

Dissemination reports are concise informative reports of health-related research supported by funds administered by the Food and Health Bureau, namely the *Research Fund for the Control of Infectious Diseases* (RFCID) and the *Health and Health Services Research Fund* (HHSRF). In this edition, 11 dissemination reports of projects related to antiviral development and therapy, environment and health, and respiratory infectious diseases are presented. In particular, three projects are highlighted due to their potentially significant findings, impact on healthcare delivery and practice, and/or contribution to health policy formulation in Hong Kong.

Highly pathogenic avian influenza H5N1 in wild birds and poultry raises concern about zoonotic transmission and subsequent pandemic. The severity of H5N1-induced lung pathology may be due to increased viral replication and/or inflammatory responses (cytokine cascade). In contrast, deficiency of cyclooxygenase-2 (COX-2) in the infected host results in less severe disease. Lee et al¹ hypothesised that hyperinduction of COX-2 plays an important role in the pathogenesis of H5N1 virus infection. They found that the cytokine cascade was maintained even in the absence of significant virus infection in the lung. This has potential health implications as, in addition to antiviral therapy, interventions to selectively modulate the cytokine cascade (eg with COX-2 pathway inhibitors) may be helpful. Such an approach may be more beneficial than attenuating the action of a single cytokine such as TNF- α using direct antagonists. COX-2 inhibitors are either already registered for clinical use or undergoing late phase clinical trials, and may also have the added benefit of inhibiting viral replication.

The number of people aged 65 years or older in Hong Kong is growing rapidly. Regular engagement in physical activity contributes to healthy ageing. Walking is recommended for seniors because it is versatile, affordable, and relatively safe. The accrual of 30 minutes of walking per day has significant health benefits. However, the neighbourhood environment often plays a decisive role in facilitating residents' walking habits. Knowledge of built environmental characteristics conducive to an active lifestyle can inform policies on public health, land use, and transportation. Cerin et al² aimed to develop and validate instruments for investigating the associations between the built environment and walking among senior residents of Hong Kong and to provide effects of perceived attributes of the neighbourhood on walking for different purposes. A total of 484 Hong Kong seniors participated in validation of an instrument designed to evaluate the neighbourhood environment. Although most correlates of walking in older adults were similar to those observed elsewhere and in younger cohorts, neighbourhood attributes that were peculiar to Hong Kong (ie access to residential entrances, lifts in high-rise buildings) and seniors (facilities for sitting and rest) were identified.

Asthma is the most common chronic respiratory disorder in childhood, affecting about 10% of Hong Kong children. Asthma exacerbations commonly result in hospitalisation, which accounts for a major fraction of the total cost of asthma care. Increasing evidence supports the importance of respiratory infections in asthma exacerbations. Leung et al³ conducted a case control study in 209 children with asthma exacerbations in order to understand the roles of respiratory pathogens in precipitating asthmatic attacks. They found that respiratory viral infections were significantly associated with asthma exacerbations in Hong Kong children, particularly human rhinovirus (HRV). This observation was consistent with other studies that identified HRV as the most important viral aetiology of childhood asthma. Previous studies have shown that *M pneumoniae* and *C pneumoniae* are common pathogens associated with asthma exacerbations and that telithromycin is beneficial for treatment. However, in this study, *M pneumoniae* and *C pneumoniae* were rarely detected in respiratory secretions from children with asthma exacerbations or patients with chronic stable asthma. These results do not support the usefulness of macrolide treatment for asthma exacerbations. Despite the suggestive results, the study was somewhat underpowered and larger studies are required to delineate the relationship between asthma exacerbations and other respiratory pathogens.

We hope you enjoy this selection of research dissemination reports. Electronic copies of these dissemination reports and the corresponding full reports can be downloaded individually from the Research Fund Secretariat website (<http://www.fhb.gov.hk/grants>). Researchers interested in funds administered by the Food and Health Bureau may also visit the website for detailed information about application procedures.

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3. Leung TF, Chan PK, Wong GW, Fok TF, Ng PC. Respiratory viruses and atypical bacteria triggering severe asthma exacerbation in children. *Hong Kong Med J* 2013;19(Suppl 4):11-4.