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INTRO

The OHDSI Asian Pacific regional chapter has launched the Characterization of Health by OHDSI Asia-Pacific chapter to identify Temporal Effect of the Pandemic (CHAPTER) study to describe the temporal change in incidence of diseases and healthcare pattern before and after the emergence of COVID-19 to identify a resilience of healthcare systems.

With regard to asthma, the admission and emergency department visits of pediatric asthma patients were decreased during the lock down. The reasons for this decline may related to the result of limited access to healthcare resources because of COVID-19.

As a preliminary research, we will describe the characteristics of treatment pattern in child and adult asthma.

METHODS

1. We used a database from the Korean administrative claim database converted to common data model (CDM).
2. Patients defined as asthma between January 01, 2002 and December 31, 2013 were included in this study.
3. Asthma was defined as “an occurrence of an asthma diagnosis along with the prescription of asthma medication within 30 days after being diagnosed”. Patients who were diagnosed as chronic obstructive pulmonary disease (COPD) or prescribed a long-acting muscarinic antagonist (LAMA) prior to asthma diagnosis were excluded.
4. To compare characteristics of asthma medications between children and adults, we used the packages included in HADES (known as the OHDSI Methods Library).

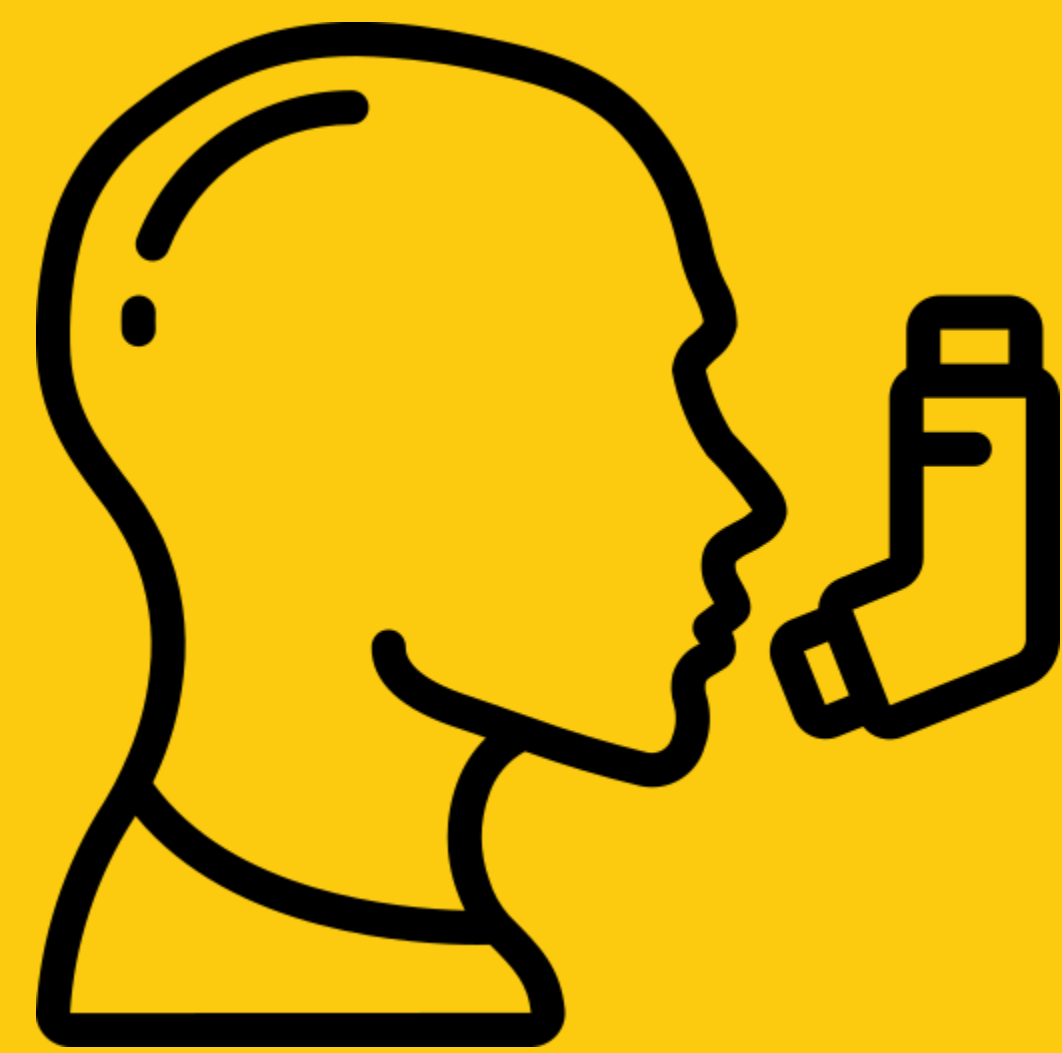
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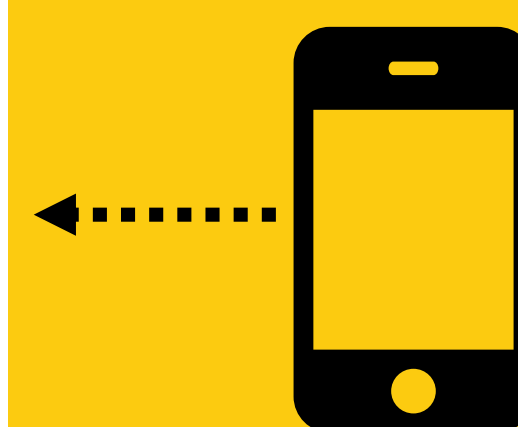
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We investigated the characteristics of treatment pattern in child and adult asthma



