tables 1 and 2.

All data collected were tabulated in the statistical program SPSS (version 21.0; SPSS Inc., Chicago, IL, USA) and analysed descriptively.

RESULTS

A total of 122 guardians were interviewed (mean age 34.8 years; dp±9.4). Table 1 shows the results obtained from guardians: 39.3% had children who practised some type of sports activity and 32% reported a trauma episode. In the interview, 54.9% answered that they did not know what a mouth guard is, but after the explanation was given, 57.4% said they had seen someone using one. Although 90.2% of those responsible indicated that their children used some kind of protector during sports activity, 95% stated that their children did not use any kind of protector.

A total of 33 paediatric patients aged between 9 and 15 years (mean age 10.3 years; dp±1.4) were interviewed. Table 2 shows the results obtained from the paediatric patients, of whom 60.6% practised some sport and 27.3% had already suffered some type of dental trauma during the activity. None of the interviewees used a mouth guard during sports activity, although 97% believed that using a mouth guard was important and 78.8% believed that the protector did not interfere with the activity.

None of the girls knew what a mouth guard was, and most of the boys (70.6%) did not know. Considering the boys, 58.8% did not know what a mouth guard was irrespective of whether they practised a sport activity. With regard to the guardians, despite practising physical activity, the children use a protector and the caregiver knew what it was in only 1.6% of cases.

Table 1: *Caregiver evaluation of the mouth guard (n = 122)*

Questions	Answer	N (%)
Sex	Male	13 (10.7%)
	Female	109 (89.3%)
Education	Elementary school	37 (30.3%)
	High school	65 (53.3%)
	Higher education	20 (16.4%)
Family income	≤ 3 Minimum wages	107 (87.7%)
	> 3 Minimum wages	15 (12.3%)
Does your child play any sport?	Yes	48 (39.3%)
	No	74 (60.7%)
If so, which one?	School physical education	7 (15.2%)
	Boxing	15 (32.4%)
	Soccer	9 (19.6%)
	Others (Swimming, Volleyball, Gymnastics)	17 (32.8%)
Has your child ever had any dental trauma?		
	Yes	39 (32.0%)
	No	83 (68.0%)
Do you know what a mouth guard is?*	Yes	55 (45.1%)
	No	67 (54.9%)
Do you know anyone who uses one or have you ever seen anyone using one?		
	Yes	70 (57.4%)
	No	52 (42.6%)
If yes, who?	Friends	8 (12.3%)
	Family	11 (16.9%)
	Boxer	44 (67.7%)
	Already use	2 (3.1%)
Do you believe that the mouth guard is important?		
	Yes	112 (91.8%)
	No	1 (0.8%)
	Do not know	9 (7.4%)
When should a mouth guard be used?		
	Never	1 (0.8%)
	All the time	3 (2.5%)
	When you go to sleep	5 (4.1%)
	When you play some sport	110 (90.1%)
	Do not know	3 (2.5%)
Does your child wear a mouth guard during sports activity?		
	Yes	6 (5.0%)
	No	116 (95.0%)
How long does a mouth guard last?		
	All the time	4 (3.3%)
	Two months	4 (3.3%)
	Six months	10 (8.2%)
	One year	2 (1.6%)
	Do not know	102 (83.6%)
Where or from whom would you source a mouth guard?		
	Sports store	24 (19.7%)
	Doctor	2 (1.6%)
	Dentist	52 (42.6%)
	Sports teacher	5 (4.1%)
	Do not know	39 (32%)

