UNIVERSIDADE ESTADUAL PAULISTA
"JÚLIO DE MESQUITA FILHO"

Ana Paula Fernandes Ribeiro

Conhecimento e prevalência de trauma e adaptação ao uso de protetor bucal em uma população de atletas brasileiros

Araçatuba
2020

UNIVERSIDADE ESTADUAL PAULISTA
"JÚLIO DE MESQUITA FILHO"

Ana Paula Fernandes Ribeiro

Conhecimento e prevalência de trauma e adaptação ao uso de protetor bucal em uma população de atletas brasileiros

Dissertação apresentada à Faculdade de Odontologia de Araçatuba da Universidade Estadual Paulista "Júlio de Mesquita Filho" – UNESP, como parte dos requisitos para obtenção do título de Mestre em Endodontia.

Orientador: Prof. Ass. Dr. Rogério de Castilho Jacinto

Araçatuba
2020

Catalogação na Publicação (CIP)

Diretoria Técnica de Biblioteca e Documentação – FOA / UNESP

R484a

Ribeiro, Ana Paula Fernandes.

Conhecimento e prevalência de trauma e adaptação ao uso de protetor bucal em uma população de atletas brasileiros / Ana Paula Fernandes Ribeiro. – Araçatuba, 2020

43 f. : il. ; tab.

Dissertação (Mestrado) – Universidade Estadual Paulista, Faculdade de Odontologia de Araçatuba

Orientador: Prof. Rogério de Castilho Jacinto

1. Traumatismos em atletas 2. Protetores bucais 3. Ferimentos e lesões 4. Traumatismos dentários. I. T.

Black D24

CDD 617.67

Claudio Hideo Matsumoto CRB-8/5550

Dados curriculares

Nascimento

16.06.1991

Filiação

Deolinda Fernandes Tomazini
Paulo Roberto Ribeiro da Silva

Graduação

2014-2018
Curso de Graduação em Odontologia
Universidade Metodista de
Piracicaba- Campus Lins

Mestrado

2019-2020
Mestrado em Ciências Odontológicas
Área de Endodontia
Faculdade de Odontologia de
Araçatuba-UNESP

Dedicatória

Dedico este trabalho à minha mãe, **Deolinda Fernandes Tomazini**.

Seria muito injusto da minha parte não dar a você um destaque neste trabalho, pois, sem você isso não aconteceria. Você luta todos os dias para que eu possa realizar os meus sonhos e me dá asas para eu voar cada vez mais alto. Nunca mediu esforços por mim e sempre apoiou e incentivou todos os meus passos. Muito obrigada por TUDO!

Sua fé e amor me sustentam. Sua força, garra e dedicação me inspiram. Obrigada por ser esse exemplo de mãe, de filha e de pessoa. Obrigada por ter um coração enorme e um caráter intocável. Sem dúvidas, é a melhor mãe que Deus poderia me dar.

Mãe, você tem o meu amor, respeito e gratidão, eternamente! Espero que um dia eu possa ser, pelo menos, metade do ser humano maravilhoso que você é. Que Deus te abençoe!

Agradecimentos

A Deus

Que me sustenta, me ama e nunca me abandona!

Obrigada meu Pai, por ter preparado que eu estivesse aqui, realizando mais um sonho. Obrigada por me capacitar e fortalecer todos os dias, por me proteger nas estradas, me amparar e por colocar pessoas tão maravilhosas na minha vida.

Sou extremamente grata pois, o Senhor providencia tudo! Quando as coisas parecem desmoronar, o Senhor providencia bênçãos, muitas bênçãos. Por fim, obrigada por ter planejado uma vida linda para mim, sei que as maravilhas estão apenas começando!

À Nossa Senhora

Obrigada Mãezinha do céu, por sempre passar à frente de tudo na minha vida! Com seu amor, proteção e poder de Mãe, sei que as coisas sempre acabam bem. Obrigada também, por interceder por mim diante do Pai e por todas as bênçãos recebidas.

Aos Familiares

Quero agradecer meus pais, **Deolinda Fernandes Tomazini** e **Paulo Roberto Ribeiro da Silva**, por me apoiarem, sonharem comigo e me amarem tanto. Obrigada por terem me passado tantos valores. Com os pequenos exemplos do dia a dia, aprendi a ser uma pessoa correta e dar valor a tudo à minha volta. Obrigada pelos ensinamentos e principalmente, por me ensinarem a amar. Tento, todos os dias, ser a melhor filha e pessoa possível, porque tenho pais maravilhosos, que merecem todo amor, carinho e respeito em retribuição! Eu amo vocês! Um agradecimento especial à minha mãe, que cuida de mim nos pequenos e grandes detalhes e que, mesmo com tanta dificuldade me mantém onde sempre sonhei. Eu te amo minha guerreira!

Ao meu namorado, **Muriel Botini Vieira**, agradecer o companheirismo, dedicação, amor, amizade, os conselhos e toda força e apoio. Foram dias difíceis até a adaptação nessa nova etapa, e se não fosse você, para cuidar do meu estado emocional, tudo teria sido mais difícil ainda. Obrigada por ser essa pessoa de coração bondoso e por vencer comigo todos os dias. Eu amo você.

Aos meus primos **Edison Ribeiro**, **Letícia Fernandes** e **Ricardo Garcia**, por torcerem por mim e me amarem desde que nasci. Obrigada por se alegrarem com minhas conquistas e por sempre se preocuparem comigo. Eu amo vocês!

Obrigada a minhas tias, **Silvana Ribeiro da Silva** e **Ivonilde Fernandes Garcia** e a minha sogra **Edna Botini**, por todo carinho, preocupação e torcida. Que Deus as abençoe!

Ao Orientador

Prof. Rogério de Castilho Jacinto, ao senhor, minha eterna gratidão, por ter me aberto às portas para a pós-graduação. Se o senhor não tivesse me aceito e aberto uma vaga para mim, esse sonho não aconteceria. Obrigada por toda disponibilidade, mesmo em meio a tantas responsabilidades e trabalho, o senhor sempre me recebe com muita educação e conhecimento. Obrigada por me permitir desenvolver pesquisas clínicas, *in vitro* e *in vivo*, o senhor me proporciona diversas possibilidades de crescimento. Ainda, obrigada por me permitir trabalhar na extensão universitária, vinculada à esta dissertação. Esse ano, sob sua orientação, foi de muito aprendizado e crescimento. Muito obrigada pela sua dedicação e paciência, o senhor é uma inspiração para mim. Que Deus sempre o abençoe!

Aos Professores

Minha gratidão a todos os professores do departamento, **prof. Gustavo Sivieri de Araújo**, **prof. Elói Dezan Junior**, **prof. João Eduardo Gomes Filho**, **prof. Luciano Ângelo Tavares Cintra** e **prof. Rogério de Castilho Jacinto**, vocês são inspirações e exemplos. Obrigada pela dedicação, respeito e conhecimento, de todos os dias. É um privilégio conviver e aprender com vocês, grandes nomes da endodontia brasileira.

