



# Aspects of Oral Health in Georgia

**Prof. Dr. Vladimer Margvelashvili**

Tbilisi State University

**Tbilisi, April 24, 2015**

# Overview

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- Parts I
  - *Caries experience, periodontal status among the schoolchildren of Georgia*
- Part II
  - *Correlation between caries experience, teeth mineral content and environmental pollution among the preschool children of the capital of Georgia, Tbilisi*
- Part III
  - *Caries experience and periodontal status of adult population of Georgia*

# Introduction

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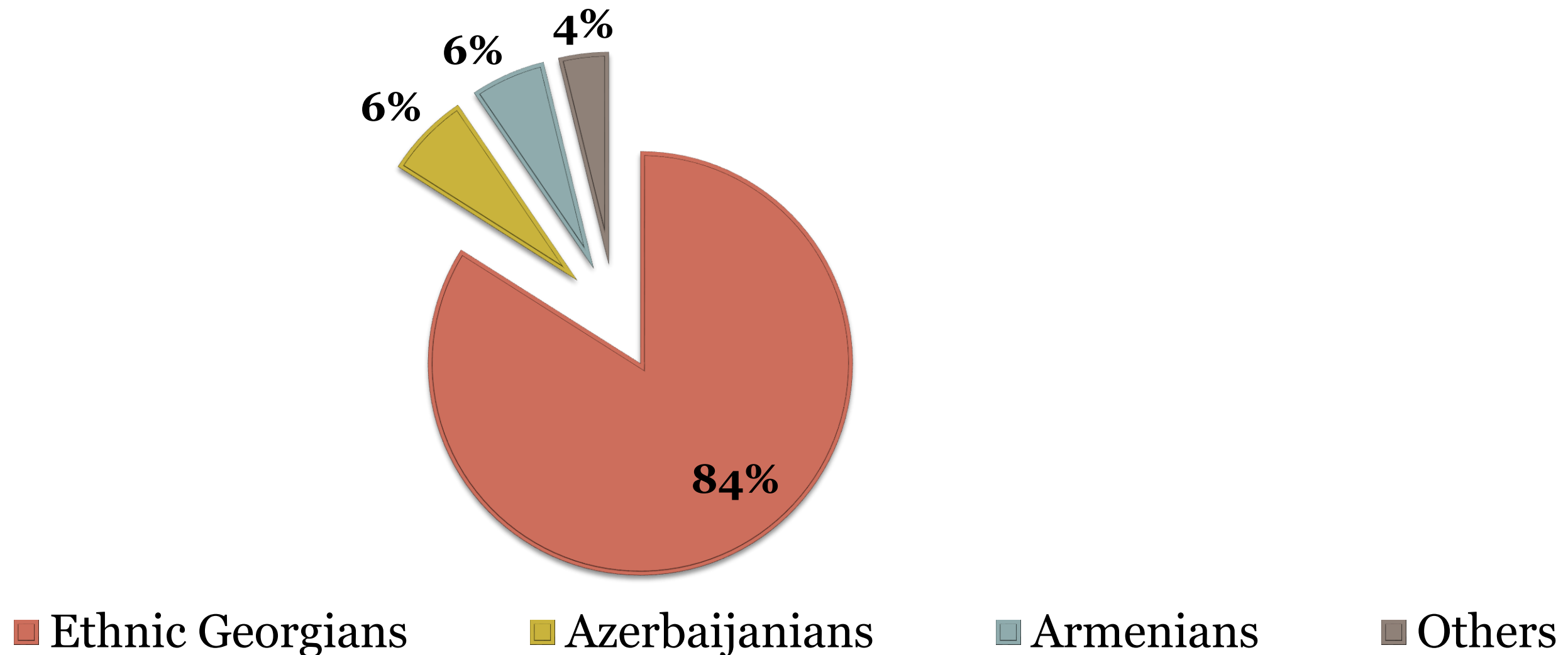
- Region of Caucasus
- 69 700 km<sup>2</sup>
- Part of the Soviet Union from 1921 until 1991
- Republic of Georgia



