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Komparativna analiza učestalosti dentalne traume ovisno o spolu: Populacijska studija

Comparative Analysis of Gender: A Population-Based Study on Dental Trauma

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Sažetak

Svrha: Željelo se procijeniti koliki je utjecaj spola na vrstu dentalne traume, njezinu etiologiju, lokaciju, učestalost i postupak zbrinjavanja. **Materijali i metode:** Odabran je presjek populacije školske djece od 590 ispitanika u dobi od 7 do 14 godina iz brazilskoga grada Campina Grande. Kliničke preglede obavili su stručni i iskusni ispitivači (intra- i inter- vrijednosti kapa testova: 0,87 i 0,0). Podaci su svrstani prema vrsti traume, njezinoj etiologiji, lokaciji i frekvenciji te postupku zbrinjavanja. Chi-square i Fischerov test koristili su se s 5-postotnom razinom značajnosti. **Rezultati:** Rasprostranjenost dentalne traume u populaciji iznosila je 12,7 posto, s većom frekvencijom kod dječaka (17 % x 9 %; $p = 0,003$). Nije bilo značajnijih razlika između spolova kod sljedećih varijabli: godina ($p = 0,975$), vrsta trauma ($p = 0,843$), broja zahvaćenih zuba ($p = 0,735$), etiologije ($p = 0,6161$), lokacije ($p = 0,128$) i razloga za nesanimiranje dentalne traume ($p = 0,217$). **Zaključak:** Pokazalo se da spol utječe na ishod samo kad je riječ o frekvenciji, naime dentalne traume češće su kod dječaka.

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Adresa za dopisivanje

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Ključne riječi

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Uvod

Dentalna trauma vrlo je česta kod djece i adolescenata. Takva se ozljeda dugo liječi i tretman je skup (1). Treba je smatrati javnim zdravstvenim problemom (2) zbog visoke stope pojavnosti (3) i utjecaja na život školske djece. Uglavnom se pojavljuju negativni utjecaji na mastikaciju, govor i estetiku lica (4).

Većina dentalnih trauma zahvaća prednje zube. Najčešće ozljede u trajnoj denticiji su frakture cakline ili cakline i dentina zajedno (4, 5). U znanstvenoj literaturi kao glavni uzroci navode se padovi, sudari, prometne nezgode i sportske aktivnosti (6), a kao najčešće lokacije kućni ambijent i ulica (7, 8, 9).

U nekoliko epidemioloških istraživanja o odnosu pacijenta prema dentalnim traumama navodi se i nemarnost kao glavni uzrok za netraženje pomoći (10, 11). Unatoč tim rezultatima autori ističu da je iznimno važno liječiti zube nakon dentalne traume jer u suprotnome nastaju dugotrajne negativne posljedice (12). Zbog svega toga nužna su daljnja epidemiološka istraživanja kako bi se organizirale preventivne mjere stomatološke zaštite i riješio problem (13). Premalo je autora studija istraživalo utjecaj spola na oralno zdravlje (14, 15), pa u literaturi nema dovoljno informacija o usporedbi spola i nastanka dentalne traume.

Introduction

Dental injury is common among children and adolescents and is characterized by irreversibility, prolonged and costly treatment (1). This event is considered a public health problem (2) due to its relatively high prevalence (3) and to the impact that dental injury has on schoolchildren's daily life, with a negative effect on the chewing function, speaking and facial esthetics (4).

Most dental traumas involve the anterior teeth, with enamel and enamel/dentin fractures reported to be the most prevalent types of trauma in the permanent dentition (4,5). The scientific literature has pointed out falls as the main cause of dental trauma, followed by collisions, traffic accidents and sports activities (6). Moreover, home and street are cited as the most frequent locations of occurrence (7-9).

The few epidemiological studies that address patient conduct with regard to dental trauma cite negligence as the main reason for not seeking treatment (10,11). However, researchers stress the importance of treating injured teeth, as traumatic dental injuries can have long-term repercussions (12). Thus, further epidemiological studies are needed to establish the basis for preventive measures and the organization of oral healthcare services to address this issue properly (13). Moreover, there are few studies about the influence of gender on

Svrha ovog istraživanja bila je procijeniti utjecaj spola na rasprostranjenost, vrstu i etiologiju dentalne traume, broj zahvaćenih zuba, mjesto traume te ponašanje pacijenta nakon ozljede. Rezultati će se iskoristiti za bolje razumijevanje epidemiološkog profila ovog stanja te za pripremu specifične javnozdravstvene politike.