Um agradecimento especial ao meu coorientador **prof. Luciano Ângelo Tavares Cintra**. Muito obrigada por compartilhar toda sua

experiência e conhecimento. O trabalho com animais agrega muito à minha vida acadêmica.

Agradeço a **Profa. Dra. Marcelle Danelon** e **Prof. Dr. Fernando Yamamoto Chiba**, por terem aceitado o convite para compor a banca do exame geral de qualificação e pelas significativas considerações feitas para deixar o trabalho ainda melhor.

Para **Profa Dra. Fernanda Geraldo Pappen** e **Profa Dra Ticiane Cestari Fagundes**, meu agradecimento por aceitarem tão prontamente o convite para compor a banca da defesa desta dissertação.

Agradeço também a **Profa. Dra. Nancy Alfieri Nunes**, minha primeira orientadora. A senhora acreditou em mim, me preparou durante a graduação e vibrou muito quando ingressei na pós-graduação. Obrigada por ser essa pessoa generosa, iluminada e extremamente competente. A senhora, minha gratidão eterna! Que Deus a abençoe!

Aos Amigos

Minha eterna gratidão às pessoas maravilhosas que encontrei aqui. Começo meus agradecimentos pelo **Pedro Henrique Chaves de Oliveira** e pela **Cristiane Cantiga da Silva**. Vocês me ajudaram antes mesmo de me conhecerem pessoalmente, antes de eu ser parte do programa. Mesmo com os inúmeros afazeres da pós-graduação, vocês pararam, me ajudaram, me aconselharam e torceram por mim. Muito obrigada!

Continuo incluindo vocês, **Pedro** e **Cris**, mas agora acrescento mais algumas pessoas. **Nathália Machado**, **Caroline Loureiro**, **Henrique**

Augusto Banci, **Carolina Barros**, **Isabela Joane Prado**, **Daniela Marques Tavares** e **Flávio Duarte Faria**, quantas coisas aprendi com vocês! Obrigada por quererem me ensinar, por estarem dispostos a me ajudar e principalmente, obrigada por toda disponibilidade e receptividade, eu me sinto em casa com vocês! Obrigada pelas nossas conversas, pelos conselhos, pelas risadas, por todo carinho e amizade. Tudo que eu disser será pouco, pelo tanto que fazem por mim. Com vocês essa jornada fica mais leve. Com toda certeza, vocês têm um espaço especial em meu coração! Torço por vocês, para que cheguem longe, alcancem seus objetivos e que sejam muito felizes. Que Deus os abençoe! Amo vocês!

Não quero ser injusta com nenhuma das pessoas acima, amo todos de coração e serei eternamente grata, mas existe uma pessoa que, se tornou mais que uma amiga, é praticamente uma irmã. **Nathália Machado**, obrigada por tudo que vivemos! Obrigada por torcer por mim, por me incentivar, me ajudar, me ensinar, por confiar em mim e me querer por perto. Eu amo você e quero que você voe alto!

Não poderia deixar de dar um agradecimento especial à essa pessoa, que está comigo todos os dias, trabalhando, me ensinando, me acolhendo e me inserindo na microbiologia. **Caroline Loureiro,** obrigada pela nossa equipe de pesquisa! É muito bom, enriquecedor e gratificante, trabalhar com você. Obrigada por ser tão generosa e por confiar e acreditar em mim. Tenho uma amiga e parceira de pesquisa.

Obrigada também, **Flavia Plazza**, **Ana Maria Veiga Vasques**, **Francine Benetti**, **Paulo Tobias**, **Felipe Moraes**, **Juliana Trizzi**, **Amanda Andolfato, Lariana Camacho**, **Marina Cury**, **Renan Dal Fabbro**, **Leopoldo Cosme**, **Carlos Bueno**, **Júlia Guerra de Andrade**, **Ana Claudia Rodrigues**, **Marcelo Augusto Seron**, **Lucas Chalub**, **Camila de Souza Arantes**, **Bharbara de Moura Pereira** e **Larissa Pereira Nunes**, pelo bom

convívio e pelo acolhimento. Me alegro muito em ver o departamento cheio de pessoas do bem e me inspiro nos que já bateram assas e voaram. Que honra conhecer todos vocês!

Não posso me esquecer de quem sempre andou ao meu lado, acompanhou meu sonho e dividiu comigo a alegria por ele estar sendo realizado. A vocês meus amigos, **Mirela Contel Farias**, **Meghy Maiella Bertequini**, **Marcela Frederico**, **Marcos Paulo Bertequini**, **Amanda de Lima Brito**, **Kátia Panini**, **Letícia Rosseto** e **Gabriela Lopes**, o meu muito obrigada! Cada apoio, palavra e carinho de vocês foi fundamental em minha vida. Eu amo vocês!

Aos Funcionários

Muito obrigada, **Jorge Trevelim**, **Carlos Kazu** e **Andressa**, funcionários do Departamento de Odontologia Restauradora. Vocês sempre me ajudam de alguma forma. Obrigada pelo acolhimento, pelo respeito e pela amizade. Vocês contribuem muito para o bom funcionamento do departamento. Que Deus os abençoe!

As funcionárias da seção de Pós-Graduação, **Valéria de Queiroz M. Zagatto**, **Cristiane Regina Lui Matos** e **Lilian Sayuri Mada,** obrigada por toda atenção, disposição e ajuda.

À Faculdade de Odontologia de Araçatuba

Na pessoa do Diretor **Prof. Tit. Glauco Issamu Miyhara** e do Vice-Diretor **Prof. Tit. Alberto Carlos Botazzo Delbem**, por proporcionarem a realização desta pesquisa.

A coordenação do Curso de Pós-Graduação em Ciência Odontológica, na pessoa do **Prof. Assoc. Luciano Tavares Ângelo Cintra** e o Vice Coordenador **Prof. Assoc. Juliano Pelim Pessan**. Ao Chefe de Departamento **Prof. Assoc. Rogério de Castilho Jacinto** e a Vice-Chefe **Profa Ass. Dra Ticiane Cestari Fagundes Tozzi,** obrigada por toda dedicação e trabalho.

À Agência de Fomento

Agradecimento à Agência Brasileira de Coordenação de Aperfeiçoamento de Pessoal de Nível Superior- CAPES (processo número: 88882.435544/2019-01), pela concessão da bolsa de estudos durante parte do mestrado.

"Conheça todas as teorias, domine todas as técnicas, mas ao tocar uma alma humana, seja apenas outra alma humana."

Carl Jung

RIBEIRO, A.P.F. **Conhecimento e prevalência de trauma e adaptação ao uso de protetor bucal em uma população de atletas brasileiros.** 2020. 43f. Dissertação (Mestrado) - Faculdade de Odontologia, Universidade Estadual Paulista, Araçatuba, 2020.