# Introduction

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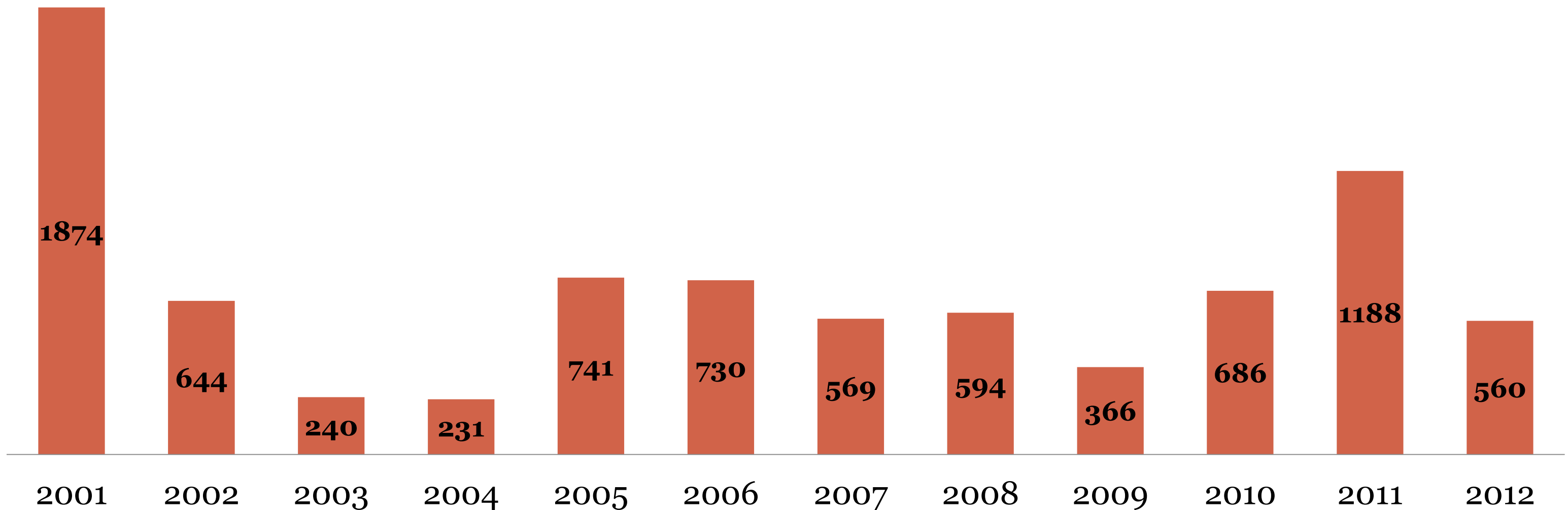
- Population is 4 632 230
- 52.21% are female and 47.79% are male
- 55.25% is in urban and 44.75% in rural areas



# Introduction

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- 8423 dentists (2012 data)
- Ratio of population per dentist is 550
- 65% female and 35% male



# Introduction

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- Continuing education programs are not mandatory

Specialty	Number of Dentists
Pedodontics	328
Pedodontic surgical dentistry	125
Therapeutic dentistry (conservative dentistry, endodontics, periodontology)	5781
Prosthetic dentistry	813
Specialist dentistry	1244

# Introduction

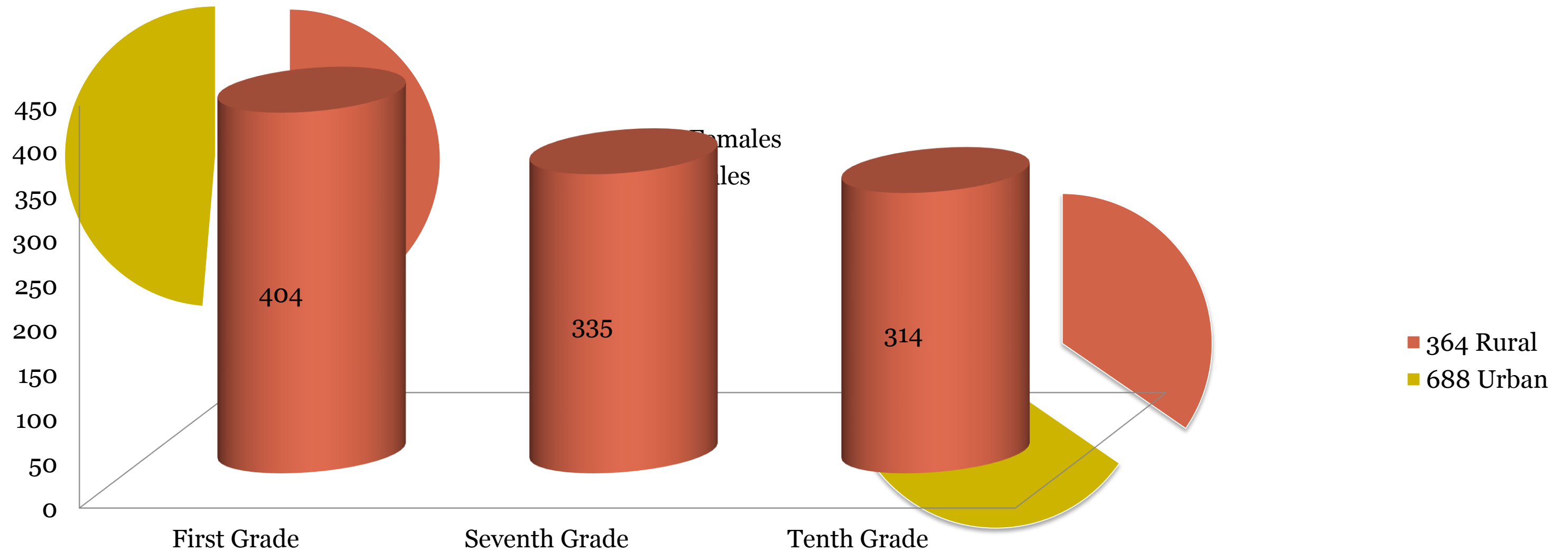
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- No comprehensive epidemiological studies 1985-2012
- In 2012 a national epidemiological survey was conducted
- Group of researchers from Georgia and Israel
- International Association for Dental Research (IADR) Regional Development Program grant
- *Fourth edition of "Oral Health Surveys - Basic methods", Geneva 1997*