Materijali i metode

Plan istraživanja

U istraživanju je sudjelovalo 590 školske djece u dobi od 7 do 14 godina upisane u osnovne škole u brazilskome gradu Campina Grande (Paraíba). Odabrani su između 15.964 učenika iste dobne skupine. Ovaj uzorak predstavljao je 3,7 posto osnovne populacije. Campina Grande nalazi se u sjeveroistočnom Brazilu i ima oko 386 tisuća stanovnika, a podijeljena je u šest administrativnih okruga. To je industrijski grad s velikim kulturnim i socijalno-ekonomskim razlikama. Prosječni mjesečni prihod po stanovniku je 110 američkih dolara, a indeks Međunarodne udruge za ljudska prava (Human Development) iznosi 0,72 (16).

Uzorak

Uzorci su uzeti u dvije faze kako bi se osigurala podjednaka zastupljenost:

- 1.) škole iz svih okruga odabrane su nasumce
- 2.) djeca iz svake škole odabrana su nasumce

Kalkulacije o veličini uzorka temelje se na 5-postotnoj mogućnosti pogreške, 95-postotnom intervalu i 21-postotnoj frekvenciji dentalne traume (17). Korektivni čimbenik od 2,0 dodan je kako bi se kompenzirale posljedice u planiranju istraživanja (7). Najmanja procijenjena veličina uzorka je 502 ispitanika. Tom broju dodano je još 20 posto uzoraka kako bi se kompenzirao mogući gubitak, što je na kraju iznosilo 602 ispitanika.

Etičko dopuštenje

Ovo istraživanje odobrio je Etički odbor za istraživanje na ljudima Sveučilišta Paraíba (Brazil) pod brojem 05700133000-08, u skladu s Rezolucijom 196/96. brazilskog Ministarstva zdravlja.

Neklinički podaci

Uprava svake škole bila je pismom obaviještena o provedbi ispitivanja. Istodobno su poslani i formulari o informiranom pristanku koje je ravnatelj/ica svake škole prosljeđio roditeljima/skrbnicima svakog djeteta koje je sudjelovalo u ispitivanju. Nakon toga ispitivači su počeli skupljati demografske podatke (ime, dob, datum rođenja, spol) za svakog sudionika te ih unositi u kliničke grafikone.

Klinički podaci

Kliničko ispitivanje provedeno je tijekom nastave. Obavila su ga dva ispitivača iskusna u kalibraciji s intra- i inter-

oral health (14,15) and there is a gap in the literature as to the analysis of this variable in relation to dental trauma.

Thus, the aim of the present study was to assess the influence of gender on the prevalence, type and etiology of dental trauma, number of teeth affected, location of occurrence and conduct regarding dental treatment, in order to contribute toward a better understanding of the epidemiological profile of this condition and assist in the establishment of targeted public policies.

Materials and Methods

Study Design

A cross-sectional study was carried out including 590 male and female schoolchildren aged 07 to 14 years enrolled in public schools in the city of Campina Grande, state of Paraíba, Brazil. The subjects were selected from a population of 15,946 schoolchildren in the same age group, and the sample corresponded to 3.7% of this population. Campina Grande is a city in northeastern Brazil with approximately 386 thousand inhabitants, divided into six administration districts. It is an industrialized city with considerable cultural and socioeconomic disparities, with a mean monthly income of US\$ 110 per inhabitant and Human Development Index of 0.72 (16).

Sample

Two-stage sampling was performed to ensure representativity: 1) schools were first randomly selected from each administration district of the city and 2) children were randomly selected from each school. The sample size calculation was based on a 5% margin of error, 95% confidence interval and 21.0% frequency of dental trauma (17). A correction factor of 2.0 was applied to compensate for the design effect (7). The minimal sample size was estimated in 502 schoolchildren, to which 20% was added to compensate for possible losses, totaling in 602 schoolchildren.

