

# Evaluation of a Rural Telehealth Occupation-Based Coaching Intervention for Type 1 Diabetes Health Management

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**PURPOSE:** Type 1 diabetes is one of the most prevalent chronic conditions diagnosed in children, with increased incidence rates in rural than urban communities (Mobasser, et al., 2020). Standard care after a child's diagnosis includes diabetes education and medical care but has limited family-centered healthcare services between the standard 3-month primary care visits (American Diabetes Association, 2020). Furthermore, travel for medical appointments and access to everchanging new technologies are limited in rural communities. These factors can contribute to healthcare disparities, necessitating innovative methods of healthcare delivery and intervention, such as telehealth occupation-based coaching. Innovative methods of healthcare delivery are necessary to increase access to care and ultimately improve child health outcomes. Telehealth is a delivery format that shows promise, and occupation-based coaching is one intervention that can be delivered via telehealth Little et al., 2018. The purpose of this randomized control trial was to improve child health outcomes (i.e., HbA1c, time-in-range) and family quality of life for young children diagnosed with type 1 diabetes through a telehealth occupation-based coaching intervention.

**DESIGN:** This pilot randomized control trial provides valuable information about the preliminary effectiveness of occupation-based coaching (OBC) via telehealth to improve the quality of life of families and children diagnosed with type 1 diabetes (T1D).

**METHOD:** Sixteen rural families (child and caregiver), with a child living with type 1 diabetes, aged 2-12 years, were randomly assigned to either the intervention or control group. Families received either 12 weeks of telehealth occupation-based coaching and standard care or standard care. OBC is a strength-based approach that emphasizes collaboration with clients in goal setting and attainment to increase overall health and quality of life. Clients are the central focus of the intervention and generate their own strategies to address goals as part of the coaching process. Intervention fidelity was measured throughout the study. Outcome measures included child health outcomes (i.e., hba1c, time-in-range) and family quality of life (i.e., WHO-QOLBREF, Parental Sense of Competence, Goal Attainment Scale).

**RESULTS:** There were no statistically significant changes in child health outcomes (Hba1c or time-in-range) or family quality of life (WHO-QOLBREF or PSC). However, families in the intervention group were more likely to achieve family-centered participation goals according to the Goal Attainment Scale than the control group ( $p = 0.006$ ).

**CONCLUSION:** Occupational therapy practitioners may help families achieve individualized goals to improve health management routines after a young child's diagnosis with type 1 diabetes than compared to standard care. The majority of child health outcomes were in target range at the start of the study; therefore, it was not expected to see significant improvements. Future studies that include children at high risk for poor diabetes management are required to explore the impact of telehealth occupational therapy services. Furthermore, qualitative studies to explore the psychosocial impact of occupation-based coaching on caregivers are also needed.

**IMPACT STATEMENT:** Occupational therapy services for children with type 1 diabetes is an emerging area of practice and future studies are required to examine the impact of services. Preliminary findings suggest that occupational therapy may provide valuable benefits for family-centered goal attainment, however, future studies with a larger sample and at-risk families are necessary.

## References

- Mobasser, M., Shirmohammadi, M., Amiri, T., Vahed, N., Fard, H.H., & Ghojzadeh, M. (2020). Prevalence and incidence of type 1 diabetes in the world: A systematic review and meta-analysis. *Health Promotion Perspectives, 10*(2), 98-115. <https://www.doi.org/10.34172/hpp.2020.18>
- American Diabetes Association. (2020). 13. Children and adolescents: Standards of medical care in diabetes-2020. *Diabetes Care, 43*(Suppl. 1), S163-S182. <https://doi.org/10.2337/dc20-S013>
- Little, L.M., Pope, E., Wallisch, A., & Dunn, W. (2018). Occupation-based coaching by means of telehealth for families of young children with autism spectrum disorder. *American Journal of Occupational Therapy, 72*, 7202205020. <https://doi.org/10.5014/ajot.2018.024786>