Telehealth Behavior Therapy for the Management of Type 1 Diabetes in Adolescents

Heather D. Lehmkuhl, Ph.D.,[1] Eric A. Storch, Ph.D.,[2] Christina Cammarata, Ph.D.,[3]
Kara Meyer, Ph.D.,[3] Omar Rahman, Ph.D.,[2] Janet Silverstein, M.D.,[4] Toree Malasanos, M.D.,[4]
and Gary Geffken, Ph.D.[3]

Abstract

Background:

Poor management of type 1 diabetes mellitus (T1DM) may result in serious medical complications. Psychological intervention may improve adherence to medical regimens; however, access to trained professionals is limited, particularly in rural communities. Telehealth interventions may address this by allowing families to access services at home; however, little is known about the efficacy of such services.

Method:

This study presents results from a pilot trial of a randomized waitlist controlled trial of Telehealth Behavioral Therapy (TBT) for youths with T1DM. Primary outcome measures were adherence to the diabetes regimen, glycemic control, and level of family discord. Thirty-two youths (23 female) with T1DM (aged 9 to 17 years) and one parent or caregiver participated. Telehealth Behavioral Therapy sessions were conducted thrice weekly for 12 weeks by phone and lasted an average of 15 min each.

Results:

Results indicated that youths in treatment decreased their hemoglobin A1c by 0.74 compared to 0.09 in the waitlist, though this was not statistically significant. Youths in treatment reported increased unsupportive and decreased caring parental behaviors.

Conclusion:

Telehealth Behavioral Therapy improves access to knowledgeable providers and results in a clinically significant improvement in glycemic control. Despite some youths experiencing an increase in unsupportive parental behaviors, TBT is a promising method of service delivery that warrants further investigation.

J Diabetes Sci Technol 2010;4(1):199-208

Author Affiliations: [1]Department of Psychology, Nationwide Children's Hospital, Columbus, Ohio; [2]Department of Pediatrics and Psychiatry, University of South Florida, Tampa, Florida; [3]Department of Psychiatry, University of Florida, Gainesville, Florida; and [4]Department of Pediatrics, University of Florida, Gainesville, Florida

Abbreviations: (BFST) Behavior Family Systems Therapy, (CGI) clinical global improvement, (CGIS) clinical global impression scale, (DFBC) diabetes family behavior checklist, (DFBS) diabetes family behavior scale, (DFRQ) diabetes family responsibility questionnaire, (DSMP) diabetes self-management profile, (DKA) diabetic ketoacidosis, (HbA1c) hemoglobin A1c, (ITT) intent to treat, (SD) standard deviation, (SES) socioeconomic status, (T1DM) type 1 diabetes mellitus, (TBT) Telehealth Behavioral Therapy

Keywords: adherence, glycemic control, type 1 diabetes mellitus

Corresponding Author: Heather D. Lehmkuhl, Ph.D., Department of Psychology, Nationwide Children's Hospital, 700 Children's Dr., Columbus, OH 43205; email address *Heather.Lehmkuhl@NationwideChildrensHospital.org*