Ethical Approval

This study was approved by the Human Research Ethics Committee, State University of Paraíba (Brazil), under process number 05700133000-08 in compliance with the 196/96 Resolution of the Brazilian National Ministry of Health.

Non-Clinical Data

When scheduling with the administration staff of each school, a letter of authorization for the execution of the study was presented and informed consent forms were given to the principals of the schools to be delivered to schoolchildren's parents/legal guardians. The examiners returned to the schools for the data collection. Demographic information of each child (name, age, date of birth and gender) was recorded on clinical charts.

Clinical Data

The clinical exams were performed at school during normal class hours by two examiners who had participated at

vrijednostima kapa testa od 0,90 i 0,87. Kriterije za određivanje dentalne traume preuzeli su iz ankete Britanske udruge za oralno zdravlje djece (United Kingdom Children's Dental Health Survey) (18), a to su frakture, diskoloracije te gubitak trajnih zuba zbog traume. Korištena je prirodna i umjetna rasvjeta (svjetlo u učionici). Zubi su očišćeni i osušeni gazom. Tijekom pregleda liječnik se koristio zrcalom broj 5 (PRISMA[®], São Paulo, SP, Brazil). Pregledi su obavljani u odvojenoj učionici s dovoljno stolaca za ispitanike i ispitivače. Ispitivači su poduzeli mjere zaštite od infekcije i nakon upotrebe sve su instrumente propisno sterilizirali.

Razgovor s ispitanicima

U drugom dijelu kliničkih pregleda razgovaralo se s pacijentima koji su pretrpjeli dentalnu traumu. Ta je faza bila nužna da bi se dobile popratne informacije o etiologiji traume i mjestu nastanka te je li pacijent bio podvrgnut stomatološkom zbrinjavanju ozljede. Svi su razgovori snimljeni zbog veće pouzdanosti i čuvanja podataka. Prije razgovora potanko su svima objašnjeni zadaci istraživanja i zatraženo je dopuštenje za sudjelovanje. Svaki razgovor trajao je najviše tri minute. Kod 10 posto ispitanika primijenjena je metoda *projene lica* kako bi se odredila pouzdanost odgovora. Kod njih su ispitivači ustajali na tome da svojim riječima potvrde jesu li razumjeli svako postavljeno pitanje (19). Ni jedan ispitanik nije imao teškoća u razumijevanju pitanja iz upitnika.

Analiza rezultata

Podaci su analizirani statističkim paketom programa za društvene znanosti (SPSS for Windows, version 18.0, SPSS Inc, Chicago, IL, SAD). Chi-square test i Fischerov test korišteni su za analizu podataka sa statističkom značajnošću od 5 posto ($p < 0,05$).

Rezultati

U istraživanju je sudjelovalo 590 školske djece. Sedmero je odbilo suradnju, što odgovara gubitku od 1,9 posto. Tablica 1. pokazuje distribuciju djece i adolescenata prema rasprostranjenosti dentalne traume, dobi, vrsti trauma, broju zahvaćenih zuba, etiologiji i mjestu nastanka. Učestalost dentalne traume na trajnim prednjim zubima iznosila je 12,7 posto. Spol je jedino utjecao na ishod učestalosti traume (bila je veća kod dječaka – $p = 0,003$).

U tablici 2. nalazi se distribucija školske djece s dentalnim traumama u odnosu na tretman nakon ozljede. Za te dvije varijable nije pronađena značajna statistička razlika među spolovima.

a training and calibration exercise, achieving intra- and inter-examiner kappa agreement values of 0.90 and 0.87. The criteria for dental trauma determination were those adopted in the United Kingdom Children's Dental Health Survey (18): fractures, discoloration and tooth loss due to dental trauma in the permanent dentition. Both natural and artificial (classroom lights) illumination were used during the exams. The teeth were cleaned and dried with gauze. A no. 5 mouth mirror (PRISMA[®], São Paulo, SP, Brazil) was used for the examination. The examination was performed in a separate classroom with enough seating places for the researchers and examiners. The examiners used equipment to protect against infection and all instruments and required materials were sterilized.

