VISTA 2019

“Healthy and Fit for Optimal Performance”

Noncarious cervical lesions, cervical dentin hypersensitivity and gingival recession:

Prevalence, risk factors and quality of life in athletes with disabilities

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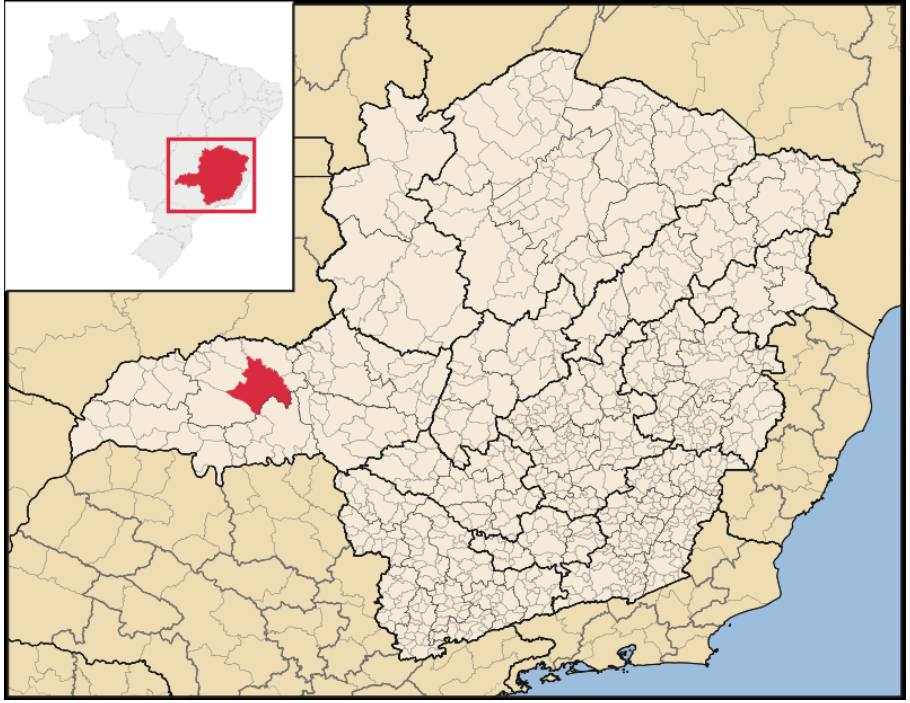
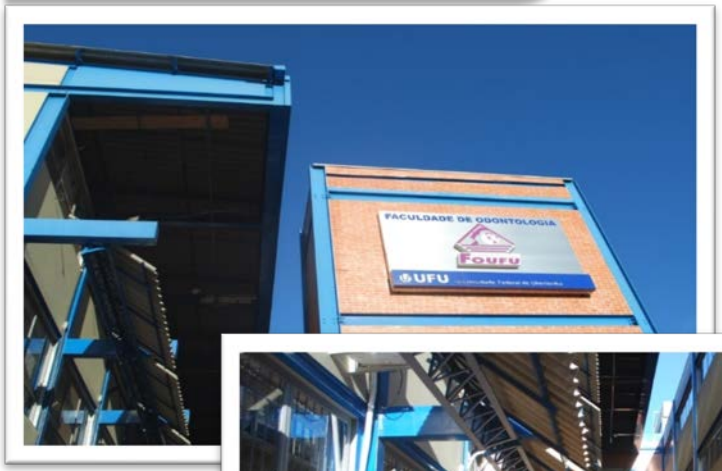
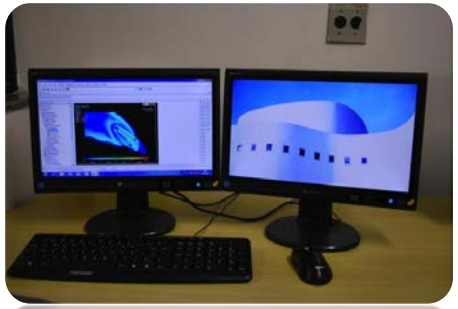


School of Dentistry



Master / PhD in Dental Clinics



How many athletes

may need

dental treatment

and could

prevent pain

during

competitions?

Introduction

People with disabilities are part of the population that has limited access to dental services.

Douglass et al., 2013; Rocha et al., 2015

Physical barriers

Cultural Barriers

Unprepared Professionals

Koneru & Sigal, 2009

Introduction

Multidisciplinary health care is critical in sport, and good oral health is an important component of maintaining overall health and better performance.

Sport and Dentistry

Soares et al., 2014

Introduction

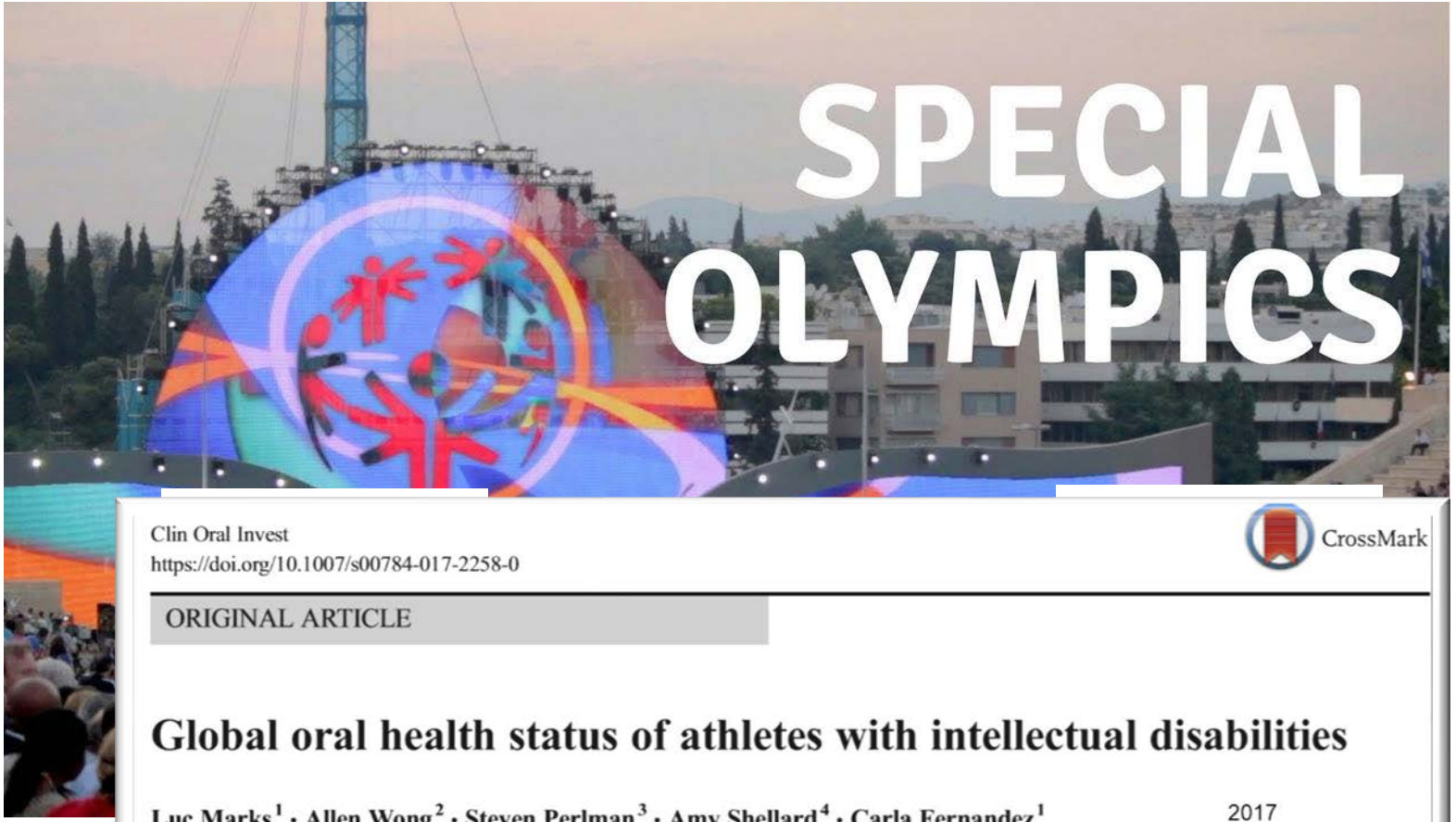
Oral Health Impact Profile Short Form (OHIP-14)

