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Setting up a new maternity isolation unit at the outset of the COVID-19 pandemic – lessons learnt

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Singapore Med J 2021, 1–4

<https://doi.org/10.11622/smedj.2021020>

Published ahead of print: 12 March 2021

Online version can be found at
<http://www.smj.org.sg/online-first>

Dear Sir,

We would like to share our experience of rapidly setting up a fit-for-purpose isolation unit to provide safe quality care for pregnant women, with their unique needs, at the start of the COVID-19 outbreak in Singapore.

A suitable area was identified within our delivery suite, separated from the main ward. The area had six single fully equipped en-suite rooms, four of which were negative pressure rooms. This was staffed by a dedicated isolation team comprising a registrar, a medical officer and a senior midwife working in 12-hour shifts with full personal protective equipment (PPE) and multidisciplinary support from maternal-fetal medicine specialists, infectious disease (ID) physicians, anaesthetists, neonatologists and respiratory physicians. In the event of a Caesarean section, there was access to a dedicated operating theatre by a pre-planned route.

All women presenting to the delivery suite were triaged, and those who met the frequently updated Ministry of Health COVID-19 case definition and guidelines for at-risk groups were directed into the area through a designated door. No visitors were allowed into the area except birth partners with no risk factors. History taking and physical examination allowed both a provisional diagnosis to be made and stratification of risk for COVID-19. Investigations were arranged depending on presenting complaints and risk stratification; the latter possibly included chest radiography, COVID-19 swab and respiratory pathogen multiplex swab if patients had respiratory symptoms. Obstetric management followed the usual guidelines. Women who presented with fever and obvious localising signs and symptoms were often de-isolated without a COVID-19 swab, with a low threshold for re-isolation if they developed respiratory symptoms. In cases of doubt, there was access to advice from ID physicians round the clock. Our workflow is summarised in Fig. 1.

An audit of the first two months of the unit (February–April 2020) revealed attendance by 167 women with the gestational ages of 22 weeks to term. They were allocated into different categories according to risk and COVID-19 swab criteria (Table I). Only 64 (38%) had a purely obstetric complaint but fulfilled the isolation screening criteria, with 21 (13%) attending the hospital for elective appointments and 82 (49%) being pregnant with other medical complaints. 28 (17%) patients presented with fever, while over half (51%, n = 85) had acute respiratory infection symptoms. 34 (20%) and 19 (11%) had a travel and contact history, respectively, and 73 (44%) needed admission.

Out of the 167, only one woman who had returned from the United Kingdom with a cough tested positive for COVID-19. To our knowledge, we did not miss any cases of COVID-19. We also incidentally picked up a variety of other respiratory tract infections, including a case of pertussis in a 35-year-old woman.

Our experience of setting up this unit demonstrates the importance of having flexible, easy-to-follow pathways for the management of a new disease that poses risks to both patients and healthcare workers in the face of ever-emerging evidence, while still providing safe, quality maternity care. It also shows the importance of a multidisciplinary approach. Our policy of wider screening minimises the chance of missing positive cases and increases the detection of other significant pathologies. The wide spectrum of conditions we encountered demonstrated that while the main emphasis is the detection of COVID-19, the presence of other infectious diseases that may vary with geographical region should not be forgotten.

Yours sincerely,

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Table I. Allocation of patients by risk and COVID-19 swab criteria.

Category	Description	n	%	Require COVID-19 swab?
1	Patients meeting MOH's suspect case definition/confirmed COVID-19 patients	8	4.8	Yes
2	Community-acquired pneumonia	2	1.2	Yes
3	ARI symptoms with risk factors but not fulfilling suspect criteria/atypical symptoms/clinical conditions using professional judgement	60	35.9	Refer to workflow/consult ID physician if needed
4	No risk factors	97	58.1	No

ARI: acute respiratory infection; ID: infectious disease; MOH: Ministry of Health Singapore

