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제 목	가족 연구를 토대로 관측된 이진수 특징을 가지는 자료에서 다중 분산 성분들의 추정에 대한 연구 Multicomponent Variance Estimation for Binary Traits in Family-Based Studies
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In biometrical genetic analyses of binary traits, the use of family data overcomes the limitations of twin studies, particularly in terms of sample size and types of genetic or environmental factors that can be estimated.

However, because of computational problems, recent methods in the application of generalized linear mixed models for the family data structure have limited ability in handling large datasets with general covariates.

In this paper we investigate the use of hierarchical likelihood approach to the analysis of binary traits from family data. In a simulation study, the method is shown to be highly accurate for the estimation of both the variance components and the fixed regression parameters, even for small family sizes.

For illustration we analyse a real dataset of familial aggregation of preeclampsia, a pregnancy-induced hypertension.

When possible, the analysis is compared with exact maximum likelihood approach.