



Changes in oral health related behaviours from early to middle childhood : findings from the national longitudinal survey of children in Ireland.

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12th Annual
Research
Conference
2020

Oral Health



WHO defines Oral Health:

“A state of being free from mouth & facial pain, oral diseases and disorders that limit an individual’s capacity in biting, chewing, smiling, speaking & psychosocial well-being”.

Background

- Children with primary teeth caries ~ **530 million** (GBD Collaborators, 2018)
- **20% to 90%** of 6-year-olds in Europe affected by dental caries (WHO, 2020)
- Public health issue
- Dental caries and obesity



Almost all
are largely
preventable, or can
be treated in
their early stages.

Oral Health in Ireland and International Comparisons

Oral health in Ireland

Dental decay in 5-year-olds

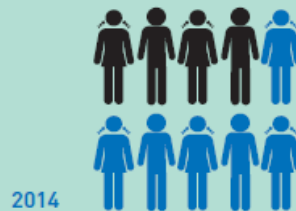
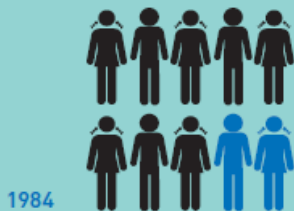
● Decay ● Decay free



Oral health in Ireland

Dental decay in 12-year-olds

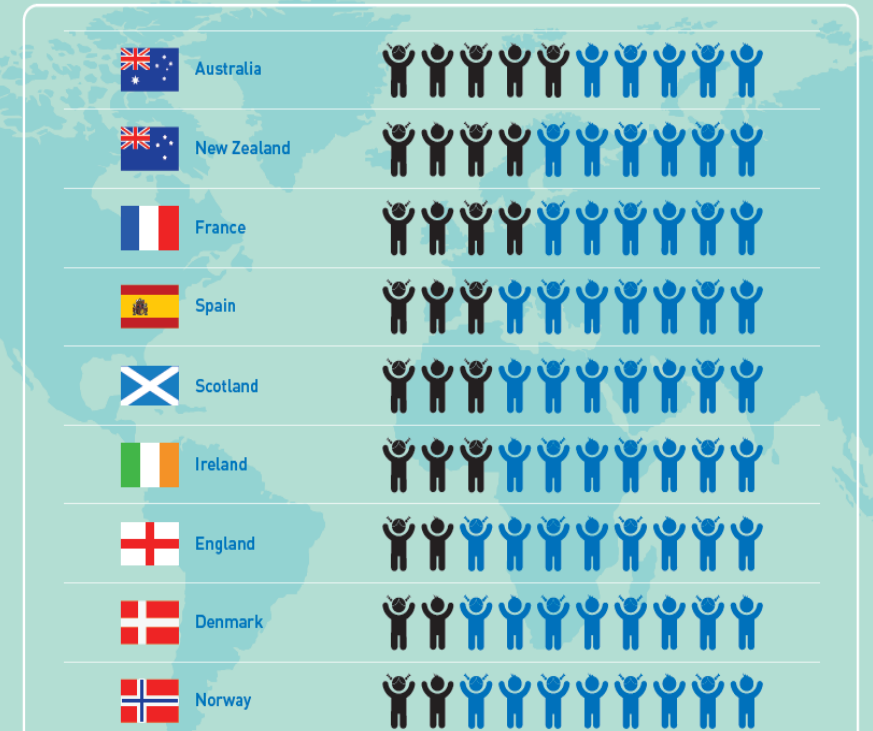
● Decay ● Decay free



International comparisons

5/6-year-olds – Proportion with dental decay

● Decay ● Decay free



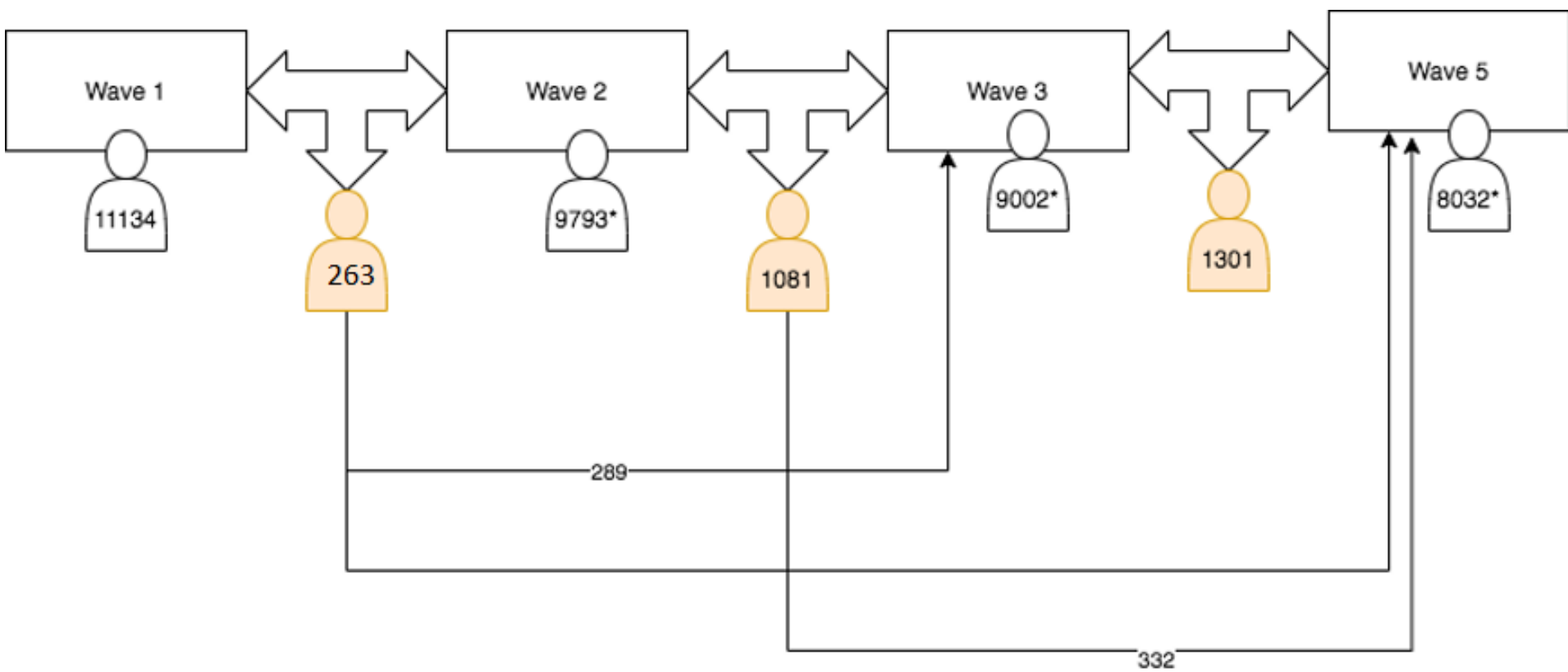
(Department of Health Ireland, 2019)