# Caries Experience

- 1052 children were examined





# Carries Experience

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<b>Age Group</b>	<b>dmf</b>	<b>DMF</b>	<b>Carries Free</b>
First Grade (5-6 years)	4.57 (3.42)	0.04	68 (16.83%)
Seventh Grade (12 years)		2.04 (2.02)	113 (33.83%)
Tenth Grade (15 years)		3.51 (3.14)	64 (20.44%)

# Carries Experience

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City	dmf	DMF
Akhaltsikhe	1.90	1.74
Batumi	1.41	1.70
Kutaisi	1.10	0.82
Marneuli	1.71	1.34
Tbilisi	1.97	1.71
p	0.02	0.001

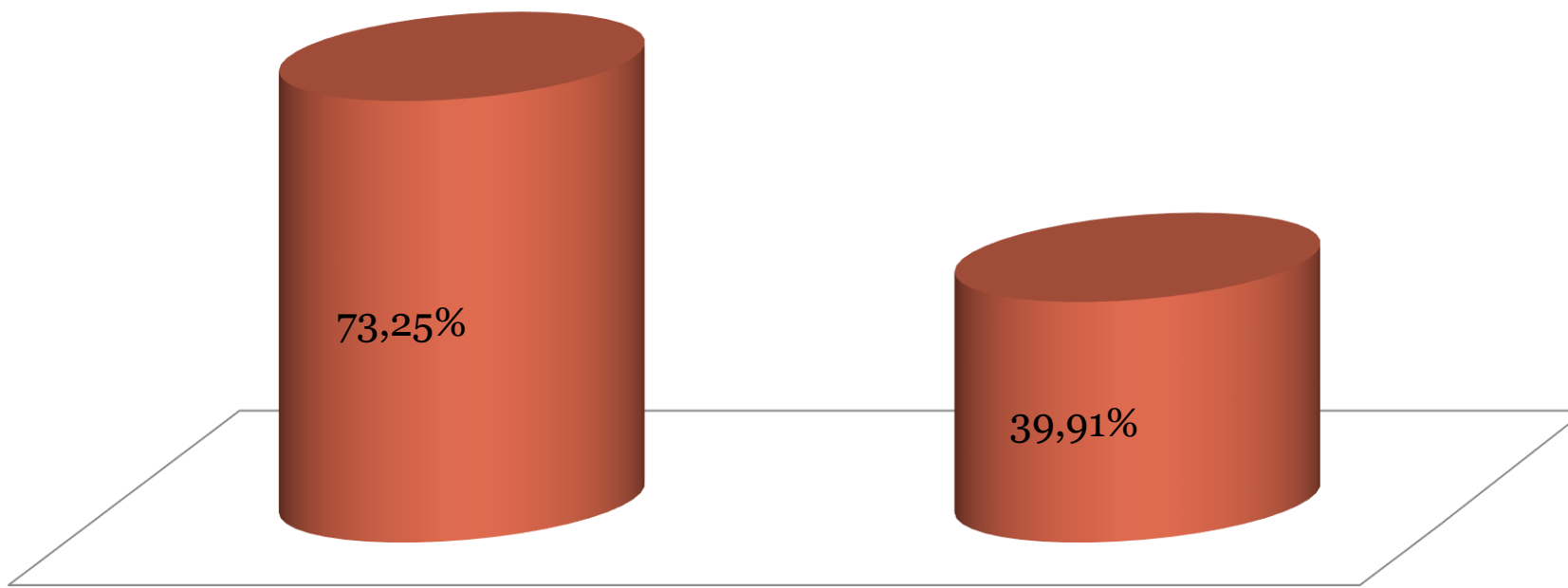
# Periodontal Status

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- 314 tenth grade (15 years old) children were examined
  - *Plaque*
  - *Calculus*
  - *Bleeding on probing*

