

Evidence Table 1

Evidence for Genetic Contribution to the Susceptibility to Dental Caries through Analysis of Twins

Year	Authors	Study Design	Study Pop.	Controls	Genetic Analysis	Caries Assessment	Data Analysis	Conclusions
1927	Bachrach & Young	Matched pairs	MZ Twins (130) 3-14 yrs	DZ Twins (171)	Zygoty Testing	DMF, dmf	Correlation MZ and caries 0.67	Heredity a subsidiary part in caries incidence
1930	Goldberg	Comparative	MZ & DZ Twins 42 pairs		Zygoty Testing	Arch form	Comparison	Heredity affects caries through tooth form
1958	Horowitz et al	Matched pairs	MZ Twins (30)	DZ Twins (9)	Zygoty Testing	Caries Experience Ratio	F-Test p<0.001	MZ greater caries concordance
1959	Goodman et al	Matched pairs	MZ Twins (19) 19 yrs	DZ Twins (19)	Zygoty Testing	Caries Experience Ratio	F-test p<0.05	Intrapair variance of DZ greater than MZ
1959	Mansbridge	Matched pairs	MZ Twins (96) 5-17 yrs	DZ (128) Unrelated (112) Age/Sex/Eruption	Zygoty Testing	DMF, dmf	Chi-square p<0.001	Genetic contribution less than environment
1963	Finn and Caldwell	Matched pairs	MZ Twins (35) 7-15 yrs	DZ Twins (31) Unrelated (25)	Zygoty Testing	DMF, dmf	F-Test p<0.0005	Smooth surface caries greater genetic link
1973	Bordoni et al	Matched pairs	MZ Twins (17) 4-8.5 yrs	Unrelated (17)	Zygoty Testing	dmf	F-Test p<0.001	Genetic contribution less than environment
1979	Fairpo	Matched pairs	MZ Twins (100) 5-15 yrs	DZ Twins (120)	Zygoty Testing	DMF, dmf	F-Test p<0.001	Genetic contribution to caries for deciduous & permanent dentitions
1988	Boraas et al	Matched pairs	MZ Twins (64) 40 yrs Reared apart	DZ Twins (33) 40yrs Reared apart	Zygoty Testing	DMFS	2-way ANOVA p<0.001	Marked genetic component to dental caries experience
1993	Conry et al	Matched pairs	MZ Twins (46) 40 yrs Reared apart	DZ Twins (22) 40 yrs Reared apart	Zygoty Testing	DMFS	2-way ANOVA p<0.005	Teeth present, surfaces restored and caries attributable to genetic variance