FACTORS ASSOCIATED WITH ASYMPTOMATIC COVID-19 PATIENTS IN PETALING DISTRICT, SELANGOR, MALAYSIA

<u>Chan Ying Ying</u>¹, Lim Kuang Kuay¹, Ainul Nadziha Mohd Hanafiah², Lee Soo Cheng³, Mohd Shaiful Azlan Kassim¹, Chong Zhuo Lin¹, Ridwan Sanaudi⁴, Roslinda Abu Sapian⁴, Nurul Syarbani Eliana Musa⁴, Mohamed Paid Yusof³

Institute for Public Health, National Institutes of Health, Ministry of Health Malaysia, Selangor, Malaysia
Institute for Health Systems Research, National Institutes of Health, Ministry of Health Malaysia, Selangor, Malaysia
Petaling District Health Office, Ministry of Health Malaysia, Selangor, Malaysia
Sector for Biostatistics & Data Repository, Research Policy and Planning Division, National Institutes of Health, Ministry of Health, National Institutes of Health

ASector for Biostatistics & Data Repository, Research Policy and Planning Division, National Institutes of Health, Min Malaysia, Selangor, Malaysia

INTRODUCTION

P-24

- The rapid spread of the coronavirus disease (COVID-19) worldwide has led the World Health Organization (WHO) to declare COVID-19 outbreak as a pandemic on March 11, 2020.¹
- As of 17 April 2020, Malaysia has recorded 5,251 COVID-19 positive cases with 86 deaths, with the state of Selangor recorded the highest number of confirmed cases (1,338).²
- There is increasing evidence that many patients with COVID-19 are asymptomatic or have only mild symptoms.³
- Asymptomatic COVID-19 individuals have still the potential to infect others without ever knowing they are carrying and potentially spreading the virus, which could cause difficulties in COVID-19 prevention and control.³
- Petaling district in Selangor was previously declared as COVID-19 red zone.⁴ Hence, this study aims to determine the factors associated with asymptomatic COVID-19 patients in the district of Petaling in Malaysia.

METHODS

- Study design: A cross-sectional study using secondary data
- Data of laboratory-confirmed COVID-19 cases notified to the Petaling District Health Office, Selangor, Malaysia between 3 February 2020 and 30 April 2020 was obtained and analysed.
- Ethical approval for this study was obtained from the Medical Research and Ethics Committee (MREC), Malaysia (NMRR-20-720-54598).
- An asymptomatic laboratory-confirmed case is a person infected with COVID-19 who does not develop any symptoms.
- Descriptive and multivariable logistic regression analyses were conducted using SPSS 23.0 to determine the factors associated with asymptomatic cases.



DISCUSSION & CONCLUSION

- Approximately one-third of COVID-19 patients in Petaling district were asymptomatic and the risk factors identified were younger age, non-Malaysians and local transmission.
- Studies have shown that asymptomatic cases were more common in young and middle-aged individuals, suggesting that age and body condition may play an important role in the severity of COVID-19, possibly related to different immune responses and other potential pathogenesis.3
- Rigorous epidemiological investigation and laboratory examinations are helpful in identifying COVID-19 among these group of people who are asymptomatic.
- Appropriate strategies, such as social distancing, wearing face masks in public, frequent hand washing should be strongly implemented to prevent disease transmission from asymptomatic individuals.



- Of the total 434 individuals with COVID-19 in Petaling district, 142 (32.7%) were asymptomatic until admission (Figure 1).
- Among the remaining symptomatic patients, the most common symptom was fever (68.2%; 199/292), followed by cough (46.9%; 137/292), sore throat (26.0%; 76/292) and running nose (19.5%; 57/292).
- Among asymptomatic patients, most of them were Malaysian citizens (73.9%), Malays (53.5%), males (62.7%), aged below 40 years old (62.0%), and have no co-morbidity (92.3%) (Table 1).
- Multivariable logistic regression analyses revealed that factors significantly associated with asymptomatic cases were age below 40 years old (aOR: 1.79, 95% CI 1.11, 2.86), non-Malaysians (aOR: 3.22, 95% CI 1.44, 7.19) and local transmission (aOR: 2.51, 95% CI 1.42, 4.42) (Table 1).
- Gender, ethnicity, co-morbidity and township were not significantly associated with asymptomatic cases (Table 1).

Acknowledgements

The authors would like to thank the Director General of Health Malaysia for his permission to present this poster.

Special thanks to the staff of Petaling District Health Office, Ministry of Health Malaysia for their assistance in conducting this study.

References

- 1. World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020, (2020) https://www.who.int/dg/speeches/detail/who-director-general-s-ope ning-remarks-at-the-media-briefing-on-COVID-19---11-march-2020.
- 2.Elengoe A. COVID-19 outbreak in Malaysia. Osong Public Health Res Perspect. 2020; 11(3): 93-100.

https://doi.org/10.24171/j.phrp.2020.11.3.08.

- 3.Gao Z, Xu Y, Sun C, Wang X, Guo Y, Qiu S, Ma K. A systematic review of asymptomatic infections with COVID-19. J Microbiol Immunol. https://doi.org/10.1016/j.jmii.2020.05.001.
- 4. The Star. COVID-19: Current situation in Malaysia (updated daily). Available at:

https://www.thestar.com.my/news/nation/2020/03/23/covid-19-curr ent-situation-in-malaysia-updated-daily.

Table 1: Factors associated with asymptomatic COVID-19 patients in Petaling district, Selangor, Malaysia

Variables	Total sample, N (%)	Asymptomatic cases, N (%)	Crude OR (95% Cl)	p-value	Adjusted OR⁰ (95% CI)	p-value
Gender Male Female	235 (54.1) 199 (45.9)	89 (62.7) 53 (37.3)	1.67 (1.11-2.53) 1.00	0.013	1.32 (0.83-2.10) 1.00	0.227
Age group (years) Below 40 40 and above	224 (51.6) 210 (48.4)	88 (62.0) 54 (38.0)	1.86 (1.24-2.81) 1.00	0.003	1.79 (1.11-2.86) 1.00	0.015
Ethnicity Malay Non-Malay	273 (62.9) 161 (37.1)	76 (53.5) 66 (46.5)	1.00 1.80 (1.19-2.71)	0.005	1.00 1.26 (0.73-2.16)	0.396
Nationality Malaysian Non-Malaysian	381 (87.8) 53 (12.2)	105 (73.9) 37 (26.1)	1.00 6.07 (3.24-11.39)	0.001	1.00 3.22 (1.44-7.19)	0.004
Transmission Local Import	327 (75.3) 107 (24.7)	122 (85.9) 20 (14.1)	2.58 (1.51-4.42) 1.00	0.001	2.51 (1.42-4.42) 1.00	0.001
Co-morbidity ⁵ Yes No	51 (11.8) 383 (88.2)	11 (7.7) 131 (92.3)	1.00 1.89 (0.93-3.80)	0.075	1.00 1.42 (0.66-3.06)	0.365
Township Petaling Sungai Buloh	127 (29.3) 124 (28.6)	47 (33.1) 27 (19.0)	1.00 0.47 (0.27-0.82)	0.009	1.00 0.61 (0.33-1.11)	0.107

