Trajectories of depressive symptoms among COVID-19 patients: a latent class analysis

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Background : The persistence of psychological distress and psychiatric symptoms following COVID-19 infection is a new public health concern. The longitudinal course of these symptoms can vary among individuals. Characterizing these symptom trajectories and identifying the attributes of those on an unfavorable path is crucial for early intervention. The purpose of this study is to classify the trajectories of post-infection depressive symptoms and to identify the characteristics of these trajectories.

Methods : A web-based, self-administered questionnaire was conducted on individuals aged 20 and older who self-reported a history of PCR-confirmed COVID-19. We analyzed longitudinal surveys from July–September 2021 (T1), July–September 2022 (T2), and July–September 2023 (T3). The outcome variable was the Patient Health Questionnaire-9 (PHQ-9) score at each time point. We constructed latent class mixed models to identify distinct PHQ-9 trajectories. We then described the characteristics of each class.

Results : The analysis included 2564 participants. A four-class model was considered the best fit. The largest group consisted of individuals with persistent moderate symptoms (37.7%), followed by those with persistent no symptoms (33.6%), and those whose symptoms dropped below the threshold at T2 (20.9%). The smallest group consisted of individuals with no symptoms but near the threshold of mild symptoms at T3 (7.8%). A higher proportion of individuals in the persistent moderate symptoms class had a history of childhood adversities (ACEs), a pre-existing mental illness, adverse experiences due to COVID-19, and a lack of support compared to the other classes.

Conclusion : The findings suggest that among COVID-19 patients, a history of ACEs, a pre-existing mental illness, adverse COVID-19 experiences, and a lack of support were more prevalent in those with persistent symptoms.

The efficacy of dipstick urinalysis in predicting 10-year renal function decline in healthy workers

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Objective : Annual dipstick urinalyses are mandatory for workers as a screening method for proteinuria. The most recent CKD guidelines recommend that individuals with trace (±) dipstick proteinuria consult with a physician. To verify this recommendation, this study examined whether dipstick urinalysis results can predict adverse kidney outcomes in healthy workers.

Methods : The cohort dataset was constructed using 2013–2023 health examination data collected from the Tokyo Health Service Association. Eligible participants (n=33,139) were healthy workers aged 25-64 years with health examination data for 2013 and 2014 and at least one follow-up between 2015 and 2023. Two changes in eGFR were followed as adverse kidney outcomes for 10 years: rapid eGFR decline (defined as an eGFR slope <-5 mL/min/1.73 m^2 per year) and low eGFR (defined as an eGFR <45 mL/min/1.73 m^2).

Results : Most (96.3%) of the participants were negative for dipstick proteinuria and had an eGFR of at least 60 mL/min/1.73 m^2. Trace (±) and positive (1+, 2+, and 3+) dipstick proteinuria were present in 2.8% and 0.8% of participants, respectively. During the follow-up period, rapid eGFR decline was observed in 2,059 people (6.2%) and low eGFR in 214 people (0.6%). After adjusting for plausible confounders, higher baseline urinary protein levels were more strongly associated with the development of adverse kidney outcomes. The odds ratios [95% confidence intervals] versus the negative group were 1.8 [1.5-2.1] for trace, 2.8 [2.0-3.8] for 1+, and 4.0 [2.7-5.5] for 2+ or 3+. The sensitivity of dipstick urinalysis to discriminate between those with and without adverse kidney outcomes was extremely low (0.01-0.07), while its specificity was nearly perfect (0.97-1.00).

Conclusions : Dipstick proteinuria, even in trace (±) amounts, may be useful for screening high-risk workers for potential renal function decline.

Emergency hospitalization and public assistance among older adults: a cross-sectional study in Japan

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Background : Emergency hospitalization among older adults threatens the sustainability of healthcare systems. In Japan, public assistance covers basic living costs and eliminates medical copayments, yet public assistance recipients may still face non-financial obstacles—such as poor access to preventive and routine care—that heighten their risk of emergency hospital admission. We examined whether receiving public assistance is associated with emergency hospitalization in community-dwelling older adults.

