

Self-Monitoring Technologies for Type 2 Diabetes and the Prevention of Cardiovascular Complications: Perspectives from End Users

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Abstract

Background:

The objective of this study was to explore facilitators and barriers to the adoption of self-monitoring devices in individuals with type 2 diabetes mellitus (T2DM).

Methods:

Individuals with T2DM who were currently using one or more devices to monitor their disease participated in focus groups. Transcripts of focus group meetings were coded into themes by two reviewers using NVivo qualitative software.

Results:

Twenty-eight adults with T2DM reported using a blood glucose meter, and almost half reported monitoring their blood pressure. Few individuals consistently monitored other aspects of their cardiovascular health. Four major themes impacting device use/disuse were identified: knowledge gaps, relationships with health care providers, environment, and personal experience. Knowledge barriers included lack of information regarding diabetes and the associated risk of complications. Perceptions of inconvenience, pain, and financial restrictions were important factors influencing the adoption, use, and abandonment of self-monitoring devices. Community-run programs, as well as dietitians and pharmacists, were identified as important resources for accessing information related to T2DM.

Conclusions:

We identified the need for development of accessible and relevant education material; improved communication of disease-specific information between patients and providers, as well as providers and community resources; and strategies to improve the convenience and cost of monitoring devices.

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Abbreviations: (BG) blood glucose, (BP) blood pressure, (CV) cardiovascular, (CVC) cardiovascular complications, (CVD) cardiovascular disease, (GP) general practitioner, (HC) health care, (HR) heart rate, (T2DM) type 2 diabetes mellitus

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