

Association of early childhood caries and oral health related behaviours

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Introduction

Early Childhood Caries (ECC) is defined by the presence of one or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child under the age of 6¹. Oral health related behaviours, including oral hygiene and dietary habits, play an important role in ECC². In Portugal epidemiological data of oral health in pre-school children are sparse, non-representative and described in small communities. This work pretends to contribute to the knowledge of ECC epidemiology in portuguese population.

Objectives

The objectives of this study were to determine ECC prevalence and dmft scores, in the Lisbon region (Portugal), and their relation to several demographic, social, economic, behavioural, and microbiological characteristics.

In this poster is described the oral health related behaviours and investigated their relation to ECC in a group of pre-school children attending schools in the Lisbon region (Portugal).

Methods

A cross-sectional study was performed using a representative sample selected by a school-based multi-stage sampling method. This sample had 420 children, aged 3 to 5 years old.

The Ethics Committee and the schools' officials approved the study. Participation in the study was voluntary and informed consents were obtained from parents.

ECC presence was determined, using American Association of Pediatric Dentistry definition¹ and ICDAS criteria³, through an oral examination performed in the schools by a trained and calibrated dentist. The other variables of interest were collected by a self-applied questionnaire from the parents, and consisted in "visit to the dentist", "age child started brushing", "daily help in tooth brushing", "tooth brushing frequency", "cariogenic snacks between meals", "cariogenic beverages between meals", "cariogenic snacks in bed", and "cariogenic beverages in bed".

Chi-square tests were used to determine associations between ECC and oral health behaviours ($\alpha=0.05$).

Results

The majority of children never went to the dentist (65.4%). Initiation of tooth brushing during the first year of life occurred in 26.2% of the cases, and parents helped tooth brushing in 55.3%. Most children brushed, at least, twice a day (54.0%). Consuming cariogenic snacks and beverages between meals was reported, respectively, by 34.0% and 12.2% of the participants. Eating cariogenic snacks in bed was stated by 14.5% of the participants, and drinking cariogenic beverages in bed by 29.1% (Table 1).

Children with ECC were more likely to have visited a dentist more frequently ($p=0.008$) (Figure 1), initiated tooth brushing at an older age ($p<0.001$) (Figure 2), received less help from their parents on tooth brushing ($p=0.013$) (Figure 3), and brushed their teeth less than twice a day ($p=0.036$) (Figure 4). There was no association found for the consumption of snacks (Figure 5) and beverages between meals (Figure 6), the consumption of snacks in bed (Figure 7) and ECC. A negative association was found between ECC and the habit of drinking cariogenic beverages in bed ($p=0.029$) (Figure 8).

Conclusions

Presence of ECC is associated with several oral health related behaviours in the studied population, mostly related with tooth brushing habits. These behaviours may be modified or corrected through simple oral health promotion and education measures. The negative association found between drinking cariogenic beverages in bed and ECC may be explained by a confounding variable.

Table 1: Distribution of oral health behaviours in the population.

Behaviour	%	n
Visit to the dentist		
Never went	65.4	267
Frequently, for prevention	28.7	117
Only when child has pain	5.9	24
Age child started to brush		
During the first year	26.2	107
Between 1 and 2 years	48.0	196
Between 2 and 3 years	20.8	85
After 3 years	5.0	20
Daily help on tooth brushing		
Yes	44.7	180
No	55.3	234
Tooth brushing frequency		
Twice or more per day	54.0	227
Less than twice a day	46.0	193
Cariogenic snacks between meals		
Yes	34.0	130
No	66.0	255
Cariogenic beverages between meals		
Yes	12.2	46
No	87.8	332
Cariogenic snacks in bed		
Yes	14.5	59
No	85.5	348
Cariogenic beverages in bed		
Yes	29.1	120
No	70.9	293

