SWITCHING INHALER — REAL-WORLD EVIDENCE ON EASYHALER

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Background. In a real-world study in Sweden J. Syk et al. (2019) studied the outcomes of switching from budesonide-formoterol (160/4.5 or 320/9 mcg/dose) Turbuhaler to the same treatment via Easyhaler («Orion Pharma»). They aimed to demonstrate non-inferiority of asthma control when switching. This open, prospective, non-interventional, multicentre study included 125 adult patients with stable asthma in Swedish primary care. Non-inferiority of asthma control after switch was chosen as a primary endpoint; asthma-related quality of life, lung function and inhaler perception among physicians and patients — as secondary endpoints. After switching to Easyhaler the authors revealed significant clinical improvement and the improvement of quality of life. The proportion of patients with well-controlled asthma increased from 53.0 % at baseline to 70.9 % over the 12-week treatment period. Mean Asthma control score (ACT) score improved from 18.9 to 20.7 ($p < 0.0001$). Mean mini-asthma-related quality of life questionnaire score improved from 5.4 to 5.8 ($p < 0.0001$). Lung function parameters remained stable across the treatment period. Forced expiratory volume in 1 second (FEV1) and forced vital capacity (FVC) stayed unchanged between visits 1 and 3 (2.7 L, 2.8 L, $p = 0.4226$ and 3.6 L, 3.7 L, $p = 0.1067$ respectively). According to questionnaires, overall patient satisfaction with Easyhaler was 65 % compared to 41 % with Turbuhaler. So, overall conclusions of the study were the following: non-inferiority criteria were met; switching to budesonide-formoterol Easyhaler resulted in significant improvement in asthma control and asthma-related quality of life ($p < 0.0001$); the majority of patients assessed the Easyhaler as easy to learn and prepare for use and were satisfied with it. *The aim.* To find out if the choice of an inhaler can affect treatment effectiveness and hence patient's quality of life. *Materials and methods.* Analysis of real-world studies in Easyhaler (Pirozynski M. et al., 2017; Gallfy G. et al., 2013; 2019; Syk J. et al., 2019; Rytila P. et al., 2018; Tamasi L. et al., 2018). *Results and discussion.* Real-world study in Poland by M. Pirozynski et al. (2017) revealed the significant clinical improvement among patients with asthma treated with budesonide-formoterol Easyhaler. This non-randomized, open-label, non-interventional multicentre study, which included 2200 adult patients with asthma, assessed clinical efficacy of Easyhaler in outpatient care. The results were assessed in 12 weeks of Easyhaler therapy. According to ACT results, the percent of well-controlled asthma increased from 46.6 % to 90.8 %. In another real-world study in Hungary the significant clinical improvement was shown for patients with asthma or chronic obstructive pulmonary disease (COPD) switching from previous inhaler to Easyhaler (Gallfy G. et al., 2019). This post-hoc subanalysis of a previously reported non-randomised, open-label, non-interventional multicentre study assessing effectiveness of budesonide-formoterol Easyhaler revealed that after 12 weeks of treatment the percentage of well-controlled asthma according to ACT increased from 13 % to 78 %. In patients with COPD the percentage of low impact of disease according to COPD assessment test (CAT) increased from 0.4 % to 3 % and of medium impact — from 24 % to 65 % ($p < 0.0001$ for both asthma and COPD comparisons (visit 1 vs. visit 3). Real-world study in Sweden demonstrated that the overall patient satisfaction with Easyhaler was 64 % compared to 41 % with Turbuhaler (Syk J. et al., 2019; Rytila P. et al., 2018). In this study 125 adult patients with stable asthma treated with budesonide-formoterol Turbuhaler for ≥ 6 months prior to recruitment had their treatment switched to an equal dose budesonide-formoterol Easyhaler therapy. Study outcomes were evaluated after 12 weeks of Easyhaler therapy (visit 3). In the Hungarian

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real-world study more than 90 % of physicians described Easyhaler as very easy or easy to use, with 74 % of their patients with asthma, COPD or asthma-COPD overlap having learned the technique within 5 minutes of teaching (Tamasi L. et al., 2018). The own data from real world study also showed that the satisfaction increased significantly among patients with asthma or COPD after switching to Easyhaler from other inhaler types (metered-dose inhaler, Turbuhaler, Discus, Breezhaler, Respimat) (Galffy G. et al., 2019). Majority of patients with asthma of all ages as well as COPD patients found Easyhaler very easy or easy to learn and use (n = 797 adults and elderly patients; n = 219 children and adolescents) (Galffy G. et al., 2013). It is easy to switch between different Easyhaler therapies, because the patient has only one device to master. Dry powder inhaler Easyhaler provides controller (inhaled corticosteroids), reliever (short and long action β-agonists), and combination therapies. The Easyhaler product range allows therapy optimisation without the need to learn a new inhaler technique. *Conclusions.* 1. Switching to Easyhaler («Orion Pharma») is clinically efficient among patients with asthma or COPD. 2. Patients switching to Easyhaler were more likely to achieve overall disease control and improved quality of life compared to their previous inhaler device. 3. Majority of patients preferred Easyhaler and were satisfied with it.

Key words: Easyhaler, satisfaction, asthma, chronic obstructive pulmonary disease.

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