RESUMO

Esportes de contato podem levar a traumatismos dentários, que muitas vezes podem ser reduzidos com medidas preventivas apropriadas, como o uso de protetores bucais. Os objetivos deste estudo foram verificar o conhecimento dos atletas da delegação esportiva da cidade de XXXXX sobre traumatismo dentário, a prevalência e o tipo de traumatismos ocorridos durante suas atividades esportivas, a conscientização e hábitos de utilização dos dispositivos de proteção e por fim, avaliação do impacto das ações educativas e preventivas implementadas nessa comunidade. O estudo foi dividido em quatro partes: 1) Aplicação do questionário 1 (n= 94); 2) Atendimento dos atletas e confecção dos protetores bucais personalizados; 3) Palestra e entrega dos protetores e 4) Aplicação do questionário 2 (n= 41). Após responderem o questionário 1, os atletas incluídos no estudo foram moldados para fabricação dos protetores bucais. As palestras sobre trauma dentário e primeiros socorros, aconteceram com a entrega dos protetores bucais personalizados. O questionário 2 foi aplicado para avaliar o efeito da medida educacional e a adaptação aos protetores bucais. Os dados coletados foram submetidos à análise descritiva e ao teste do qui-quadrado, com nível de significância de 5%. O conhecimento sobre trauma, demonstrado pelos participantes foi inadequado. A prevalência de trauma foi maior no gênero masculino (49%) e o trauma mais relatado foi a fratura dentária (12,8%) ($p>0,05$). 76,6% dos atletas disseram nunca ter utilizado protetor bucal anteriormente. Após as palestras, os participantes mostraram uma melhora significativa no conhecimento sobre trauma e 73,2% dos atletas disseram estar utilizando o dispositivo de proteção personalizado. Esses resultados evidenciam a importância dos trabalhos educacionais e confirmam o impacto positivo dos trabalhos realizados nessa comunidade de atletas.

Palavras-chave: Traumatismos em atletas, protetores bucais, ferimentos e lesões e traumatismos dentários.

RIBEIRO, A.P.F. **Knowledge and prevalence of trauma and adaptation to the use of mouthguards in a population of Brazilian athletes.** 2020. 43f. Dissertação (Mestrado) - Faculdade de Odontologia, Universidade Estadual Paulista, Araçatuba, 2020.

ABSTRACT

Contact sports can lead to dental trauma, which can often be reduced with appropriate preventive measures, such as the use of mouthguards. The objectives of this study were to verify the knowledge of athletes from the sports delegation in the city of XXXXX about dental trauma, the prevalence and type of trauma that occurred during their sports activities, awareness and habits of using protective devices and, finally, assessment of impact of educational and preventive actions implemented in this community. The study was divided into four parts: 1) Application of questionnaire 1 (n = 94); 2) Attending athletes and making personalized mouthguards; 3) Lecture and delivery of protectors and 4) Application of questionnaire 2 (n = 41). After answering questionnaire 1, the athletes included in the study were molded to manufacture mouthguards. The lectures on dental trauma and first aid took place with the delivery of personalized mouth guards. Questionnaire 2 was applied to assess the effect of the educational measure and the adaptation to mouthguards. The collected data were submitted to descriptive analysis and chi-square test, with a 5% significance level. The knowledge about trauma, demonstrated by the participants, was inadequate. The prevalence of trauma was higher in males (49%) and the most reported trauma was dental fracture (12.8%) ($p > 0.05$). 76.6% of athletes said they had never used mouthguards before. After the lectures, the participants showed a significant improvement in knowledge about trauma and 73.2% of the athletes said they were using the personalized protection device. These results highlight the importance of educational work and confirm the positive impact of the work carried out in this community of athletes.

Keywords: Athletic Injuries, mouth protectors, wounds and injuries and tooth injuries.

LISTA DE TABELAS

LISTA DE FIGURAS

LISTA DE ABREVIATURAS

ADA- American Dental Association

EVA- Ethylene-vinyl Acetate

PDF- Portable Document Format

SUMÁRIO

Artigo

Anexo

Artigo

*This manuscript is according to the guidelines of the Dental Traumatology

1. Introduction

Orofacial trauma is considered a public oral health problem due to its high prevalence (de 7.1% a 71.5%). In addition to the physical/aesthetic implications, dental injuries have a psychological/emotional impact.[1,2] The most frequent reasons for the occurrence of these injuries are accidents related to the practice of sports.[3] These activities collaborate with almost a third of oral injuries, i.e. concussion, fracture, dislocation, and avulsion, in addition to laceration of soft tissues, fractures of the facial bones and damage of the temporomandibular joint.[4,5]

Direct contact sports, such as handball, basketball, football, martial arts, among others, result in a higher occurrence of traumas and injuries, as athletes are in physical interaction with objects and with each other.[6] Therefore, both the knowledge of dental trauma and the awareness of preventive measures of athletes and physical trainers are essential to minimize the impact of such accidents. For instance, the application of emergency procedures in the event of trauma during sports practice could be provided by individuals present at the moment of the accident, instead of waiting for professional dental assistance.[7,8] A survey carried out by de Oliveira et al,[8] with physical education students, showed that 62.3% of the participants were trained for first aid in general, while only 9.5% received specific instructions to provide dental first aid in cases of oral trauma. Overall, the participants of the study considered training in dental first aids important and declared that educational interventions on dental trauma are paramount.[8]

The use of mouthguards is considered the main protective measure during sports activities, as it reduces orofacial damage, preventing fractures or

dislocations of the teeth, thus absorbing or redistributing shock; stabilizes the jaw and protects from bone fractures; reduces lacerations and contusions in soft tissues by cushioning and distributing the force of the impacts. Besides, mouthguards provide support for spaces where there is no dental element. [5,9,10] However, despite these benefits, the use of protective devices is not a standard behavior among athletes. Studies have shown that there is a low incidence of athletes that report to use of mouthguards during sports practice.[7,11]

According to the American Dental Association, 2020 (ADA) there are three types of mouthguards: stock; boil and bite; and personalized. The stock protectors are pre-formed, that is, they are ready for use. They usually do not adapt well and interfere with breathing and speech. Boil and bite protectors can be found at sporting goods stores, which are softened in boiling water and inserted and adapted into the athlete's mouth. Finally, the personalized mouthguards are usually made of ethylene-vinyl acetate (EVA), from a plaster model of the athlete's upper arch, adjusted by a dentist, which are considered the most satisfactory in several aspects, such as adaptation and practicality.[9,12]

Thus, this study aimed to verify the knowledge of athletes from the sports delegation of the city of XXXXXXX about dental trauma during sports practice, the prevalence and type of dental trauma that occurred during their sports activities, and their awareness and habits of using protective devices. Also, educational and preventive measures were implemented such as lectures and discussion activities with the subjects, and the supply of personalized mouthguards, to the subsequent assessment of the impact of such actions.

2. Methodology

This study was approved by the Institutional Research Ethics Committee, according to resolution 466/12, CAAE: 1023719.0.0000.5420.