Objectives

- Describe oral health related behaviours for 3 waves of GUI infant cohort.
- Explore changes in dietary intake of cariogenic food and drinks
- Compare patterns of behaviour by gender



GUI Infant Cohort Waves



Descriptive Analysis

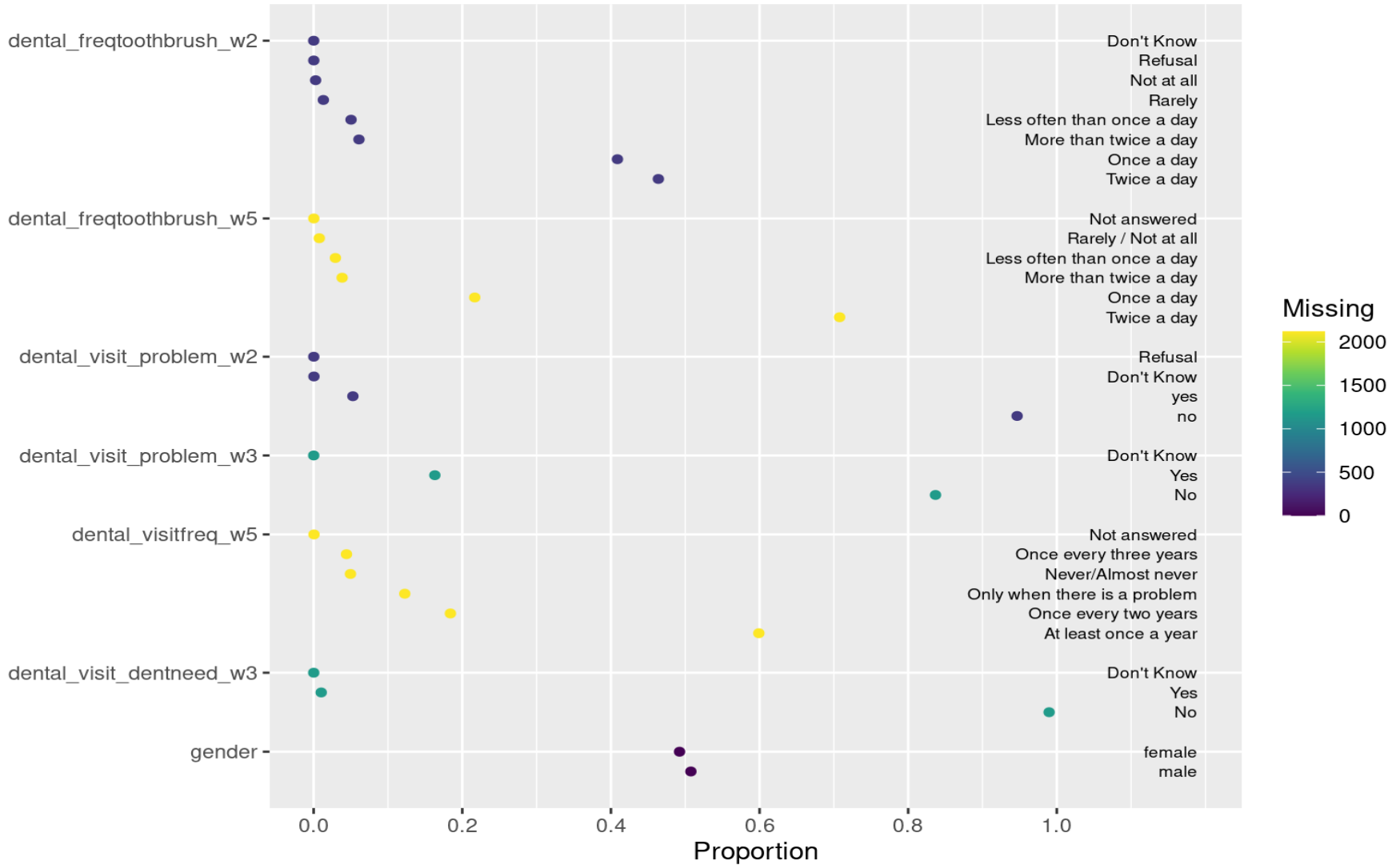
- **Data Manipulation**

- I. Variable renaming convention- mapping file.csv
- II. Question labels and input levels- corrections
- III. Handling missing data
- IV. Files merged to a .RDS file