# Periodontal Status

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Plaque

Plaque on all examined teeth



# Conclusions Part I

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- Caries experience as well as periodontal diseases seem to be prevalent in Georgia
- **Assessment of potential correlation with independent variables (diet, fluoride, oral hygiene, socio-economic status, dental treatment, etc.) are warranted**

# Influence of environmental pollution on caries experience and teeth mineral content of preschool children of Tbilisi, Georgia

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- The aim of the study was to assess the influence of environmental pollution on caries experience and teeth mineral content of preschool children of the capital of Georgia, Tbilisi.

# Materials and Methods

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- Two regions
- dmft
- Qualitative and quantitative assessment of dental hard tissue mineral (Ca, Zn, Mn, Fe, Rb, Ni, Sr) content
- Qualitative and quantitative assessment of dental hard tissue and heavy toxic elements (Pb and Hg)

# Results

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- Overall 535 children were examined





# Results

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Group	<i>n</i>	dmft	Caries Prevalence	Lead Content
Polluted	302	1.92 ± 2.842 *	47%(142) *	7.74±1.765 *
Less Poluted	223	1.47 ± 2.571	37% (83)	4.95±2.302

# Conclusions Part II

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- It can be concluded that caries experience is higher among the children living in relatively polluted area of Tbilisi, Georgia.
- Dental hard tissues seem to be good environmental pollution indicators.
- Further research is warranted in order to assess correlations between caries experience and lead content in dental hard tissues.

# Caries Experience and Periodontal Status among the Population of Georgia

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- The aim of the study was to screen the caries experience and periodontal status of Georgian population with emphasis on age and sex.

# Materials and Methods

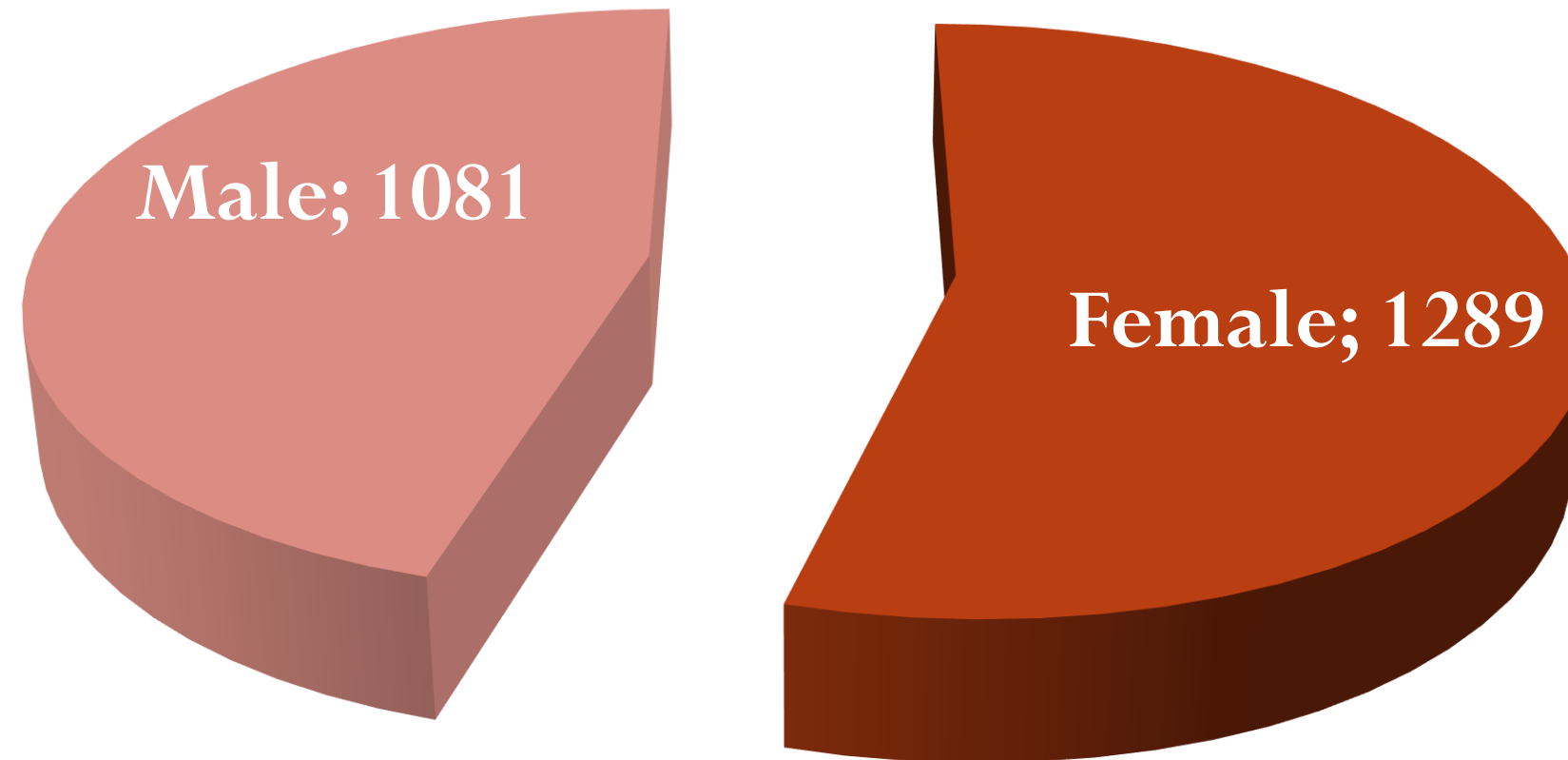
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- **Stratified cluster technique, four age groups**
  - *20-34*
  - *35-44*
  - *45-65*
  - *65+*
- **All 9 regions and the capital of Georgia**
- **DMFT values**
- **Periodontal examinations**
  - *Plaque*
  - *Calculus*
  - *Bleeding on Probing*