- most widely used
- Slade (1997)
- additive method: severity score of the OHIP-14 (0 to 56)

7 domains

- Functional limitation
- Physical pain
- Psychological discomfort
- Physical disability
- Psychological disability
- Social disability
- Handicap

Introduction



Clin Oral Invest
https://doi.org/10.1007/s00784-017-2258-0

CrossMark

ORIGINAL ARTICLE

Global oral health status of athletes with intellectual disabilities

Luc Marks[1] · Allen Wong[2] · Steven Perlman[3] · Amy Shellard[4] · Carla Fernandez[1]

2017

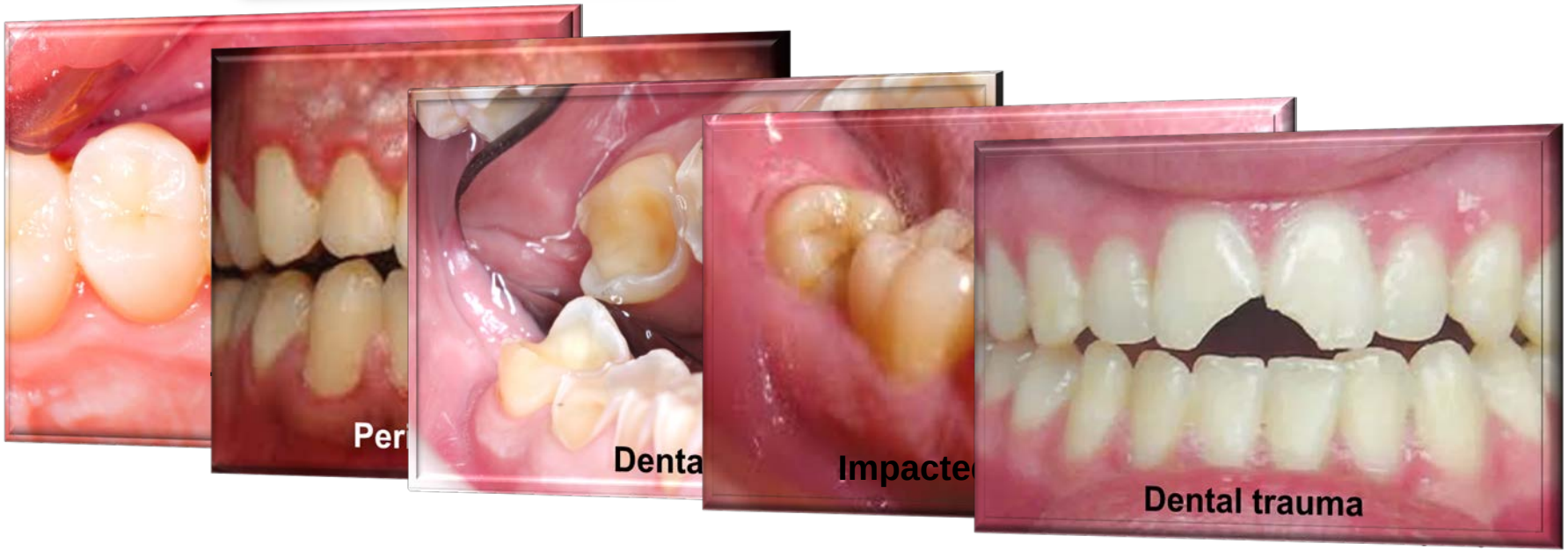
Introduction

BJSM

Oral health of elite athletes and association with performance: a systematic review

P Ashley, A Di Iorio, E Cole, A Tanday and I Needleman

Br J Sports Med 2015 49: 14-19 originally published online November 11, 2014



Introduction

Oral diseases very common in the population currently.