- **Variables**

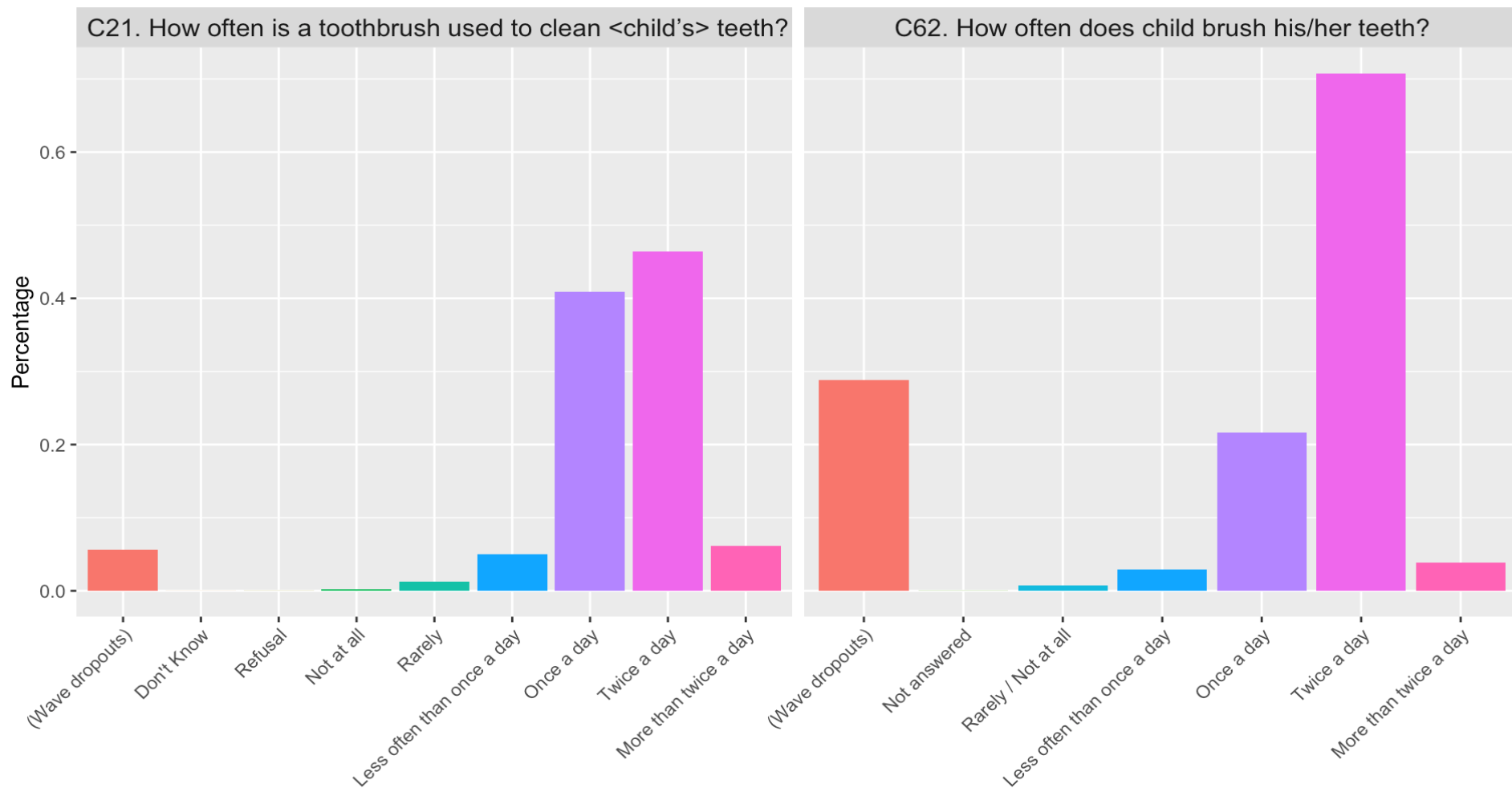
- I. Dental variables- dental problem visit, toothbrushing, extractions, fillings etc.
- II. Cariogenic food variables - FFQ v 24-Hour recall
- III. Gender

Dental Variables Summary



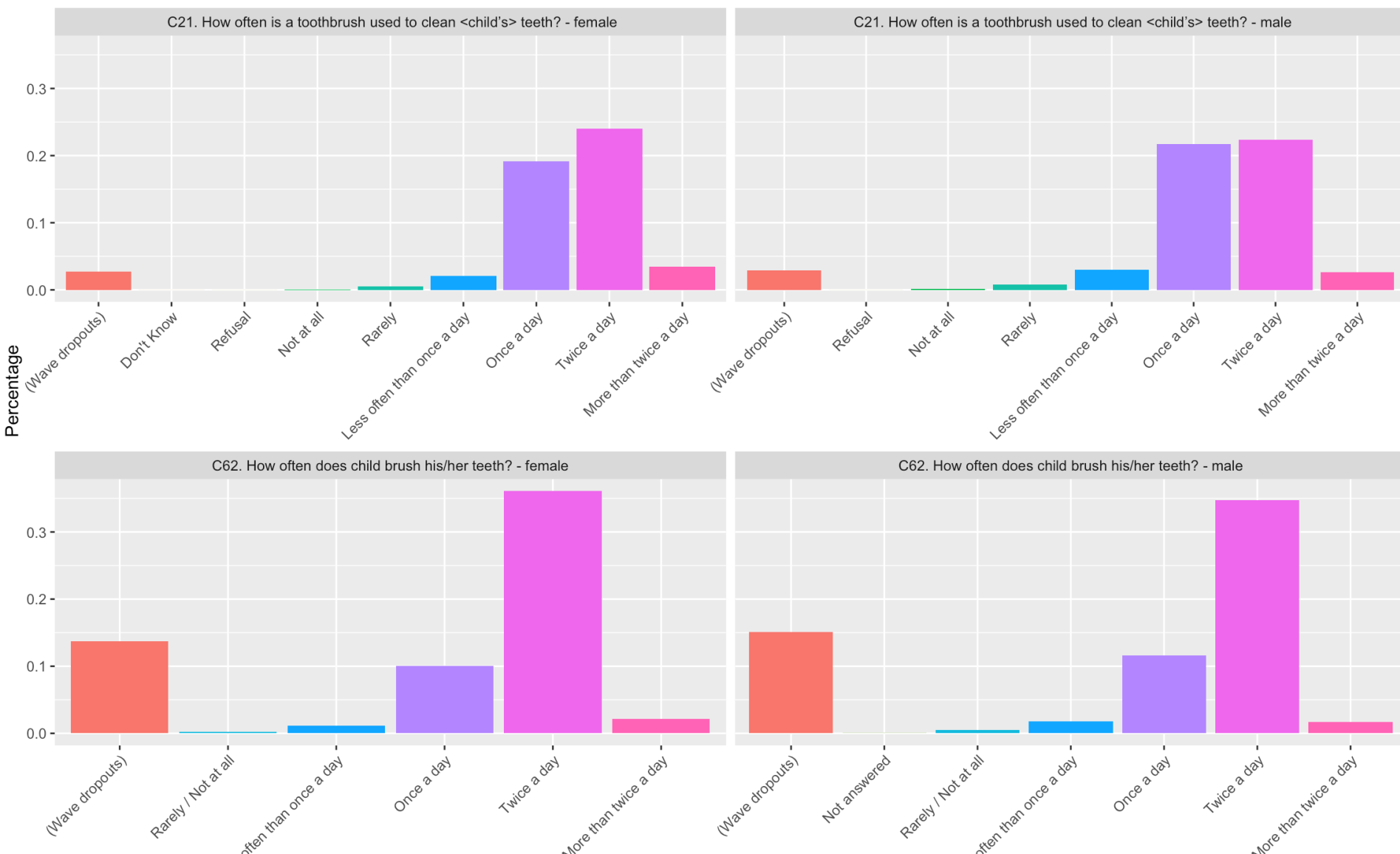
Toothbrushing Frequency at 3 and 9 Years of Age

