
茨城県立医療大学大学院
保健医療科学研究科
博士前期課程入学試験問題

英 語
問題冊子

令和 3年 1月 31日
9:30 ~ 10:30 (60分)

注 意 事 項

1. 試験開始の合図があるまで、問題冊子を開けないでください。
2. 英語試験の配布物は、問題冊子（4頁）、解答用紙（2頁）です。
3. 解答はすべて解答用紙に記入してください。

次の英文抄録を読み、各設問に答えなさい。

Summary

Background (ア) In early 2020, during the COVID-19*¹ pandemic, New Zealand implemented graduated, risk-informed national COVID-19 suppression measures aimed at disease elimination. (イ) We investigated their impacts on the epidemiology of the first wave of COVID-19 in the country and response performance measures.

Methods We did a descriptive epidemiological study of all laboratory-confirmed and probable cases of COVID-19 and all patients tested for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)*² in New Zealand from Feb 2 to May 13, 2020, after which time community transmission ceased. We extracted data from the national notifiable diseases database and the national SARS-CoV-2 test results repository. Demographic features and disease outcomes, transmission patterns (source of infection, outbreaks, household transmission), time-to-event intervals, and testing coverage were described over five phases of the response, capturing different levels of non-pharmaceutical interventions. Risk factors for severe outcomes (hospitalisation or death) were examined with multivariable logistic regression*³ and time-to-event intervals were analysed by fitting parametric distributions*⁴ using maximum likelihood estimation*⁵.

Findings 1503 cases were detected over the study period, including 95 (6.3%) hospital admissions and 22 (1.5%) COVID-19 deaths. The estimated case infection rate per million people per day peaked at 8.5 (95% CI 7.6–9.4) during the 10-day period of rapid response escalation, declining to 3.2 (2.8–3.7) in the start of lockdown and progressively thereafter. 1034 (69%) cases were imported or import related, tending to be younger adults, of European ethnicity, and of higher socioeconomic status. 702 (47%) cases were linked to 34 outbreaks. Severe outcomes were associated with locally acquired infection (crude odds ratio*⁶ [OR*⁷] 2.32 [95% CI*⁸ 1.40–3.82] compared with imported), older age (adjusted OR ranging from 2.72 [1.40–5.30] for 50–64 year olds to 8.25 [2.59–26.31] for people aged ≥80 years compared with 20–34 year olds), aged residential care residency (adjusted OR 3.86 [1.59–9.35]), and Pacific peoples (adjusted OR 2.76 [1.14–6.68]) and Asian (2.15 [1.10–4.20]) ethnicities relative to European or other. Times from illness onset to notification and isolation progressively decreased and testing increased over the study period, with few disparities and increasing coverage of females, Māori, Pacific peoples, and lower socioeconomic groups.

Interpretation New Zealand's response resulted in low relative burden of disease, low levels of population disease disparities, and the initial achievement of COVID-19 elimination.

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引用 : Jefferies S. French N. Gilkison C. et al. COVID-19 in New Zealand and the impact of the national response: a descriptive epidemiological study. *Lancet Public Health*. 2020; (published online Oct 13.)

注釈

- * 1 : COVID-19 : 新型コロナウイルス感染症
- * 2 : severe acute respiratory syndrome coronavirus : 重症急性呼吸器症候群コロナウイルス 2
- * 3 : multivariable logistic regression : 多変数ロジスティック回帰
- * 4 : parametric distributions : パラメトリック分布
- * 5 : maximum likelihood estimation : 最尤推定
- * 6 : crude odds ratio : 粗オッズ比
- * 7 : OR (odds ratio) : オッズ比
- * 8 : CI (Confidence Interval) : 信頼区間

問1 下線部 (ア) と (イ) を和訳しなさい。

問2 研究方法は何か、日本語で説明しなさい。

問3 研究結果において発症例の感染経路とその特性について日本語で説明しなさい。

問4 重症化に至るリスク因子を4つ挙げなさい (英単語または日本語)。

問5 ニュージーランドが行った対策の成果について日本語で説明しなさい。