

Publication

Pattern of timing adherence could guide recommendations for personalized intake schedules

Journal Article (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 1477997

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Year 2012

Title Pattern of timing adherence could guide recommendations for personalized intake schedules

Journal Journal of personalized medicine

Volume 2

Number 4

Pages / Article-Number 267-76

Keywords compliance; adherence; time variability; electronic polymedication monitoring; lipid lowering agents

Deviations in execution from the prescribed drug intake schedules (timing non adherence) are frequent and may pose a substantial risk for therapeutic failure. Simple methods to monitor timing adherence with multiple drugs are missing. A new technology, i.e., the polymedication electronic monitoring system (POEMS) attached to a multidrug punch card, was used in a clinical trial on outpatients with prescribed medicines for vascular risk reduction. The complete delineation of timing adherence allows for the calculation of objective adherence parameters and the linking of exposure with drug-drug interactions. A sub-analysis was performed on 68 patients, who were prescribed lipid lowering therapy. A smaller intake time variability of the lipid lowering drug was significantly associated with better levels of LDL-cholesterol, independently of the time of day. This finding may challenge current general recommendations for the timing of lipid lowering drugs' intake and substantiate that inter-individual differences in timing adherence may contribute to response variability. Thus, objective parameters based on multidrug adherence monitoring should be considered as independent variables in personalized medicine. In clinical practice, personalized intake recommendations according to patients' pattern of timing adherence may help to optimize the effectiveness of lipid lowering agents.

Publisher MDPI

edoc-URL <http://edoc.unibas.ch/dok/A6056299>

Full Text on edoc No;

Digital Object Identifier DOI 10.3390/jpm2040267

PubMed ID <http://www.ncbi.nlm.nih.gov/pubmed/25562364>

ISI-Number MEDLINE:25562364

Document type (ISI) Journal Article