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CONFERENCE ABSTRACT

Development and Implementation of an Integrated Pharmaceutical Care Program for patients with COPD in a Rehabilitation Hospital.

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Background: Chronic obstructive pulmonary disease (COPD) is a progressive disease associated with airflow limitation and prolonged respiratory problems. The treatment requires an interdisciplinary approach with a holistic view of the patient. A cornerstone of the treatment consists of inhalation therapy. Inhalation errors are abundant and medication adherence towards inhalation therapy is low. We aimed (1) to develop a standardized pharmaceutical care protocol for hospitalized patients with COPD and (2) to evaluate the effect and feasibility of protocol implementation.

Methods: This study took place at the rehabilitation hospital Koningin Elisabeth Instituut (RH-KEI) in Oostduinkerke, Belgium from January 2021 to April 2022. The protocol was based on the PHARMACOP protocol, tailored to the specific setting using in-depth interviews with all HCPs involved in the pharmaceutical care of patients with COPD (physicians, pharmacists, pharmacy technicians, nurses, physiotherapists and an occupational therapist). The finalized protocol consisted of six additional patient contacts (3 evaluation moments, 2 educational moments and 1 evaluation moment two weeks after discharge), mainly between the hospital pharmacist and the patients. Consequently, from January 2022 to April 2022, adult patients with COPD were included to follow the complete protocol. Patient outcomes were evaluated using standardized questionnaires (i.e. mMRC, BMQ, CAT, EQ-D and EQ-VAS). The feasibility was assessed during a focus group discussion with all involved HCPs and a patient survey after discharge.

Results: Before the start of the study, the hospital pharmacist in RH-KEI had no patient contact and there were no (recurrent) training sessions about inhaler use. The in-depth interviews elucidated that most involved health care providers (HCPs) had insufficient knowledge of the correct use of inhalers. This is however needed as 37% of included patients made at least one critical inhalation error at hospitalization. The adapted PHARMACOP protocol was tested in 13 patients, after which a significant improvement was noted in mMRC ($p = 0.047$), BMQ concerns ($p = 0.011$) and CAT score ($p = 0.002$). A trend towards improvement was noted in the EQ-5D and EQ-VAS score (resp. $p = 0.065$, $p = 0.590$). Finally, mean inhalation technique scores had significantly improved ($p = 0.003$). Transferring information to primary care HCPs seemed difficult as only a third of patients had handed over their discharge letter to their community pharmacist. The in-hospital HCPs concluded that the protocol was feasible for implementation with some

adjustments, such as a more prominent role of the (hospital) pharmacist, the possibility to tailor the program to the patient and a set timing for interdisciplinary (patient) discussions.

Conclusion: An interdisciplinary pharmaceutical care program can improve outcomes in patients with COPD. Additional attention should be given to the inclusion of primary care HCPs to guarantee continuity of care concerning inhalation therapy for COPD management.