Toothbrushing frequency at 3 years (w2) and 9 years of age (w5)



Toothbrushing Frequency at 3 and 9 Years of Age by Gender

Tooth brushing frequency



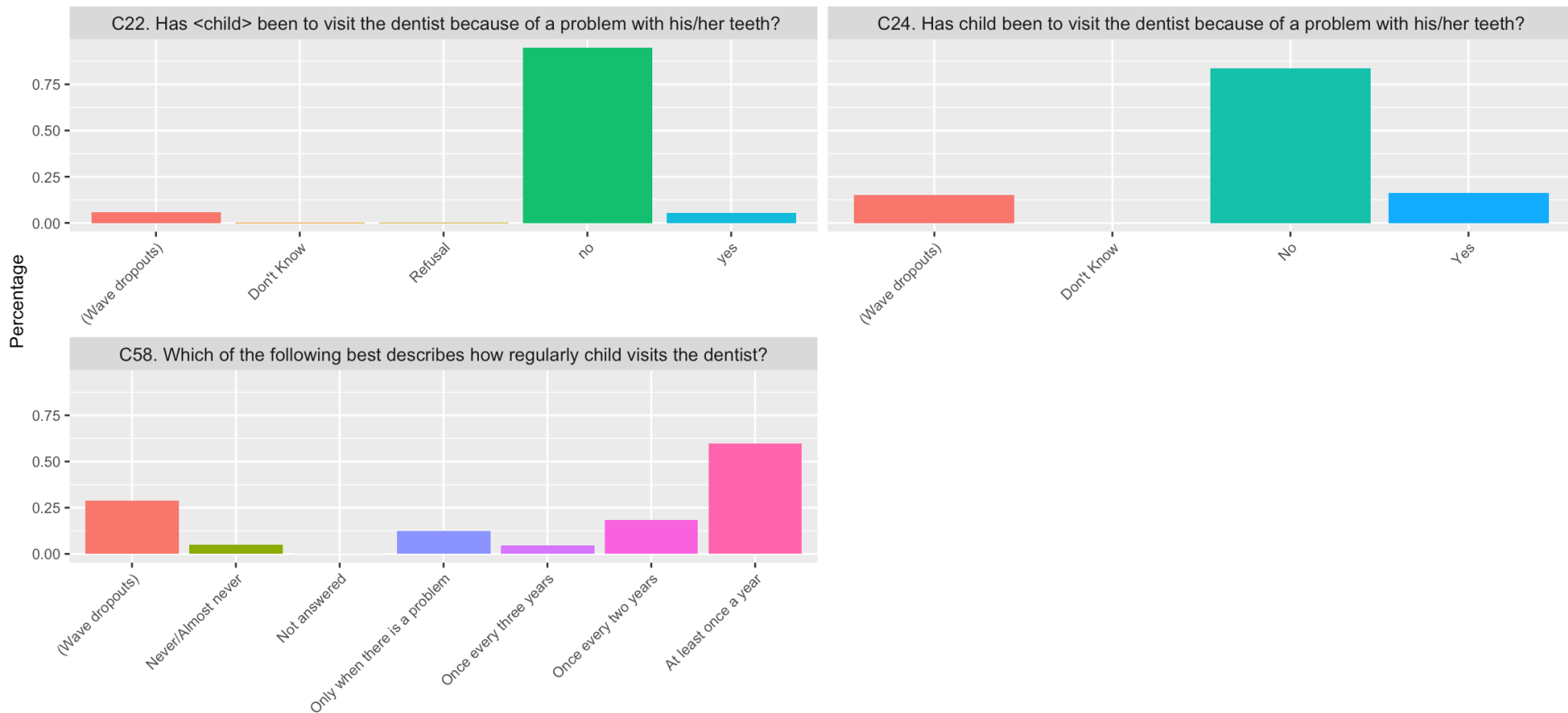
Comparison with Other Studies

Toothbrushing frequency	GUI Child Cohort (9years)		ALSPAC (UK) (10.5 years)		HBSC(10-11years)	
	Boys(%)	Girls(%)	Boys(%)	Girls(%)	Boys(%)	Girls(%)
Twice/more than once a day			73.5	77.6	64-66	68-82
Once a day	95	96.2				

HBSC IRE,2018 (Health Behaviour in School – Aged Children), 10 – 11 years old), 7 Years old, **ALSPAC** (Avon Longitudinal Study of Parents & Children, UK) 7.5 & 10.5 Years old.

