

**COMPARING MULTIPLE TREATMENT EFFECTS ON REMISSION IN SCHIZOPHRENIA:
MARGINAL STRUCTURAL MODELS MIGHT OVERCOME CONFOUNDING IN OBSERVATIONAL STUDIES**

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Observational studies represent the real clinical situation better than randomized clinical trials (RCTs). However, control of confounding in observational studies remains challenging. Here, we review marginal structural models (MSMs) and show how they are useful when comparing the effects of multiple treatments on outcomes in observational studies. To illustrate the application of MSMs when patients may receive several treatments, we have reanalyzed the effects of antipsychotic medication on achieving remission in schizophrenia using data from the SOHO study, a 3-year observational study of health outcomes associated with the treatment of schizophrenia. The MSM results were, in general, consistent with but less statistically significant than those obtained using conventional methods. The MSM also showed qualitative differences in some comparisons in which the conventional analysis obtained results that were not consistent with previous RCTs. MSMs can be used to analyze multiple treatment effects and by using inverse-probability of treatment weights, might provide a better control for confounding than conventional methods by improving the adjustment for treatment group differences in observational studies, which may approximate their results to those of RCTs.