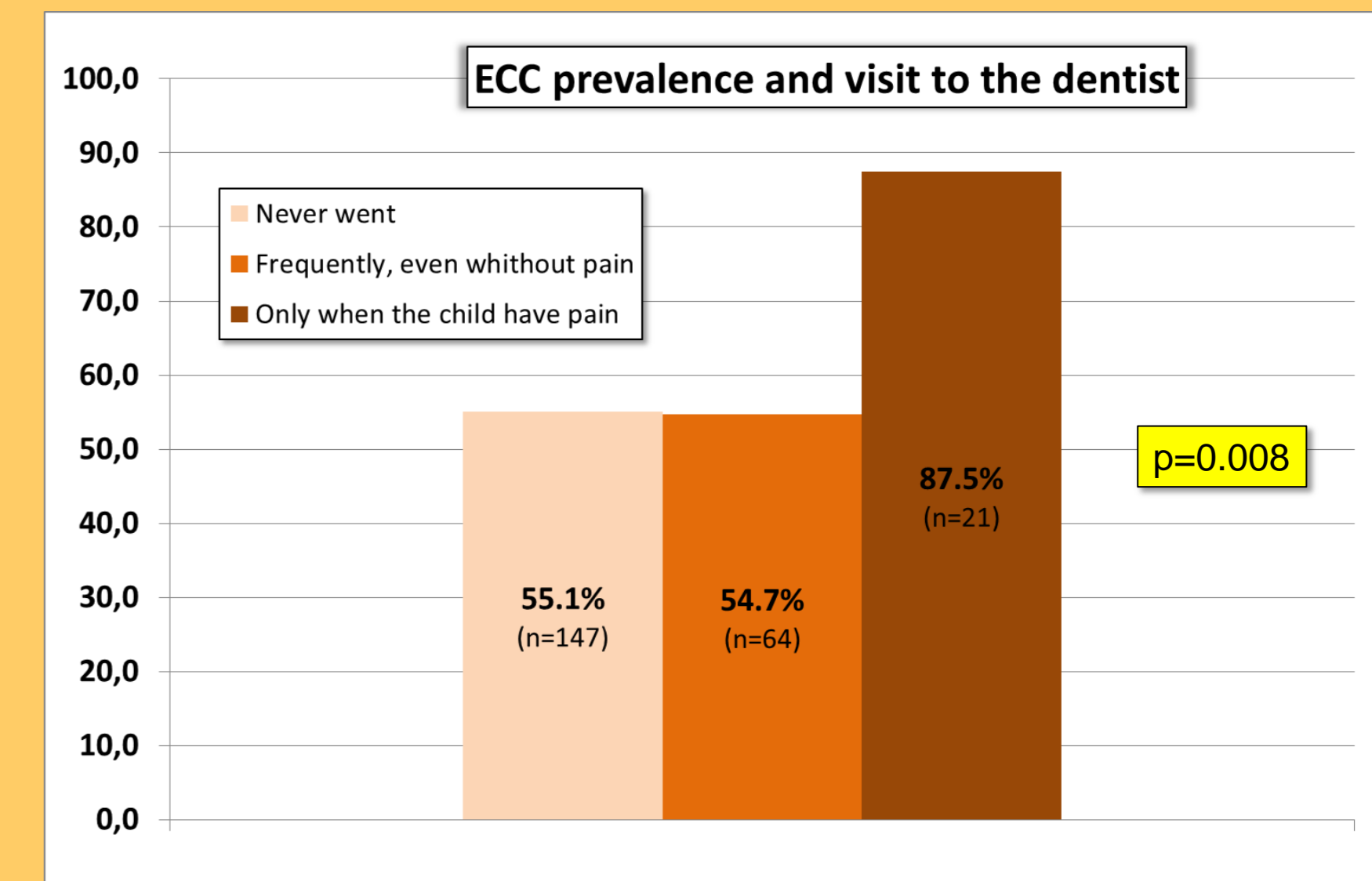


Figure 1: Association of ECC and visit to the dentist.