Data were collected between May/2019 and February/2020, using questionnaires. Participated in the research athletes associated with the sports division, which comprised the teams of Handball, Indoor Soccer, Basketball, Judo, and Karate, linked to the Sports delegation of the city of XXXXXXX, who signed the informed consent form. The research was divided into four parts: a) application of questionnaire 1, b) appointments for clinical exam and preparation of mouthguards (unique and personalized), c) lecture on dental trauma, discussion section, and delivery of protective devices and instructions to use; d) application of questionnaire 2.

The inclusion criterion for the first part of the study was that the athletes were over 14 years old. The exclusion criteria established for the second stage of the research were athletes who used orthodontic appliances, who needed prosthetic rehabilitation and athletes who needed to use double mouthguards.Figure 1 shows a flow charge with the design of the study.

a) Questionnaire 1

The first questionnaire was adapted from Keçeci et al.[13] This adaptation was realized out by the research team (teachers and students). Athletes of the official delegation of the city of XXXXXXX (n= 107) were assessed for eligibility, and 94 who were over 14 years old agreed in the study. The survey comprised questions related to the knowledge of dental trauma during sports activity, the prevalence and type of dental trauma that occurred during their sports activities, and

awareness and habits of using mouthguards. Questions were divided into three categories: 1) General information; 2) Orofacial injury; 3) Mouthguard use.

The questionnaire was applied in person to the athletes before their daily training section by the sports team. Each athlete received and answered only one questionnaire. Junior between age ≥14 and <18 years ($\bar{X}$=15.5 e σ=1.3) and senior age≥18 years ($\bar{X}$=30.1 e σ=9) players of both genders and without age restriction, playing in official regional and inter-state competitions were included in this part of the study. The city delegation does not include players with physical and intellectual impairments. After the application of the questionnaire, the athletes practicing sports that required only the superior mouthguard and did not use orthodontic braces (n=62) were invited to attend the Dental school to be clinically examined and molded for manufacturing a personalized mouthguard.

b) Manufacture of mouthguards

After the direct invitation, the athletes were also contacted by e-mail, messaging application, and phone Call. The athletes who attended the consultation were clinically and, when necessary, radiographically examined. Participants who needed to undergo some type of dental treatment were referred for treatment to the undergraduate students' clinics, at the State University (XXXXXX), School of Dentistry, XXXXXXX. Athletes in need of prosthetic rehabilitation, athletes who needed double mouthguards (judo), athletes who used orthodontic braces and athletes who could not be contacted were excluded from the second part of the study.

The athletes included in the study were molded by the research team with alginate (Avagel- Dentsply, São Paulo, Brazil) to obtain the upper and lower plaster model, used to manufacture the personalized single mouthguard.

To manufacture the personalized mouthguards, a vacuum plastification machine, Plastvac P7 Bio-Art 127 V (São Carlos, Brazil), and 3 and 4 mm thick transparent round ethylene-vinyl acetate (EVA) plates, 3 and 4 mm thick, from the company Bio-Art, (São Carlos, Brazil). The upper plaster model, previously cut and prepared, was positioned in the model holder of the machine. The first plate (4 mm) was heated for 2 minutes and 30 seconds and lowered on the upper model. This first plate was cut with iris scissors (Golgran, São Caetano do Sul, Brazil) and Maxicut drill (Edenta, Moema, Brazil) according to the athlete's oral anatomy and extending to the distal region of the upper first molar. The second EVA plaque (3mm) was heated for 2 minutes[14] and pulled down onto the model with the first plaque. After the two plaques were pulled down, the lower plaster model was positioned on the upper model, simulating the patient's occlusion, to promote a better adjustment and adaptation of the device. Polishing brushes were used to finish the protection devices and the finishing was done using a gas blower. Altogether 42 custom mouthguards were manufactured.

c) Lecture on dental trauma, discussion section, and delivery of mouthguards and instructions to use

The lectures were given separately for each of the sports. They took place at the training sites of each team and the content was presented in an expository form (slides) by a dental surgeon who is also a master student. The presentation

addressed the injuries that occur more frequently during sports such as tooth displacement, fracture, and tooth avulsion, thus providing instructions on how to deal with first aid procedures in each situation such as: repositioning the tooth to its original position in cases of displacement; store the lost dental fragment in solution (cold milk) and take it to the dentist; immediately replant the avulsed tooth and if it is not possible, take it in solution (cold milk) to the dentist. This content was also made available in PDF format so that athletes could access the content later. Then, the section was opened to a discussion where the athletes could ask questions, report their previous experiences with oral trauma and their thoughts regarding the importance of the preventive measures and their concern with the possibility of suffering injuries during sports practices, which could be minimized by implementing the knowledge recently acquired. Afterward, the athletes received their personalized mouthguards, and were instructed on how to use, how to take care of the device, and also, were asked to use it during both training and official championships, and to contact the research team if any adjustment of the device was necessary.

d) Questionnaire 2

The second questionnaire (n= 41) was applied 30 days after the athletes used protective devices during training and official competitions. The questionnaire contained questions about the topics covered in the lecture to verify the athletes' awareness about oral trauma and questions about the personalized mouthguards.

2.1. Analyses of the results

The collected data were tabulated in Excel spreadsheets and submitted to statistical analysis using the SigmaPlot 12.0 program (Systat Software Inc., San Jose, USA), with a significance level of 5% and descriptive statistics. The chi-square test was used to analyze the prevalence and factors related to trauma between genders, orofacial trauma and the previous use of mouthguards. Descriptive analysis was used to analyze the prevalence of trauma between sports, prevalence of dental trauma, knowledge of first aid, trauma and mouthguard, indication for the use of mouthguards and use of personalized mouthguards.

