

THE UNIVERSITY OF HONG KONG

IMPACT CASE HISTORY

**A Series of Books on Important Paediatric Diseases for Patient Empowerment and Public Education**

1. Summary

The team led by Professor Yu-lung Lau of The University of Hong Kong has transferred their research excellence in paediatric diseases not only to clinical practice but also to the public through a structured pathway involving on-going collaborations with patients’ organizations, volunteers in the healthcare sector, and publishers, etc, to translate their research findings in layman’s language and disseminate the knowledge in multiple channels. They have produced a series of illustrated books in Chinese on important paediatric diseases together with DVDs, and delivered book talks, public lectures and press conferences to empower patients, their families and the public, helping them understand common paediatric diseases and helping parents manage their children’s health.

With the well engineered content focusing on the symptoms and management of common paediatric diseases, the book series is an invaluable tool and accurate source for public education. The book series also increases public awareness of the existing problems in our environment that affect child health, and this will contribute to public debate and potential changes in public health policies.



## 2. Underpinning Research

This public education project flows from the research conducted by the team led by Professor Yu-lung Lau, Doris Zimmern Professor in Community Child Health and Chair Professor in Paediatrics, HKU Li Ka Shing Faculty of Medicine. Key team members include Dr So-lun Lee, Dr Tsz-leung Lee and Dr Hok-kung Ho of the Department of Paediatrics and Adolescent Medicine, Queen Mary Hospital.

Professor Lau's main research interests include primary immunodeficiencies, genetics in childhood and immunological diseases, developmental and viral immunology, as well as control of childhood infectious diseases. His research team has contributed significantly to the understanding of how pathogens, such as the influenza virus, cause disease, and possible strategies to control them.

Professor Lau's team participated in an international collaborative study of asthma and allergies in childhood in mid 1990s and mid 2000. The results confirmed their clinical observation that the prevalence of allergic rhinitis in children in Hong Kong was rising. As for asthma, the overall prevalence did not increase but there was an increasing trend of cases with more severe asthma symptoms.

Following that, they conducted another study which showed that there was association between air pollution and asthma admission among children in Hong Kong. This study was also the first study in the world that showed the relationship between asthma admission with PM<sub>2.5</sub> ultrafine particles, which has now been recognized as an important air pollutant among different parts of the world.

Professor Lau was then invited by the Department of Health of the HKSAR Government to conduct the first child health survey in Hong Kong. The 'Child Health Survey 2005-2006' provided important information for child health policy in the future. It revealed that **the top five most prevalent paediatric diseases are visual problem, allergic rhinitis, eczema, food allergy, and asthma.**

Respiratory illness/common cold ranked as the top prevalent acute condition in the Child Health Survey. While the pre-existing evidence of the significant association between common cold/influenza with asthma was well recognized, Professor Lau's team considered that the evidence was not very convincing during their day-in and day-out clinical practice. They therefore conducted another study to look at the effect of cold or respiratory illness on asthma exacerbation in the local children population. After a prospective cohort study, they concluded that not all viral infections in children with asthma would lead to an asthma exacerbation.

The researchers turned to study other important local factors that might account for that result. They studied the connection of third-hand smoking with childhood asthma, allergic rhinitis and eczema, and found that compared with children of non-

smoking mothers that did not expose to second-hand smoking during pregnancy (reference group), children of non-smoking mothers that were exposed to second-hand smoking during pregnancy had significantly increased risk of wheeze ever, current wheeze, allergic rhinitis ever and eczema ever, and had marginally increased risk of asthma ever. Children of mothers who smoked during pregnancy were significantly associated with asthma ever, wheeze ever and current wheeze but not with allergic rhinitis ever or eczema ever.

The information arising from all the above research provides the team with insightful ideas about the series of books on important paediatric diseases that they launched in 2009.

### 3. References to the Research

#### **Key publications:**

Lee SL, Wong W, **Lau YL**. Increasing prevalence of allergic rhinitis but not asthma among children in Hong Kong from 1995 to 2001 (Phase 3 International study of asthma and allergies in childhood). *Pediatric Allergy Immunology* 2004; 15: 72-78 (peer-reviewed).

Lee SL, Wong WH, **Lau YL**. Association between air pollution and asthma admission among children in Hong Kong. *Clinical and Experimental Allergy* 2006; 36(9): 1138-46 (peer-reviewed).

Department of Paediatrics and Adolescent Medicine, and School of Public Health, The University of Hong Kong. Child Health Survey 2005-2006, commissioned by the Department of Health, December 2009.

So-lun Lee, Shui-seng Susan Chiu, Peiris Joseph S. Malik, Kwok-hung Chan, Hing-sang Wilfred Wong, **Yu-lung Lau**. Is respiratory viral infection really an important trigger of asthma exacerbations in children? *European Journal of Pediatrics* 2011; 170 (10): 1317-1324 (peer-reviewed).