Interview

In a second phase, interviews were made with the participants who had suffered from dental trauma. This was necessary to obtain complementary information on the trauma etiology, location of occurrence and whether or not dental care and/or treatment were sought. The responses were recorded during the interview, allowing therefore greater reliability of the information and avoiding the risk of memory lapse. Prior to the interview, the study objectives were explained and participation was requested. Each interview lasted a maximum of three minutes. The reliability of the responses was tested using the "face validation" method with 10% of the interviewees. For such, the researcher asked the participant to explain in his/her own words what he/she understood about each question (19). None of the interviewees had difficulty answering the questions contained in the form.

Data Analysis

The results were analyzed using the Statistical Package for Social Sciences software (SPSS for Windows, version 18.0, SPSS Inc, Chicago, IL, USA). The chi-square test and Fisher's exact test were used in the statistical analysis, with a 5% significance level ($p < 0.05$).

Results

A total of 590 schoolchildren participated in the study and seven refused to participate, corresponding to a loss rate of 1.9%. Table 1 shows the distribution of children and adolescents according to the prevalence of dental trauma, age group, type of trauma, number of teeth affected, etiology and location of occurrence. The prevalence of dental trauma to the permanent anterior teeth was found to be 12.7%. Gender had an influence on the outcome only with regard to frequency, with greater occurrence of dental trauma among males ($p = 0.003$).

Table 2 shows the distribution of schoolchildren with dental injuries according to the conduct regarding treatment. No significant difference between genders was found for these variables.

Tablica 1. Distribucija djece i adolescenata prema prevalenciji dentalne traume, dobi, tipu traume, broju zahvaćenih zuba, etiologiji i lokalizaciji
Table 1 Distribution of children and adolescents according to the prevalence of dental trauma, age group, type of trauma, number of teeth affected, etiology and location of occurrence

Varijable • Variables	Spol • Gender		Ukupno • Total	p-vrijednost • p-value
	Muški • Male	Ženski • Female		
	n (%)	n (%)	n (%)	
Dentalna trauma • Dental trauma				
Present	47 (17.0)	28 (8.9)	75 (12.7)	p = 0.003*‡
Absent	228 (83.0)	287 (91.1)	515 (87.3)	
Dob • Age group (in years)				
7-10	22 (46.8)	13 (46.4)	35 (46.6)	p = 0.975*
11-14	25 (53.2)	15 (53.6)	40 (53.4)	
Vrsta traume • Type of trauma				
fraktura cakline • Enamel fracture	35 (74.5)	17 (60.7)	52 (69.4)	p = 0.843†
fraktura cakline i zuba • Enamel/dentin fracture	11 (23.4)	06 (21.4)	17 (22.6)	
fraktura cakline i zuba sa zahvaćenom pulpom • Enamel/dentin fracture with pulp involvement	01 (2.1)	05 (27.9)	06 (8.0)	
Broj oštećenih zuba • Number of teeth affected				
jedan • One	40 (85.1)	23 (82.1)	63 (84.0)	p = 0.735*
dva ili više • Two or more	07 (14.9)	05 (17.9)	12 (16.0)	
Uzrok traume • Cause of trauma				
pad • Fall	26 (55.3)	12 (42.9)	38 (50.6)	p = 0.616†
sudar • Collision	06 (12.8)	04 (14.3)	10 (13.3)	
nasilje • Violence	02 (4.3)	02 (7.1)	04 (5.3)	
ne mogu se sjetiti/ili • Does not remember/other	13 (27.6)	10 (35.7)	23 (30.8)	
Mjesto gdje se dogodila trauma • Location of occurrence				
u kući • Home	16 (30.0)	15 (53.6)	31 (41.3)	p = 0.128 ²
na ulici • Street	12 (25.5)	03 (10.7)	15 (20.0)	
u školi • School	08 (17.0)	02 (7.1)	10 (13.3)	
ne sjećam se / ili • Does not remember/other	11 (23.4)	08 (28.6)	19 (25.3)	
Ukupno • Total	47 (100.0)	28 (100.0)	75 (100.0)	

*Chi-square test; † Fisherov egzaktni test • Fisher's exact test; ‡ značajnost od 5 % • significant to a 5% level

Tablica 2. Distribucija djece i adolescenata s dentalnim ozljedama prema ponašanju s obzirom na liječenje
Table 2 Distribution of children and adolescents with dental injuries according to the conduct regarding treatment

