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COVID-19, PNEUMOCOCCAL AND INFLUENZA VACCINATIONS AMONG GERIATRIC MEDICINE OUTPATIENTS IN BRUNEI DARUSSALAM

Running Title: COVID-19 pneumococcal flu vaccines in elderly

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ABSTRACT:

Vaccines are an important public health measure against infectious diseases. Older people are vulnerable to complications from infections. COVID-19 vaccines, pneumococcal and influenza vaccines are recommended for older people. The electronic records of Geriatric Medicine Outpatients in RIPAS Hospital for August 2022 were reviewed to identify the uptake of these vaccines. Among 49 patients, 61.2% should have been recommended an additional COVID-19 vaccine dose as they were aged 80 years or older, while a further 18 (36.7%) should also be considered due to comorbidities. Only one patient received a pneumococcal vaccine, while none of the patients received annual influenza vaccines. Although there was a high national vaccination rate, further work is required to encourage older people to receive the booster doses, as well as pneumococcal and influenza vaccines. Outpatient clinics should be viewed as an opportunity to counsel patients to get vaccinated.

Keywords: Aged, COVID-19, Influenza, Pneumococcus, Vaccination.

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INTRODUCTION:

Vaccination programmes are important public health measures that enable containment of the spread of various infectious diseases. High immunization rates have resulted in eradication of several viral and infectious diseases [1], and is a

key strategy in managing the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections that caused the global coronavirus disease 2019 (COVID-19) pandemic.

Older people are more prone to infections, and old age is a significant risk factor for severe illness [2].

During the COVID-19 pandemic, older people were a vulnerable group, with a higher risk for severe infections, complications and death. It is hypothesised that immune-senescence plays a role in augmenting their susceptibility towards severe illness [3]. For people aged 76 years and older, the COVID-19 estimated mortality rate is 18% [4]. Thus, older people were a priority group in most countries for COVID-19 vaccination programmes.

Brunei has a high COVID-19 vaccination rate, with 99.32% of the population receiving at least two doses (as of 30th December 2022) [5]. Older people were prioritised since the roll-out of the COVID-19 national immunization programme on 3rd April 2021. A third COVID-19 vaccine dose or booster was recommended for people aged 60 years and older since 26th November 2021. In addition, for people aged 80 years and older, and older people with comorbidities, a fourth COVID-19 vaccine dose was recommended since 15th June 2022 [6].

The latter recommendation was supported by a Singapore study, showing that four doses of mRNA vaccines (BNT162b2 or mRNA-1273) significantly reduced the risk of symptomatic SARS-CoV-2 infection, hospitalization and severe disease among people aged 80 years or older compared to three-doses only [7].

Older adults are also recommended to have the pneumococcal vaccine and an annual influenza vaccine [6]. During the pandemic, these additional vaccine recommendations may have taken a backseat, given the spotlight on COVID-19 immunisations.

However, given the rebound of other respiratory illnesses, such as influenza and respiratory syncytial viruses during the post-pandemic period, there is a renewed interest in re-emphasizing these other vaccines in older people [8].

In this paper, the vaccination rate of COVID-19, pneumococcal and influenza vaccines in older people in a Geriatric Medicine Outpatient clinic based in Raja Isteri Pengiran Anak Saleha (RIPAS) hospital was described.

METHODOLOGY:

