



NP-004 Implementation of clinical pharmacy services in long-term care wards



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Background

Due to increasing life expectancy and declining birth rate the percentage of elderly population is constantly arising. Predominantly the most patients with chronic diseases and medical treatments are among the elderly population (above 65 years).

Age-related physiological changes and frailty are increasing the individual variability of drug response of the elderly. Moreover, a large majority of the elderly population deals with polymorbidity, managed by multiple medications initiated often by more than one prescriber. Polypharmacy (concurrent use of more than 5 chronic drugs) can substantially increase the risk of adverse events and interactions. Long-term care patients were observed in two departments. The first ward (Ward #1) is a unit of 200 bed-capacity, where clinical pharmacy services were launched in 2015. The second ward (Ward #2) is a 400 bed-capacity ward, which had no previous history of clinical pharmacist presence.

On the long-term care Ward #1 there is clinical pharmacist presence once a week. We survey the medical treatments for interactions and any other discrepancies and discuss each intervention with the doctor. On the long-term care Ward #2 there was no clinical pharmacist presence before.

Fig. 3 Number of cases involving polypharmacy

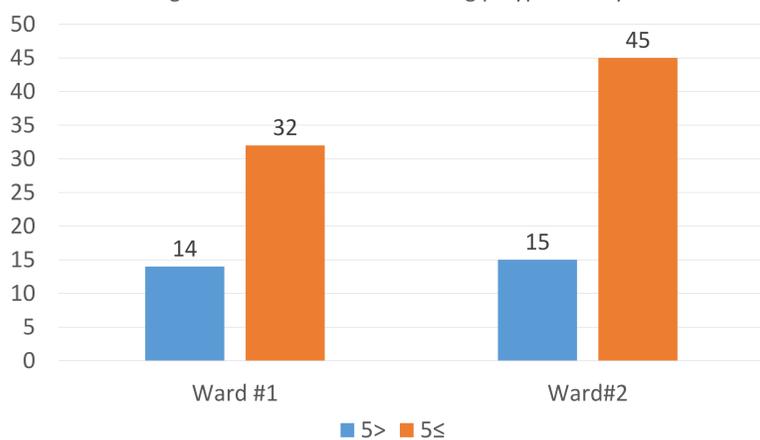
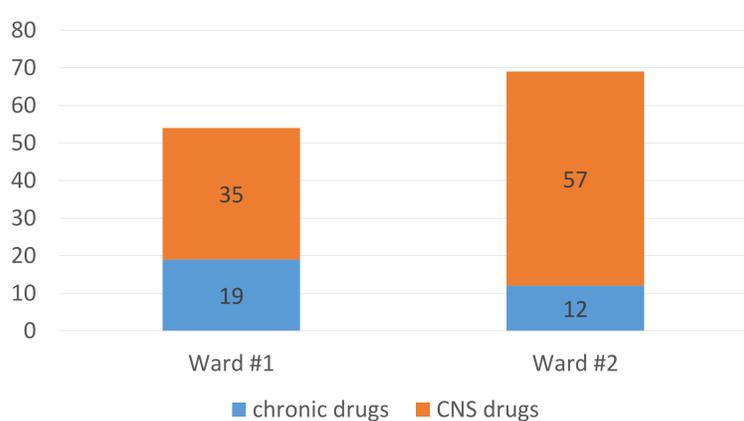


Fig. 4 Number of interventions



Results

The mean age was slightly above 80 years in both groups (83 years vs. 84 years, respectively). The average number of concurrent medications was 5.5 and 5.8 per patient in the two observed wards, both qualifying as polypharmacy. Based on PCNE, drug related problems at both sites derived from the possibly occurring adverse drug events (P2.1) and any failure of optimal effect of drug treatment (P1.2). The possible reasons of these problems include inappropriate combination of drugs or drugs and herbal medication (C1.4) and wrong drug, strength or dosage advised (C5.3). According to our survey one of the most common drug related problems is (C3.2) „drug dose too high”. Anxiolytics, pain killers/NSAIDs and laxatives are often given by nurses in the case of need. By monitoring the medical treatments we observed adverse events as a result of inappropriate on demand drug use, overuse and abuse.