Varijable • Variables	Spol • Gender		Ukupno • Total	p-vrijednost • p-value
	Muški • Male	Ženski • Female		
	n (%)	n (%)	n (%)	
Tražen dentalni tretman • Search for dental treatment				
Da • Yes	07 (14.9)	06 (21.4)	13 (17.3)	p = 0.470*
Ne • No	40 (85.1)	22 (78.6)	62 (82.7)	
Razlog za netraženje tretmana • Reason for not seeking treatment				
nije potreban • Did not consider necessary	36 (92.3)	18 (81.8)	54 (88.5)	p = 0.217†
strah od stomatologa/ financijski razlozi • Fear of dentist/financial reasons	03 (7.7)	04 (18.2)	07 (11.5)	

*Chi-square test; † Fisherov egzaktni test • Fisher's exact test; ‡ značajnost od 5 % • significant to a 5% level

Rasprava

U literaturi se navodi da su čimbenici kao što su spol, dob, debljina, naglašeni pregriz i neodgovarajući ventil usna vrlo važni u nastanku dentalnih trauma (20). No, nema istraživanja s analizama utjecaja spola, dobi, vrstama trauma, broja zahvaćenih zuba, etiologije trauma i lokacija nastanka te odnosa prema tretmanu nakon traume, što znatno otežava usporedbu rezultata dobivenih u ovom istraživanju.

Discussion

The literature has reported that gender, age group, obesity, accentuated overjet and inadequate lip seal are factors involved in dental trauma (20). However, no previous studies have carried out analyses between gender and age group, type of trauma, number of teeth affected, trauma etiology, location of occurrence and conduct regarding dental treatment, which hinders the comparison of results.

U ovom istraživanju učestalost dentalne traume na prednjim trajnim zubima, kad je riječ o školskoj djeci između 7 i 14 godina, iznosi 12,7 posto (tablica 2.). Slične vrijednosti dobivene su za školsku djecu u gradu Recifeu (Brazil), u jugoistočnoj Nigeriji i u Chidambaramu (južna Indija) (10,5 %, 13,6 % i 10,13 %) (8, 20, 21).

Frekvencija dentalne traume kod dječaka iznosila je 17,0 posto, a kod djevojčica 8, 9 posto ($p=0,003$) (tablica 1.). Ti su rezultati u skladu s rezultatima drugih autora (5, 7, 21) i mogu se objasniti većom aktivnošću dječaka negoli djevojčica. Naime, bave se intenzivnijim aktivnostima, kao što su kontaktni sportovi bez odgovarajuće zaštite te se grublje igraju s predmetima kojima se eventualno mogu ozlijediti (3).

U istraživanju je većina sudionika s dentalnom traumom bila u dobi od 11 do 14 godina (53,4 %), što potvrđuje nalaze drugih autora koji su također uočili višu frekvenciju takvih ozljeda kod starije školske djece (22). Naime, kako dječaci odrastaju, sve su neovisniji i bave se ekstremnijim sportovima (3, 14). Unatoč tomu nisu pronađene razlike između spolova i dobnih skupina ispitanika ($p=0,975$) (tablica 1.). Ti rezultati sugeriraju da, bez obzira na spol, starija školska djeca odabiru rizičnije aktivnosti te su izložena kumulativnom učinku dentalnih trauma (23).

Najčešća trauma je fraktura cakline (69,4 %), a slijede frakture cakline i dentina (22,6 %). Pojedini zubi bili su zahvaćeni u 84,0 posto slučajeva. Ti se rezultati slažu s rezultatima ranijih istraživanja (2, 3). Nije bilo razlike među spolovima, uzimajući u obzir navedene varijable ($p=0,843$; $p=0,735$) (tablica 1.). Da je ova studija provedena u hitnoj stomatološkoj službi kamo dolaze pacijenti s opsežnijim ozljedama, vjerojatno bi razlike među spolovima bile veće zbog opisanog ponašanja dječaka.