# Results

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- *Overall 2370 adults were examined*



# Results

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- *Overall DMFT value was  $11.53 \pm 7.69$*
- *Prevalence of dental caries 99.1%*

# Results

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Age groups	<i>n</i>	DMFT
20-34	797	7.02
35-44	469	10.09
45-64	855	14.18
65+	249	19.61

***Total dental caries experience was statistically significantly different by age,  $p < 0.05$***

# Results

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Gender	<i>n</i>	DMFT
Male	1081	11.25±8.2
Female	1289	11.76±7.2

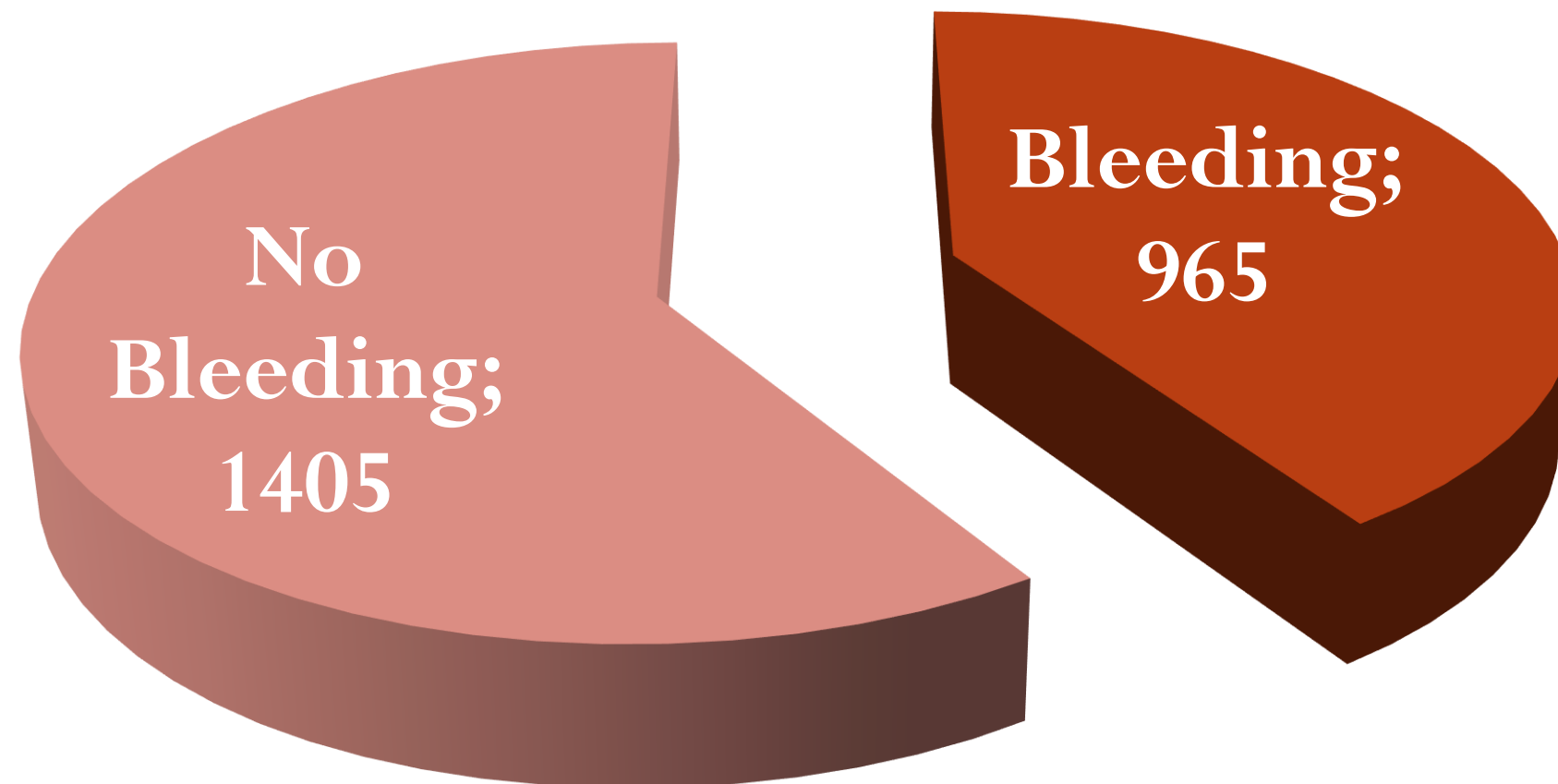
***Statistically significant differences were seen only for M and F values.***