Flow Diagram

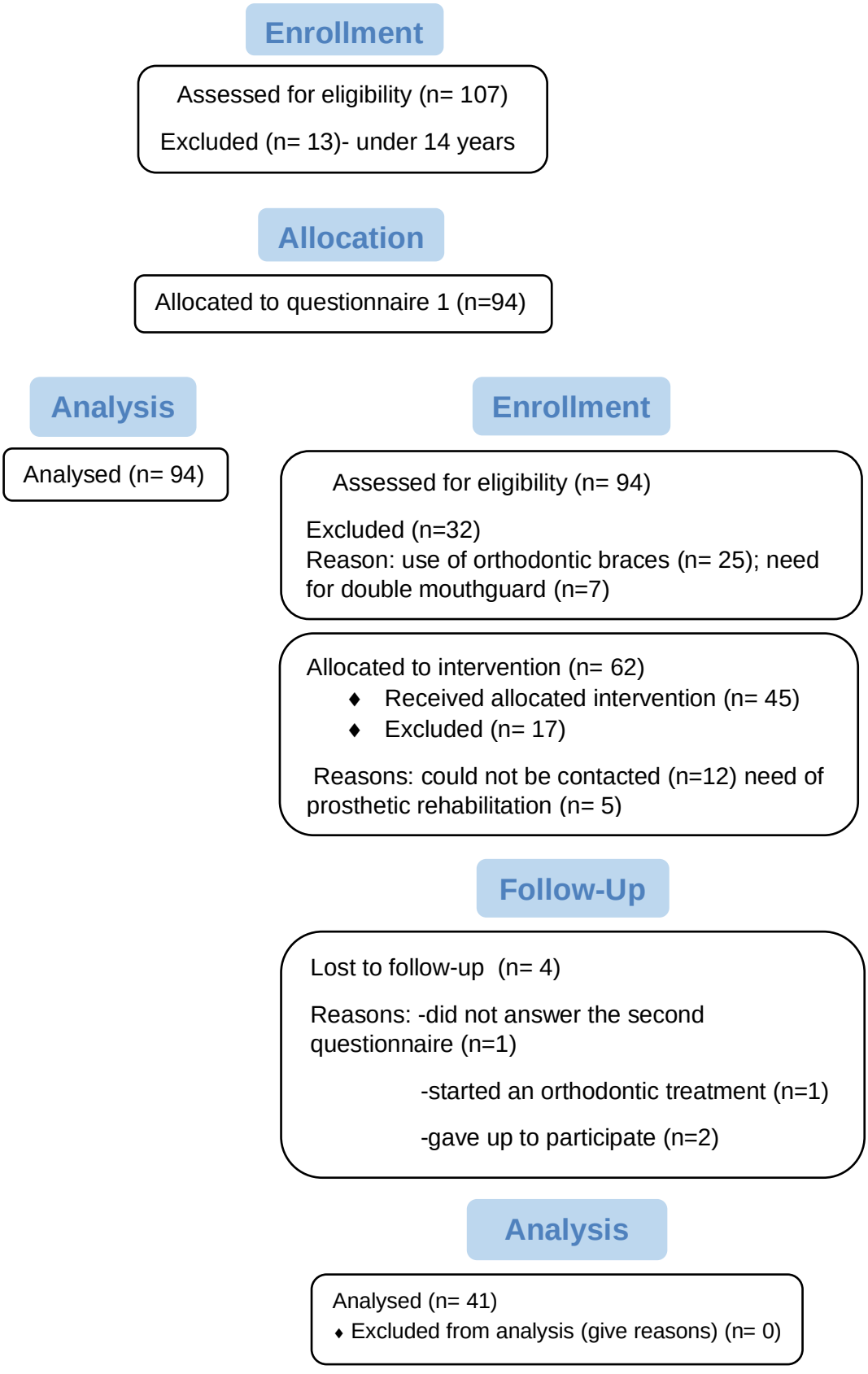

Figure 1: Study design flowchart

3. Results

In the first questionnaire, 94 athletes participated, 35 of whom were from the handball, 27 from basketball, 21 from indoor soccer, 7 from judo, and 4 from karate sports. The athletes' age ranged from 14 to 52 years ($\bar{X}$=27.7 e σ=9.9) and the most prevalent gender was the male with 52.1%.

The total incidence of participants who did not suffer either orofacial or dental trauma during sports activities was 60.6%. The gender with the highest prevalence of trauma (orofacial or dental trauma) was male (49%), while in the female gender, 26.7% said they had suffered trauma during sports activity ($p>0.05$). Due to the trauma suffered, 55.6% of women and 36.7% of men said that it was not necessary to go to the dentist/doctor due to the trauma ($p<0.05$). As for the ability to continue the game after the trauma, 44.4% of the female participants reported not being able to continue the game, while 34.7% of the male participants said they could not continue ($p<0.05$).

The sport that most described trauma (orofacial or dental trauma) episodes was handball (20.2%). Basketball was the modality that least reported having suffered trauma (orofacial or dental trauma) during activities (22.3%). Table 1 shows the type and prevalence of dental trauma reported between genders. Table 2 shows the type and prevalence of orofacial trauma, isolated or concomitant for each gender.

Table 1. Dental trauma suffered according to gender

Dental trauma	Gender				Total	
	Male		Female			
	n	%	n	%	n	%
Dental fracture	9	9.6	3	3.2	12	12.8
Tooth avulsion	4	4.3	2	2.2	6	6.5
Tooh displacement	2	2.1	0	0.0	2	2.1

Table 2. Orofacial dental trauma suffered according to gender.

Orofacial trauma	Gender				Total	
	Male		Female			
	n	%	n	%	n	%
Cut on the lip and cut on the tongue	20	27.0	18	24.3	38	51.3
Cut on the lip and fracture in the bones of the face	0	0.0	1	1.4	1	1.4
Wounds on the face, cut on the lip and cut on the tongue	22	29.7	10	13.5	32	43.2
Wounds on the face, cut on the lip, cut on the tongue and fracture in the bones of the face	2	2.7	1	1.4	3	4.1

Regarding first aid training, 64.9% of the participants reported never having received this type of instruction, while 30.9% said that they had already undergone first aid training. Specific first aid training on dental trauma, 70.2% of the athletes said no.

Regarding the use of mouthguards between genders, 28.6% of men and 11.1% of women said they had already used the protective device ($p<0.05$). Regarding the indication for the use of the protector, 41.5% of the athletes said that it was the trainer who stimulated the use and 22.3% that the indication came from a dentist.

Tables 3 and 4 show the percentages of answers to questions about dental trauma and mouthguards, in questionnaires 1 and 2, respectively.

Table 3: Answers on dental trauma and mouthguard, questionnaire 1

Questionnaire 1	
If the tooth moves, what should the patient or someone close to him do?	**%**
a) Do not touch, leave the tooth in the position it is	47.87
b) Try to place the tooth in its original position	**2.12**
c) Ask the patient to press the tooth carefully if possible	12.76
d) I don't know how to answer	36.17
And if the tooth is avulsed or fractured, what should you or someone close to you do?	**%**
a) The lost tooth/fragment is useless, it is not worth wasting time looking for	1.06
b) Take the tooth/fragment with a gauze or tissue and take it to the dentist	47.87
c) Place the tooth/fragment in a jar with cold milk and take it to the dentist	**3.19**
d) Place the tooth/fragment in a jar with saline and take it to the dentist	5.31
e) Place the tooth/fragment in a jar with saliva and take it to the dentist	
f) Place the tooth/fragment in a pot of water and take it to the dentist	6.38
g) I don't know how to answer	36.17
The avulsed tooth must be handled	**%**
a) By the crown (part of the tooth visible in the mouth)	**23.34**
b) By the root (part of the tooth that is inside the bone)	11.70
c) I don't know how to answer	61.70
And if the avulsed tooth is dirty from falling, what to do?	**%**
a) Wash with water	**57.44**
b) Wash with detergent	0.00
c) Throw it away, it should be useless	3.19
d) I don't know how to answer	36.17
Have you ever used a mouthguard?	**%**
a) Yes	20.21
b) No	76.59
What type of mouth guard did you use?	**%**
a) Type I (standardized in P, M, G - bought in sports store)	6.45
b) Type II (made from heating the material and inserted in the mouth)	11.82
c) Type III (made from a mouth mold - made by dentists)	0.00
Why don't you use the mouth guard?	**%**
a) Never heard of	8.51
b) I see no reason to use	12.76
c) Never suffered trauma	38.29
d) I find it very expensive	17.02
Have you ever had any problems with your mouthguard?	**%**
a) Yes	9.57
b) No	13.83
If so, what kind of problem?	**%**
a) Interference with breathing	3.19
b) Difficulty speaking	3.19
c) I found it very expensive	1.06
d) Not comfortable	4.25

