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Title:	BAYESIAN INFERENCE IN MIXED TREATMENT COMPARISONS (MTC) WITH CONTINUOUS OUTCOMES
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OBJECTIVES: The aim of this paper is to present a compact and coherent within the Bayesian inference method of best meta-analysis model selection as well as to present analytical results in performing Gibbs sampling within the MTC framework.

METHODS: In order to perform Gibbs sampling from the posterior distribution in the random effects model of MTC we evaluate the formulas for the conditional distributions for all parameters. We test for the existence of between study heterogeneity and other parametric restrictions by comparing marginal data densities of competing models. We show how the prior distribution on the model space may affect the inference about best model selection. As an empirical example we present an analysis of effectiveness of two real (although blinded) drugs and placebo.

RESULTS: We present the marginal posterior distributions of key parameters as well as the comparison of a few restricted models. Among 18 studies from the systematic review dealing with treating the analyzed medical issue with drugs of interest there exist a significant effect of heterogeneity. The a priori distribution on the space of models does not affect this final conclusion (Bayes factor varies from 185 to 190 in favor of the unreduced model). The posterior odds ratio (which equals around 293.1) points that the treatment with Medicine A brings a stronger effect than with Medicine B or placebo.

CONCLUSION: Our results show, that using pure Bayesian techniques can be widely used within the MTC framework. We present an easy to operate and coherent inference in performing complex meta-analyses. We also found confirmed, that Medicine A significantly better increases the level of observed outcome than other treatments.