Further, we will identify the temporal change in incidence of diseases and healthcare pattern before and after the emergence of COVID-19



Scan QR code link to **github repository**

Table 1. Characteristics of asthma medication in asthmatic patients

Drug class	Concept name	Start 1 to end 30		Start 31 to end 365	
		Children (n = 115,130)	Adults (n = 156,196)	Children (n = 115,130)	Adults (n = 156,196)
Systemic corticosteroids	Triamcinolone	3.11	5.00	11.15	18.64
	Betamethasone	1.33	2.67	5.03	11.03
	Hydrocortisone	5.81	2.62	18.3	10.42
	Rimexolone	0.03	0.03	0.04	0.13
	Methylprednisolone	5.41	6.74	17.23	25.39
	Dexamethasone	7.01	9.01	22.53	32.93
	Prednisolone	20.58	10.03	57.94	37.23
ICS	Deflazacort	0.07	0.13	0.24	0.60
	Ciclesonide	0.16	0.42	0.50	1.43
	Triamcinolone	3.11	5.00	11.15	18.64
	Mometasone	1.49	1.47	9.86	7.70
	Betamethasone	1.33	2.67	5.03	11.03
	Budesonide	8.48	2.44	39.24	9.25
	Beclomethasone	1.39	0.01	0.00	0.07
SABA	Fluticasone	0.16	4.02	6.27	15.01
	Albuterol	7.99	2.96	39.65	13.35
	Terbutaline	0.22	0.06	1.13	0.30
	Procaterol	0.06	0.43	0.43	1.95
LABA	Fenoterol	3.02	1.91	18.2	9.78
	Hexoprenaline	0.38	0.60	2.30	2.90
	Salmeterol	0.57	3.63	1.56	13.03
	Formoterol	9.53	2.64	61.44	11.59
LTRA	Tulobuterol	7.75	0.67	40.27	2.34
	Clenbuterol	8.23	1.45	48.51	7.11
	Montelukast	6.48	2.77	31.63	11.41
	Pranlukast hydrate	0.29	1.51	1.85	6.77

ICS, inhaled corticosteroids; SABA, short-acting B2 agonists; LABA, long-acting B2 agonists; and LTRA, leukotriene receptor antagonists

CohortDiagnostics was performed to characterize the treatment of asthmatic patients.

In the period of 1 to 30 days after index start date (diagnosed as asthma), prednisolone was the most frequently prescribed drug in both children and adults.

In the period of 31 to 365 days after index start date, the proportion of formoterol was highest in children while, in adults, prednisolone was the highest.

Comparing children and adults, there were **considerable differences** in the proportion of prescriptions in short-acting B2 agonists (**SABA**), long-acting B2 agonists (**LABA**) and leukotriene receptor antagonists (**LTRA**).

RESULTS

This is ongoing research. As a preliminary result, we investigated the characteristics of treatment for asthma in children and adults.

Our results showed that there was a **considerable difference in treatment pattern** between **child and adult asthma**.

Further investigation is needed to identify the impact of COVID-19 on healthcare systems and evaluate the resilience of healthcare systems.