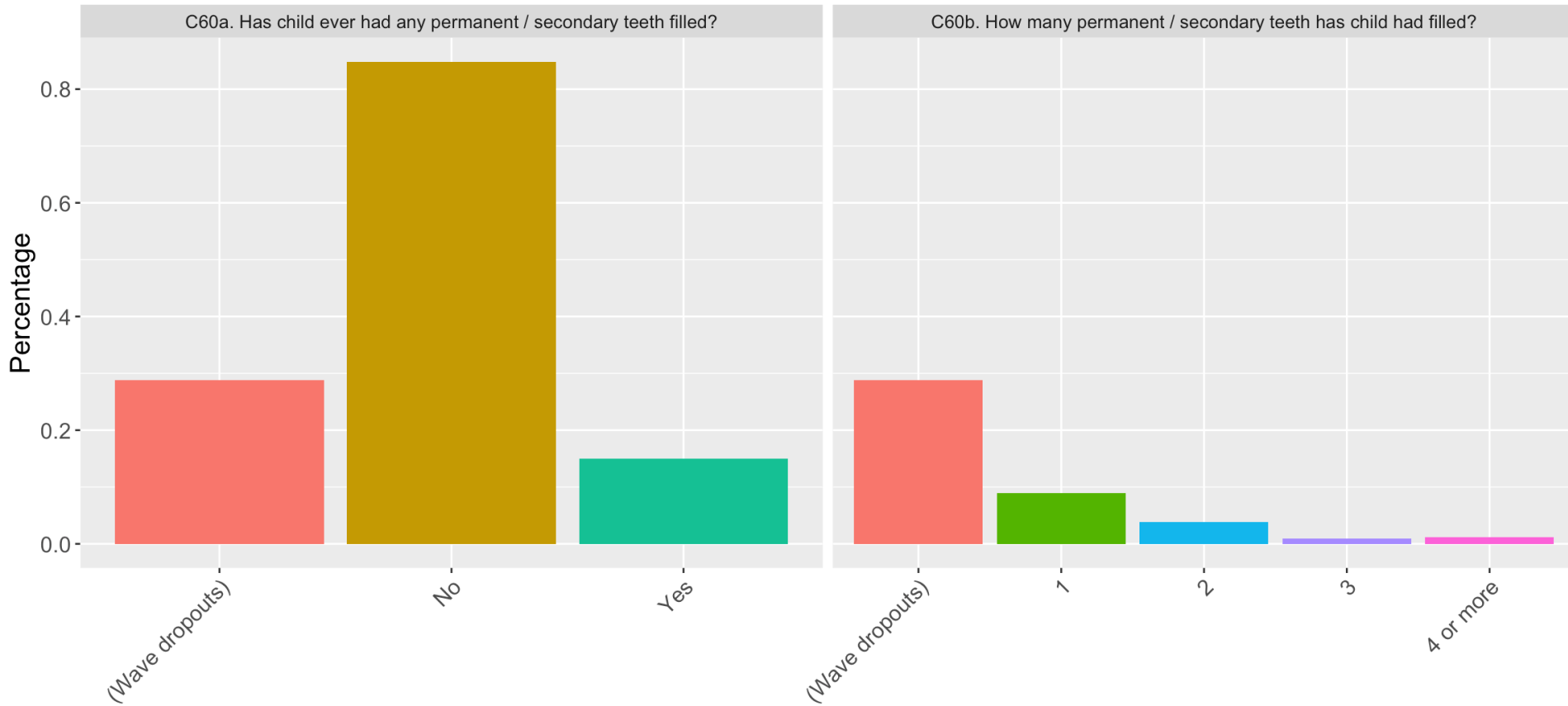
Dentist Visit Frequency at 3, 5 and 9 Years of Age

Problem Dental Visit at 3 years (w2), 5 years (w3) and 9 years of age (w5)



