

Development of an electronic tool for reducing medication regimen complexity that considers the patients' preferences.

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Background To date, patients' difficulties in handling a complex medication regimen are mostly neglected in routine care which may affect patients' adherence. Moreover, existing approaches to analyse the complexity of a medication regimen typically focus on the number of medications, the dosage scheme or the dosage forms but do not consider the patients' preferences and needs.

Purpose We developed an electronic tool for reducing medication regimen complexity that performs a comprehensive automated analysis of medication regimen complexity and subsequently assesses the patient's preferences by using standardized questions in order to tailor proposed measures to reduce medication regimen complexity according to the patient's needs.

Method The tool for reducing medication regimen complexity was developed in four successive steps: I) Specification of complexity factors that can be identified automatically in a medication schedule by an electronic tool II) Allocation of key questions to the specified complexity factors to assess their relevance for the individual patient III) Specification and allocation of measures to reduce medication regimen complexity IV) Integration of the results of the previous three steps in an electronic tool

Findings In the first step, 38 complexity factors (e.g. tablet splitting) from five different categories (i.e. dosage forms, dosage schemes, additional instructions, product characteristics, process characteristics) were specified that can be automatically applied to standard medication schedules by an electronic tool. Based on these factors, 46 key questions were developed to assess the patient's perspective on each factor (e.g. "Do you have any difficulty splitting your tablets into equal pieces?"). Finally, at least one optimisation measure could be allocated to each complexity factor. In total, 29 recommendations for action for the health care provider (e.g. to suggest aids for the administration of a medication), 27 training videos, 44 patient leaflets and 5 algorithms to modify the medication regimen (e.g. to search for an alternative dosage form) were included in the final tool.

Conclusion By using key questions to include the patient's preferences in the analysis of medication regimen complexity it can be ensured that measures to simplify a medication regimen are tailored to the needs of the individual patient. After development, the tool is tested in the prospective pilot study HIOPP-6 (funded by the innovation fund of the Federal Joint Committee).