

## Older adult's perception about the use of technologies in the improvement or maintenance of their health status

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### ABSTRACT

**BACKGROUND:** Older adults should participate more actively in the management of their health, integrating healthy behaviors to maintain their functional capacity<sup>[1]</sup>. The inclusion of new technologies in healthcare is a promising strategy to support behaviors that maximize older functionality<sup>[2]</sup>. Considering the probable increase in these technologies use, especially in geriatric care<sup>[3]</sup>, it's important to understand the perception that seniors have about their utility in everyday life. **OBJECTIVE:** This study, developed within the framework of the project "Circadian health, physical activity and pattern of eating habits as predictors of fragility: Portuguese population", aimed to analyze the older people's experiences in use of ACM Kronowise® 2.0 sensors, and evaluate their perception about the contribution of this technology to improve/maintain their health status. **METHODS:** These sensors, used as wristwatches, allow to collect data about the circadian cycle, patterns of physical activity, food and exposure to luminosity. Seniors aged 65-80 years, who live in the community and don't present moderate/severe cognitive decline were recruited at senior universities, cultural/recreational associations and primary health centers. Each participant used the sensors for 7-10 days, and then answered six questions about ease of their use, functionality, awareness of healthy habits and usefulness of technologies in health. **RESULTS:** Were included 53 participants (69.8% female), with mean age of 71.13 ( $\pm 5.02$ ) years and average formal education of 6.72 ( $\pm 4.21$ ) years. Although most participants (92.5%) considered that the sensors are easy to use, 47.2% admitted that they cause some discomfort. The majority of the respondents (86.8%) didn't report changes in daily

routines and 54.7% were sensitized to adopt healthy lifestyles. Moreover, 94.3% considered that the data obtained through sensors are useful to improve their health status and would recommend these sensors to others. Sensors-related data accompanied by recommendations for maintenance/improvement of health status were considered the most relevant positive aspect. As negative aspects, sensor design, lack of utility in daily life and time of use were highlighted. The women revealed to feel more discomfort in the use of sensors than the men; all robust and pre-frail participants considered easy the experience of sensors use, while 31% of frail participants considered it difficult. **CONCLUSIONS:** These study results indicate that the acceptability of technologies as a way of monitoring health status is quite high, although some aspects related to their usability need to be improved. Although preliminary, these results can be used as a set of guidelines in the selection of suitable technological equipment for older adults.

**Keywords:** *older adults, frailty, e-health, lifestyle, circadian rhythm*

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