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Submitting author: Dr Laam Chan
Post title: Associate Consultant, Pok Oi Hospital, NULL

The Impact of Seasonal Flu Vaccination on Reduction of Hospital Admissions and Mortality Rates among Elderly Diabetic Patients: A Cohort Data in General Outpatient Clinic

Chan L, Lo CW, Liang J
Department of Family Medicine & Primary Health Care, New Territories West Cluster

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Introduction

From literature, the number one burden of acute community acquired infections among elderly diabetic patients is respiratory infection. Evidence shows that elderly diabetic patients have high risks of hospital and ICU admissions after influenza infection. Thus elderly diabetic patients are one of our target patient groups for seasonal flu vaccination under government vaccination program every year. But the impact and efficacy of vaccination in local community is seldom evaluated.

Objectives

To compare the hospital admission and mortality rates due to respiratory infections for elderly diabetic patients with and without seasonal flu vaccination

Methodology

From CDARS, all diabetic patients aged 65 or above with International Classification of Primary Care (ICPC) code T89 and T90 in one GOPC from January to December 2015 were included. Their immunization status for seasonal flu vaccination prior to cohort period was recorded. Hospital admission episodes due to influenza (ICD code 487), pneumonia (ICD code 480-486) and in-patient mortality rate were captured during the cohort period. Socioeconomic data, diabetic control status and pneumococcal vaccination history were also included.

Result

A total of 3700 diabetic patients aged 65 or above were reviewed in the cohort period. Among them, 1182(32%) received seasonal flu vaccination and 2518 (68%) were non recipients. Both recipient and non-recipient groups had the same hospital admission rate for Influenza (0.68%). However, recipient group had lower mortality rate 0% vs 0.08% and lower case fatality rate 0% vs 11.76% compared to non-recipient group. Regarding hospital admission for pneumonia, recipient group had lower admission

rate 1.44% vs 1.47% compared to non-recipient group. However, mortality rate and case fatality rate were higher in recipient group 0.51% vs 0.32% and 35.3% vs 21.6% respectively. Conclusion: The flu vaccine strain in 2014/15 significantly lowers the mortality rate of elderly diabetic patients due to influenza. No difference in influenza admission rate between the recipient and non-recipient groups could be due to the mismatch of vaccination strains and the circulating strains and low hospitalization rate. Further studies with larger sample size are warranted. These data are important for promoting seasonal flu vaccination in our locality and predicts service demand for hospitalization in winter surge period.