Padovi, posebice u kući (41,3 %) i na ulici (20,0 %), najčešće se navode kao etiologija dentalnih trauma (50,6 %). Ni tu nije bilo statističke razlike između spolova ($p=0,616$; $p=0,128$) (tablica 1.). Ovi rezultati podudaraju se s nalazima drugih istraživanja (6, 25) i sugeriraju da, bez obzira na spol, dentalne traume u tom razdoblju nastaju najčešće i kod kuće i na ulici. Zbog svega toga školsku djecu treba stalno nadzirati dok se igraju ili se bave drugim aktivnostima, kako bi se smanjio broj padova i traumatskih ozljeda – štoviše, pojedinci koji treniraju kontaktne sportove trebaju nositi štitnike za zube (8). Također je na odgovarajućim javnim površinama važno stvoriti sigurno okruženje za vježbu i provođenje slobodnog vremena (26).

Adolescentice su mnogo pažljivije kad je riječ o oralnom zdravlju i spremnije su prihvatiti preventivne mjere, tretmane i stomatološku zaštitu, osobito ako se radi o estetici (27, 28). Moglo se očekivati da će djevojčice, češće negoli dječaci, tražiti stomatološki zahvat nakon traume (28, 29). Unatoč tomu u ovom istraživanju velika većina djevojčica i dječaka nisu tražili stomatološki zahvat nakon pretrpljene traume (82,7 %) ($p=0,70$) smatrajući da je nepotreban (88,5 %) ($p=2,667$) (tablica 2). Ti rezultati pokazuju nemaran odnos prema ovom stanju, bez obzira na spol jer roditelji/skrbnici drže da takve ozljede nisu bolest i zato ih ne treba liječiti (26, 30). Ostali čimbenici koji utječu na takvu odluku su nizak

In the present study, the prevalence of dental trauma in the permanent anterior teeth among schoolchildren aged 07 to 14 years was 12.7% (Table 2). Similar prevalence values are reported for schoolchildren in the city of Recife (Brazil), in southeastern Nigeria, and in Chidambaram (Southern India) (10.5%, 13.6% and 10.13% respectively) (8,20,21).

Male schoolchildren had a frequency of dental trauma (17.0%) significantly greater than that for females (8.9%) ($p = 0.003$) (Table 1). This is in agreement with the findings described by other authors (7,5,21) and might be explained by the fact that boys are more active and perform more intensive activities than girls, such as contact sports without appropriate protection and rough games involving fighting, in addition to objects and equipment with increased risk potential (3).

The majority of participants with dental trauma were between 11 and 14 years of age (53.4%), corroborating the findings of previous authors, who reported higher frequencies of dental trauma among older schoolchildren (22). It was expected that along with the aging, males would present higher frequency of trauma because of the greater independence and extreme sports practice (3,14). Nevertheless, no differences were found between genders with regard to age group ($p = 0.975$) (Table 1). These findings suggest that, regardless of gender, older schoolchildren carry out activities of greater risk and may also exhibit cumulative dental injuries with age (23).

The most common type of trauma was enamel fracture (69.4%), followed by enamel/dentin fracture (22.6%), and single teeth were affected in 84.0% of cases. These results are in agreement with the findings described in previous studies (2,3). There were no gender differences with regard to these variables ($p = 0.843$; $p = 0.735$) (Table 1). Probably, if this study had been conducted in emergency services, where traumas of greater magnitude are recorded (24), differences between genders could be detected due to the behavioral characteristics of males, as aforementioned.

Falls, especially at home (41.3%) and in the street (20.0%), were the most common etiology of dental trauma (50.6%). Again, there was no difference between genders for this variable ($p = 0.616$; $p = 0.128$) (Table 1). These findings are similar to those of other studies (6,25) and suggest that in this stage of life falls at home and in the street are the most common etiology and location of occurrence, regardless of gender. Thus, there is a need to supervise schoolchildren during play activities in order to minimize the frequency of falls and traumatic injuries; moreover, mouth guards should be used by individuals who practice contact sports (8). It is also important to create safe environments for the practice of sports and leisure activities in appropriate public places (26).

Female adolescents are more careful with their oral health and look more often for oral preventive measures, treatments and dental care, especially if related to aesthetics (27,28). Therefore, it was expected that girls would seek treatment following a dental injury more often than boys (28,29). However, in the present study the vast majority of both boys and girls having suffered dental trauma did not seek treatment

stupanj *ozbiljnosti* ozljede jer je uglavnom zahvaćena samo caklina i to uglavnom jednog zuba (31).