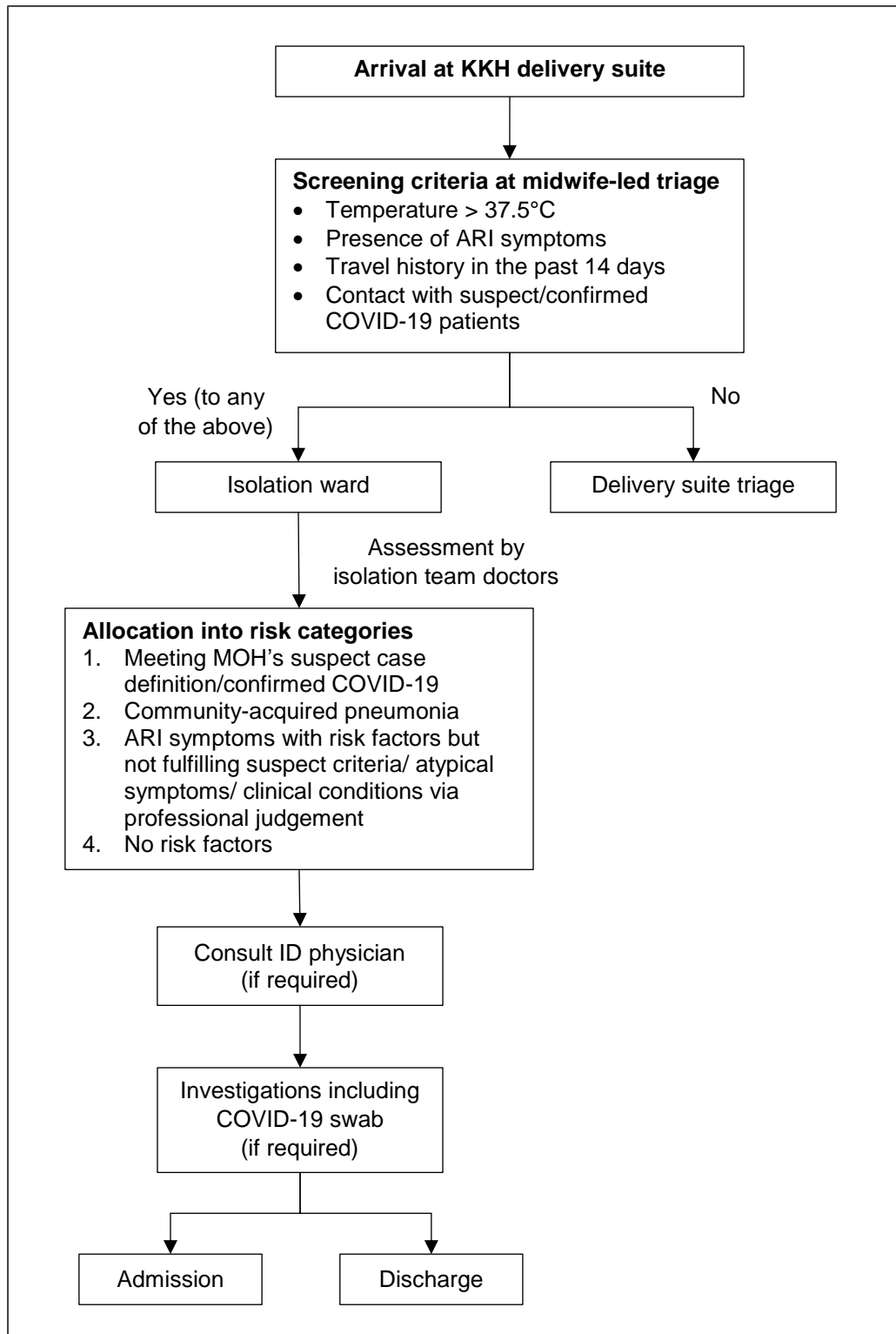


Fig. 1 Flowchart shows the isolation workflow at our institution. ARI: acute respiratory infection; ID: infectious disease; KKH: KK Women's and Children's Hospital; MOH: Ministry of Health Singapore