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Depressive symptoms and untreated dental caries in older independent-living South-Brazilians

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The importance of psychologic reactions in modifying oral health behaviors and salivary immunity has been shown previously, but few studies assessed whether psychologic reactions are associated with caries in populations.

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Objective: *to evaluate the association between depression symptoms and untreated dental caries using a hierarchical approach based on the conceptual framework of caries in populations proposed by Holst et al (2001).*

Depression and dental caries in older persons

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METHODS:

Population of Carlos Barbosa in 2000: 20519

Random Sampling based on city registers

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METHODS: Sampling

74.5% of the households supplied with fluoridated water

2167 in the city register with 60 or + years:

1 moved away
9 died before contact
22 lived in a long-term residence
113 were not located

983 contacted:

872 took part
785 finished the study protocol
390 had at least one tooth

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METHODS: Representativeness

Table 1. Socio-demographic characteristics of study participants and of the population of persons aged 60 years or more in Carlos Barbosa, Brazil.

		Participants	Population	p
Age	*60-64 years*	N=304 (34.8%)	N=729 (33.7%)	0.94
	65-69 years	N=212 (24.3%)	N=512 (23.6%)	
	70-74 years	N=188 (21.6%)	N=405 (18.7%)	
	75-80 years	N=95 (10.9%)	N=304 (14.0%)	
	80 or more years	N=73 (8.4%)	N=217 (10.0%)	
Gender	*Male*	N=309 (35.4%)	N=907 (41.7%)	0.31
	Female	N=563 (64.6%)	N=1267 (58.3%)	
Marital Status	*Married*	N=623 (71.6%)	N=1332 (67.7%)	0.54
	Divorced/widowed	N=247 (28.4%)	N=636 (32.3%)	
Geographic localization	*Urban*	N=418 (47.9%)	N=1131 (51.9%)	0.57

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METHODS: Measures

Face-to-face interviews:

1. Informed Consents;
2. Structure questionnaire;
3. Self-perceived oral health (Likert scale);
4. Oral hygiene self-care;
5. GDS-15.

Oral Examinations:

1. VPI;
2. Dental status (DMFT);
3. Unstimulated saliva (Spit method).

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METHODS: Statistical Analyses

Univariate:
Chi-square
Student-t or Mann-Whitney

Reproducibility:
Cohen's Kappa
Cronbach's Alpha

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METHODS: Statistical Analyses

