

## **The assessment of adherence to oral antipsychotic medications: What has changed in the past decade?**

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**The Methodological Question Being Addressed:** Have the methods used to assess adherence in the published literature improved over the past decade based upon previous recommendations?

**Introduction:** Poor adherence to oral antipsychotic medications is arguably one of the most important modifiable risk factors contributing to relapse of psychotic symptoms and rehospitalization. Adherence to oral medications has been assessed using multiple approaches. In a previous review of 161 studies, spanning 3 decades, we found that self-report and other non-objective measures were the primary means of assessing adherence to oral medications, and that consensus regarding the definitions of adherence was completely lacking. That article as well as expert consensus guidelines published later presented recommendations for improving the assessment of adherence going forward. Here, we examined the next decade of studies measuring adherence to antipsychotic medications in schizophrenia to determine what may have changed.

**Method:** We searched the peer reviewed literature published between January 1, 2007 and December 31, 2017 using Google scholar, Science Direct, CINAHL, PsychINFO, PsychARTICLES and Medline search engines to find articles specifically measuring adherence behavior to oral antipsychotic medications. Search terms were medication adherence or medication compliance or medication acceptance or medication follow-through or medication concordance or medication persistence AND schizophrenia.

**Results:** The search yielded 904 articles, 597 of these were eliminated. Included studies represent over 450,000 individuals with schizophrenia and schizoaffective disorders. The number of studies in which adherence behavior has been measured has increased by nearly 6 times in the past decade. Definitions of adherence remain extremely variable with cutoffs from 67% to 95% despite recommendations in consensus guidelines to use 80% as a cutoff which identifies adherent individuals. Different categorizations including 3, 4, 5, 6, and 7-point scales were utilized. The number of times specific methods were used indicate that indirect methods including the report of the person, the report of the treatment team or researcher and the report of a significant other remain the most commonly used. However, the use of electronic claims data to assess adherence has significantly increased. The percentage of studies using only one method to assess adherence has also increased in the past decade, despite recommendations from consensus guidelines suggesting that more than one approach be used. There are a larger number of studies using multiple methods. However, only a few of these included information regarding how data was combined and which data were primary in making a final determination of adherence. Only limited literature exists on the use of novel technologies such as cameras that verify ingestion and microchips in the tablets themselves.

**Conclusions:** Little has improved in adherence assessment over the past decade when compared to the three previous decades. If adherence continues to be assessed in less than optimal ways, the conclusions about outcomes in general, outcomes of specific treatment modalities designed to improve adherence, and predictors of outcome based upon such research may be called into question.