- **Noncarious Cervical Lesions**

Prof. Alexandre Coelho Machado

Introduction

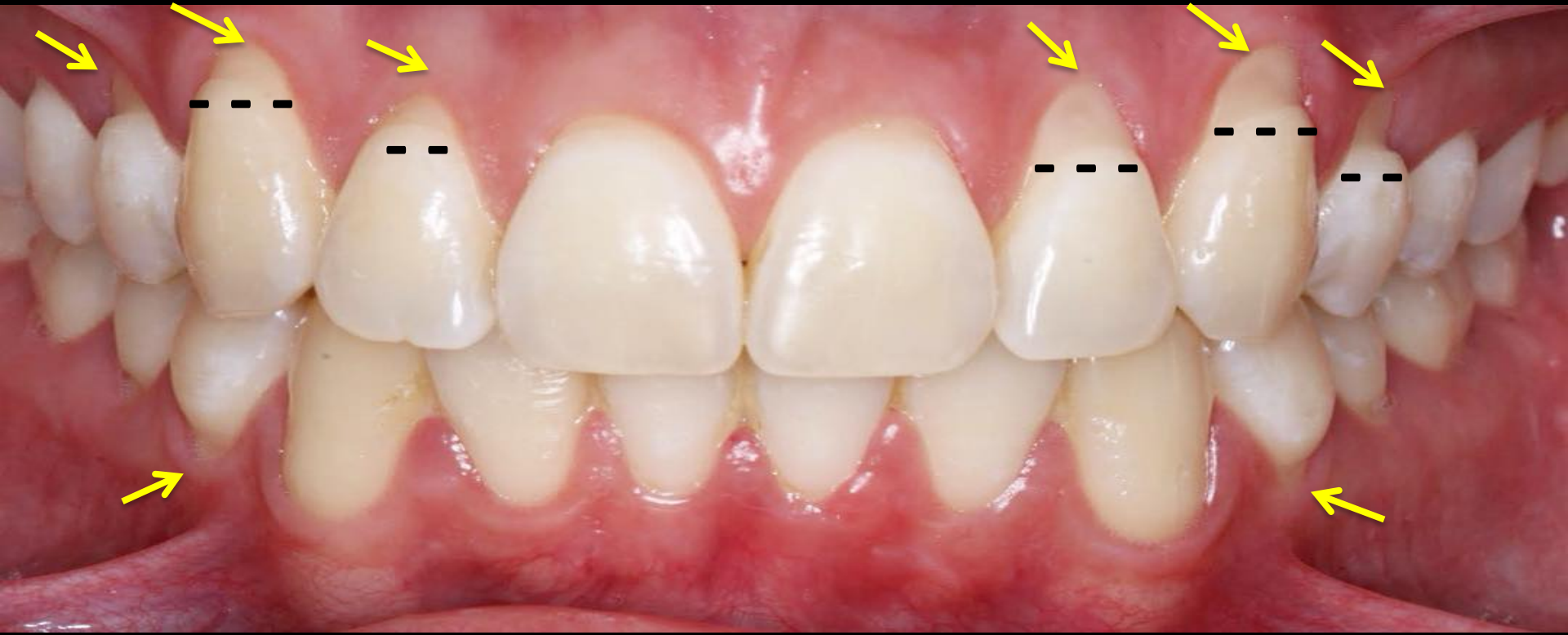
- **Cervical Dentin Hypersensitivity**

Prof. Alexandre Coelho Machado

Introduction

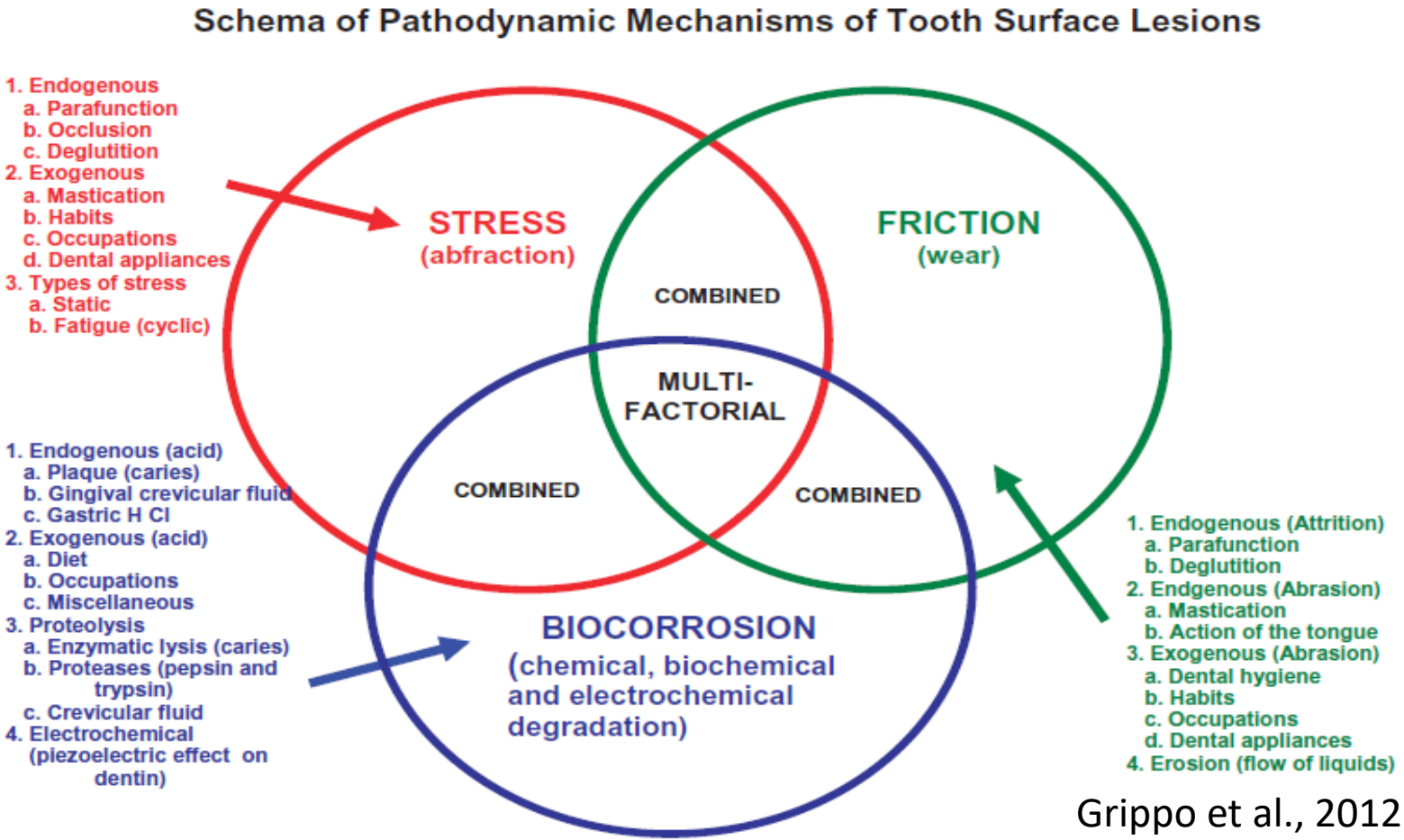
- **Cervical Dentin Hypersensitivity**

Introduction



- **Gingival Recession**

Introduction



Grippo et al., 2012

OBJECTIVE

Evaluate the prevalence and the risk factors of Noncarious Cervical Lesions (NCCL), Cervical Dentin Hypersensitivity (CDH), and Gingival Recession (GR) in athletes with disabilities, and verify if the presence of these conditions influence in their quality of life.

