

## Perceptions and Adaptive Behaviors of Insulin Pump Users

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Introduction: Research shows insulin pump therapy offers the best treatment approach to achieve optimal blood glucose levels. Successful pump users with Type 1 diabetes must attend to detail and diligently check glucose levels throughout the day to choose healthy meals and calculate carbohydrate ratios with insulin therapy to maintain the delicate balance leading to optimal glucose control. Limited phenomenological evidence exists about how successful pump users manage the personal, attitudinal, emotional, cultural concerns and adaptations to insulin pump use. It is unreported how individuals learn to incorporate the pump into everyday activities. With many choices, it is unclear how modification of the technology might improve function, or ease of use. The goal of this project was to explore the perceptions of people with Type 1 diabetes using pump therapy that enable adaptation to the external device. Method: A mixed-method study used a phenomenological approach with focus groups, and survey Diabetes Quality of Life Measure (DQOL) Questionnaire to evaluate the satisfaction, impact, and worries associated with treatment of diabetes. Multiple themes emerged in each area (a) adaptation to technology, activities of daily living (ADL), and leisure activities (b) perceptions and attitudes leading to acceptance of the pump, (c) cultural and/or personal concerns, and (d) aesthetic concerns. A sample of 50 insulin pump users, 18-75 years, was recruited from advertisements in the local paper and pharmacies. All ethnic groups were invited to participate. Results: For example, some of the emerging themes in adaptation to technology were "Bionic Humans" and "Try it, you'll like it." Questionnaire responses were evaluated using descriptive statistics. People issues with the highest frequency were dissatisfaction with body image, worried about long term complications, and burden to the family. Conclusion: Adaptation to pump usage requires dedication and consistency, as well as understanding how to manage day-to-day operation of the pump. Contribution: As technology advances reducing the burden of management of chronic illness, occupational therapists can influence the perception of people by empowering them, and work with bioengineers to design user-friendly devices with special attention to issues related to acceptance of the technology and trust by the users.