

Could the miniaturize technologies improve patients adherence and assure better quality of life?

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Background:

From 2000 to today, the use of information technology in the medical field is increasingly widespread, reaching a new milestone following the COVID 19 syndemia. It is increasingly evident that wireless monitoring allows patients to be followed more easily, detecting complications early at home and allowing to limit the contagion of healthcare personnel by reducing the interaction with patients in hospital rooms

Methods:

A pilot Multicenter Open-label Randomized Controlled Trial (RCT) was performing comparing wearable wireless vital parameters continuous monitoring (WVPCM) system and regular monitoring. Data were collected to provide a clinical-economic impact (costs, program effectiveness and QALY gains) of complex patients (CPs) discharged from Internal Medicine Units. Cost were estimated by mean of the identification, measuring and valorisation of the resources uptake.

Results:

143 patients (37 M/38 F, mean age: 78.7 years). Major complications: respiratory failure detection (6,5 vs 3,8); reduction of sudden deaths (9.3% vs 16% experimental); care-related infections (6,5 vs 7,5), glycemic decompensation (4,3 vs 1,9). Hospital readmission within 21 days were 7% vs 11%. Relevant cost driver was time spent by nurses: 58 minutes/day/patient (vs 132) allow to save €54-90/patient. One way and multiway sensitivity analyses confirmed the robustness of our results with nearly 99% of the replications involved

Conclusions:

WVPCM, detecting early complication during the post-discharge CPs monitoring, may facilitate a timely response ensuring a more appropriate management of complex patients seen (>25% of total admissions), reduce the time to diagnosis, improve efficiency/efficacy of disease management and reduce unnecessary clinic visits and hospital (re)admissions. The miniaturized technologies can improve patient adherence and assure better quality of life. WVPCM allows patients to be sent home safely and to effectively integrate Hospital and Community services.

Key messages:

- Wearable wireless vital parameters continuous monitoring (WVPCM) system reduce time and cost of nursing.
- Wearable wireless vital parameters continuous monitoring (WVPCM) system can detect early complication improve patient adherence and assure better quality of life.