Electronic Multidrug Punch Cards in Patients After Hospital Discharge - a Study Design

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BACKGROUND

Various authors suggest that drug reminder packaging (e.g. pill boxes) may represent a simple method to help unintentionally non-adherent patients by facilitating drug management and by serving as a visual memory aid [1-3]. In Switzerland, multidrug punch cards (Figure 1) are frequently used for nursing home residents. We suppose that the potential of multidrug punch cards is larger and that any outpatient with a complex therapy plan benefits from such a system, independently of condition or age.

HYPOTHESIS

Patients with multidrug punch card and feedback on their adherence behaviour will perform significantly better in clinical, adherence, and humanistic outcomes compared to patients with commercially available packaging and usual care.

STUDY DESIGN

Recruiting Place
University Hospital Basel, Switzerland
Study center
Notfall Apotheke Basel, Switzerland
Study duration
12 months
Study sample
200 patients (pilot study: 20 patients)
Population
All patients from the internal medicine’s ward

METHODS

• Randomised controlled trial, two armed, open labelled
• Course of action:
  - Eligible patients are selected by screening (electronic) hospital records and randomised by a random sequence generator
  - Recruited patients are provided drug counselling by a pharmacist
  - After discharge, the intervention is implemented (T0)
  - Patients of the control group get usual care and their medication in commercially available packaging
  - Telephone interview after 2 weeks with all patients
  - Follow up visits at the study center at 3, 6, and 12 months with all patients

POEMS

We use POlymedication Electronic Measuring System, an electronic film fixed on the back of the multidrug punch card, to measure timing and taking adherence of patients taking polymedication and to provide individual feedback on adherence behaviour (Figure 1-3) [4].

OUTCOMES

• Primary outcomes
  - Composite: time to rehospitalisation and time to major adjustment of therapy plan
  - Adherence: medication possession ratio (MPR)
• Secondary outcomes
  - Clinical: time to rehospitalisation, time to major adjustment of therapy plan
  - Adherence: timing adherence, taking adherence, time variability of drug intake according to POEMS, patient self report
  - Humanistic: Quality of Life (SF12), patient satisfaction

REFERENCES


OUTLOOK

Ethical approval was obtained by the Ethikkommission beider Basel, Switzerland (EKBB 54/12). The pilot study was started on 21st of January 2013. After inclusion of 20 patients, procedures will be evaluated and adjusted. Study start of the main study is expected to be in June with 200 patients to be recruited in total.

Further details of the study are published on ClinicalTrials.gov under the identification number NCT01759095.

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PRESENTATION

Randomisation
Recruiting
Discharge counseling
Baseline data
Hospital
Screening
Recruiting
Fig. 1: Multidrug punch card, front
Fig. 2: Multidrug punch card, back
Fig. 3: 10-day patient profile from the electronic data of POEMS

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