Parity as a modifier of evacuation, distress, and CVD risk.-The Fukushima Health Management Survey-

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Background : The Great East Japan Earthquake in 2011, followed by a tsunami and nuclear accident, led to the designation of evacuation zones in 13 municipalities in Fukushima Prefecture. Many residents were needed to evacuate. Both evacuation and psychological distress(distress) are recognized risk factors for CVD, particularly among women, whose vulnerability may vary by parity.

Objective : To examine whether evacuation and distress are associated with CVD risk among women after a large-scale disaster, and to assess any supra-additive effects of these factors.

Methods : This study analyzed data from 13,994 women aged 40–90 who participated in the Fukushima Health Management Survey in 2012. Participants were classified into four groups based on evacuation and distress, measured using the 6-item Kessler Psychological Distress Scale (K6), with a score of ≥ 13 indicating distress: (1) non-evacuees and K6<13 (Ref.), (2) non-evacuees and K6≥13, (3) evacuees and K6<13, and (4) evacuees and K6≥13. HR and 95% CI for CVDs risk were estimated using Cox proportional hazards models. Supra-additive interaction was assessed by calculating the relative excess risk due to interaction (RERI).

Results : During a median follow-up of 3.7 years, 1,382 total CVD cases and 28 total CVD deaths were reported. Parous women exposed to evacuation and distress had higher HR (95% CI) for stroke, heart disease, and total CVDs compared to those with neither: 2.08（1.40-3.09）, 1.35（1.09-1.66）,and 1.42（1.17 -1.72）, respectively. Corresponding RERI （95% CI) were 1.84 (0.52–2.30), 0.57 (0.14–0.99), and 0.67 (0.27–1.05). This tendency was not observed among nulliparous women

Conclusion : Supra-additive effects of evacuation and psychological distress on CVD risk were evident, particularly among parous women, highlighting the importance of individualized risk assessment and parity-informed support for women in post-disaster CVD prevention.

Simulation of average salt intake and its changes by scenario until 2040 in Japan

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According to the National Health and Nutrition Survey (NHNS), the average daily salt intake has decreased but remains high in Japan. In order to reduce people's salt intake, it is necessary to change their taste and to reduce salt content of the diet. This study aimed to simulate average salt intake and its changes by scenario in Japan. A simulation model was constructed by system dynamics. The model consisted of two stock-and-flow diagrams. One had two stocks of high- and low-salt diet and a flow between them. The other had two stocks of people with high and low salt taste and a flow between them. The stock of low-salt diet was connected to the flow of salt taste change of the people, and the stock of people with low salt taste was connected to the flow of salt content change of the diet as co-flows. Consuming high- and low-salt diet was assumed to take 14 g/day and 6g/day of salt, respectively. Average daily salt intake was calculated by multiplying these values by the population of each stock in the model. Model parameters were calibrated to the average daily salt intake of participants aged 20 years and older in the NHNS from 2012 to 2023, excluding 2020 and 2021. Simulated results were observed until 2040 as a base run. As scenarios by some policy changes, parameters connected to the flows were increased twofold from 2026. In the base run, average daily salt intake would decrease from 9.8 g in 2023 to 8.7 g in 2040. When the change rate of the diet increased twofold, it would decrease to 8.6 g. When the change rate of people's salt taste increased twofold, it would decrease to 8.0 g. When both change rates increased twofold, it would decrease to 7.7 g. In conclusion, this study indicated that the diet and the people's salt taste as co-flows would decrease average daily salt intake to 8.7 g in 2040, and a further decrease could be achieved by increasing the change rates. This model should be developed further for better policy making to reduce salt intake.

Prognosis of Budd-Chiari syndrome examining the national database of designated intractable diseases

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Background : The National Database of Designated Intractable Diseases of Japan has been constructed since 2015 to investigate the disease frequency, clinical features and prognosis. The present study aimed to examine the prognosis and its predictors of Budd-Chiari syndrome (BCS).

Methods : We conducted a retrospective cohort study using the National Database of BCS. Newly registered BCS patients between 2015 and 2019 were extracted and their prognosis was assessed through the clinical information of annually updated registration. Disease stage, symptoms, and abnormal findings of clinical tests were individually compared with those at the initial registry by using McNemar test and the prognostic factors for the disease improvement were explored by calculating odds ratios (ORs) with logistic regression model.