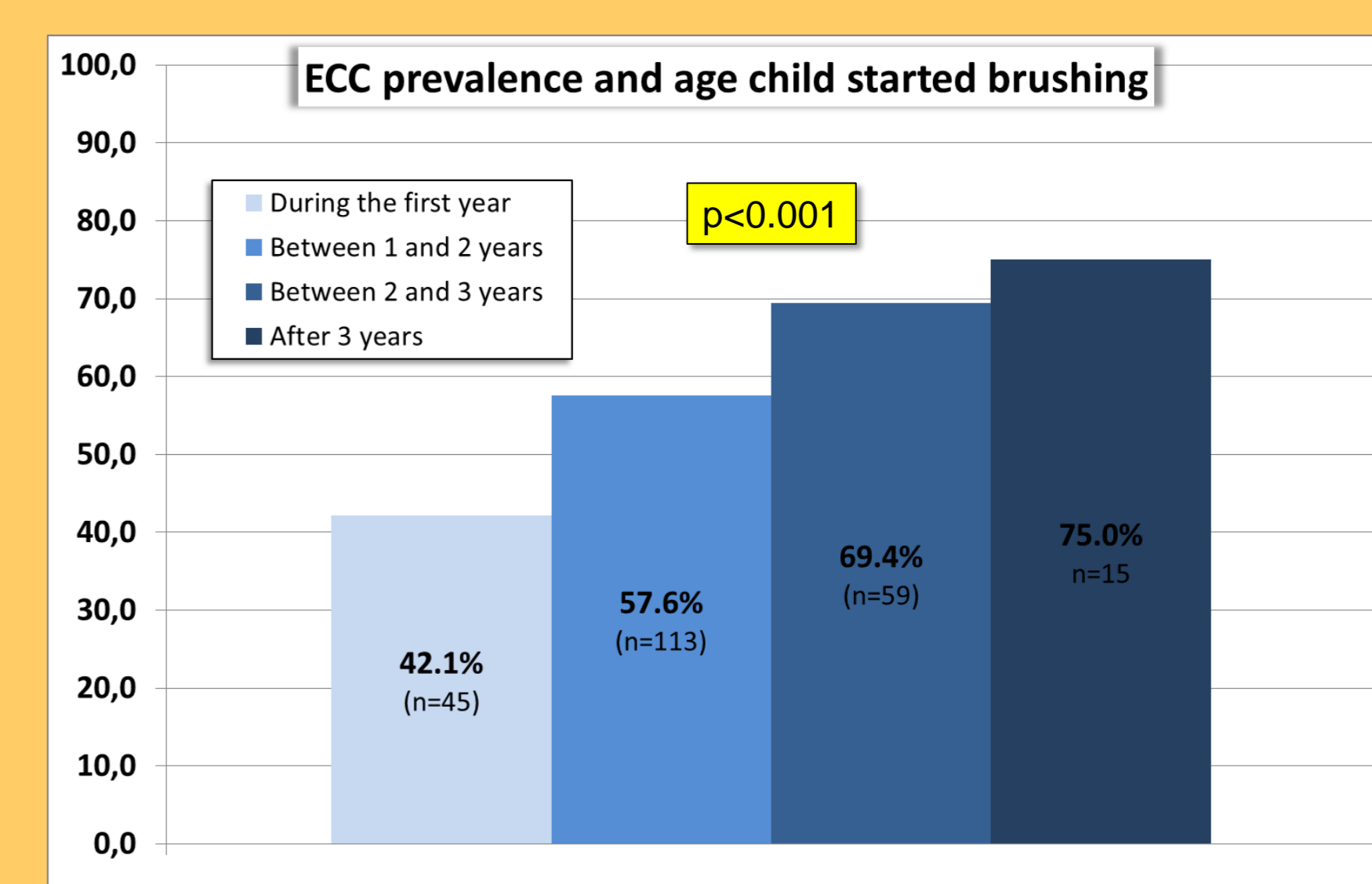


Figure 2: Association of ECC and age that child started brushing.

