

## **Critical review of Scholarly Article: "Multisystemic Treatment of Poorly Controlled Type 1 Diabetes: Effects on Medical Resources Utilization"**

The goal of the research described in this article was to determine if MST (multisystemic treatment) a home based therapy treatment, was effective in reducing hospital costs associated with adolescent type 1 diabetes.

The research design of this study was randomized with a controlled trial of MST versus usual care. The participants were a sample of adolescents with type 1 diabetes and their families. They had to have very specific prerequisites such as clinic, disease, duration of affliction, lack of personal attention to care and that they and their families were willing to participate in the study.

The dependant variable in this case is the hospitalization rates and the independent variable is the treatment of MST versus traditional medical management or standard care. The null hypothesis of this study is that there is no difference between the mean values of the trial and the control group and that the MST has no effect on hospitalization. An alternative hypothesis for this study could be that there is a difference between the mean values of the trial and the control group. Specifically, that MST does have an effect on hospital utilization.

The study found that although MST did appear to have an effect on hospital admissions, emergency room visits of the MST and control groups remained relatively the same. Providing an additional question of whether administration of MST is cost effective compared to hospital admissions.

A probability finding that was of importance to this study was that of the difference of inpatient hospital admittance of the control group versus MST which had a p-value of less than .01 percent. This occurrence allows us to identify the significance of MST within this category.

A significant finding based upon means and standard deviations that were meaningful can be found on table III. Table three indicates that the standard care group had 20% multiple admissions while the MST group had none, while both groups had a relative increase in emergency room visits.

One significant correlation findings in the study was that the hemoglobin. Another was the previously mentioned hospital admissions of the treatment group versus the control group.

The study was significant in showing that intervention for at risk adolescents with a life threatening disease such as type 1 diabetes can be successful. While cost versus quality of life will continue to be a struggle, this study could eventually lead to resolutions from two viewpoints. For the families MST could be good news in that it has potential to prevent DKA and possibly death. However, for the hospitals cost effectiveness of MST versus hospital admission may still be in question.

The study could be improved by increasing the size of the groups to add power to the study to possibly show substantial decline in ER visits. Also, since the MST did show to lower repeat utilization, the findings could be used in a focused manner for additional research on this topic, such as only in patient admission for DKA as to prevent recurrent DKA. Finally if the goal of the study was to see if MST reduced hospital costs, a more detailed cost comparison analysis should be performed. An internal and external detailed cost analysis for this and MST could also be used to strengthen validity.