# Results

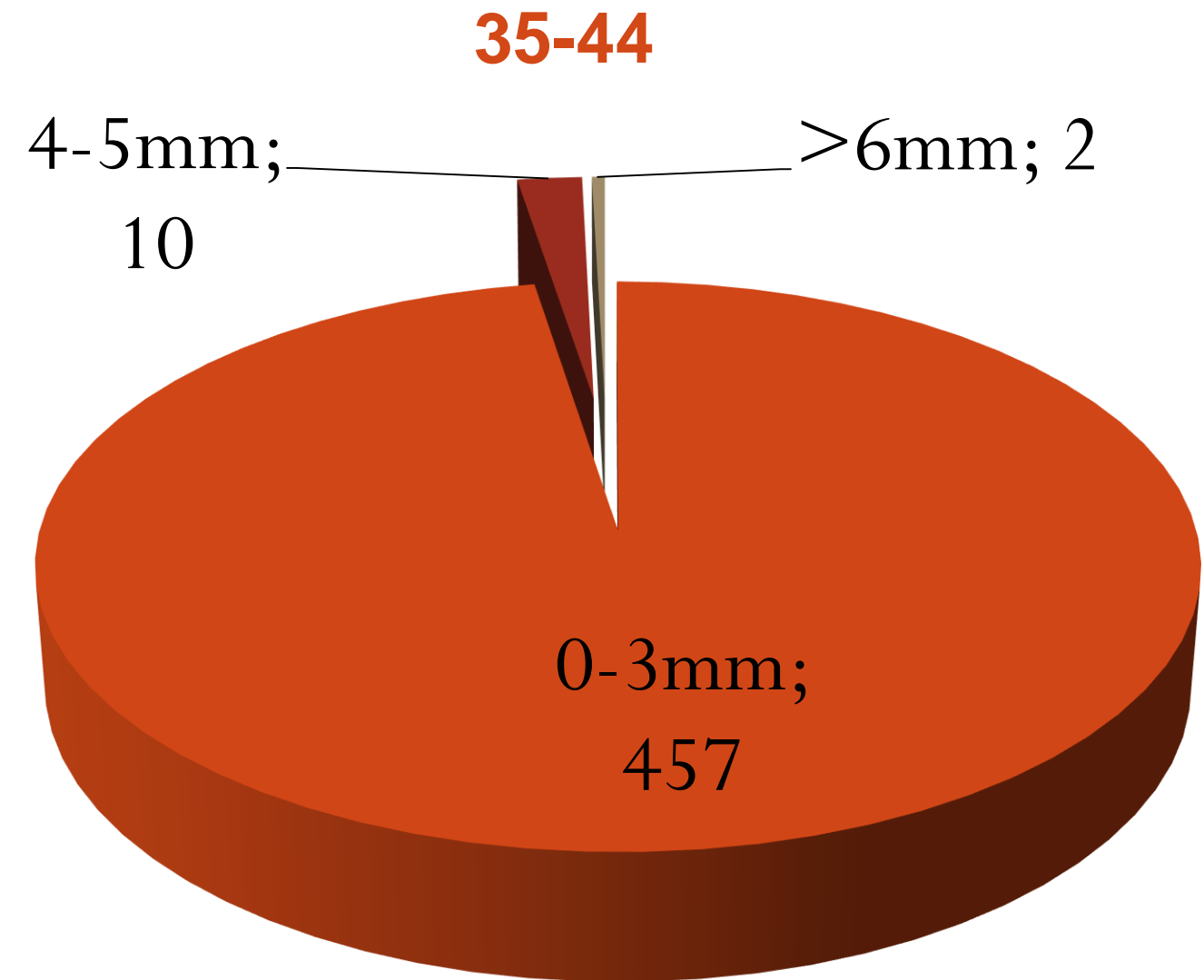
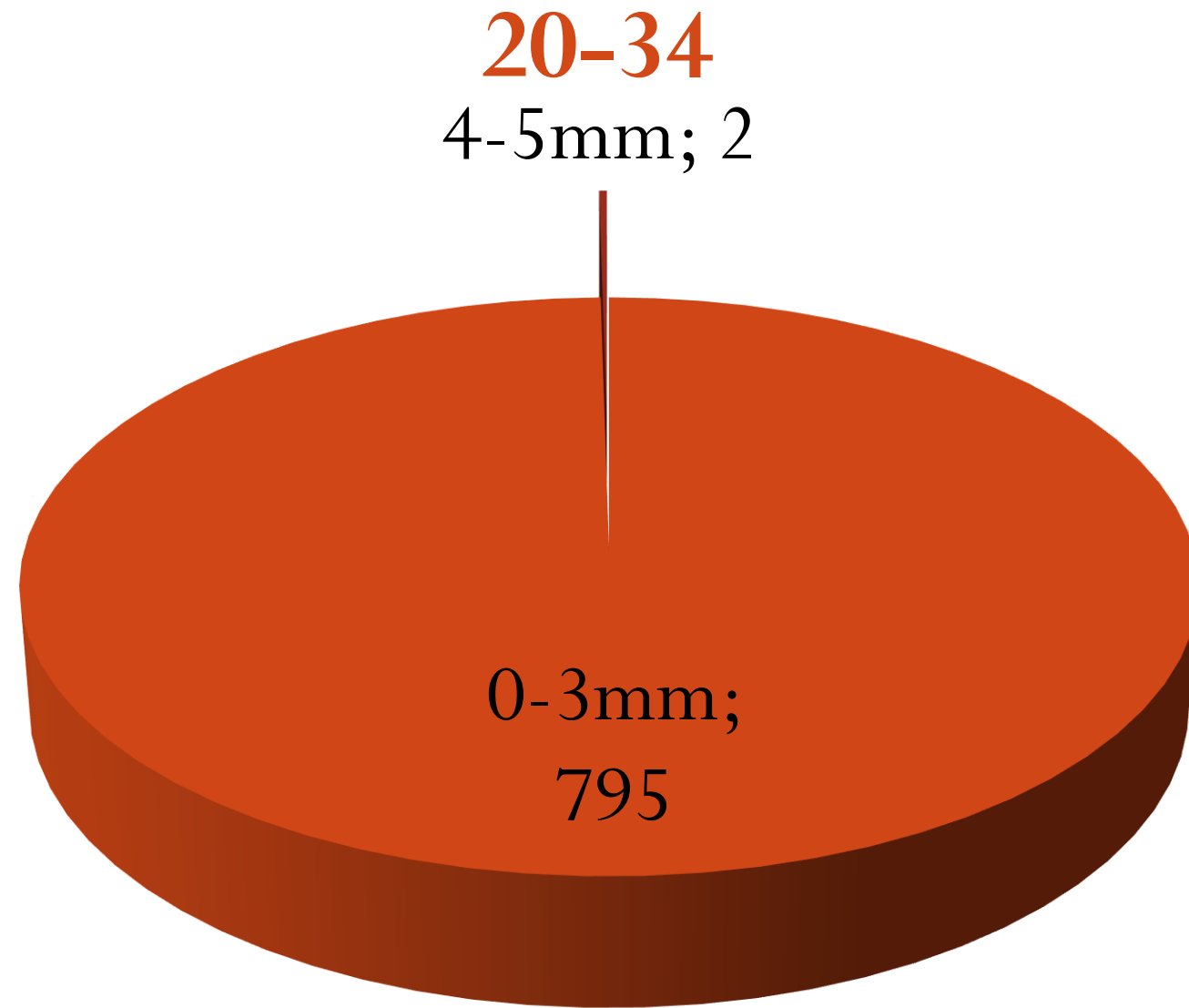
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- Overall, periodontal diseases were noted among 62%