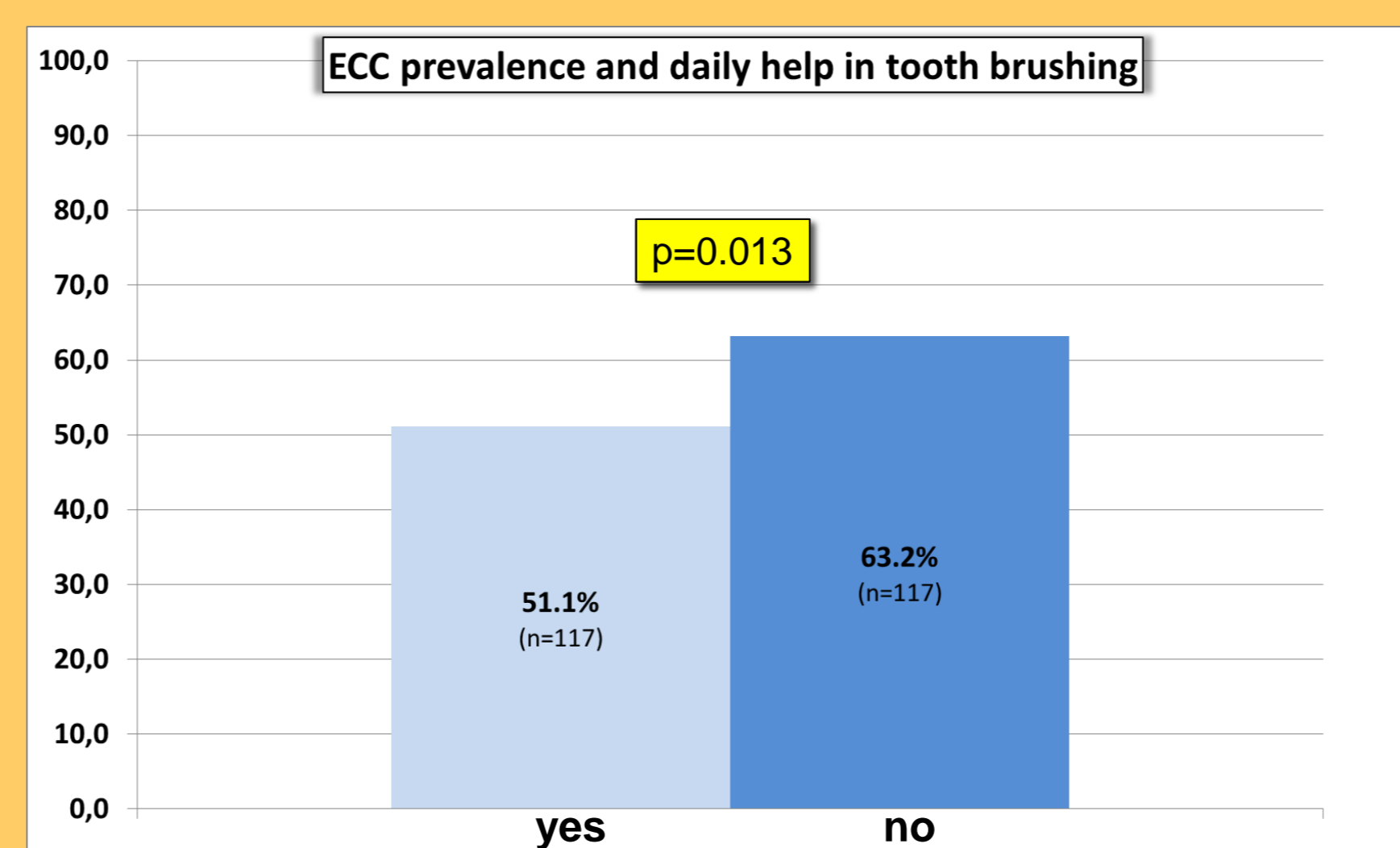


Figure 3: Association of ECC and daily help in tooth brushing.