Methodology

- An observational analytical cross-sectional study
- N = 95
- Questionnaire about the presence of some risk factors such as gastric diseases, parafunctional habits, acidic diet; and about their quality of life (OHIP-14)

Methodology

Sports

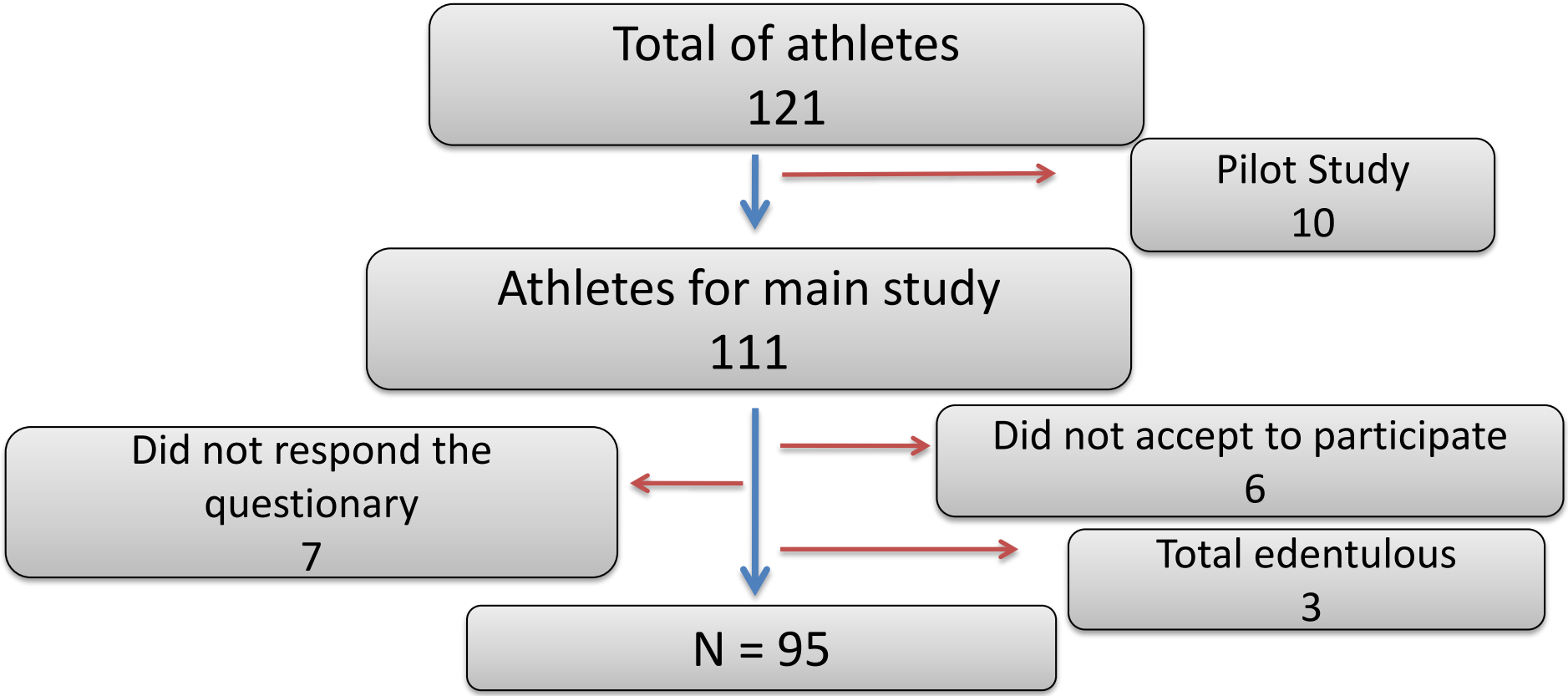
Para Athletics

Powerlifting

Swimming

Boccia

Methodology



Clinical Exam

- Local sport training
- Natural light

Clinical Exam

- Occlusal conditions

Clinical Exam

- **Periodontal disease**

Clinical Exam

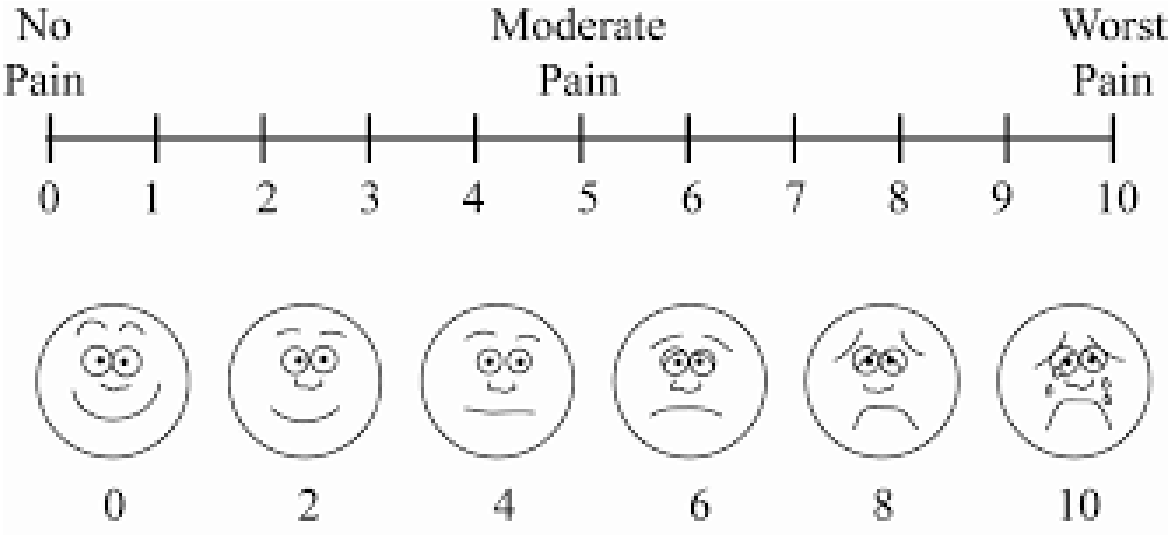
- **Noncarious cervical lesions**

1. Shallow (0 - 0.9 mm)
2. Medium (1 - 1.9 mm)
3. Deep (> 2mm)

Clinical Exam • Cervical Dentin Hypersensitivity

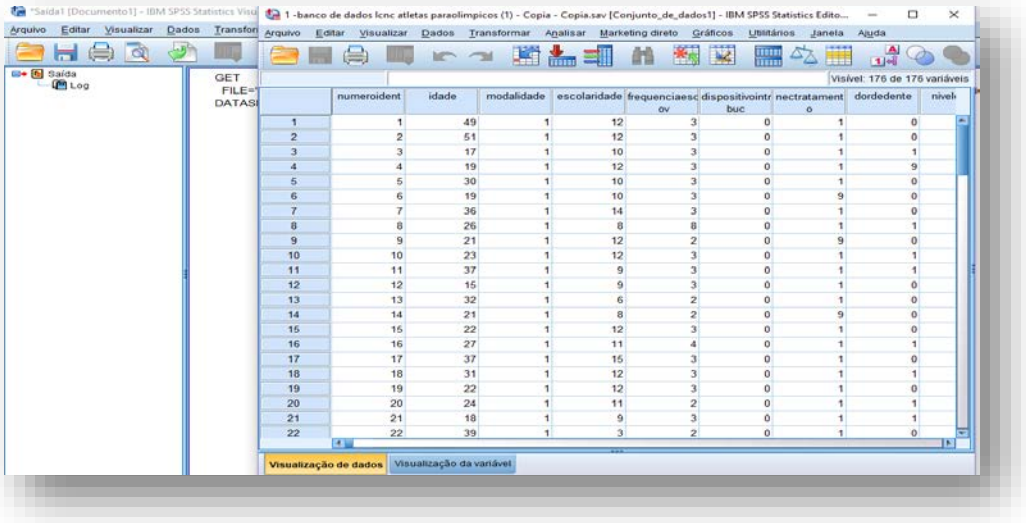
Methodology

Portable office



Statistical Analysis

The data were submitted to bivariate analysis (Pearson's Chi-square) (α=0.05).



Results and Discussion

Results and Discussion

N= 95

6 caregivers do the dental hygiene

Mean Age = 32.2
15 - 71 years old

Sports	
POWERLIFTING	22
PARA ATHLETICS	53
SWIMMING	11
BOCCIA	10

Disabilities			
VISUAL	11		
INTELLECTUAL	6		
PHYSICAL	78	SHORT STATURE	2
		HANDS AND ARMS LIMITATION	17
		LEGS LIMITATION	43
		BOTH MEMBERS	16

Results and Discussion

