Service Priorities and Programmes

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Comparison of influenza A associated hospitalization in two consecutive winter seasons in Hong Kong and its impact on older persons – 2013/14 and 2014/15

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Introduction

Co-occurring with the antigenic mis-matching of the WHO recommended seasonal influenza vaccine, the winter surge in 2014/15 was severe. It remains unknown how it affected the number of deaths, the mortality rate and its impact on the older persons.

Objectives

We, therefore, attempted to compare the two seasons in the numbers of laboratory confirmed influenza A infection associated hospital admissions and the respective patient characteristics; and the severity of the illness in terms of mortality and length of hospital stay; and lastly whether the older population was more vulnerable in the 2014/15 season.

Methodology

We identified adult patients admitted to two acute hospitals with laboratory confirmed influenza A infection by searching the clinical data base in two consecutive winter seasons, 2013/14 and 2014/15. The number of admission and deaths, mortality rate, length of stay between the two seasons were compared. Subgroup comparisons were also undertaken within the older group and also the institutionalized and non-institutionalized older patient groups.

Result

The number of influenza A associated admissions were 2.83 folds higher in 2014/15 season (1200 vs. 423) than in 2013/14 season. It amounted to 8208 bed days (1200 x mean LOS of 6.84 days) or equivalent to 39 beds occupied by influenza A infected patients daily on average. It is highly probable that the additional bed demand was even higher during the middle part or the peaked months of the surveyed period. Calculated similarly, in the 2013/14 season, the additional bed demand was 16.8 beds. Therefore the antigenic mis-matching in the recommended seasonal influenza vaccine might have contributed to an additional demand of 22.2 beds (39 beds – 16.8

beds) every day in the NT West Cluster. However, the mortality rates and lengths of stay, were 5.4% vs. 7.4% and 8.35 days vs. 6.84 days respectively and similar statistically; and the mortality rate remained similar after adjustment for age, gender and Old Age Home residence. In older patients, the increase in admission was disproportionately higher in 2014/15 with 4.03 folds increase and even higher in OAH resident admission with 7.14 folds increase. Conclusion The influenza A associated hospitalization was higher in the 2014/15 season and was particularly high in the OAH residents. Though the number of death was 3 fold higher, the mortality rates were similar in the two seasons. The upsurge of admissions in 2014/15, concurring with the mismatching of vaccine in the same season, has provided indirect but supportive evidence for the efficacy of the vaccination programme.