The highlighted responses are the correct alternatives for each trauma situation

Table 4: Answers on dental trauma and mouthguard, questionnaire 2

Questionnaire 2	
If the tooth moves, what should the patient or someone close to him do?	**%**
a) Do not touch, leave the tooth in the position it is	19.51
b) Try to place the tooth in its original position	**70.73**
c) Ask the patient to press the tooth carefully if possible	9.75
d) I don't know how to answer	0.00
If the tooth is broken what should you or someone close to you do?	**%**
a) The lost fragment is useless, it is not worth wasting time looking for	0.00
b) Take the dental fragment with gauze or tissue and take it to the dentist	21.95
c) Place the dental fragment in a jar with a solution and take it to the dentist	**78.04**
If the tooth is avulsed, what should you or someone close to you do?	**%**
a) The tooth is useless, it is not worth wasting time looking for	2.43
b) Redeploy (replace) the tooth and go to the dentist	**53.65**
c) Do not try to do anything, just take the tooth to the dentist	29.26
d) I don't know how to answer	14.63
What is the best solution to place the fragment/tooth avulsed	**%**
a) Place the fragment in a jar with cold milk and take it to the dentist	**65.83**
b) Place the fragment in a jar with saline and take it to the dentist	17.06
c) Place the fragment in a jar with saliva and take it to the dentist	2.43
d) Place the fragment in a pot of water and take it to the dentist	7.30
e) I don't know how to answer	7.30
The avulsed tooth must be handled	**%**
a) By the crown (part of the tooth visible in the mouth)	**82.92**
b) By the root (part of the tooth that is inside the bone)	9.75
c) I don't know how to answer	7.31
And if the avulsed tooth is dirty from falling, what to do?	**%**
a) Wash with water	**90.24**
b) Wash with detergent	0.00
c) Throw it away, it should be useless	4.87
d) I don't know how to answer	4.87
Are you using the mouthguard?	**%**
a) Yes	73.17
b) No	26.82
Were you able to adapt easily to the use of the protector?	**%**
a) Yes	63.41
b) No	19.51
Why are you not using the protector?	**%**
a) I couldn't adapt	29.26
b) The protector hurts	4.57
If so, what kind of problem?	**%**
a) Interference with breathing	0.00
b) Difficulty speaking	17.07
c) Not comfortable	9.75
d) It is not aesthetic	2.43
e) All of the above	0.00

The highlighted responses are the correct alternatives for each trauma situation

4. Discussion

Sports activities are one of the main etiological factors of dental trauma[15], which often can be reduced with appropriate preventive measures, such as using mouthguards.[16,17,18] Several studies have investigated the knowledge of athletes regarding dental trauma, the incidence, and type of dental injuries, and the awareness and use of a mouthguard in different countries.[13,11,5,6,3] All of them point out the need for education campaigns and preventive actions to reduce the incidence of dental trauma in contact sports. The same was observed in the first part of the present research. Apart from that, this study took a step forward by implementing educational and preventive measures in a specific Brazilian population of athletes. This was a conjunct action between the University and the sports community of the city by articulating the scientific knowledge with the needs of the community, thus transforming their social reality.

The results of this study suggest that males are more likely to sustain an orodental injury. However, female athletes were the ones who most needed to stop playing due to trauma and those who sought less dental care. Different from the study of Frontera et al,[11] accomplished in the Brazil, in which the authors report that the majority of participants sought dental care, in the present study there was a low incidence of seeking care with dentist/doctor after the trauma. These results show a lack of awareness of the consequences of dental trauma and the social impact of these accidents, leading most of the male athletes to continue playing even if traumatized.

The prevalence of sports-related dental trauma reported by the participants in our study was similar to that reported by Ferrari and Ferreira de Medeiros[19]. Tooth fractures were the most frequently reported type of trauma in our study

(12.8%), similar to the prevalence reported by Sepet et al,[20] (14.3%). The prevalence of avulsion reported in our study (6.4%) was lower than that reported by Schildknecht et al,[21] (8.6%). Despite the low incidence of trauma reported, most participants did not know the correct method of cleaning a tooth before re-implantation or the medium in which to store the tooth until it is transported to a dentist. Most of them thought they should transport the tooth/fragment with a gauze or tissue. Overall, the knowledge shown by the participants was inadequate, jeopardizing their ability to act correctly when necessary.

More than half of the athletes in this study reported not having received first aid instruction or training, therefore, in some situations, they are unable to act in the face of oral trauma. The most suitable media, like the Hank's Balanced Salt Solution (HBSS), are not readily available to the general public, therefore cold milk was recommended during the educational campaign as a short-time storage medium needed to transport the avulsed tooth to a dentist. Also, the tooth should be held by the crown to avoid the damage of periodontal ligament on the root surface, and gently rinsed with water or saline. The action of sharing this knowledge in dynamic educational activities was important to instruct and motivate the athletes. Most athletes were surprised but interested to participate in the survey. They reported that the topic of ‘prevention of dental injuries’ and ‘mouthguards’ is rarely discussed, and an improvement could be observed after the educational activity.

Mouthguards are effective in preventing damage to stomatognathic structures during sports activities.[22] Regarding the use of mouthguards, a minority of athletes reported having used the protective device before. The fact that most athletes are not adept at using mouthguards was also found by Frontera

et al,[10] and Goswami et al.[23] One issue pointed out by the athletes during the discussion regarding low adherence is the high cost of personalized mouthguards. However, a properly fitted mouthguard provides better protection against orofacial injuries and trauma of teeth and the supporting tissues such as the lips, cheeks, and tongue. Other concerns discussed during the educational activity were comfort, social stigma, and speaking constraints associated with the use of mouthguards, which could be demystified during the discussion, thus stimulating the use of the provided protective devices.

Azodo et al,[24] reported that more than half of the athletes heard and saw mouthguards through the trainer, while Goswami et al,[23] reported that the most common reason for athletes not to use mouthguards is the lack of encouragement from their coaches. In this study, a large part of the participants reported that the coach had indicated the use of the protective device, and one of the most common reasons for not using it was the fact that the athlete had not suffered trauma. Perunski et al,[25] obtained as an answer to the non-use of the protectors, the fact that the athletes never needed a mouthguard, that is, these athletes did not experience episodes of trauma during sports activities.