** After the answer, the researcher explained what a mouthguard is.*

***Table 2**: Evaluation of the paediatric patients' (aged 9 to 15 years) knowledge about mouth guard (n= 33)*

Questions	Answer	N (%)
Sex	Male	17 (51.5%)
	Female	16 (48.5%)
Type of school	Public	14 (42.4%)
	Private	19 (57.6%)
Do you play any sport?	Yes	20 (60.6%)
	No	13 (39.4%)
If so, which one?	School physical education	3 (15.0%)
	Boxing	7 (35.0%)
	Soccer	5 (25.0%)
	Others (Swimming, Volleyball, Gymnastics)	5 (25.0%)
Have you suffered any dental trauma?	Yes	9 (27.3%)
	No	24 (72.7%)
Do you know what a mouth guard is?*	Yes	5 (15.2%)
	No	28 (84.8%)
Do you know anyone who uses one or have you ever seen anyone using one?		
	Yes	23 (69.7%)
	No	10 (30.3%)
If yes, who?	Friends	9 (40.9%)
	Family	4 (18.2%)
	Boxer	9 (40.9%)
Do you believe that the mouth guard is important?	Yes	32 (97.0%)
	Do not know	1 (3.0%)
When should a mouth guard be used?		
	All the time	2 (6.1%)
	When you play some sport	27 (81.8%)
	Do not know	4 (12.1%)
Do you use the mouth guard during sports activities?		
	Yes	0 (-)
	No	33 (100.0%)
Do any friends of yours, from the sport, wear a mouth guard?		
	Yes	12 (36.4%)
	No	21 (63.6%)
Do you believe that the mouth guard interferes with sports activities?		
	Yes	5 (15.2)
	No	26 (78.8%)
	Do not know	2 (6.0%)

** After the answer, the researcher explained what a mouthguard is.*

DISCUSSION

Dental trauma can occur in different routine situations, making it difficult to carry out preventive measures. One of the few situations in which injuries can be effectively prevented is during sports activities. According to Spinas and Savasta,[17] the prevention of dentoalveolar trauma in sport practitioners should be carried out by analysis and awareness of the problem; control of predisposing factors; and study and awareness of methods and devices aimed at reducing trauma outcomes. Interviewees did not know what a mouth guard was, even though they had experienced dental trauma during sports practice. This result is similar with that found in other study[17] and corroborates the high prevalence of a lack of information on the prevention of dental injuries.

A mouth guard can be defined as a resilient device placed in the mouth to reduce oral injuries such as dental trauma. After an explanation of what a mouth guard is and what a mouth guard does, guardians said that they considered the mouth guard to be important and that going to the dentist would be the correct way to get it, but that their children did not use one. These results corroborate with literature,[18,19] which shows that despite individuals knowing about mouth guards, only a few report using them.

The literature proves the preventive value of mouth guards, especially in contact sports.[17,20,21] In our results, despite practising contact sports and having had a dental trauma experience, most of the paediatric patients did not use mouth guards. These results were the same as those found for athletes, who also demonstrated little use of mouth guards despite information about usage during sports practices and general knowledge of their use.[22] In addition, girls have been shown to have less knowledge about mouth guards than boys. This result can be explained by the fact that, in general, boys practise more contact sports than girls.[23] The most common reasons for not using a mouth guard were discomfort and difficulty in breathing or talking.[24] These reasons could be minimized through the use of individualized mouth guards made by dentists; however' the lack of mandatory use of this apparatus during most contact sports does not encourage the search for prevention.

Guardians still have questions about when the mouth guard should be used and its durability. There is no specific period of durability of the mouth guard evaluated in the literature. When used by children, however, it is important to evaluate the development of the face and changes in the dental positioning. In this sense, the protector should be changed every year or reassessed if it is maladaptive.[10] Magunacelaya and Glendor's study[25] shows that there is a high amount of information about mouth guards on the internet but that the quality of this information varies.

According to Biagi et al.,[16] most young people obtain information about mouth guards from family members; however, our results showed that guardians also have little information on the subject, which could impair the use of such devices, thus negatively influencing the protection against trauma in the studied population. Some factors can influence the guardian's knowledge: for example, of the working mothers, 72% knew that mouth guards are useful in the prevention of dental trauma while only 37% of the non-working mothers had this knowledge.[26]

In the bibliographic search, the authors of the present study did not find a specific questionnaire that evaluated knowledge about mouth guards. The use of a questionnaire not previously used in other studies may be considered a limitation of the work, since comparison with other results becomes limited. Furthermore, a small sample could be questionable. Despite a limitation in the sample size, however, the present study could guide further studies, preferably multi-centre studies, to assess the knowledge of different sample groups such as children, guardians, teachers, athletes and coaches.

The results found in the present study corroborate the findings in the literature and contribute to reinforce the need for effective dental trauma prevention programmes. Studies such as these are effective in monitoring the potential of a failure to disclose the importance of using mouth guards to prevent dental injury. A change in this prospect should begin with the education of schoolchildren, guardians and teachers about the importance of mouth guards and the strengthening of strategies that make it compulsory to use them during sports activities.

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