University of Basel

DEPARTMENT OF PHARMACEUTICAL SCIENCES

Kantonsspital Baselland

Re-evaluation of adherence to inhaled medication after an interventional study

Master thesis

January 11th – June 3th 2016

Sandra Weber

Supported by

Claudia Gregoriano, MSc in Pharmacy

PD Dr. med. Thomas Dieterle

Prof. Dr. Kurt E. Hersberger

University of Basel

Department of Pharmaceutical Sciences

Pharmaceutical Care Research Group

University Department of Medicine KSBL

Abstract

Introduction Poor adherence to long-term medication is common in asthma and Chronic Obstructive Pulmonary Disease (COPD) patients. It leads to poor symptom control, increases healthcare utilisation, and reduces health-related quality of life and survival. Moreover, adherence tends to decline over time in patients with long-term therapy. As to our knowledge, no studies assessed the long-term impact on adherence after an interventional study in asthma and COPD patients, when the subjects were no longer being monitored and supported regarding their medication intake.

Objectives To re-evaluate adherence to inhaled medications in asthma and COPD patients after completion of a six months interventional adherence study and to determine the health related quality of life and disease control of patients after the concluded study.

Methods The study design was cross-sectional. Telephone interviews were conducted with patients that had concluded the adherence study at least three months ago. Adherence to medication was assessed with the eight item Morisky Medication Adherence Scale (MMAS-8), asthma control was measured with the Asthma Control Test (ACT), and health status was assessed with the COPD Assessment Test (CAT).

Results Out of the 57 eligible patients that had concluded the adherence study at least three months ago, 54 agreed to participate in the telephone interview. Mean age was 68.4±9.9 years and 20.4% of the participants were female. 64.8% had COPD (n=35), followed by asthma (18.5%; n=10) and Asthma-COPD Overlap Syndrome (ACOS, 16.7%; n=9). Thirty subjects were in the intervention group and 24 in the control group. Time since study end was on average 11.2±4.2 months (median: 11.5; range: 3-17). The overall MMAS score at follow-up was 7.5±0.9, with 68.5% high adherent patients. The mean MMAS sum score was similar between the intervention and the control group (p=0.98). The mean MMAS score of patients in the intervention and the control group that had concluded the adherence study 3-7, 8-12, and 13-17 months ago showed no significant difference within the study groups (p=0.56; p=0.08). The mean ACT score of the intervention group (n=12) and the control group (n=7) increased from study end to follow-up (p=0.19; p=0.41). An increasing of the mean CAT score from study end to follow-up of the intervention (n=24) and control group (n=20) was observed (p=0.66; p=0.50).

Discussion and Conclusion No significant differences in adherence to medication after a six months interventional trial were observed, comparing intervention and control group. Moreover, the adherence did not decline significantly within the study groups over time. Furthermore, the quality of life and disease control in both groups did not change significantly since study end. Nevertheless, the interventional adherence study may have had an impact on adherence to inhaled medication after completion of the adherence study, from whereas both intervention and control group may have benefitted.
Further research should extent the investigation to all patients of the adherence study in order to provide meaningful statements about adherence, disease control, and health related quality of life.