Education on the effectiveness of properly fitted mouthguards for injury prevention, information on the risk of injury, and availability of more comfort, associated with the confection of personalized mouthguards lead to the development of a more positive attitude and increased its usage. After the athletes' awareness work, there was a better acceptance for the use of mouthguards, since most of the athletes claimed to be wearing the personalized mouthguard, made by the research team. In addition, most athletes claimed to have adapted to the custom protector. Regarding problems with the protector, a

small number of participants reported that the protector was not comfortable and caused difficulty in speaking. These findings are in line with the results obtained by Lee et al,[26] in which the majority of participants replied that mouthguards cause speech impairment, in addition to interfering with breathing.

The present study showed the importance of educational work that positively impacted an athlete community. After the lectures, the athletes showed greater knowledge and safety to deal with dental trauma and became more aware and adept at using the personalized mouth guard. Despite the low prevalence of trauma in this community, athletes understood and became aware of the risk of the occurrence of orofacial injuries during sports activities.

5. Acknowledgments

This work was supported by the Brazilian Agency for the Coordination of the Improvement of Higher Education Personnel - CAPES (process nº 88882.435544/2019-01). We thank Dr. Luiz Pinto de Carvalho for the intermediary of the company BIO-ART and to Dr. Juliana Caires Felipe Bersanete, for her assistance with the protection of mouthguards. Dental prosthesis technician Franciane Silva Borges Medga, for her support in the confection of mouthguards. The company BIO-ART for the donation of materials used in the manufacture of personalized mouthguards.

6. References

1. Eroje ABI, Tikare S, AlQahtani NA, Brajmoh OB, Sundarri RK, Muteg MA, et al. Orofacial trauma awareness among sports teachers in Southern Saudi Arabia. Niger J Clin Pract. 2020 Mar; 23(3): 343-348.

2. Fernandes LM, Neto JCL, Lima TFR, Magno MB, Santiago BM, Cavalcanti YW, et al. The use of mouthguards and prevalence of dento-alveolar trauma among athletes: A systematic review and meta-analysis. Dent Traumatol. 2019; 35(1): 54-72.

3. Galic T, Kuncic D, Pericic TP, Galic I, Mihanovic F, Bozic J, et al. Knowledge and attitudes about sports- related dental injuries and mouthguard use in young athletes in four different contact sports—water polo, karate, taekwondo and handball. Dent Traumatol. 2018; 34:175–181.

4. Dhillon BS, Sood N, Sood N, Sah N, Arora D, Mahendra A. Guarding the Precious Smile: Incidence and Prevention of Injury in Sports: A Review. J Int Oral Health. 2014; 6(4):104-107.

5. Bergman L, Ortolan SM, Žarković D, Viskić J, Jokić D, Mehulić K. Prevalence of dental trauma and use of mouthguards in professional handball players. Dent Traumatol. 2017; 33:199–204.

6. Fernandes LM, Neto JCL, Lima TFR, Magno MB, Santiago BM, Cavalcanti YW, et al. The use of mouthguards and prevalence of dento- alveolar trauma among athletes: A systematic review and meta- analysis. Dent Traumatol. 2019; 35:54–72.

7. Mori GG, de Mendonça Janjácomo DM, Castilho LR, Poi WR. Evaluating the knowledge of sports participants regarding dental emergency procedures. Dent Traumatol. 2009 Jun; 25(3): 305-8.

8. de Oliveira DL, Ribeiro-Junior PD, Sbroggio AC, Dos Santos PG, Mori GG. Evaluation of Knowledge of Physical Education Students on Dental Trauma. Ann Maxillofac Surg. 2017 Jul-Dec; 7(2): 217-221.

9. Tuna EB, Ozel E. Factors Affecting Sports-Related Orofacial Injuries and the Importance of Mouthguards. Sports Med. 2014; 44(6):777-83.

10. Knapik JJ, Marshall SW, Lee RB, Darakjy SS, Jones SB, Mitchener TA, et al. Jones1. Mouthguards in sport activities: history, physical properties and injury prevention effectiveness. Sports Med. 2007; 37(2):117-44.

11. Frontera RR, Zanin L, Ambrosano GMB, Flório FM. Orofacial trauma in Brazilian basketball players and level of information concerning trauma and mouthguards. Dent Traumatol 2011; 27: 208–216.

12. American Dental Association. Mouthguards prevent dental injuries. Disponível em: URL: https://www.mouthhealthy.org/en/az-topics/m/mouthguards

Acessado em janeiro de 2020.

13. Keçeci AD, Eroglu E, Baydar ML. Dental trauma incidence and mouthguard use in elite athletes in Turkey. Dent Traumatol. 2005; 21:76–79.

14. Collares K, Correa MB, Mohnsam da Silva IC, Hallal PC, Demarco FF. Effect of wearing mouthguards on the physical performance of soccer and futsal players: a randomized cross-over study. Dent Traumatol. 2014; 30:55–59.

15. Yeşil Duymuş Z, Gungor H. Use of mouthguard rates among university athletes during sport activities in Erzurum, Turkey. Dent Traumatol. 2009; 25(3):318-322.

16. Duarte-Pereira DM, Del Rey-Santamaria M, Javierre-Garcés C, et al. Wearability and physiological effects of custom-fitted vs self-adapted mouthguards. Dent Traumatol. 2008; 24(4):439-442.

17. Duddy FA, Weissman J, Lee RA Sr, Paranjpe A, Johnson JD, Cohenca N. Influence of different types of mouthguards on strength and performance of collegiate athletes: a controlled-randomized trial. Dent Traumatol. 2012; 28(4):263-267.

18. Gialain IO, Kobayashi-Velasco S, Caldeira CL, Cavalcanti MGP. Dental trauma prevention with mouthguard in a nose fracturing blow to the face: Case report. Dent Traumatol. 2017; 33:410–413.

19. Ferrari CH, Ferreria de Mederios JM. Dental trauma and level of information: mouthguard use in different contact sports. Dent Traumatol. 2002; 18(3):144-147.

20. Sepet E, Aren G, Dogan Onur O, et al. Knowledge of sports participants about dental emergency procedures and the use of mouthguards. Dent Traumatol. 2014; 30(5):391-395.

21. Schildknecht S, Krastl G, Kühl S, Filippi A. Dental injury and its prevention in Swiss rugby. Dent Traumatol. 2012; 28(6):465-469.

22. Mizuhashi F, Koide K. Vacuum-formed mouthguard fabrication to obtain proper fit using notched sheet. Dent Traumatol. 2019; 35:204–211.

23. Goswami M, Kumar P, Bhushan U. Evaluation of Knowledge, Awareness, and Occurrence of Dental Injuries in Participant Children during Sports in New Delhi: A Pilot Study. Int J Clin Pediatr Dent. 2017 October-December; 10(4):373-378.

24. Azodo CC, Odai CD, Osazuwa-Peters N, Obuekwe ON. A survey of orofacial injuries among basketball players. Int Dent J. 2011; 61:43–46.

25. Perunski S, Lang B, Pohl Y, Filippi A. Level of information concerning dental injuries and their prevention in Swiss basketball--a survey among players and coaches. Dent Traumatol. 2005; 21(4):195-200.

