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CLINICAL APPLICATIONS

Are Current Insulin Pumps Accessible to Blind and Visually Impaired People?

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Abstract

Background:

In 2004, Uslan and colleagues determined that insulin pumps (IPs) on the market were largely inaccessible to blind and visually impaired persons. The objective of this study is to determine if accessibility status changed in the ensuing 4 years.

Methods:

Five IPs on the market in 2008 were acquired and analyzed for key accessibility traits such as speech and other audio output, tactual nature of control buttons, and the quality of visual displays. It was also determined whether or not a blind or visually impaired person could independently complete tasks such as programming the IP for insulin delivery, replacing batteries, and reading manuals and other documentation.

Results:

It was found that IPs have not improved in accessibility since 2004. None have speech output, and with the exception of the Animas IR 2020, no significantly improved visual display characteristics were found. Documentation is still not completely accessible.

Conclusion:

Insulin pumps are relatively complex devices, with serious health consequences resulting from improper use. For IPs to be used safely and independently by blind and visually impaired patients, they must include voice output to communicate all the information presented on their display screens. Enhancing display contrast and the size of the displayed information would also improve accessibility for visually impaired users. The IPs must also come with accessible user documentation in alternate formats.

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