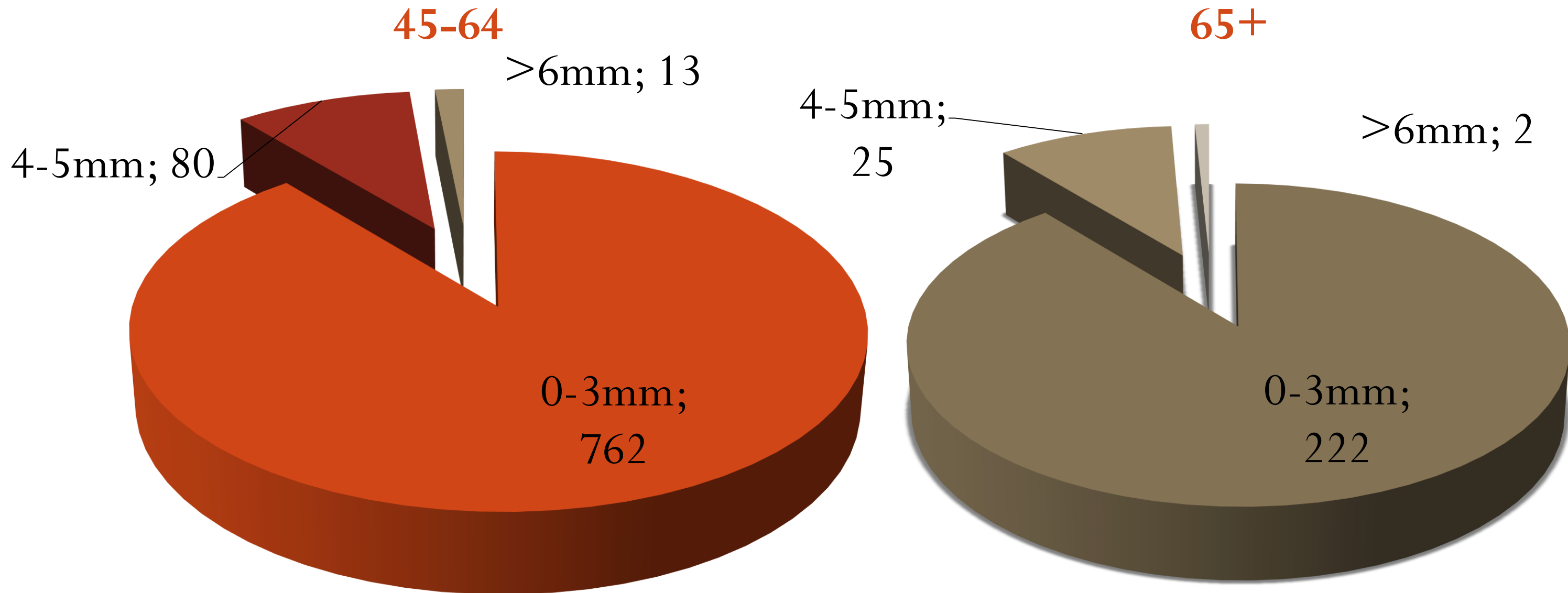
# Results

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# Results

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***statistically significant differences were seen in all the parameters when age groups were compare***

# Conclusions Part III

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- Dental caries experience and prevalence of periodontal diseases is quite high in Georgia.
- Males presented with more plaque, calculus and probing depths than females.
- Further research is warranted in order to look into the influencing factors.
- Meanwhile, there is **urgent need** of **education and prevention programs** to be introduced in order to improve **oral health status** among the population of Georgia.

# Dental Caries Experience in School Children and Drinking Water Fluoride content of Different regions of Tbilisi, Georgia

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- The aim of our research was to determine dental caries experience in Tbilisi school children and its relation with fluoride levels in drinking water.
- There is correlation between caries experience and fluoride levels in drinking water.



# Aspects of Oral Health in Georgia

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# Thank you

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Q / A

*Prof. Dr. Vladimer Margvelashvili*

*v\_marg@yahoo.com*