Ipak treba istaknuti koliko je važno zbrinjavanje dentalnih trauma, iako su ponekad ograničene na caklinu ili caklinu i dentin. Takve sitne frakture trebalo bi zbrinuti ili bi, ovisno o slučaju, morao postojati protokol praćenja negativnih posljedica traume na zub, kost i meka tkiva. Za razliku od ostalih dijelova tijela, proces cijeljenja nakon dentalne traume mnogo je dulji pa se negativne posljedice mogu pojaviti i poslije pet godina (12).

Istraživanja o oralnom zdravlju upućuju na razlike između spolova (24, 28). U ovom radu to nije bio slučaj. Možda su se takvi rezultati postigli zbog modela istraživanja. Trebala bi se zapravo obaviti longitudinalna istraživanja s kvalitativnim pristupom (24). Kako se dječaci i djevojčice razlikuju i psihološki i bihevioralno (15), istraživanja ove vrste prijeko su potrebna kako bi se objasnile razlike između spolova u odnosu prema dentalnoj traumi. Zatim treba na temelju tih rezultata pripremiti prijedlog za poboljšanje oralnog zdravlja i prevenciju dentalnih trauma među djecom i adolescentima.

Zaključak

Dokazano je da spol utječe na frekvenciju dentalne traume i to samo kod dječaka kod kojih je veći broj takvih ozljeda. Potrebna su daljnja istraživanja kako bi se potvrdili rezultati ovog istraživanja.

(82.7%) ($p = 0.470$), reporting it to be unnecessary (88.5%) ($p = 2.667$) (Table 2). This reveals negligence with regard to this condition, regardless of gender, because since dental trauma is not a disease, parents/guardians often do not believe that any treatment should be instituted (26,30). Other factors may also have contributed to this finding, such as the low degree of severity of the dental injuries, which mostly affected the enamel alone and the fact that only one tooth was affected in the majority of cases (31).

Nevertheless, importance should be given to the treatment of dental trauma, even when the injury is limited to enamel or enamel and dentine. These small fractures should be treated or, depending on the case, there should be a follow up protocol to monitor possible negative effects of the impact toward the teeth, bone or soft tissues. Unlike other parts of the body, the healing process following dental trauma can be long and undesirable effects may appear for as many as five years following the occurrence of a traumatic event (12).

Oral health studies have demonstrated differences between genders (24,28). In the present investigation, however, no differences were found with regard to the variables related to dental trauma. These findings may have been due to the study design. Thus, longitudinal studies or investigations with a qualitative approach should be carried out (24). As boys and girls differ in relation to psychological and behavioral aspects (15), studies of this nature are important to clarifying gender differences as to the distinct aspects involved in the dental trauma and may contribute for the planning of actions designed to promote oral health and prevent traumatic dental injuries among children and adolescents.

Conclusion

Gender was found to have an influence on the outcome only with regard to frequency, with a greater occurrence of dental trauma among males. Further studies are still needed to clarify this issue.

Abstract

Objective: To assess the influence of gender on dental trauma type, etiology, location of occurrence and conduct regarding dental treatment. **Material and Methods:** A cross-sectional study was carried out including 590 schoolchildren aged 07 to 14 years at public schools in the city of Campina Grande, Brazil. Clinical exams were performed by two duly calibrated examiners (intra- and inter-examiner kappa agreement values: 0.87 and 0.90, respectively). Data were recorded as to the type of trauma, etiology, location of occurrence and conduct regarding treatment. The chi-square test and Fisher's exact test were used with a 5% significance level. **Results:** The prevalence of dental trauma was 12.7%, with greater frequency in the male gender (17% x 9%; $p = 0.003$). No significant differences between genders were found with regard to the following variables: age group ($p = 0.975$), type of trauma ($p = 0.843$), number of teeth affected ($p = 0.735$), etiology ($p = 0.616$), location of occurrence ($p = 0.128$) and reason for not seeking dental treatment ($p = 0.217$). **Conclusion:** Gender was found to have an influence on the outcome only with regard to frequency, with a greater occurrence of dental trauma among males.

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Key words

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