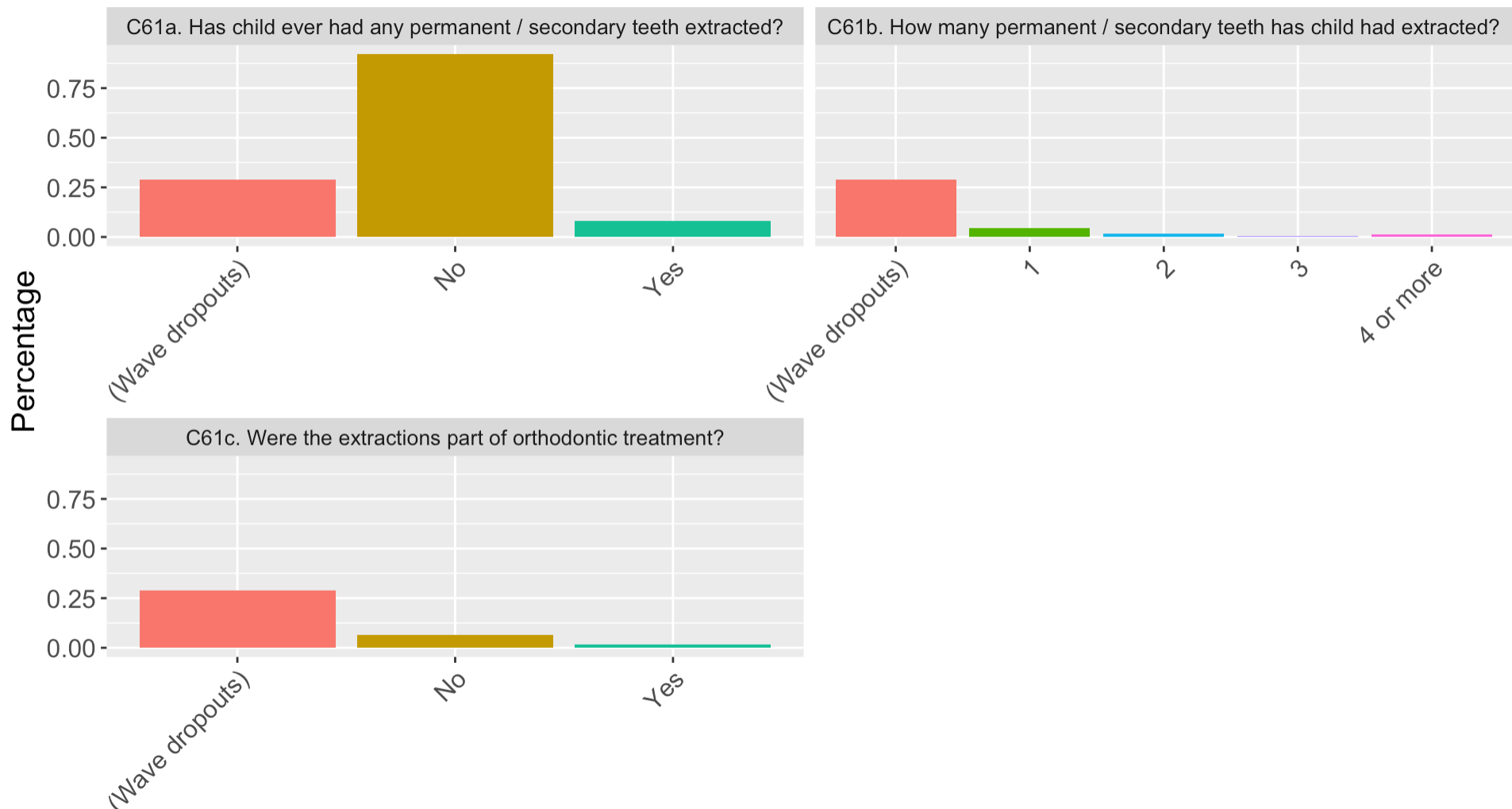
Permanent Teeth Fillings at 9 Years of Age

