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An Analysis of Wearable Electronic Activity Monitors

Wearable technology is becoming increasingly common these days, with Google Glass and the recently-announced Apple Watch must-have items for the tech-savvy consumer. When it comes to wearable technology for health monitoring, electronic activity monitors are popular. New research from the University of Texas Medical Branch at Galveston has recently been published in the *Journal of Medical Internet Research* which compares thirteen such devices.

Elizabeth Lyons, Assistant Professor at the Institute for Translational Sciences at the university and the senior author of this study, along with her colleagues, assessed 13 wearable activity monitors that are available on the consumer market. The objective of the comparison was to gauge how the devices promote healthy behaviours as well as to determine how closely they matched successful interventions. The functionality of the devices and their apps with clinical recommendations from healthcare professionals were also compared. The research was undertaken because very little is known about these activity monitors with respect to the different options they provide and how these options may impact their effectiveness.

The researchers found that as far as the goal-setting, self-monitoring and feedback tools in the apps were concerned, the devices were all consistent with the recommendations that healthcare professionals have made regarding physical activity for patients. However, during the analysis, it was found that most of the monitors lacked tools that would provide successful strategies for increasing physical activity such as action planning, instructions on how to do the behaviour, commitment and problem solving. The study also found that while most devices were compatible with personal computers and iOS mobile devices, it may be possible that the experiences of Android users differ from those using other devices.

The researchers highlighted that monitors should be designed to match individual preferences and needs. For someone who engages in swimming as his primary form of exercise, a waterproof monitor may be more beneficial. In addition, the study researchers suggest that the applications for these monitors could also be designed as more than just a weight loss aid. For example, the monitors could be used by patients who are being released from the hospital to measure their recovery and quality of life. Also, data from these monitors could help healthcare professionals identify at-risk patients for secondary prevention and rehabilitation purposes.

According to Lyons, "This content analysis provides preliminary information as to what these devices are capable of, laying a foundation for clinical, public health and rehabilitation applications. Future studies are needed to further investigate new types of electronic activity monitors and to test their feasibility, acceptability and ultimately their public health impact."

Source: Medical News Today

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