Methods : We used 2019 data from a nationally representative cohort of Japanese adults aged ≥ 65 years (n = 21, 461). Emergency hospitalization was defined as hospitalization after ambulance transport. Multinomial logistic regression with robust error variance and multiple imputations estimated adjusted odds ratios (aORs) for emergency hospitalization among recipients versus non-recipients, controlling for socio-demographic, health, and behavioral factors.

Results : Overall, 842 participants (3.9 %) experienced an emergency hospitalization. Public assistance recipients were more likely to require emergency hospital admission than non-recipients (aOR = 1.64, 95 % CI 1.01–2.66). Adding annual health check-up participation to the model attenuated the association and rendered it non-significant (aOR = 1.53, 95 % CI 0.94–2.49).

Conclusions : Older adults receiving public assistance were more likely to require emergency hospitalizations than non-recipients. The weakened association after adjusting for health check-up participation suggests that limited engagement with preventive services may partially mediate this relationship. Improving access to regular and preventive care for this population could help reduce emergency hospitalizations.

Child discipline practices and suspected developmental delay in Lao PDR: A population-based study

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Background : The early years of childhood represent a critical period for developmental advancement. However, children in low- and middle-income countries (LMICs), including those in Southeast Asia, often face developmental challenges due to suboptimal caregiving environments. Although harsh disciplinary practices have been associated with negative outcomes, evidence from Southeast Asia remains sparse. This study explores the relationship between child discipline practices (CDP) and both suspected developmental delay (DD) and aggressive behavior among children in the Lao People's Democratic Republic (Lao PDR).

Methods : We utilized data from the nationally representative 2023 Lao Social Indicator Survey III, encompassing 5,007 children aged 24–59 months. CDP was categorized into non-violent discipline, psychological punishment, and physical punishment, based on an 11-item module. Suspected DD was assessed using the Early Childhood Development Index (ECDI2030), and aggressive behavior was reported by caregivers. We applied Poisson regression and multinomial logistic regression models to estimate adjusted prevalence ratios (PRs) and odds ratios (ORs), with corresponding 95% confidence intervals (CIs).

Results : The prevalence of suspected DD was 56.3%. Non-violent discipline (adjusted PR: 0.82; 95% CI: 0.79–0.87) and psychological punishment (adjusted PR: 0.89; 95% CI: 0.85–0.94) were associated with lower prevalence of suspected DD, whereas physical punishment was associated with an increased prevalence of suspected DD (adjusted PR: 1.07; 95% CI: 1.01–1.13). Physical punishment was also linked to higher odds of elevated aggressive behavior (adjusted OR: 2.15; 95% CI: 1.15–4.03).

Conclusion : Different disciplinary approaches show distinct associations with child development outcomes. Promoting non-violent caregiving strategies may reduce behavioral risks and support early development in Lao PDR and similar settings.

A Simple Quasi-RCT Design Using Unrelated SNP to Evaluate Disease Risk

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Aim : To propose a simple, practical quasi-RCT design using SNP rs2074652 no association with the exposure of interest to mimic randomization.

Material and Method : Taiwan Biobank data assessed diet type (vegetarian vs. omnivorous) and HDL insufficiency. SNP criteria included independence from HDL and diet type. Similar effects between RCT1 (CC-vegetarian vs. CT+TT-omnivorous) and RCT2 (opposite arrangement) supported pooling results.

Results : Logistic regression for RCT1 and RCT2 revealed vegetarians had significantly higher risks of HDL insufficiency (RCT1: OR = 1.54, 95% CI: 1.08-2.20, P = 0.016; RCT2: OR = 1.75, 95% CI: 1.24-2.47, P = 0.001). Interaction analysis showed no significant differences between RCT1 and RCT2 (P = 0.712), indicating a causal relationship between diet type and HDL insufficiency. A pooled analysis combining both RCTs confirmed vegetarians' higher risk (OR = 1.63, 95% CI: 1.27-2.08, P < 0.001).

Conclusion : This study demonstrates a practical quasi-RCT design comparable to traditional RCTs, with broad applicability in nutrition, medicine, and public health research.