●Model 1

Multilevel random intercept model for the changes in White spot values between the baseline and after 6 months

Site, Tooth and Patient are indexed by *i*, *j*, *k*, respectively.

-L1:

-L2:

-L3:

,

where

Data Structure: Patient, Tooth, Site

Random effect

Patient level: Intercept; Random effect covariance: variance component

Tooth level: Intercept; Random effect covariance: variance component

●Model 2

Multilevel random intercept model for the changes in Oral pathogenic bacteria between the baseline and after 6 months

Site, Tooth and Patient are indexed by *i*, *j*, *k*, respectively.

-L1:

-L2:

where

Data Structure: Patient, Tooth

Random effect

Patient level: Intercept; Random effect covariance: variance component

Tooth level: Intercept; Random effect covariance: variance component

πSite level intercept

πSite level coefficient

*i*: Site level ID

εSite level random effect

βTooth level intercept

β Tooth level coefficient

*j*: Tooth level ID

rTooth level random effect

γSubject level intercept

γ Subject level coefficient

*κ*: Subject level ID

μ: Subject level random effect

X is none, *mutans streptococci*, *Lactobacillus*.