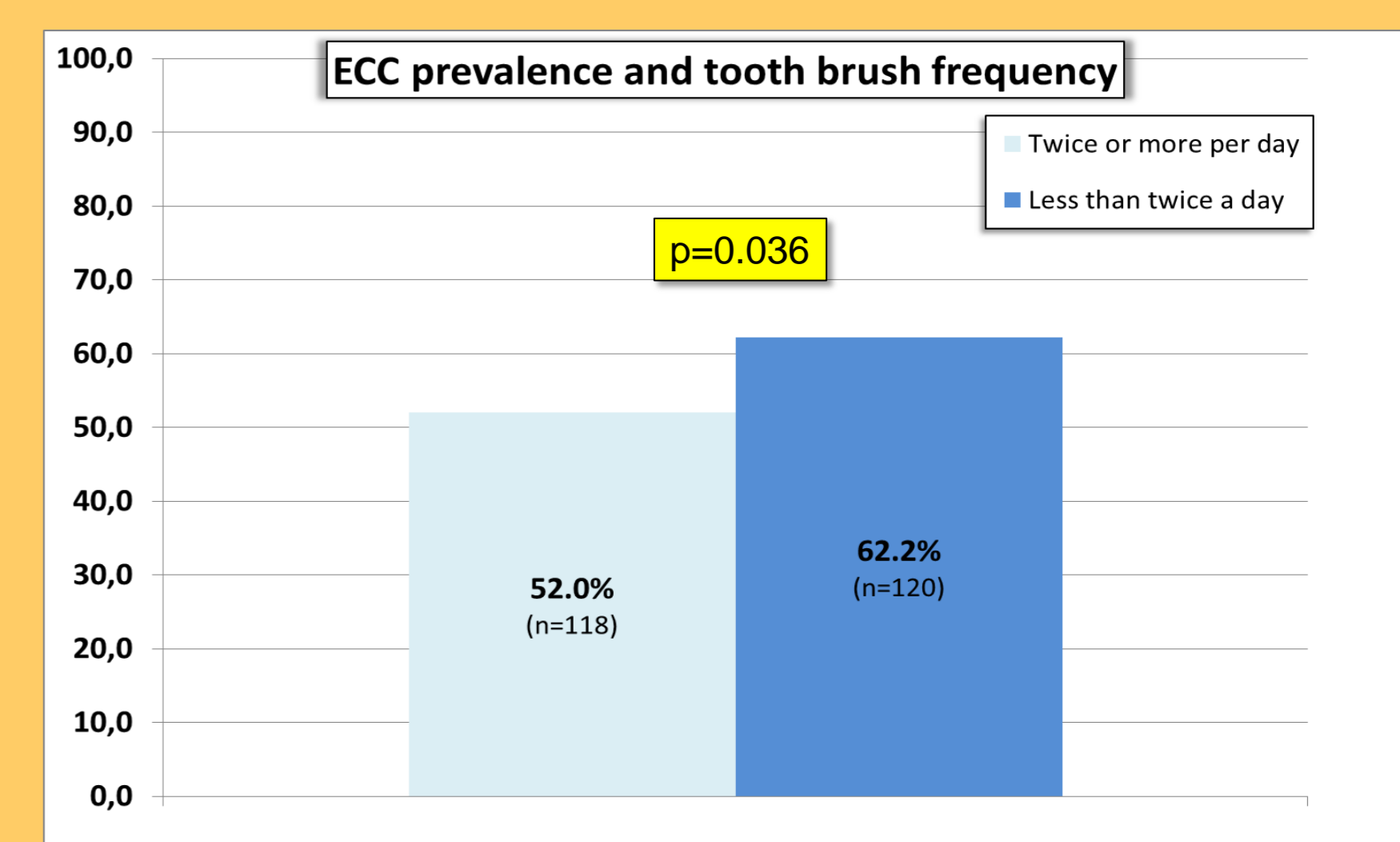


Figure 4: Association of ECC and tooth brush frequency.