Noncarious Cervical Lesion (NCCL)		Cervical Dentin Hypersensitivity (CDH)		Gingival Recession (GR)	
Absent	Present	Absent	Present	Absent	Present
35	60	38	57	40	55
36.8%	63.2%	40%	60%	42.1%	57.9%

NCCL + CDH	NCCL + GR	NCCL + CDH + GR
49 (81.6%)	50 (83.3%)	46 (76.6%)

CDH + GR
48 (84.2%)

Quality of Life

OHIP-14		Distribution of Responses											
		Never		Hardly ever		Occasionally		Fairly often		Very often		Mean	S.D
Dimension	Items	n	%	n	%	n	%	n	%	n	%		
Functional limitation	OH1	62	65.3	12	12.6	16	16.8	1	1.1	4	4.2	0.66	1.068
	OH2	61	64.2	10	10.5	20	21.1	2	2.1	2	2.1	0.67	1.015
Physical pain	OH3	25	26.3	24	25.3	37	38.9	4	4.2	5	5.3	1.37	1.082
	OH4	33	34.7	13	13.7	40	42.1	2	2.1	7	7.4	1.34	1.190
Psychological discomfort	OH5	50	52.6	8	8.4	25	26.3	6	6.3	6	6.3	1.05	1.275
	OH6	49	51.6	18	18.9	23	24.2	2	2.1	3	3.2	0.86	1.058
Physical disability	OH7	58	61.1	12	12.6	17	17.9	2	2.1	6	6.3	0.8	1.190
	OH8	58	61.1	17	17.9	17	17.9	2	2.1	1	1.1	0.64	0.922
Psychological disability	OH9	64	67.4	13	13.7	15	15.8	2	2.1	1	1.1	0.56	0.908
	OH10	52	54.7	16	16.8	13	13.7	5	5.3	9	9.5	0.98	1.329
Social disability	OH11	72	75.8	10	10.5	9	9.5	3	3.2	1	1.1	0.43	0.871
	OH12	69	72.6	12	12.6	12	12.6	1	1.1	1	1.1	0.45	0.835
Handicap	OH13	72	75.8	7	7.4	12	12.6	2	2.1	2	2.1	0.47	0.944
	OH14	77	81.1	10	10.5	7	7.4	0	0	1	1.1	0.29	0.698