26. Lee JW, Heo CK, Kim SJ, Kim GT, Lee DW. Mouthguard use in Korean Taekwondo athletes - awareness and attitude. J Adv Prosthodont. 2013; 5:147-52.

Anexo I- Comitê de Ética em Pesquisa em Humanos

UNESP - FACULDADE DE ODONTOLOGIA-CAMPUS DE ARAÇATUBA/ UNIVERSIDADE

Plataforma Brasil

PARECER CONSUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: Avaliação da incidência de trauma dental, do conhecimento e adesão ao uso de protetores bucais em uma população de atletas brasileiros

Pesquisador: Rogério de Castilho Jacinto

Área Temática:

Versão: 1

CAAE: 10203719.0.0000.5420

Instituição Proponente: Faculdade de Odontologia do Campus de Araçatuba - UNESP

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 3.269.743

Apresentação do Projeto:

A prática de esportem vem aumentando nos últimos anos, com isso há também aumento do número de indivíduos praticantes de esportes,
consequentemente ocorre uma elevação na tendência de acidentes e traumatismos. O objetivo deste projeto é verificar a incidência e o tipo de
traumas dentais durante a prática esportiva de Atletas do município de Araçatuba, avaliar o grau de conhecimento de treinadores e atletas
vinculados à delegação de Esportes da Prefeitura Municipal de Araçatuba sobre traumas dentários durante a prática de esportes através de
questionários; fornecer protetores bucais e avaliar a adaptação ao uso pelos atletas. Para se determinar o grau de conhecimento de atletas e
treinadores, serão utilizados questionários específicos já descritos na literatura. Os atletas oficiais da Secretaria de Esportes dos times de Handball,
Futebol de Salão, Basquetebol, Judo e Karatê, serão avaliados clínica e radiograficamente para a verificação de alterações bucais em decorrência
do trauma dental, responderão os questionários sobre seus conhecimentos sobre trauma dental e protetores bucais, serão moldados para confecção
de protetor bucal. Os protetores bucais serão instalados e os atletas receberão instrução e deverão usá-los durante os jogos. Após seis meses da

Endereço: JOSE BONIFACIO 1193
Bairro: VILA MENDONCA **CEP:** 16.015-050
UF: SP **Município:** ARACATUBA
Telefone: (18)3636-3200 **Fax:** (18)3636-3332 **E-mail:** andrebertoz@foa.unesp.br

instalação dos protetores bucais a adaptação e utilização dos protetores serão verificados por meio de uma nova aplicação do questionário. Os
dados coletados pelos questionários serão tabulados e analisados estatisticamente ao nível de significância de 5%.

Objetivo da Pesquisa:

O objetivo deste projeto é verificar a incidência e o tipo de traumas dentais durante a prática esportiva de Atletas do município de Araçatuba, avaliar
o grau de conhecimento de treinadores e atletas vinculados à delegação de Esportes da Prefeitura Municipal de Araçatuba sobre traumas dentários
durante a prática de esportes através de questionários; fornecer protetores bucais e avaliar a adaptação ao uso pelos atletas. Para se determinar o
grau de conhecimento de atletas e treinadores, serão utilizados questionários específicos já descritos na literatura.

Avaliação dos Riscos e Benefícios:

Riscos:

O risco é mínimo, a participação nesta pesquisa não infringe as normas legais e ética (A coleta da amostra é indolor, pois o dente envolvido será
anestesiado. Caso sinta dor, esta não será por causa da coleta de amostra e sim pela realização da anestesia, limpeza do dente ou causada pela
infecção no canal radicular. Este desconforto poderia ocorrer mesmo sem a coleta). Os procedimentos adotados nesta pesquisa obedecem aos
Critérios da Ética em Pesquisa com Seres Humanos conforme Resolução nº. 466/12 do Conselho Nacional de Saúde. Nenhum dos procedimentos
usados oferece riscos à sua dignidade.

Benefícios:

Ao participar desta pesquisa o(a) sr.(a) não terá nenhum benefício direto. Entretanto, esperamos que o conhecimento construído a partir desta
pesquisa possa tornar o tratamento endodôntico mais efetivo, onde pesquisador se compromete a divulgar os resultados obtidos, respeitando-se o
sigilo das informações coletadas.

Comentários e Considerações sobre a Pesquisa:

A Pesquisa apresenta-se apta para a sua realizaçãoão visto que todos os termos foram

Endereço: JOSE BONIFACIO 1193
Bairro: VILA MENDONCA **CEP:** 16.015-050
UF: SP **Município:** ARACATUBA
Telefone: (18)3636-3200 **Fax:** (18)3636-3332 **E-mail:** andrebertoz@foa.unesp.br

apresentados de acordo com a resolução 466/12 do CNS.

Considerações sobre os Termos de apresentação obrigatória:

Todos os termos foram apresentados de acordo com a resolução 466/12 do CNS.

Recomendações:

Não há .

Conclusões ou Pendências e Lista de Inadequações:

Projeto aprovado

Considerações Finais a critério do CEP:

Para Projeto Aprovado

Salientamos que, de acordo com a Resolução 466 CNS, de 12/12/2012 (título X, seção X.1., art. 3, item b, e, título XI, seção XI.2., item d), há necessidade de apresentação de relatórios semestrais, devendo o primeiro relatório ser enviado até 01/10/2019.

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Tipo Documento	Arquivo	Postagem	Autor	Situação
Outros	Tabela_cronograma.pdf	29/03/2019 10:03:49	Washington de Brito Martins	Aceito
Cronograma	Cronograna_execucao.pdf	27/03/2019 12:33:37	Washington de Brito Martins	Aceito
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_1319956.pdf	25/03/2019 10:11:25		Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE.pdf	25/03/2019 10:10:52	ANA PAULA FERNANDES RIBEIRO	Aceito
Folha de Rosto	folhaderostoassinada.pdf	25/03/2019 09:41:07	ANA PAULA FERNANDES RIBEIRO	Aceito
Projeto Detalhado / Brochura Investigador	Projeto_pesquisa.pdf	23/03/2019 11:39:39	ANA PAULA FERNANDES RIBEIRO	Aceito
Outros	questionario.pdf	22/03/2019 16:24:33	ANA PAULA FERNANDES RIBEIRO	Aceito

Endereço: JOSE BONIFACIO 1193
Bairro: VILA MENDONCA **CEP:** 16.015-050
UF: SP **Município:** ARACATUBA
Telefone: (18)3636-3200 **Fax:** (18)3636-3332 **E-mail:** andrebertoz@foa.unesp.br

Situação do Parecer:
Aprovado

Necessita Apreciação da CONEP:
Não

ARACATUBA, 17 de Abril de 2019

Assinado por:
Aldiéris Alves Pesqueira
(Coordenador(a))

Endereço: JOSE BONIFACIO 1193
Bairro: VILA MENDONCA **CEP:** 16.015-050
UF: SP **Município:** ARACATUBA
Telefone: (18)3636-3200 **Fax:** (18)3636-3332 **E-mail:** andrebertoz@foa.unesp.br