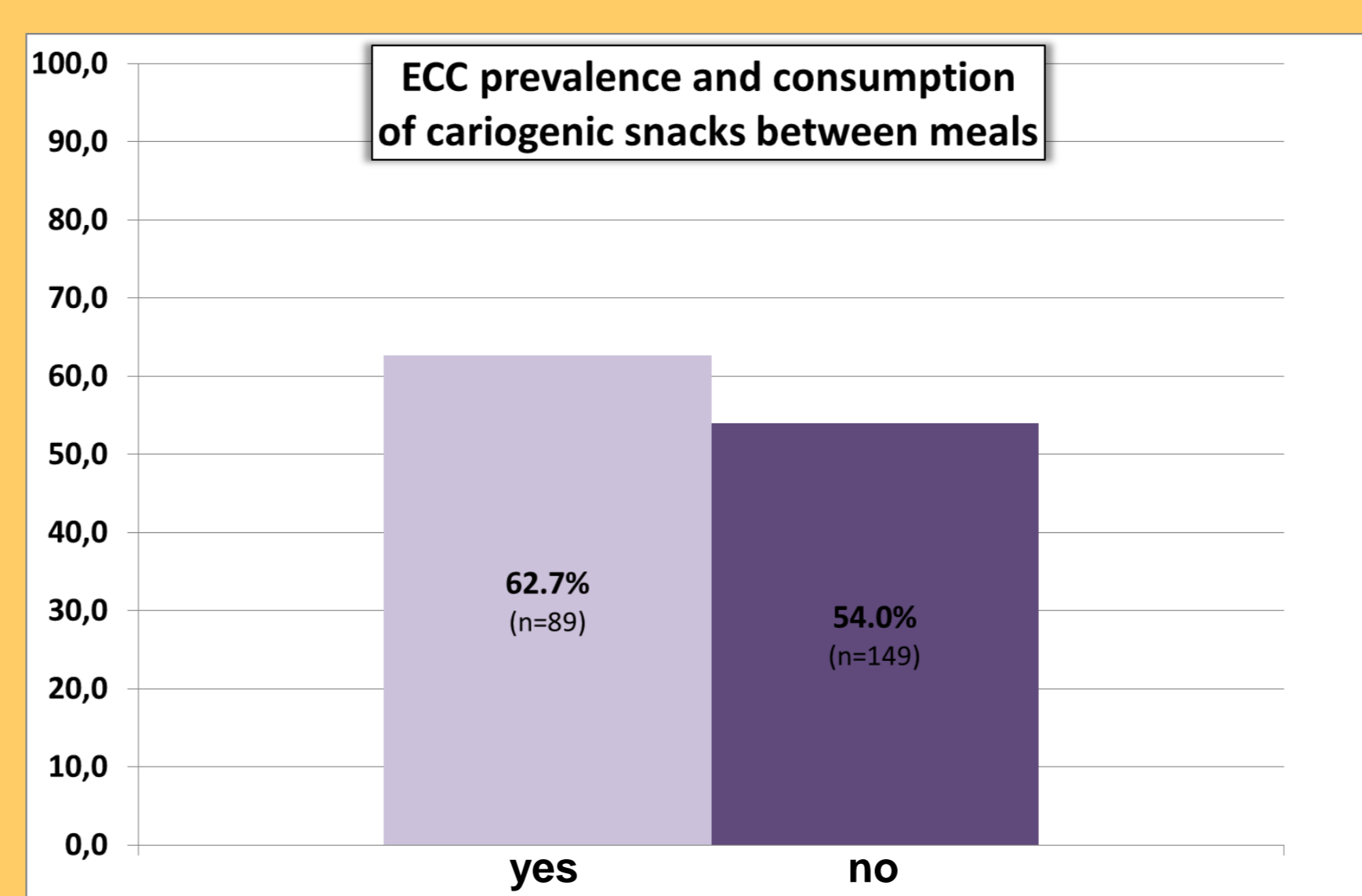


Figure 5: Association of ECC and consumption of cariogenic snacks between meals.

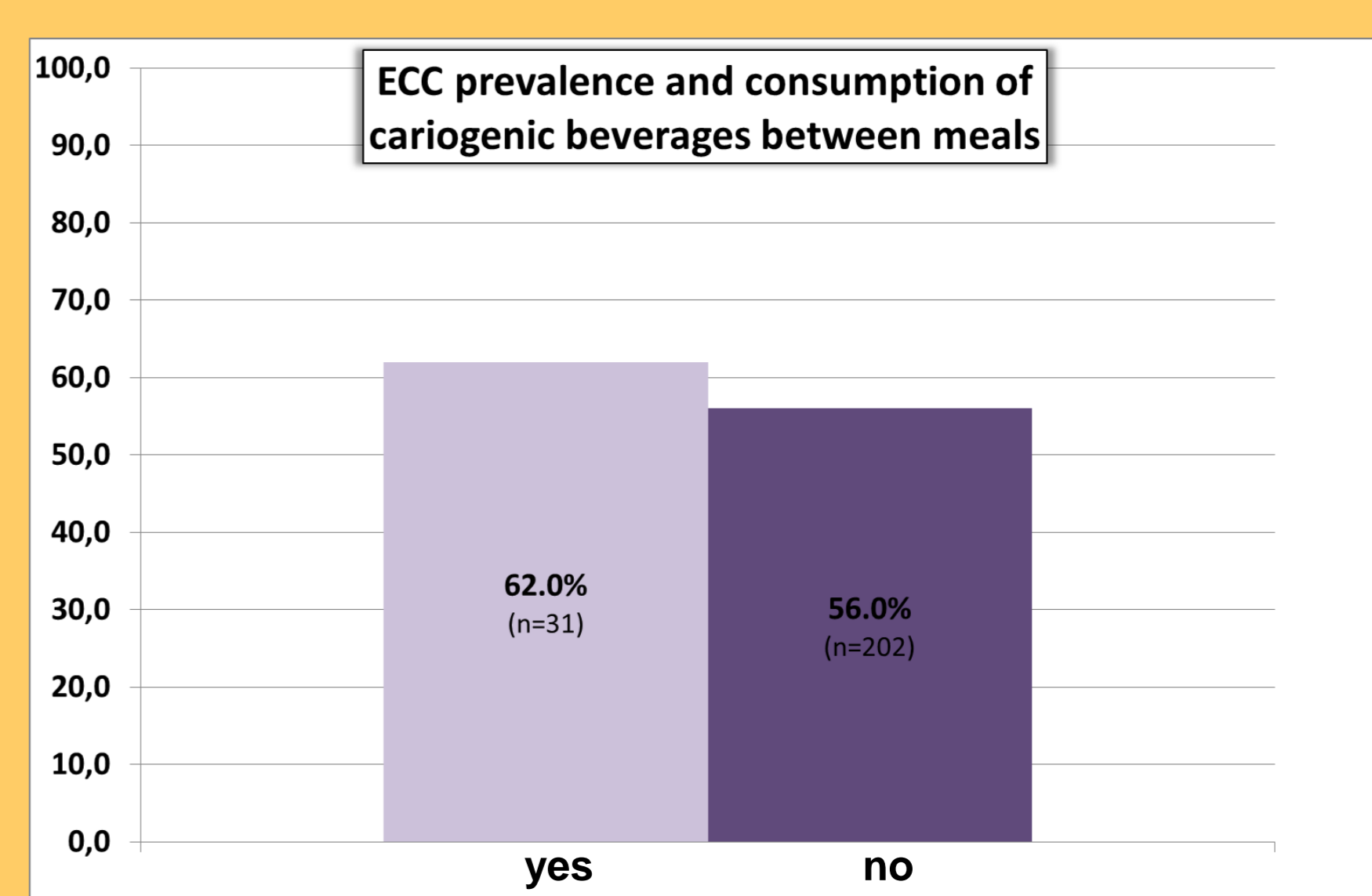


Figure 6: Association of ECC and consumption of cariogenic beverages between meals.