25.6%

18%

14.5%

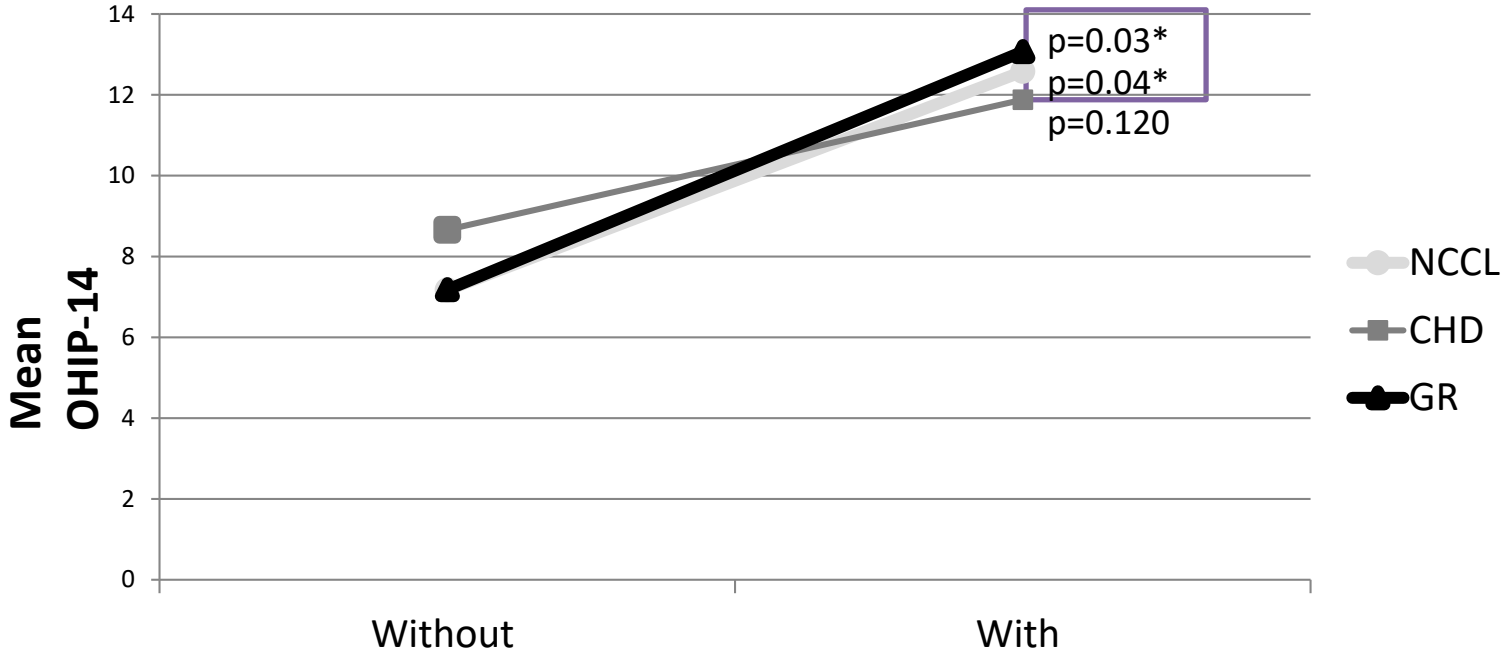
10.6

Wagner et al, 2016: 9.6

Li & Bernabé, 2016: 6.8

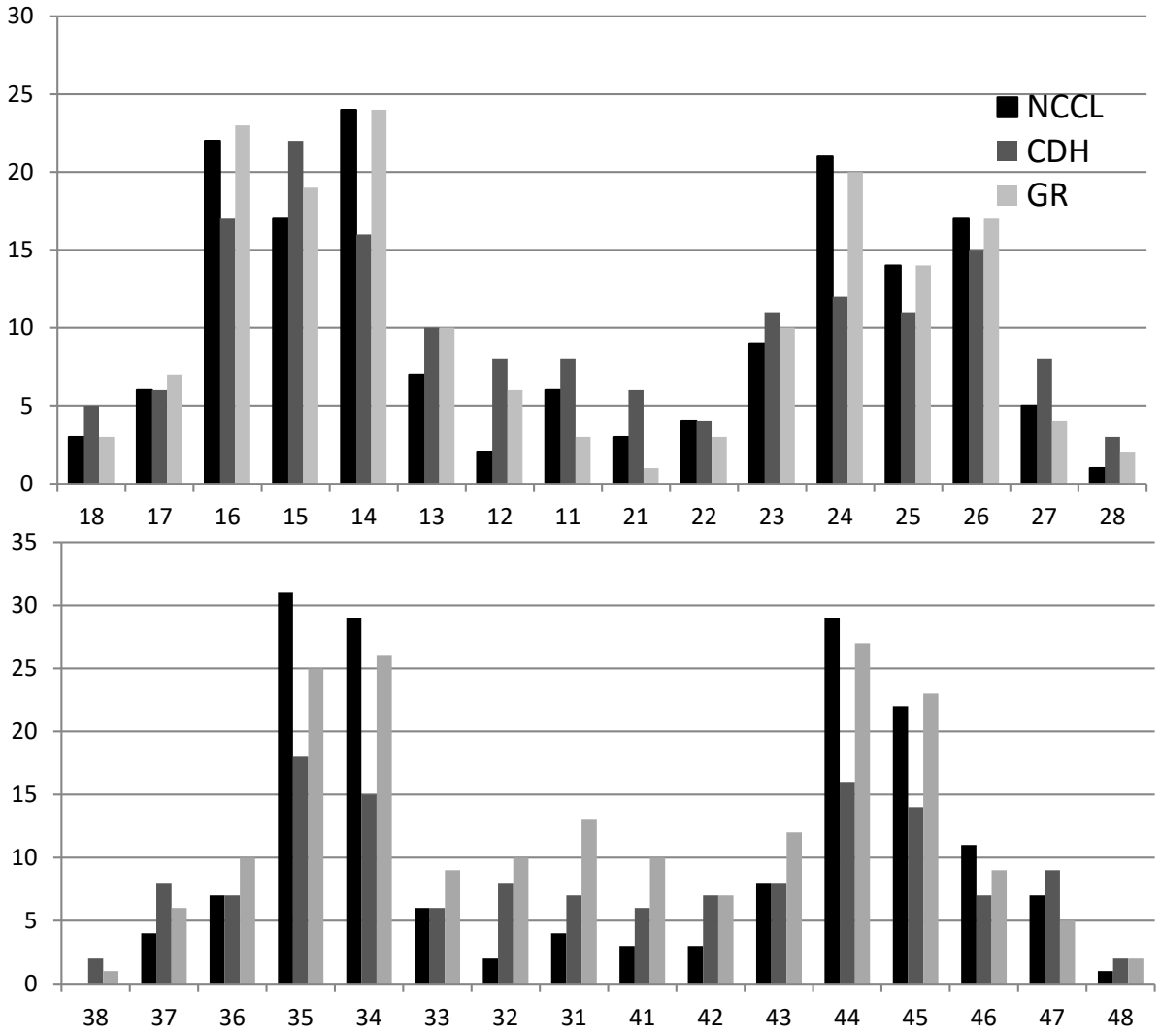
OHIP-14

Mann Whitney Test



Mean values of OHIP-14 and their association with the presence of NCCLs, CDH and GR

More susceptible tooth – Premolars



Tooth distribution of NCCL, CDH and GR.

Premolars

- Anatomy, less coronary volume;
- Occlusal Interferences;

Yang et al, 2016; Teixeira et al, 2018

Results and Discussion

Tooth decay

Edentulism

Teeth restored

Trauma

Fluorosis

Gingival inflammation

DOI: 10.1111/j.1365-263X.2010.01065

Oral health in 12- to 17-year-old athletes participating in the German Special Olympics

ABD
[1]Depa
Berlin

LATIN-AMERICAN SPECIAL OLYMPICS ATHLETES

ARTICLE

ABSTRACT

Objectives: The purpose of this study was to evaluate the oral health status and dental needs of the athletes with intellec-

Latin-American Special Olympics athletes: evaluation of oral health status, 2010

Oral cleanliness and gingival health among Special Olympics athletes in Europe and Eurasia

Luc Marks [1#], Carla Fernandez [1#], Imke Kaschke [2], Steven Perlman [3]

[1] Dental School, Centre of Special care in dentistry, PAECOMEDIS, Ghent University, Gent, Belgium

