

Multidisciplinary Medication Review: Evaluation of a Pharmaceutical Care Model for Elderly Patients

Mélanie Brulhart, Dr pharm Joel Wermeille: Pharmacie interjurassienne, Hospitals and Nursing homes of Jura and Jura bernois, Moutier, Switzerland.

Objective: The objective of this study was to assess a pharmaceutical care model integrated into the multidisciplinary care of elderly patients in nursing homes.

Setting: Prospective study, medication review, from January 2007 to December 2009 in ten nursing homes affiliated to the *Pharmacie interjurassienne* (PIJ), Switzerland.

Method: Medication was collected and analysed by a pharmacist, focusing on drug indication, security, dosing, side effect, renal/hepatic elimination and interactions (using *Pharmavista* database (<http://www.pharmavista.ch>)). Drug-related problems (DRP) were discussed face-to-face with the responsible physician and a nurse. During this meeting, pharmaceutical care issues were formulated and medication interventions proposed. DRP and interventions were documented using the Pharmaceutical Care Network Europe scheme version 5.00 (PCNE V5.00). The economic impact of the service was estimated through a retrospective evaluation of annual drug costs. A satisfaction evaluation was conducted among practitioners and nurses.

Main outcome measures: DRP, interventions, treatment changes implemented.

Results: Drug therapy of 329 patients was reviewed. The number of medicines per patient ranged from 2 to 27 (mean 12.8). A total of 1225 DRP, including 395 moderate to severe interactions (ranging from 0 to 6 per patient) were detected and discussed with the physician and the nurse. Medication review allowed 803 treatment adaptations: 373 drugs stopped, 197 dosages changed, 95 instructions for use changed, 86 drugs changed for another one, 35 drugs formulations changed and 17 new drugs started. According to the Anatomical Classification System (ATC), the main classes involved in interventions were related to Alimentary tract and metabolism (n=285), Nervous system (n=189) and Cardiovascular system (n=115). Since the outset of the PIJ, the mean annual drug costs were better controlled in nursing homes with medication review including a pharmacist, than in the other nursing homes (-14.6% versus -0.1%) while the resident population was cared similarly. The satisfaction evaluation showed a very positive appreciation by practitioners and nurses.

Conclusion: The study showed an efficient pharmaceutical care model, well accepted by physicians and nurses. It also indicated that for elderly patients, continuous drug review contributed to improved drug therapy, reduced unnecessary polypharmacy and reduced pharmaceutical costs.