

Publication

Overconsumption detected by electronic drug monitoring requires subtle interpretation

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Electronic compliance monitoring has provided new variables to describe drug intake behavior and new strategies to improve compliance. However, as evaluated in this study, the recording of opening events of pill bottles does not necessarily mean drug intake.; In an open 3-week trial with an oral vitamin combination, drug intake was recorded with use of an electronic pill box that contained 25 capsules and that registered each opening of the bottle. Thirty-seven patients were asked to take one capsule every morning for 21 days. Opening and closing events were related to the results of pill counts and patient interviews at the end of the trial.; Drug consumption was 101.8% (663 recorded opening and closing events) in the 31 patients who completed the trial. Pill boxes were opened more than once by 10 patients on at least one monitored day. For seven patients the total number of openings was >25 (range, 26 to 29) and thus exceeded the number of capsules provided. A third interview of these patients revealed real overconsumption in only two patients. Six patients remembered that they had shown the device to relatives or friends or that they had checked to see whether they had closed the pill box well, thus turning a "curiosity event" into a drug intake event.; In short-term studies particularly, such curiosity events may substantially modify the electronic assessment of compliance surrogates. In these trials the combined evaluation of electronic openings, pill counts, and interviews may be a suitable way to reveal such openings without pill intake.

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