Introduction Recent guidelines recommend step-down of asthma drugs once stable asthma has been achieved but there is no guidance regarding deprescribing long acting beta2 agonists (LABAs) in the paediatric population.

Aim To systematically review evidence regarding deprescribing methods of LABAs in the paediatric population.

Methods Searches were undertaken in the following databases: EMBASE, Medline, PubMed and CINAHL regarding reports of deprescription or discontinuation of LABAs in children and adolescents with persistent asthma.

Results The search returned 168 papers following deduplication. 4 papers met the eligibility criteria including 3 randomised control trials and 1 retrospective study. Overall, LABA step down was attempted in 365 children and young people (5–18 years old). The studies had variable follow up durations once deprescribing was undertaken, from 2 to 12 weeks. Effects of withdrawal were measured using parameters such as airway hyperresponsiveness test scores (3 studies), asthma control test scores (3 studies), use of rescue medication (3 studies) and lung function tests (FeNO, FEV1, FEF25–75%, peak expiratory flow rate (PEFR),% forced expiratory flow at 50% of vital capacity (%V50)) (all studies). Airway responsiveness was unchanged 2 weeks following LABA withdrawal, however decreases in%PEFR and%V50, FEV1 and asthma control test scores were observed. 2 studies assessed changes in LABA related adverse effects after deprescribing.

Conclusion There is limited and short-term evidence regarding stepping down LABAs in paediatrics. To fully implement national and international guidelines, prospective studies in this area are required.

INNOVATIVE HIGH-FIDELITY SIMULATION FOR VACCINATION TRAINING OF PHARMACIST INCLUDING EMERGENCY CASES - A RANDOMISED CONTROLLED STUDY

Shahzad Sayyed, 1Ahmed Reda Sharkas, 1Bushra Ali Sherazi, 1Amin Dabidian, 2Holger Schwender, 1Stephanie Läer, 1Inst. for Clinical Pharmacy & Pharmacotherapy, Heinrich-Heine-University Düsseldorf, 2Institut for Mathematics, Heinrich-Heine-University Düsseldorf

Introduction Recently, pharmacists in Germany were allowed to administer influenza and COVID-19 vaccines for people aged 12 years and older in order to increase vaccination coverage rates. To adapt pharmacy curriculum for clinical practice, an innovative, high level vaccination training course comprising clinical skills, techniques required for level of competence was developed with participants interacting either with a high-fidelity simulator or low-fidelity injection pad. Clinical scenarios to manage adverse events were also implemented.

Methods A randomized controlled trial using a pre-post-design with pharmacy undergraduates alongside with a theoretical part was performed. The intervention group interacted with a high-fidelity simulator, while the control group was trained with low-fidelity injection pads. Before and after the respective training each participant went through an objective structured clinical examination (OSCE) and each participant completed a self-assessment questionnaire and knowledge quiz.

Results OSCE Score were raised through an analytical checklist examining skills in anamnesis, patient information, vaccination process, and handling emergency case. Both training methods showed a significant (p<0.01) increase of skills but a significant (p<0.01) greater increase in the intervention group compared to the control group, particularly in vaccination process (p=0.007). Both Groups showed a similar increase of self-assessment score raised through a 6-point-Likert scale, and no significant differences were observed in the quizzes.

Conclusions High fidelity simulation proves to be an appropriate tool to train pharmacy students for vaccine administration, as a new pharmaceutical service and enable the students to recognize and manage adverse events.

KIDSAFE – IMPROVING MEDICATION SAFETY FOR CHILDREN AND ADOLESCENTS: IMPLEMENTATION AND EVALUATION OF A NEW FORM OF CARE

Irmgard Tori, 1Dorothee Malonga Makosi, 1Jochem König, 2Michael S Urschitz, 1Wolfgang Rascher, 1Antje Neubert. 1Department of Paediatrics and Adolescent Medicine, Universitätsklinikum Erlangen; 2Institute of Medical Biostatistics, Epidemiology and Informatics (IMBEI), Division of Pediatric Epidemiology, Universitätsmedizin Mainz

Introduction Drug therapy in paediatrics is often associated with uncertainties due to the lack of data from clinical trials, and thus the need for off-label use, but also missing paediatric dosage forms.

The KIDSafe project aimed to significantly improve the existing shortfall by introducing a structured treatment procedure (PaedPharm).

Methods PaedPharm consists of three modules: 1. a digital paediatric drug information system (PaedAMIS), 2. paediatric pharmacological quality circles (PaedZirk) and 3. a system for reporting of ADRs/MEs in the paediatric population (PaedReport). By using a stepped-wedge design, PaedPharm was implemented in 12 territorial clusters, each involving a children’s hospital and surrounding outpatient paediatricians and psychiatrists. The primary aim of the study was to reduce the prevalence of drug-related hospital admissions by one third. In addition, qualitative and quantitative analysis concerning the quality of the implementation and acceptance of the intervention was performed.

Results A total of 41829 patient cases were recorded in the participating hospitals, of which 5101 admissions could be assigned to the participating doctors (n=152). Under control conditions, a population-based mean of 4.14% of the admissions were due to an ADR or ME. Under intervention, however, it was 3.07% (OR 0.73 (95% CI 0.39 to 1.37), p>0.05). The PaedAMIS database was well accepted and PaedZirk achieved a particular high level of acceptance.

Conclusions Structured, evidence-based drug information in combination with teaching may improve the quality of drug therapy in children.

The number of participating paediatricians as well as the COVID pandemic hampered the results of this study. Thus, further studies are needed to confirm our results.