COVID-19 surveillance among admissions for suspected community acquired pneumonia in Brunei Darussalam

Sanny Zi Lung CHOO 1, Hazirah SHAHRI 1, Fatimah Al-Zahara JOHAN 1, Norwani BASIR 1, Pui Ling CHONG 1, Muhammad Syafiq ABDULLAH 1,2, Rosmonaliza ASLI 1, Jackson TAN 2,3, Dilip Joseph THOTTACHERRY 3, Mohammad Ady Adillah AHMAD 4, Vui Heng CHONG 1,2

1 Department of Medicine, RIPAS Hospital, Brunei Darussalam
2 Institute of Health Sciences, PAPRSB, Universiti Brunei Darussalam
3 Department of Nephrology, RIPAS Hospital, Brunei Darussalam
4 Department of Medicine, Suri Seri Begawan Hospital, Brunei Darussalam
5 Pengiran Isteri Hajah Mariam Hospital, Temburong, Brunei Darussalam

Manuscript type: Letter to the Editor

Keywords: COVID-19, community acquired pneumonia, nosocomial infection, surveillance

Short title: COVID-19 surveillance in hospital admissions

Declaration: No funding required for study

Conflict of Interest: None for all authors

Correspondence author: Chong VH

Email: vuiheng.chong@moh.gov.bn
In late December 2019, an outbreak of severe adult respiratory syndrome like illness (COVID-19) in Wuhan China, caused by Severe Adult Respiratory Syndrome Corona Virus 2 (SARS-CoV-2) has spread globally resulting in a pandemic. As of 1st May, 3,175,207 confirmed cases have been reported with 224,172 deaths. [1] Brunei Darussalam reported its first case of COVID-19 on 9th March 2020 and to date has 138 confirmed cases. [2] Several measures such as active case identification, contact tracing, isolation of confirmed cases in one designated hospital, limiting public gatherings and social distancing had been taken to prevent a national outbreak. In the hospital setting, measures to prevent nosocomial spread such as limiting entry points, temperature and risk factors assessment and surveillance of patients requiring admission were implemented in all the government hospitals.

In this surveillance program (Enhanced Surveillance), all patients with any of the followings; community acquired pneumonia, radiological changes consistent with pneumonia, or previously quarantined due to recent contact with a confirmed COVID-19 case or travel history within the last 14 days were admitted to designated holding wards. Nasopharyngeal swabs were taken for SARS-CoV-2 testing (reverse transcriptase polymerase chain reaction (RT-PCR)).
As of 27th April 2020, 225 patients were admitted to the holding wards. Most of the patients were medical. The result of our surveillance is shown in Table I. All except one was negative. The confirmed case had recurrent presentations to healthcare services, in total five times with fever and respiratory symptoms. During the multiple visits, there was no information of contact with possible or confirm case elicited. It was only after diagnosis when his contact history was revisited that a linked to a confirmed case was obtained. The patient was immediately transferred to the National Isolation Centre (NIC) for treatment. He was discharged after 15 days of hospitalization having had two consecutive negatives RT-PCT. Post discharge follow up swab 12 days later remained negative. Contact tracing detected two confirmed cases; wife and daughter. They were asymptomatic and were admitted to the NIC for management. Twelve healthcare workers who were involved with this patient during the last presentation were also tested and fortunately all were negative.

Our experience highlights the importance of surveillance in the hospital setting, not just for COVID-19 but also for other infectious disease outbreaks. Even though there was only one case, we consider this program a success. If this Enhanced Surveillance was not implemented, nosocomial spread would have occurred and many healthcare workers would have been affected. Furthermore, the family members who were asymptomatic would have been missed, perpetuating further spread in the community. Reports of nosocomial transmission have been reported with significant consequences including death to healthcare workers and other patients. (3-5) Hospitalized patients usually have
comorbid conditions which place them at higher risks for complications. Therefore, surveillance with the appropriate infection prevention and control measures in all healthcare settings should be considered and maintained as the pandemic continues.

REFERENCES


Table: Total number of admissions isolated and screened for COVID-19.

<table>
<thead>
<tr>
<th>Specialties</th>
<th>Hospital 1</th>
<th>Hospital 2</th>
<th>Hospital 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Holding Ward 1</td>
<td>Holding Ward 2 (high dependency)</td>
<td>Holding Ward</td>
</tr>
<tr>
<td>Medical</td>
<td>132</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Surgical</td>
<td>8</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Renal</td>
<td>10</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>35</td>
<td>30</td>
</tr>
</tbody>
</table>