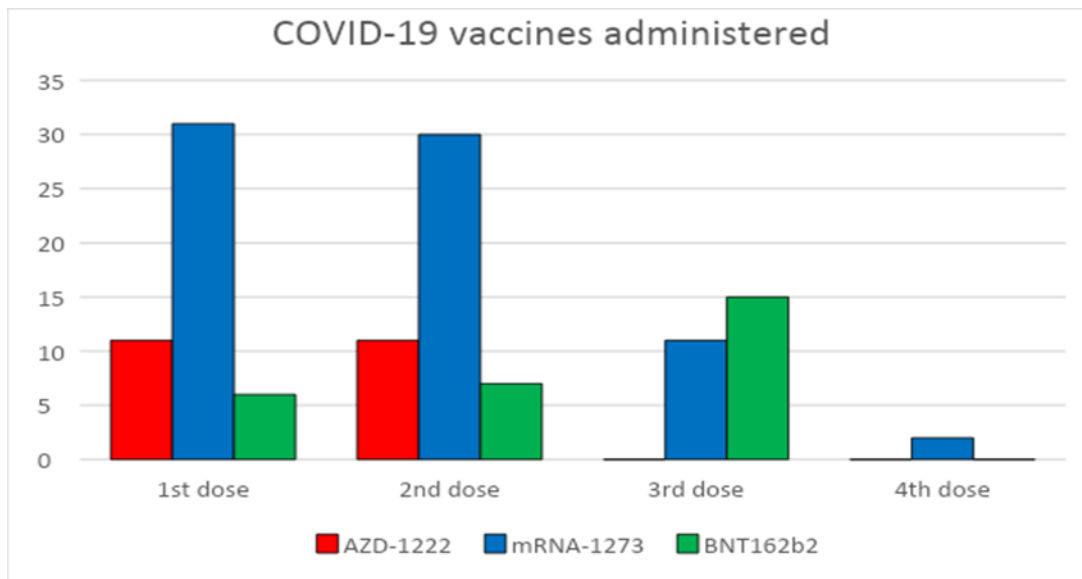
This was a retrospective review of the electronic records of patients attending geriatric medicine outpatient clinics in RIPAS Hospital from 1st August 2022 to 31st August 2022. Demographic information including age, gender, mobility, type of COVID-19 vaccine received, pneumococcal vaccine and influenza vaccine status were collected. It was also assessed whether patients were advised to receive vaccines according to local guidelines during the clinical consultation.

RESULTS:

There were 49 patients with a median age of 82 (range 70-102) years. There were 20 (40.8%) males and 29 (59.2%) females. The majority were mobilizing independently (17,34.6%) or walking with a stick (15,30.6%), while 5 (10.2%) used a frame, 10 (20.4%) were limited to wheelchair transfer and two were immobile. Among those who received COVID-19 vaccines, 22 (44.9%) had

two doses, 24 (49.0%) had 3 doses and two patients received four doses. One patient was unvaccinated.

Figure 1 shows the type of COVID-19 vaccine administered, which were as follows: Astra-Zeneca 22 (17.7%), Moderna 74 (59.7%) and Pfizer 28 (22.6%).



There were 30 (61.2%) patients who should have been recommended an additional COVID-19 vaccine dose as they were aged 80 years or older; while among younger age groups, a further 18 (36.7%) patients should consider an additional booster dose due to comorbidities. Only 4 (8.3%) out of the 48 patients were counselled regarding this. In terms of other recommended vaccinations, only one patient received a pneumococcal vaccine

in 2019, while only 9 (18.4%) patients have ever received an influenza vaccine.

There were no patients who received annual influenza vaccines, while only one clinic patient was counselled to get it.

DISCUSSION:

The vaccination rate of with COVID-19 vaccines, pneumococcal and influenza vaccines among

older people attending Geriatric Medicine outpatient clinics was reviewed. Although the national COVID-19 immunisation rate was quite high, we found a significant number of patients who should receive additional COVID-19 vaccine doses according to the national recommendations. As older people are especially vulnerable to complications from COVID-19 infections, discussions to encourage the uptake of COVID-19 vaccine booster doses should be considered as part of a routine clinical consultation.

In addition, there was a minimal uptake of pneumococcal and influenza vaccines among these patients. Given the increased global risk of rebound influenza outbreaks [9], the efficacy and safety of these vaccines, as well as the risk of complications from pneumococcal and influenza infections in older people [10], further effort is also required to promote older people to receive these vaccines. Outpatient clinics should be viewed as an opportunity to counsel patients to get vaccinated.

Further effort is required to improve health professional awareness regarding encouraging patients to receive vaccines, with further studies required to identify the reasons for reduced vaccine uptake among older patients.

CONCLUSION:

There is a need to improve the uptake of booster doses of COVID-19 vaccines, pneumococcal and influenza vaccines in older people attending Geriatric Medicine clinics.

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