Hungary's population by gender and age

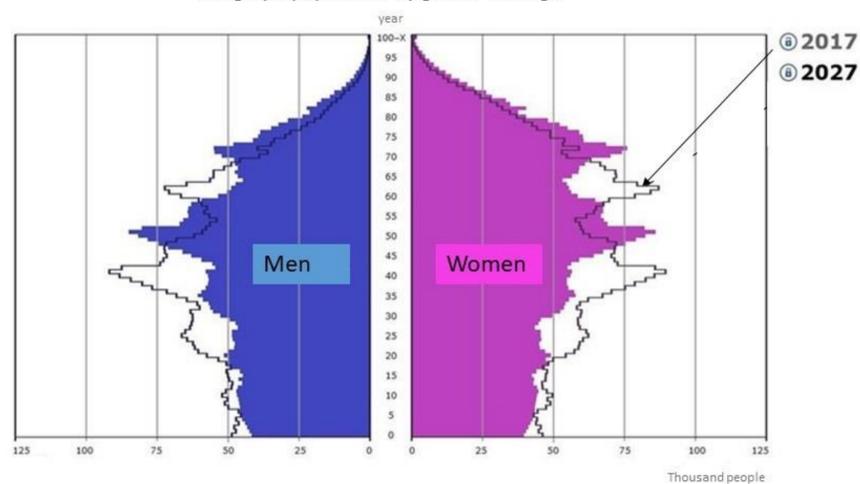


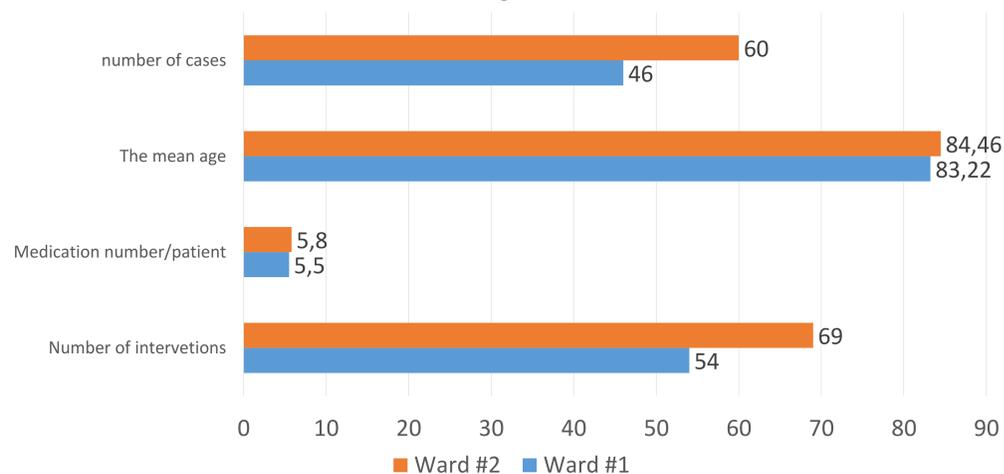
Fig. 1: Reference: <http://www.ksh.hu/interaktiv/korfak/orszag.html>

Purpose

Comorbidities are the reason of polypharmacy among the elderly patients. We suggest the presence and supervision of clinical pharmacists in the case of long-term care wards, to ensure the seven rights (7R) in this highly vulnerable population.

The aim of this study was to compare the detected incidence of drug related problems (DRPs) between the wards.

Fig. 2



Methods

Medication therapies of 46 patients from the Ward #1 and 60 patients from Ward #2 were assessed. DRPs were classified based on the PCNE V8.01 algorithm. The basis for the classification: A Drug-Related Problem is an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes. The PCNE classification now has 3 primary domains for problems, 8 primary domains for causes. We differentiated the drug related problems caused by prescribing and dispensing discrepancies. The analysis was carried out by using Microsoft Excel.

Fig 5 The most common drug related problems Ward #1

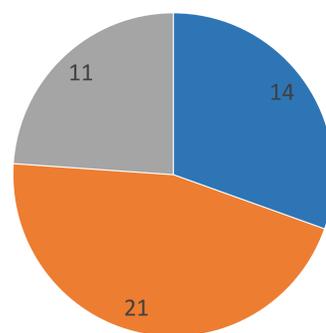
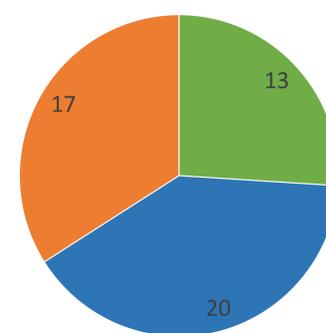


Fig 6 The most common drug related problems Ward #2



- Effect of drug treatment not optimal
- Adverse drug event (possibly) occurring
- Unnecessary drug treatment
- No effect of drug treatment
- Effect of drug treatment not optimal
- Adverse drug event (possibly) occurring

On the ground of our study it is unambiguous, that in the long term care wards the use of antidepressants and antipsychotics is overrepresented. The pharmacist interventions offered by our team, impacted mostly these drug groups. Ward #1: 35%, Ward #2: 17%.

Conclusions

Clinical pharmacist can take the lead in the follow-up, optimization and continuous re-evaluation of drug therapies for the elderly. Based on the current findings, well-established clinical pharmacy services can potentially play a fundamental role in improving patient safety and the quality of life for the ageing population.