Ho MH, Lee SL, Wong WH, Ip P, **Lau YL**. Prevalence of self-reported food allergy in Hong Kong children and teens - a population survey. *Asian Pac J Allergy Immunol.* 2012 Dec; 30(4): 275-84 (peer-reviewed).

Lee SL, Lam TH, Leung TH, Wong WH, Schooling M, Leung GM, **Lau YL**. Foetal exposure to maternal passive smoking is associated with childhood asthma, allergic rhinitis and eczema. *Scientific World Journal* 2012; 1-9 (peer-reviewed).

**Selected external grant funding:**

Paediatric Immunology and Allergy Service

Funding Scheme: The Shun Tak District Min Yuen Tong

Principal Investigator: Dr HK Ho/ Professor YL Lau

Period: 2011

Amount Awarded: HK\$500,000

**4. Details of the Impact or Benefit**

Professor Lau and his team strongly believe in patient empowerment, which has become an important integral part in the management of many chronic health conditions. Treating sick children requires more than the expertise of doctors and nurses. Parents and even the community need to support the children too by minimizing irritants and exposure to dangers, particularly for chronic diseases such as asthma or food allergies. Professor Lau's team has therefore launched a book series in Chinese to explain common childhood illnesses in simple terms and to promote awareness. They work with parents' groups to address medical and practical issues in the books, drawing on clinical and research expertise as well as the parents' own experience. Six illustrated books have been published since 2009, covering the topics of eczema, food allergies, rheumatic diseases, allergic rhinitis, newborn, and childhood asthma.

Through this project, Professor Lau's team has transferred their research excellence on paediatric diseases effectively and continuously to the public via multiple channels, including not only the books and DVDs, but also book talks, public lectures and press conferences.

Several thousand copies have been sold and plans are underway to publish the books in Taiwan and possibly Mainland China, and distribute them to Singapore. The book on eczema was sold out and has been reprinted.

The books have received very positive feedback from the patients' organizations and parents' groups. The families and the children now have access to credible and easy-to-understand information to help grasp the nature of the children's illness, how to choose medication, how they should manage the illness at home, when their illness is under control and when it is not, and when they need to seek help. This enables them to take charge of their health. As an example, one of the parents has made the following comments:

*"My friend recommended the two books on eczema and food allergies from 'The Paediatric Disease You Must Learn' series to me when I thought I was so helpless in Hong Kong with my daughter having the*

*above two physical conditions.*

...

*After I got hold of the two books, the first thing I did after I read through them was to gather my family together and show them the CD's. After watching, the family members, especially the seniors, can understand the conditions of my daughter when she is not feeling well."*

The Chairman of the Hong Kong Allergy Association had the following comments:

*"These works are tremendous achievements in Hong Kong, and first of its kind (with) both the titles and the format that a DVD is included in each book. These books have provided a lot of valid information, real life experience and cleared up many misunderstandings ..."*

The project has now become a continuing enterprise with structured pathway for the production. Through engaging various partners of over hundreds of individuals and many organisations, Professor Lau's team has formed a very robust alliance providing a sustainable model for the project to achieve the purposes of patient empowerment, public education and influence on public health policies.

The initial funding was solicited from charities with missions in helping children, including Children's Catastrophic Disease Foundation, Providence Foundation and South China Morning Post Operation Santa Claus. After securing funding, cross-sectorial collaboration from volunteers including paediatricians, nurses, therapists, school teachers, patients and families, as well as their support groups was formed to plan the content of the books and DVDs. The patients' organizations involved include the Hong Kong Allergy Association and the Hong Kong Paediatric Rheumatism Association. A production team from Action Communication helps produce the DVDs which document the patients' stories reflecting their personal experience, with doctors and allied health workers narrating the basics of these paediatric diseases. Cartoon painters help with the illustrations accompanying the text. The phraseology of the text has been meticulously edited to ensure lay public can easily understand. Forms Publications (HK) Co. Ltd., a subsidiary of Sino United Publishing (Holdings) Limited, shares the team's vision and has helped promote the book series. The governance of the project rests with the University, and the revenues generated from the book sales are returned to a fund for future production.

This project also contributes to increase in public awareness that some of the diseases are about lifestyle or environmental issues, so parents need to know how to control their home environment and become aware of the importance of persuading the government to make the general environment more friendly for their children's health. The project seeks to influence public health policies by a persistent effort to disseminate research findings and alert the public and the government of the issues that have implications on child health, such as the need to have better food labeling

for food allergies, and control cigarette smoke to get better air quality for children who have asthma and allergic rhinitis, etc.

## 5. References to the Corroboration of Impact or Benefit

- **Statements of support** from the following are available for corroboration purpose:

- Action Communication
- Forms Publications (HK) Co. Ltd.
- South China Morning Post Operation Santa Claus
- Hong Kong Paediatric Rheumatism Association
- The Hong Kong Allergy Association
- A parent of a child with eczema and food allergies

- The book on eczema was sold out and has been reprinted.

- **Media Coverage:**

The series of books had been extensively covered in local newspapers and online news media.