Dental fillings at 9 years of age



Permanent Teeth Extractions at 9 Years of Age

Dental extractions at 9 years of age

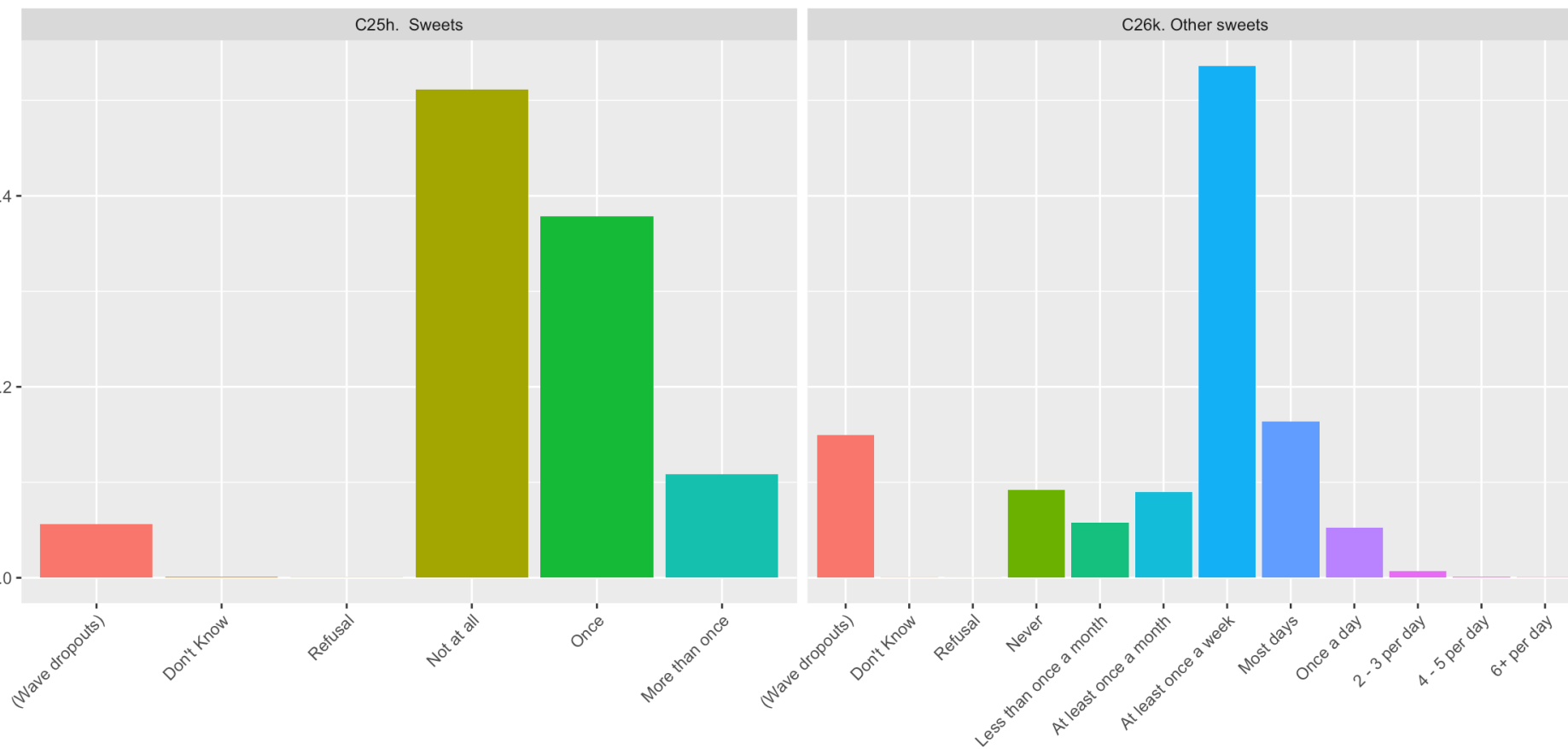


Cariogenic Food and Drink Consumption at 3, 5 and 9 Years of Age



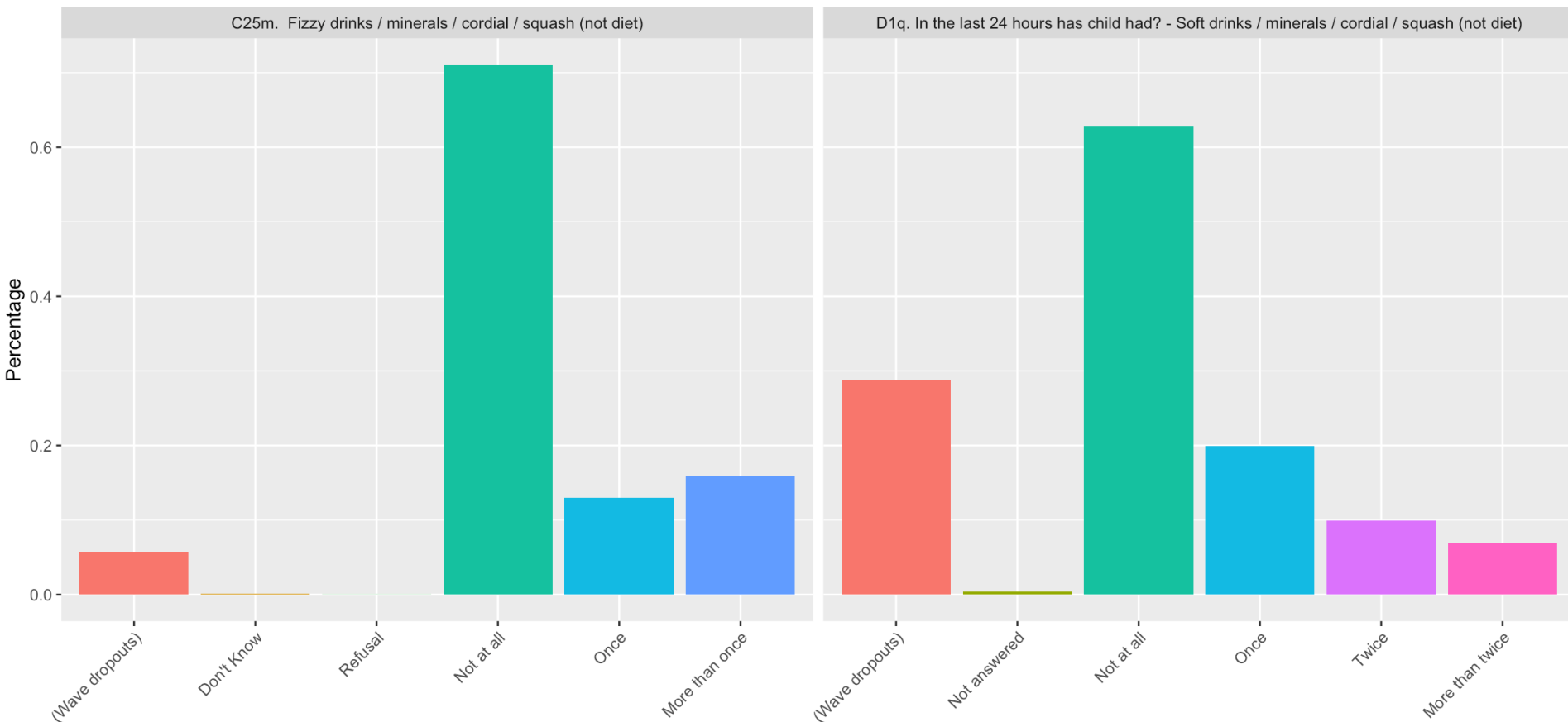
Sweet Intake of Children at 3 and 5 Years of Age