Results and Discussion

Dental and facial trauma

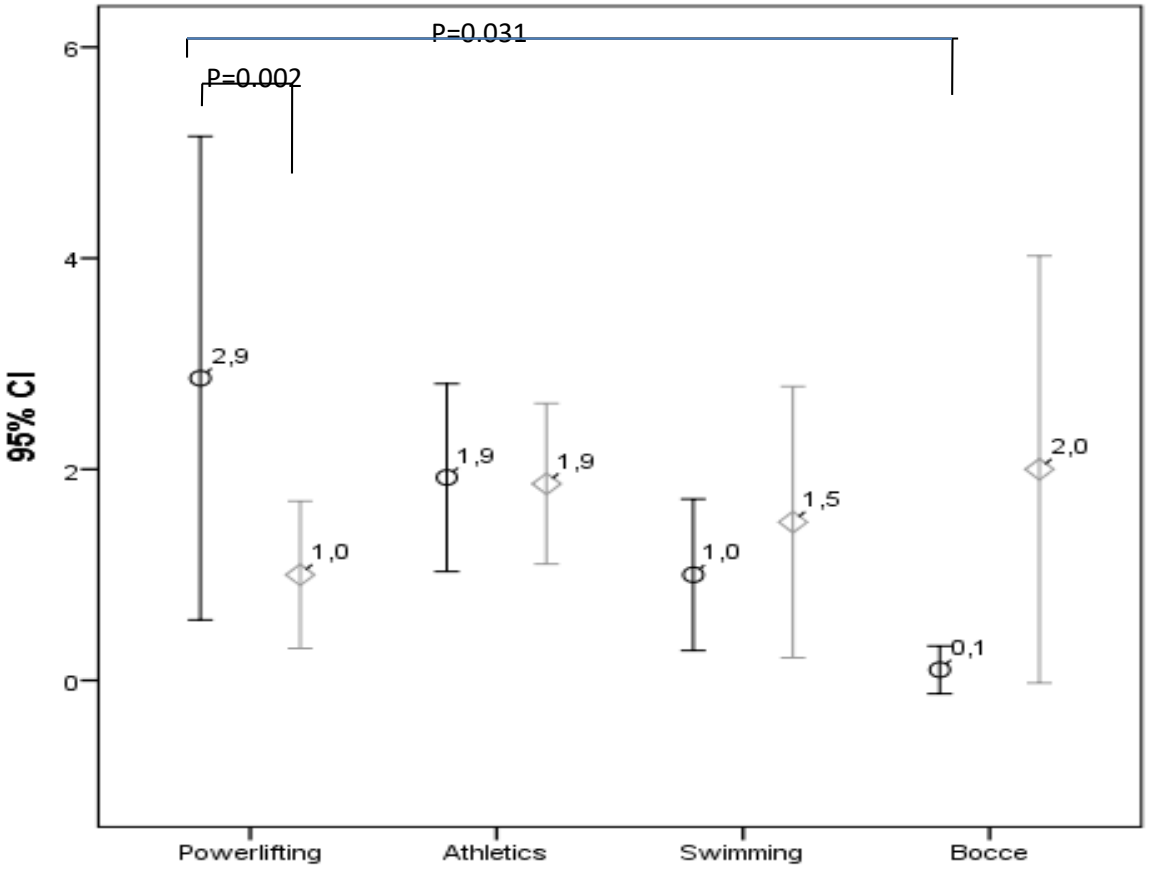
Biocorrosion

Decreased salivary flow during training

www.instagram.com/cpb

Risc Factors Exposures

Results and Discussion



I Wedged-shaped lesions
I Saucer-shaped lesions

Morphology of lesions and type of sport

Powerlifting

Wedged-shaped

✓ Parafunctional activities characterize occlusal forces of greater magnitude when compared to functional activities.

Okeson, 2003

Powerlifting and parafunction

Risc Factors

Bivariate analysis (Pearson´s Chis-quare) between the dependent variables (NCCL, CHD and GR) and associated factors.

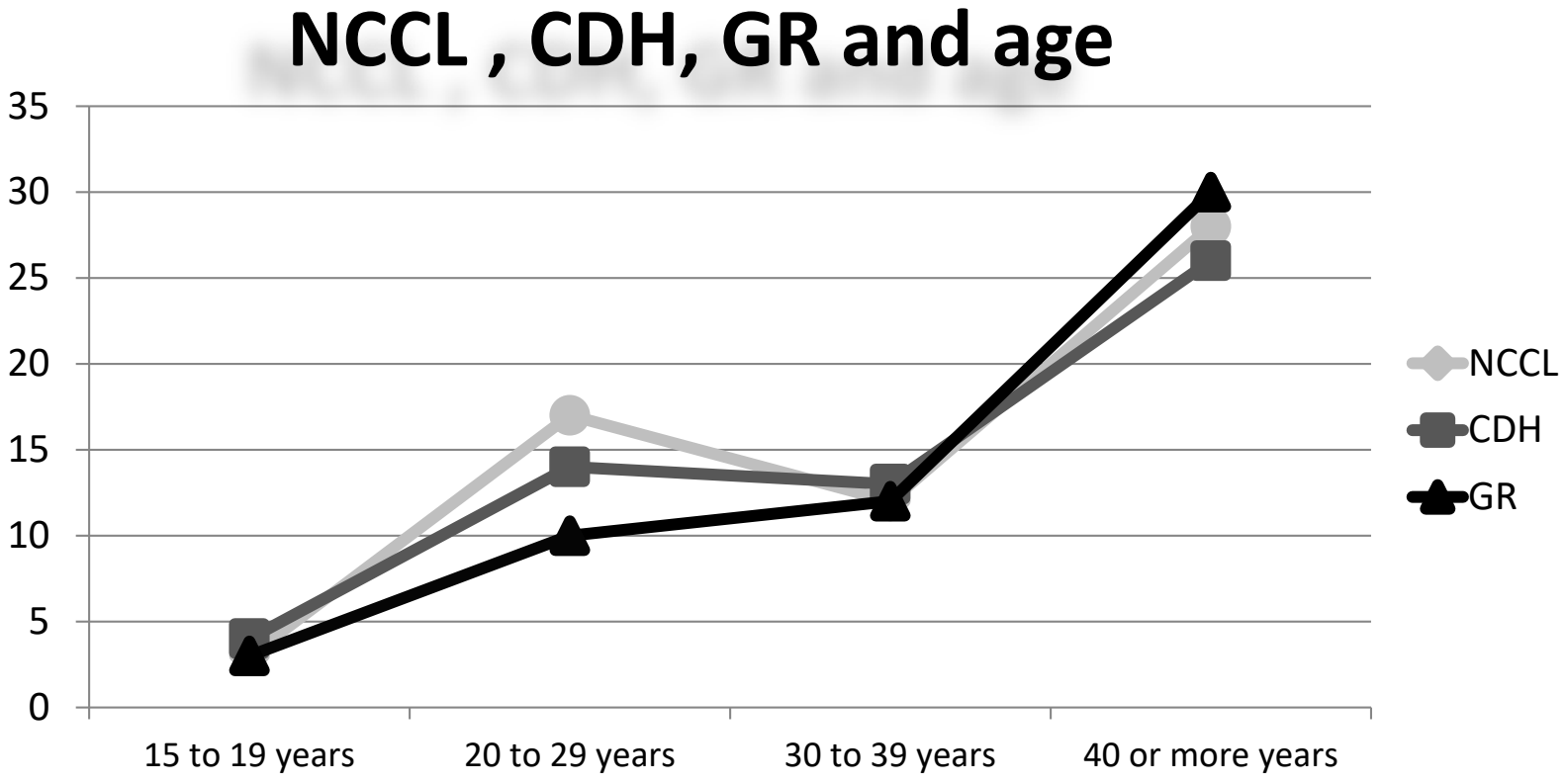
Variables	LCNC		p	CDH		p	GR		p
	Absent	Present		Absent	Present		Absent	Present	
Sociodemographic factors									
Age									
15-19 years	13 (81.2%)	3 (18.8%)	<0.001	12 (75%)	4 (25%)	<0.001	13 (81.2%)	3 (18.8%)	<0.001
20-29 years	14 (45.2%)	17 (54.8%)		17 (54.8%)	14 (45.2%)		21 (67.7%)	10 (32.3%)	
30-39 years	5 (29.4%)	12 (70.6%)		4 (23.5%)	13 (76.5%)		5 (29.4%)	12 (70.6%)	
40 years or more	3 (9.7%)	28 (90.3%)		5 (16.1%)	26 (83.95)		1 (3.2%)	30 (96.8%)	
Gender									
Male	20 (34.5%)	38 (65.5%)	0.551	23 (39.7%)	35 (60.3%)	0.932	23 (39.7%)	35 (60.3%)	0.545
Female	15 (40.5%)	22 (59.5%)		15 (40.55)	22 (59.5%)		17 (45.9%)	20 (54.1%)	
Friction related factor									
Brushing frequency									
1-2 times/day	10 (32.3%)	21 (67.7%)	0.519	12 (38.7%)	19 (61.3%)	0.858	12 (38.7%)	19 (61.3%)	0.641
3 times/day or more	25 (39.1%)	39 (60.9%)		26 (40.6%)	38 (59.4%)		28 (43.8%)	36 (56.2%)	