Hierarchical model – Outcome: D>0

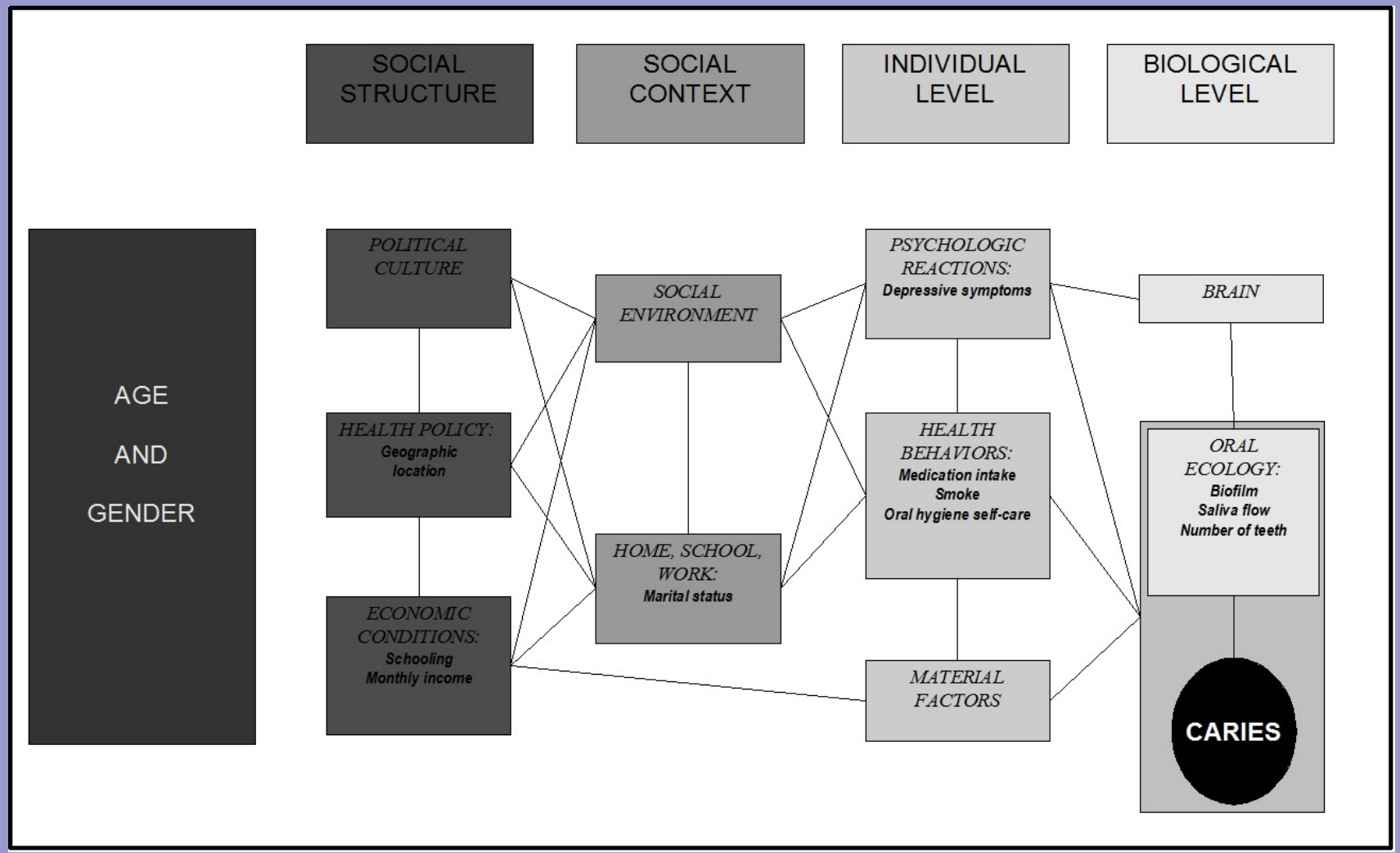

Table 1. Characteristics of the sample in respect to the studied outcome.

Level			D=0	D>0	P
	Age	In years	65.60 (±6.08)	67.00 (±6.09)	0.52
	Gender	Male	N=72 (46.2%)	N=127 (54.3%)	0.12
		Female	N=84 (53.8%)	N=107 (47.5%)	
Social structure	*Schooling*	>4 years	N=51 (32.7%)	N=65 (27.8%)	0.31
		=<4 years	N=105 (67.3%)	N=169 (72.2%)	
	Monthly income	>R$260.00	N=72 (46.2%)	N=115 (49.1%)	0.60
		=<R$260.00	N=84 (53.8%)	N=119 (50.9%)	
	Geographic location	Rural	N=40 (44.9%)	N=114 (48.7%)	0.46
		Urban	N=86 (55.1%)	N=120 (51.3%)	
Social context	*Marital status*	Married	N=124 (79.5%)	N=187 (79.9%)	1.00
		Others	N=32 (20.5%)	N=47 (20.1%)	
Individual level	*Oral hygiene self-care*	=>2/day	N=109 (69.9%)	N=153 (65.4%)	0.38
		<2/day	N=47 (30.1%)	N=81 (34.6%)	
	Medication intake	<2/day	N=83 (53.2%)	N=106 (45.3%)	0.15
		=>2/day	N=73 (46.8%)	N=128 (54.7%)	
	Smoke	Former/never	N=142 (91.0%)	N=215 (91.9%)	0.99
		Current	N=14 (9.0%)	N=19 (8.1%)	
	Depressive symptoms	Absent	N=144 (92.3%)	N=202 (86.3%)	0.07
		Present	N=12 (7.7%)	N=32 (13.7%)	
Oral ecology	*Biofilm – VPI*	1st quartile	N=48 (30.8%)	N=49 (21.0%)	0.03
		2nd quartile	N=31 (19.9%)	N=67 (28.8%)	
		3rd quartile	N=32 (20.5%)	N=63 (27.0%)	
		4th quartile	N=45 (28.8%)	N=54 (23.2%)	
	Saliva flow	=>0.1 ml/min	N=99 (63.5%)	N=164 (70.4%)	0.18
		<0.1 ml/min	N=57 (36.5%)	N=69 (29.6%)	
	Number of teeth		8.07 (±5.87)	11.19 (±6.86)	0.001

RESULTS

Table 7. Risk indicators for caries following a hierarchical approach in independent-living older persons from Carlos Barbosa, South Brazil.

			D>0
			OR and 95% CI
Individual level	*Depression symptoms*	Presence	2.25 (1.09 to 4.66)
			P=0.03
Oral ecology	*Biofilm – VPI*	2nd quartile	2.96 (1.58 to 5.54)
		3rd quartile	2.62 (1.40 to 4.90)
		4th quartile	2.31 (1.21 to 4.42)
			P=0.003
Number of teeth			1.10 (1.06 to 1.15)
			P=0.001

DISCUSSION

Depressive symptoms effects on health behaviors and immunity

Fluorides, dental plaque

Limitations and future studies

Depression and dental caries in older persons

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