Sweets



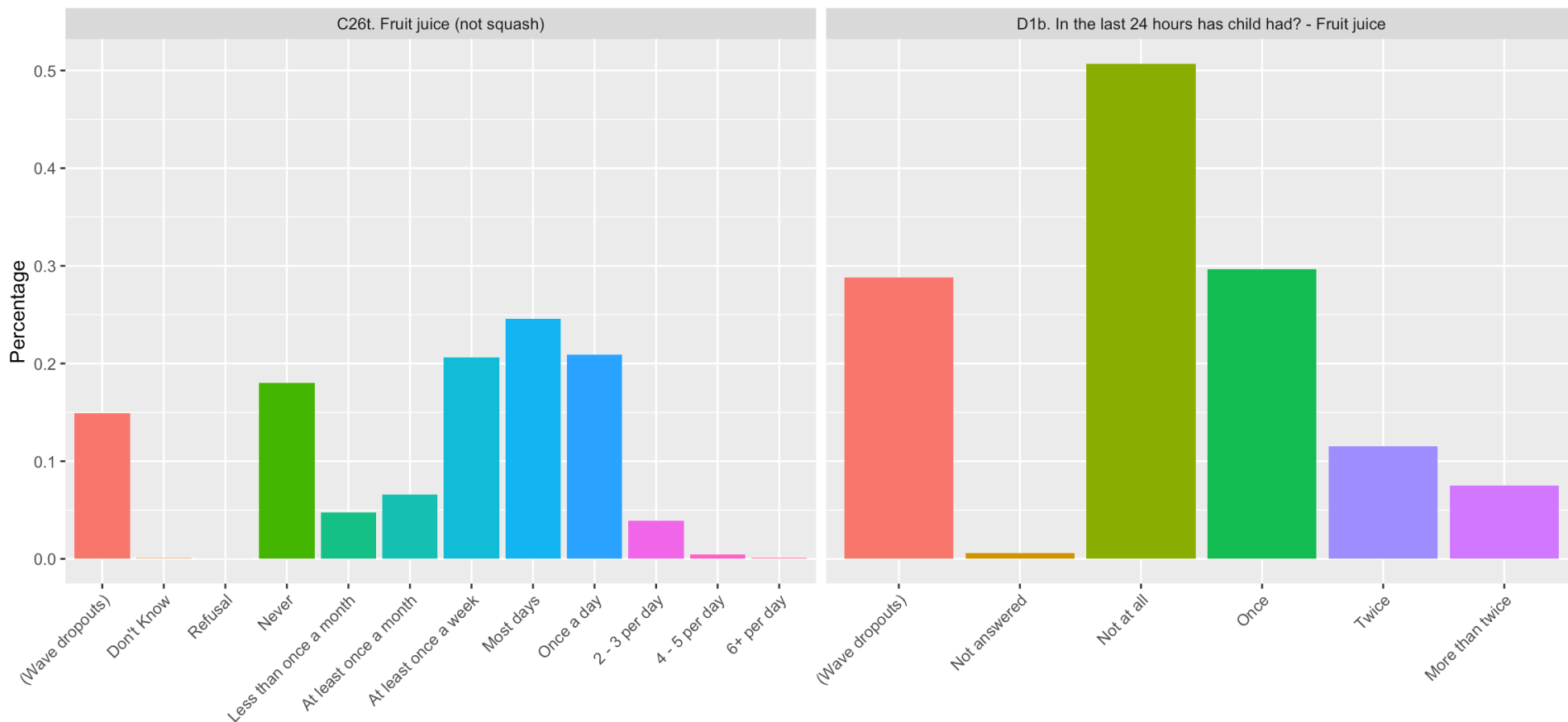
Soft Drink Consumption of Children at 3 and 9 Years of Age

Soft drinks not diet



Fruit Juice Intake of Children at 5 and 9 Years of Age

Juices



Comparison with Other Studies

Cariogenic foods and drinks	GUI Child Cohort (9 years) - 2008		ALSPAC (UK) (10.5 years)		HBSC(10-11years) 2018		WHO COSI (IRE) 2015-17 (7 years)	
	Boys(%)	Girls(%)	Boys(%)	Girls(%)	Boys(%)	Girls(%)	Boys(%)	Girls(%)
Sweets and confectionary	75.4	74			14-19	12-18	24.3	26.9
Soft drinks	50.8	48.4	94.1	92.7	3-10	2-4	1.1	1.7
Fruit juices	75.5	77.1	89.5	88.4				

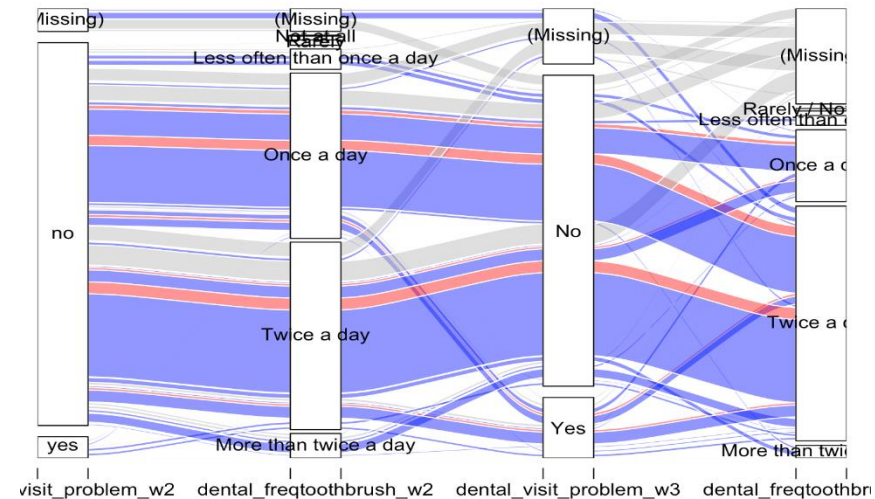
GUI Child cohort Wave 1 2010, 9 Years old, **HBSC IRE, 2018** (Health Behaviour in School – Aged Children), 10 – 11 years old, **WHO COSI IRE, 2015 - 17** (WHO European Childhood Obesity Surveillance Initiative), 7 Years old, **ALSPAC** (Avon Longitudinal Study of Parents & Children, UK) 7.5 & 10.5 Years old, **NCFS II** (National Children’s Food Survey II) 2017-2018, 5 - 12 Years, **NPNS** (National Preschool Nutritional Survey) 2010 – 2011, 3 years old

Conclusion

- Proportion of children adhering to toothbrushing recommendations increased with age (*greater proportion for girls*)
- Problem-based dental visits increased with age
- High prevalence of permanent teeth extractions and fillings considering the age of children
- Consumption of cariogenic food and drink exceeds guidelines

Future Research and Policy Implications

- Longitudinal analysis
- Education regarding diet and oral health
- Common Risk factor approach



References

- Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet (London, England)*, 392, 1789-1858.
- World Health Organization, W. H. O. 2020, *Oral Health Report – Data and Statistics* [Online]. Available: <https://www.euro.who.int/en/health-topics/disease-prevention/oral-health> Available: files/1554/oral-health.html [Accessed 2020/09/14/14:39:59].
- Department of Health Ireland, D. O. H. I. 2019. Smile Agus Sláinte National Oral Health Policy of Ireland. Available: <https://www.gov.ie/en/publication/90687b-smile-agus-slainte-national-oral-health-policy/>