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Forms of safe application of therapy for elderly people in home care

Načini sigurne primjene terapije za starije ljude na kućnoj njezi

Olja Vori¹, Radmila Pavličić², Anita Bukovec³

¹ University of Applied Health Sciences, Zagreb olja.vori@zvu.hr ² Libertas International University, Zagreb rpavlicic@gmail.com ³ Croatian National Bank, Zagreb anita.bukovec@hnb.hr

Introduction and objective: Patient safety is one of the most important public health issues of any healthcare system. Trends in healthcare systems show a high reliance in patient care on the use of new technologies, communication tools and personalized patient care to emphasize prevention of adverse patient impact. If we take into consideration the growing indicators of the continuous growth of the elderly people in countries, and on the other hand the high costs of health care, health professionals reach for the use of telemedicine and the encouragement and empowerment of the patient and the patient's family in order to achieve the goals of preserving the health of patients in elderly age. Quality health care places special emphasis on the safe storage, preparation, administration and records of medicines. Therefore, the provision of remote health services, from drug prescription to medical advice, can be completed with the safe use of prescribed therapy through the use of devices which control and warn about the correct dosage of the drug in the comfort of the patient's home. Elderly people typically take multiple medications for their chronic conditions. The challenges of using complex therapies in the elderly age can be different, and inappropriate use of the drug can lead to side effects and unwanted conditions.

The use of high-tech devices that dispense drugs from the package according to prescribed therapies. By using such advanced devices, with alarms and light signals to instruct the elderly on the correct application of the correct dose, errors in the administration of medicine are reduced and patient safety is increased. In order not to miss a dose, devices for automated dosing and administration of medicine can send a reminder and notify the family or caregiver in a timely manner if an elderly person misses a dose or takes it after the due date.

The investigation of the various advantages of using such devices in the application of therapy in the elderly age is the focus of this paper.

Methods: In this paper, we provide an overview of the various challenges in the safety of drug administration for the elderly. Then an overview of telehealth applications in the care and rehabilitation of geriatric patients. Special emphasis is given to the analysis and application of various devices that assist in the administration of various medications in the home of the elderly in order to ensure the reduction of treatment errors, and thereby indirectly increase the quality of health care.

Results: The application of new communication technologies, the provision of remote health services and devices for accurate drug dosing enable fast, high-quality and accurate application of the prescribed drug therapy. In this way, a higher level of quality of health care is achieved for the elderly, who can take better care of themselves. Also, it enables caregivers, guardians and family to monitor the patient's treatment and in many cases they can react in time during the treatment if the patient did not take the right medicine on time and in the correct dose.

Conclusion: Digitization in healthcare systems enables the use of more patient data and contributes to personalized care and better treatment outcomes. The safety of the patient, especially the elderly, is a challenge in healthcare institutions, but also when using prescribed drugs in home care. Modern methods of treatment and monitoring of drug use in the elderly include the use of devices that automatically dispense the exact dose of the drug at the exact time. In this way, treatment errors, unwanted hospitalizations and side effects are reduced. The use of devices that smartly warn the patient and the family of the elderly when applying therapy also has a positive effect on the quality of healthcare.

Keywords: elderly people, patient safety, telemonitoring, health and social care, automated medication dispense

LITERATURE

- 1. *Libby AM, Fish DN, Hosokawa PW, et al.* Patient-level medication regimen complexity across populations with chronic disease Clin Ther, 35 (2013), pp. 385-398
- 2. Johnson A, Guirguis E, Grace Y. Preventing medication errors in transitions of care: a patient case approach, J Am Pharm Assoc (2003), 55 (2015), pp. e264-e274, quiz e275-6
- 3. *Wolff JL, Roter DL, Barron J, et al.* A tool to strengthen the older patient-companion partnership in primary care: results from a pilot study J Am Geriatr Soc, 62 (2014), pp. 312-319, Epub 2014 Jan 13
- 4. *Jamerson BD, Fillenbaum GG, Sloane R, Morey MC.* A new method for identifying characteristics of needing help to take medicines in an older representative community-dwelling population: the Older Adults Medication Assist Scale J Am Geriatr Soc, 64 (2016), pp. 1195-1202