

Psychosocial Outcomes with the Omnipod® 5 Automated Insulin Delivery System in Children and Adolescents with Type 1 Diabetes and Their Caregivers

Hood KK, et al. *Pediatric Diabetes* 2023

Study aims were to evaluate psychosocial outcomes in children and adolescents with type 1 diabetes (T1DM), and their caregivers, during a clinical trial of the tubeless Omnipod® 5 Automated Insulin Delivery (AID) System.

Psychosocial outcomes were assessed before and after 3 months use of the AID system, applying age- and role-appropriate validated questionnaires: problem areas in diabetes (PAID); hypoglycemia confidence scale (HCS); World Health Organisation-5 Well-Being Index (WHO-5); Pittsburgh sleep quality index (PSQI); insulin device satisfaction survey (IDSS); and system usability scale (SUS).

Study Design

- Multicentre, single-arm prospective study, conducted at 17 institutions in the United States
- Baseline psychosocial measures were completed prior to starting AID therapy with Omnipod® 5 System
- Follow-up measures were assessed by phone or in-person after 3 months use of the Omnipod® 5 System
- At 3-months follow-up, participants also completed a free-response survey about their likes and dislikes using the Omnipod® 5 System

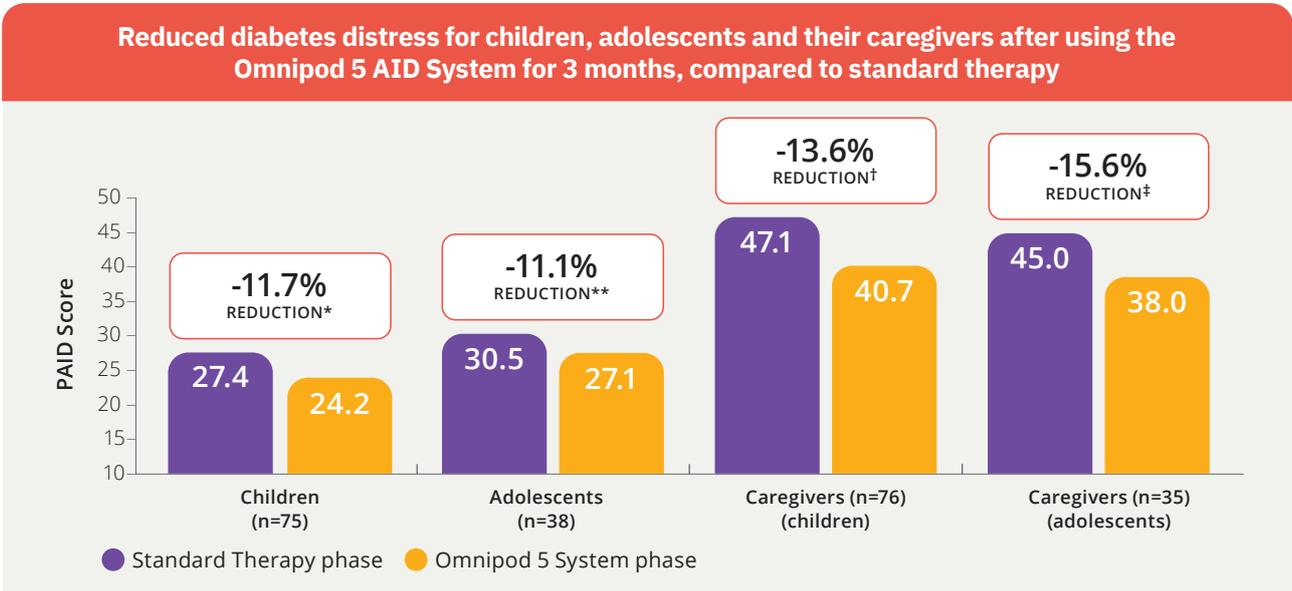
Study Participants

- 83 Children: Age 6 to 11.9 years*
- 42 Adolescents: Age 12 to 17.9 years
- Caregivers were individuals actively involved in the participant's diabetes management
- All children and adolescent participants:
 - Type 1 diabetes for ≥6 months
 - HbA1c <10.0% (<86 mmol/mol)
 - Any prior insulin therapy (MDI or CSII)

* Data on adult participants reported in: Polonsky WH et al. How introduction of automated insulin delivery systems may influence psychosocial outcomes in adults with type 1 diabetes: Findings from the first investigation with the Omnipod® 5 System. *Diabetes Res Clin Pract* 2022;190:109998 DOI: 10.1016/j.diabres.2022.109998. Study funded by Insulet.

Study Highlights:

- Children and adolescents with T1DM experienced significant improvements in diabetes distress (PAID, $p < 0.001$ and $p = 0.045$ respectively) after 3 months of Omnipod® 5 AID System use, compared to their standard therapy. Adolescents also reported improved system usability (SUS, $p = 0.0015$).
- Caregivers of children and adolescents reported significantly reduced diabetes distress ($p < 0.0001$ and $p = 0.0014$ respectively), after using Omnipod® 5 AID System, as well as improved overall insulin delivery satisfaction (IDSS, $p < 0.0001$ and $p = 0.014$ respectively).
- Using Omnipod® 5 AID System significantly improved the PSQI subscales for: duration of sleep ($p = 0.01$) and; overall sleep quality ($p < 0.0001$), for caregivers of children with T1DM, who also had increased HCS scores for confidence in managing hypoglycemia ($p < 0.0001$). Change in PSQI-total score was -0.77 ($p = 0.112$).



* p<0.001, ** p<0.05, † p<0.0001, ‡ p=0.0014. AID, Automated insulin delivery; PAID, Problem areas in diabetes.

Comments on the Omnipod 5 system:

"I like that it helped prevent low blood sugars because I didn't have to stop and treat my lows as much."

Teen participant

"Now I barely think about diabetes, his A1c is at or below target, and he rarely has low blood sugar."

Caregiver of a child

Commonly reported free-response answers to questionnaire on Omnipod 5 System amongst study participants.



Scan code to view published study



This summary has been provided as part of the Omnipod Academy, an educational service provided for Healthcare Professionals by Insulet International.

References. Adapted from; Hood KK, et al. Psychosocial Outcomes with the Omnipod® 5 Automated Insulin Delivery System in Children and Adolescents with Type 1 Diabetes and Their Caregivers Pediatric Diabetes 2023, Vol. 2023:1-12. DOI: 10.1155/2023/8867625. Study funded by Insulet.

Always read the label and follow the directions for use

Omnipod® 5 is indicated for people with type 1 diabetes in persons aged 2 and older requiring insulin. Warning: SmartAdjust technology should not be used by anyone under the age of 2 years old or by people who require less than 5 units of insulin per day. Please see Omnipod.com/safety for important safety information.

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