Socioeconomic and sociodemographic factors associated with self-perceived orthodontic treatment need and oral health-related quality of life

Lea Kragt [1,2], Hein Raat[1,3], Eppo B Wolvius[1,2], Vincent WV Jaddoe[1,4], Edwin M Ongkosuwito[1,2]

[1]The Generation R Study Group, [2]Department of Oral & Maxillofacial Surgery, Special Dental Care and Orthodontics, [3]Department of Public Health, [4]Department of Epidemiology, Erasmus University Medical Centre, The Netherlands

BACKGROUND

- Self-perceived orthodontic treatment need and oral health-related quality of life (OHRQOL) are commonly used patient reported outcome measures and are often mistaken as interchangeable.
- Both are suggested to be influenced by factors from the community, family and child level.
- Few studies have analyzed the relationship of sociodemographic and socioeconomic factors with perceived orthodontic treatment need and OHRQOL.

AIM

We examine the associations of socioeconomic and sociodemographic factors with self-perceived orthodontic treatment need and OHRQOL.

METHODS

- We included 1241 children (616 females) from the Generation R study, a population-based cohort study in Rotterdam, the Netherlands, in the analysis
- Data were obtained by questionnaires and examination mainly at the children's age of 9 years.
- Logistic regression models were used to estimate adjusted odds ratios and confidence intervals (OR(95%CI)).

CONTACT

Lea Kragt
l.kragt@erasmusmc.nl

RESULTS

- Self-perceived orthodontic treatment need was significantly associated with lower OHRQOL (Model 1: OR(95%CI) = 2.67 (1.19–3.92)).

Table 1 Socioeconomic and sociodemographic factors associated with self-perceived orthodontic treatment need and lower oral health related quality of life in 9 year old children.

	OR (95% CI)			
	Self-perceived orthodontic need		Oral health related quality of life	
	Model 1*	Model 2†	Model 1*	Model 2†
Parental characteristics				
Single parenting				
No	ref	ref	ref	ref
Yes	1.06 (0.66 – 1.63)	1.11 (0.60 – 1.70)	1.30 (0.83 – 2.01)	0.96 (0.51 – 1.80)
Maternal education level				
Low	ref	ref	ref	Ref
Medium/High	1.06 (0.81 – 1.39)	1.02 (0.74 – 1.39)	**0.70 (0.52 – 0.94)**	0.85 (0.60 – 1.21)
Paternal education level				
Low	ref	ref	ref	ref
Medium/High	0.92 (0.68 – 1.25)	0.87 (0.61 – 1.24)	0.73 (0.51 – 1.06)	0.93 (0.65 – 1.32)
Net household income				
< € 2000/month	ref	ref	ref	ref
≥ € 2000/month	1.13 (0.81 – 1.59)	1.08 (0.67 – 1.73)	**0.61 (0.45 – 0.88)**	0.97 (0.56 – 1.67)
Financial difficulties				
Yes	ref	ref	ref	Ref
No	0.87 (0.61 – 1.25)	0.78 (0.53 – 1.15)	0.76 (0.51 – 1.12)	0.99 (0.65 – 1.55)
Employment Father				
Unpaid	ref	ref	ref	ref
Paid	1.03 (0.53 – 1.99)	0.95 (0.48 – 1.87)	**0.50 (0.25 – 1.00)**	0.67 (0.32 – 1.43)
Employment Mother				
Unpaid	ref	ref	ref	ref
Paid	**1.48 (1.00 – 2.21)**	1.50 (0.98 – 2.28)	0.74 (0.52 – 1.05)	0.91 (0.61 – 1.37)
Child characteristics				
Sex				
Male	ref	ref	ref	ref
Female	**1.57 (1.18 – 2.07)**	**1.58 (1.20 – 2.10)**	**1.68 (1.24 – 2.28)**	**1.66 (1.22 – 2.27)**
Childs ethnicity				
Dutch	ref	ref	ref	ref
Other western	1.10 (0.71 – 1.72)	1.07 (0.68 – 1.68)	**1.76 (1.08 – 2.90)**	**1.72 (1.04 – 2.84)**
Non western	0.81 (0.58 – 1.12)	0.801 (0.57 – 1.13)	**2.48 (1.77 – 3.47)**	**2.19 (1.50 – 3.19)**

*Model 1 adjusted for age and objective treatment need treatment need (DHC and AC)
†Model 2 adjusted for age and objective treatment need treatment need (DHC and AC) and all other socioeconomic and demographic factors

CONCLUSION

- First, our results confirm a strong relationship between self-perceived orthodontic treatment need and lower OHRQOL.
- Second, we show that different socioeconomic and sociodemographic factors are stronger and some are also in the opposite direction associated with OHRQOL than with perceived orthodontic need.
- This encourages further research into socioeconomic and sociodemographic factors that may need attention during planning and provision of orthodontic treatment and in other oral health settings.