Self-Management Research of Asthma and Good Drug use: a cluster controlled trial (SMARAGD study)

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Background Maintenance therapy with inhaled corticosteroids (ICS) has a central role in gaining and maintaining asthma disease control. Interventions by community pharmacists have been reported to improve inappropriate inhalation technique, asthma disease control, patient reported asthma-related functional status, asthma severity and symptoms. Nevertheless, there remains room for further improvement of delivery of pharmaceutical patient care.

Purpose To assess the effectiveness of tailored pharmacists’ monitoring on asthma disease control in ICS-users.

Method Asthma patients (18-60 years) using ICS from two intervention (IG) and two control (CG) pharmacies were invited. Participating patients completed questionnaires at study start and after six months, including the Control of Allergic Rhinitis and Asthma Test (CARAT)-questionnaire. IG-patients completed the CARAT every fortnight and received counselling on asthma disease, ICS-adherence, inhalation technique and self-management by pharmacists when scores were suboptimal, deteriorated or missing. For Turbuhaler® users, additional electronic monitoring of inhalation medication (EMI) was available, with daily alerting for ICS-intake. As primary outcome, CARAT-scores at six months were compared between IG and CG in a linear regression model. As secondary outcomes adherent patients according to refill-adherence (periods of drug use covered, PDC) and MARS-5 scores were compared with logistic regression. Finally, patients with EMI were compared to non-EMI users.

Findings From March to July 2015, 39 IG and 41 CG-patients were enrolled. At follow-up, CARAT-scores did not differ between IG and CG (-0.19, 95% CI -2.57-2.20), neither did patient numbers with ICS-adherence >80% (0.82, 95% CI 0.28 ? 2.37) or MARS-5 scores >20 (0.55, 95% CI 0.15 ? 2.05). In EMI-users, ICS-adherence at an PDC>80% was 4.52 times increased (95% CI 1.56 ? 13.1) compared to non-users of EMI, but no differences were seen for the other measures.

Conclusion Our results did not show an effect of tailored pharmacists interventions on patient reported disease stability in a general asthma population compared to usual care. To support non intentional non-adherence in this population EMI might be effective, but this needs to be confirmed with higher patient numbers for a longer follow up period for clinical outcomes.