Results and Discussion

Variables	LCNC		p	CDH		p	GR		p
	Absent	Present		Absent	Present		Absent	Present	
Biocorrosion related factors									
Gastric disease									
No	29 (40.8%)	42 (59.2%)	0.164	31 (43.75)	40 (56.3%)	0.210	34 (47.9%)	37 (52.1%)	0.05
Yes	6 (25%)	18 (75%)		7 (29.2%)	17 (70.8%)		6 (25%)	18 (75%)	
Energetic drink consumption									
No	20 (39.2%)	31 (60.8%)	0.606	19 (37.3%)	32 (62.7%)	0.557	19 (37.3%)	32 (62.7%)	0.303
Yes	15 (34.1%)	29 (65.9%)		19 (43.2%)	25 (56.8%)		21 (47.7%)	23 (52.3%)	
Supplements use									
No	17 (34.7%)	32 (65.3%)	0.654	21 (42.9%)	28 (57.1%)		19 (38.8%)	30 (61.2%)	0.497
Yes	18 (39.1%)	28 (60.9%)		17 (37%)	29 (63%)		21 (45.7%)	25 (54.3%)	
Soda consumption									
No	7 (31.8%)	15 (68.2%)	0.577	5 (22.7%)	17 (77.3%)	0.059	7 (31.8%)	15 (68.2%)	0.265
Yes	28 (38.4%)	45 (61.6%)		33 (45.2%)	40 (54.8%)		33 (45.2%)	40 (54.8%)	
Temper salad with vinegar and lemon									
No	12 (38.7%)	19 (61.3%)	0.793	14 (45.2%)	17 (54.8%)	0.475	14 (45.2%)	17 (54.8%)	0.675
Yes	23 (35.9%)	41 (64.1%)		24 (37.5%)	40 (62.5%)		26 (40.6%)	38 (59.4%)	
Citric juice consumption									
No or hardly ever	24 (43.6%)	31 (56.4%)	0.107	25 (45.5%)	30 (54.5%)	0.203	25 (45.5%)	30 (54.5%)	0.438
Yes	11 (27.5%)	29 (72.5%)		13 (32.5%)	27 (67.5%)		15 (37.5%)	25 (62.5%)	

Results and Discussion

Variables	LCNC		p	CDH		p	GR		p
	Absent	Present		Absent	Present		Absent	Present	
Tension related factors									
Jaw clenching									
No	18 (35.3%)	33 (64.7%)	0.736	21 (41.2%)	30 (58.8%)	0.801	23 (45.1%)	28 (54.9%)	0.525
Yes	17 (38.6%)	27 (61.4%)		17 (38.6%)	27 (61.4%)		17 (38.6%)	27 (61.4%)	
Malocclusion									
No	14 (58.3%)	10 (41.7%)	0.012	15 (62.5%)	9 (37.5%)	0.009	17 (70.8%)	7 (29.2%)	0.001
Yes	21 (29.6%)	50 (70.4%)		23 (32.4%)	48 (67.6%)		23 (32.4%)	48 (67.6%)	
Periodontal status									
Periodontal disease									
Absent	30 (46.9%)	34 (53.1%)	0.004	31 (48.4%)	33 (51.6%)	0.016	35 (54.7%)	29 (45.3%)	0.000
Present	5 (16.1%)	26 (83.9%)		7 (22.6%)	24 (77.4%)		5 (16.1%)	26 (83.9%)	



Subjects distribution per age with isolated incidence of NCCL, CDH and GR.

Conclusions

✓ The age was an important factor related to the incidence of NCCL, CDH and GR, which had concomitant prevalence;

✓ Athletes from powerlifting trend to develop wedge-shaped lesions, which also was a risk group for CDH and GR;

✓ The presence of NCCL and GR demonstrated impact on quality of life of the athletes evaluated.

Oral health for Paralympic Athletes

Oral health for Paralympic Athletes

Acknowledgments




Thank you!!!
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