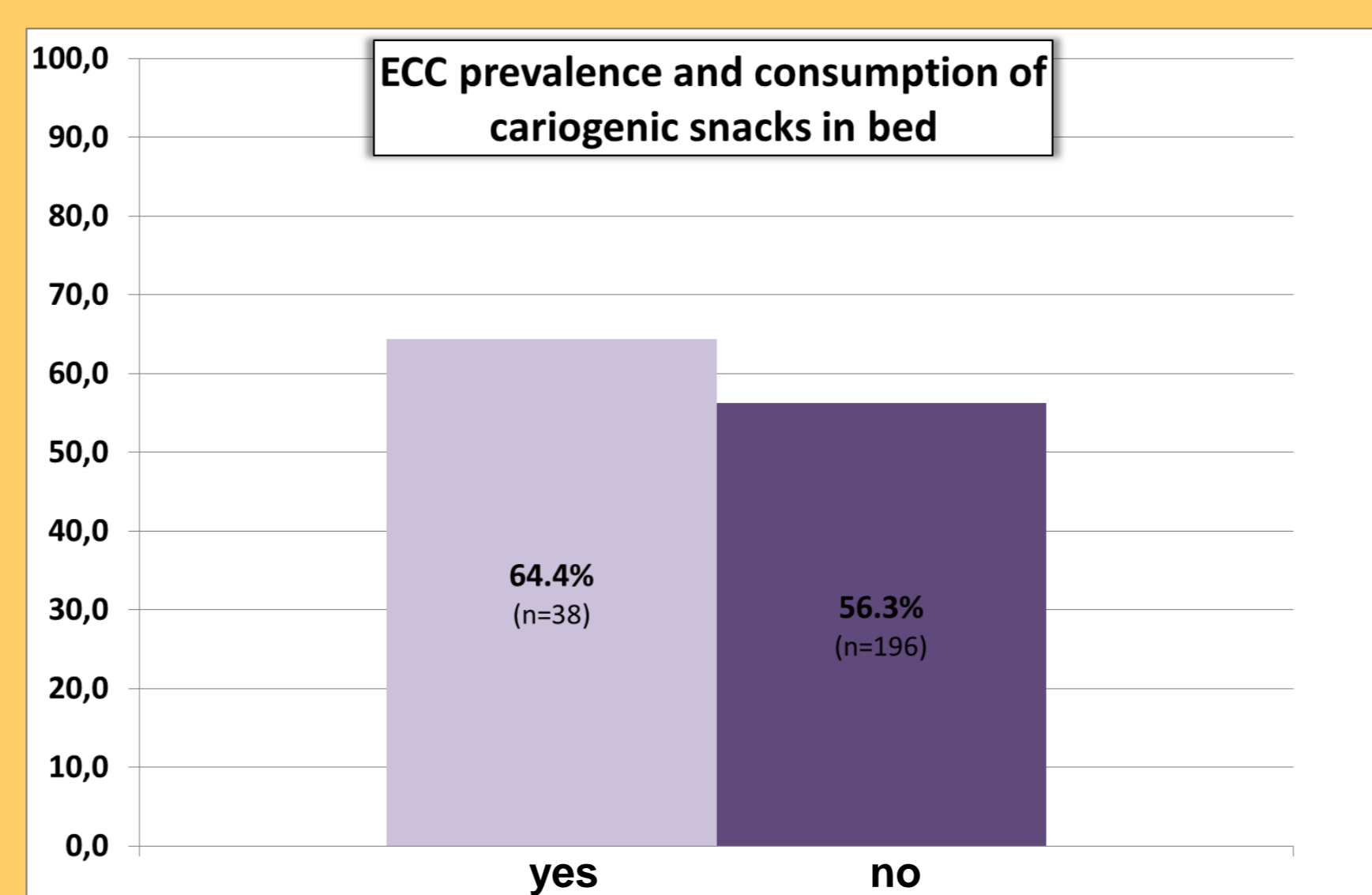


Figure 7: Association of ECC and consumption of cariogenic snacks in bed.