Results : Among 31 BCS patients (15 males; median age, 49 years), more than 90% of patients had 3 or more grades of disease stage, which had symptoms needed treatments at the initial registry. One year later, however, 34% of patients reported the disease improvement. In particular, the proportions of having ascites, lower platelet counts, higher gamma-glutamyl transpeptidase level were significantly decreasing compared with those at initial registry. Approximately half of patients received the invasive treatment for occlusion/stenosis/varices within one year from initial registry. Patients having regurgitation/turbulent flow in the main hepatic vein trunk/subhepatic vena cava tended to show the disease improvement, which might be explained by the treatment.

Conclusion : One-thirds of BCS patients reported to be improved after 1 year, compared with initial registry. The invasive treatment for the occlusion/stenosis/varices would be valuable for the disease improvement.

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Trajectories of life-course financial disadvantage and all-cause mortality in older Japanese adults

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Background : Health in later life is influenced by earlier socioeconomic conditions, but few studies have investigated life-course trajectories of financial disadvantage. Objective: To examine the association between life-course financial disadvantage trajectories and all-cause mortality among older Japanese adults.

Methods : Data were from the 2012 National Survey of the Japanese Elderly (NSJE), a nationwide survey of adults aged ≥60 years using two-stage stratified random sampling. The analytic sample included 1,324 newly recruited respondents. Financial disadvantage was retrospectively assessed at four stages: ≤18 years, 25–35 years, 35–50 years, and current age. Murayama et al. (*J Epidemiol*, 2025) identified five distinct trajectories using group-based mixture modeling: persistently affluent (22.1%), increasing affluence (21.7%), consistently modest (28.0%), decreasing affluence (11.3%), and persistently poor (17.0%). This study employed these five trajectories. Mortality was followed for 12 years through 2024 (mean follow-up: 3,625 days). Cox proportional hazards models stratified by sex were applied, as prior studies indicate gender differences. Missing data were imputed using multiple imputation. The NSJE protocol was approved by the relevant institutional review board.

Results : Participants' mean age was 71.3 years (SD: 7.7); 49.1% were men. During follow-up, 23.3% died. Compared with the "consistently modest" subgroup, multivariable-adjusted hazard ratios, controlling for sociodemographic, behavioral, and health factors, showed that men in the "increasing affluence" subgroup had a lower mortality risk (HR=0.63, 95% CI: 0.42–0.95). The association remained after additional adjustment for parental education (HR=0.64, 95% CI: 0.42–0.97). No significant group differences were observed among women.

Conclusion : The impact of financial disadvantage trajectories on mortality differs by gender, and upward socioeconomic mobility may contribute to longevity.

District-level Participation in “500-yen Cancer Screening” and Areal Deprivation in City of Nagoya

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Background : In Nagoya City, public health initiatives such as “500-yen cancer screening” program have been implemented to promote participation in population-based cancer screenings. Nevertheless, overall screening participation rates remain low. In Japan, socioeconomic disparities are linked to cancer outcomes, as observed worldwide. This study examined the association between cancer screening participation at the elementary school district level and the Areal Deprivation Index (ADI), a composite indicator of regional socioeconomic status.

Methods : We used data on gastric, colorectal, lung, breast, and cervical cancer screenings conducted from 2016 to 2020 in Nagoya City. Standardized participation ratios (SPRs) fo r each elementary school district were estimated using a spatial Bayesian Poisson regression model with the Besag-York-Mollié (BYM) 2 specification. Associations between SPRs and ADI were evaluated, and risk ratio (RR) were estimated from the Bayesian BYM2 model.

Results : Screening participation tended to be lower in the southwestern areas of Nagoya City across all cancer types. Participation was significantly lower in more deprived areas for gastric (RR = 0.85, 95% Credible Interval [CI]: 0.78 to 0.93), breast (RR = 0.81, 95% CI: 0.76 to 0.86), and cervical cancers (RR = 0.86, 95% CI: 0.81 to 0.92). No significant associations with ADI were found for colorectal or lung cancer. No substantial differences were observed between men and women.

Conclusion : Cancer screening participation was lower in areas with higher socioeconomic deprivation, particularly for screenings requiring more invasive procedures or specialized facilities, such as gastric, breast, and cervical cancer. These findings highlight the influence of neighborhood-level socioeconomic conditions on health-seeking behavior and suggested the need for targeted, locally tailored interventions to improve screening participation and reduce disparities.