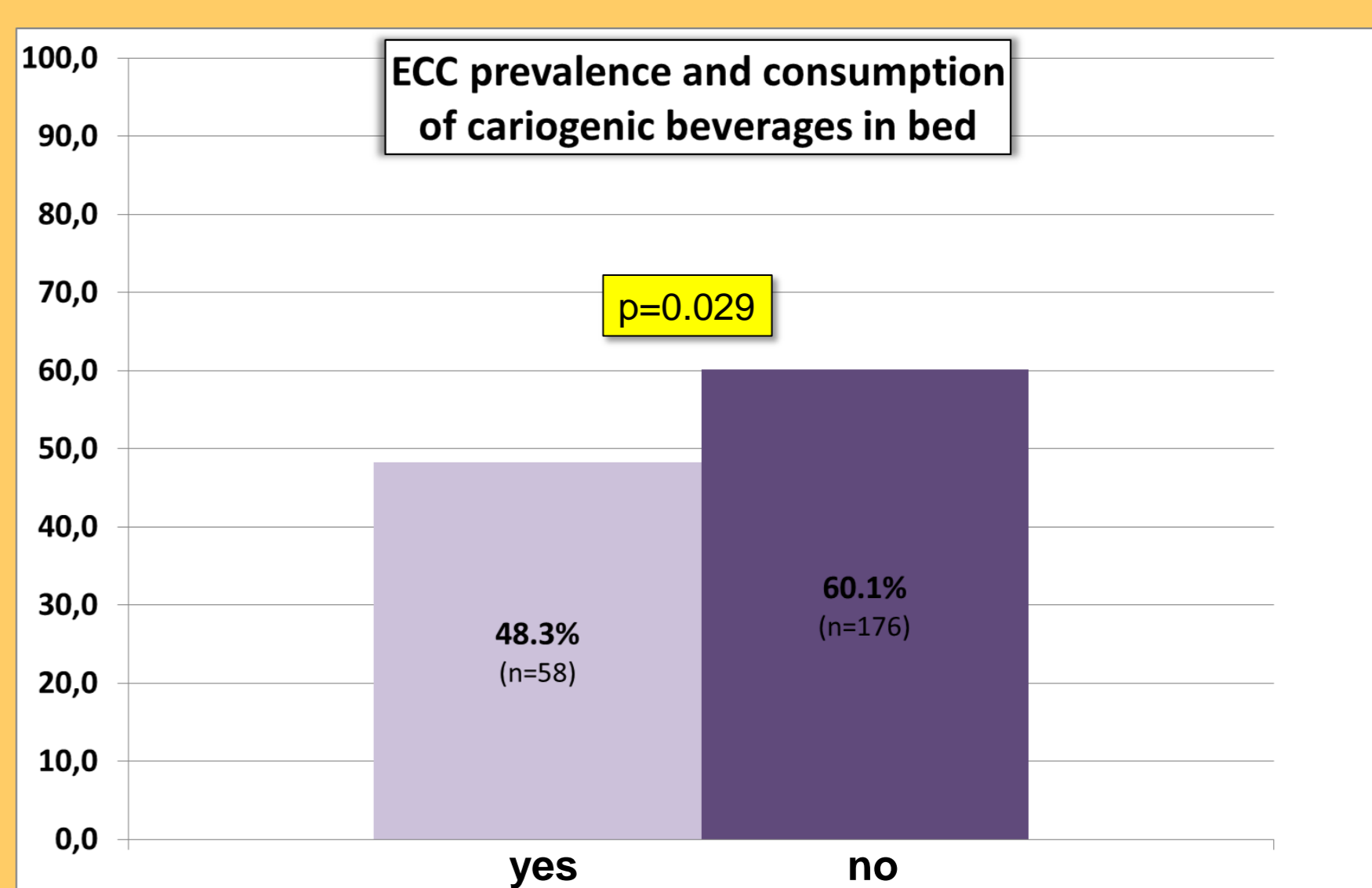


Figure 8: Association of ECC and consumption of cariogenic beverages in bed.

1- American Association of Pediatric Dentistry. Policy on Early Childhood Caries (ECC): Classifications, Consequences, and Preventive Strategies. Reference Manual V34/NO6 12/13: 50-52. Available at: "http://www.aapd.org/policies". Accessed November 9, 2012.
2 - Harris R, Nicol A, Adair PM, Pine CM. Risk factors for dental caries in young children: a systematic review of the literature. Community Dental Health 2004;21 (supplement):71-85.
3 - International Caries Detection and Assessment System (ICDAS) Coordinating Committee. Rationale and Evidence for the International Caries Detection and Assessment System (ICDAS III). Reviewed September 2011 (unchanged from 2005) Available at: "http://www.icdas.org/downloads". Accessed November 9, 2012.