Screen Time and Suicide-Related Behaviors Among School Students in Palau, 2020–2024

Chifa Chiang (1,2)

Everlynn Temengil (3), Joy Mascardo (3), Hideki Origasa (2)

1 : Nagoya City University
2 : The Institute of Statistical Mathematics
3 : Ministry of Health and Human Services, Palau

Introduction : Suicide among adolescents is a major public health issue in the Pacific Island Countries, including Palau. Studies in Western countries have linked long screen time with poor mental health and suicide-related behaviors, but evidence from the Pacific region is limited. This study examined associations between non-study screen time and suicide-related behaviors among school students in Palau.

Methods : Data were drawn from the Palau Youth Survey, a nationwide, school-based survey conducted in 2020, 2021, 2022, and 2024 by the Ministry of Health. The pooled sample included about 3,765 students in grades 6–12. Suicide-related outcomes were self-reported feelings of "life not worth living," suicidal ideation, and suicide attempt in the past 12 months. Daily non-study screen time (hours) was the main exposure. Logistic regression was used adjusting for age, gender, ethnicity, sleep hours, survey year, and psychological distress (Kessler-6 score).

Results : The prevalence of suicidal ideation ranged from 30% to 36%, and suicide attempts from 16% to 25% across survey years. Each additional hour of non-study screen time was associated with higher odds of reporting "life not worth living" (OR=1.046, p=0.028), no clear association with suicidal ideation (OR=1.005, p=0.824), and lower odds of suicide attempt (OR=0.933, p=0.007). Adjustment for psychological distress did not materially alter the results.

Discussion and Conclusions : Longer screen time was associated with reported poor mental health, but not suicidal ideation, and showed an inverse association with suicide attempts. This divergence may reflect Palau's unique Internet environment, where access is limited and often used for interactive activities such as chatting, which may foster social connection. Findings underscore the context-specific role of screen time and the need for further research to guide culturally appropriate suicide prevention strategies in Pacific Island settings.

Negative Association Between Parity and Fracture Risk: Community-Dwelling Japanese Women

Makoto Sunayama (1)

Naomi Omi (2), Takeshi Nishiyama (1), Takahiro Otani (1), Hiroko Nakagawa-Senda (1), Kenji Nagaya (1), Mio Kato (1)
Kiyoshi Shibata (1), Tamaki Yamada (3), Sadao Suzuki (1)

1 : Nagoya City University Graduate School of Medical Sciences and Medical School: Nagoya Shiritsu Daigaku Daigakuin Igaku Kenkyuka Igakubu
2 : Degree Programs in Comprehensive Human Sciences, University of Tsukuba, Japan
3 : Okazaki Public Health Center, Okazaki Medical Association, Aichi, Japan

Background : Osteoporosis, characterized by reduced bone strength, is a major global health problem that increases mortality and social burden through fractures. Pregnancy induces substantial changes in calcium metabolism, suggesting parity may have long-term effects on women's bone health. Previous studies reported inconsistent associations between parity and bone mineral density (BMD). Recent meta-analyses suggested that higher parity reduces hip fracture risk in postmenopausal women, but evidence on fracture outcomes in community-dwelling women across all ages is limited. This study examined the association between parity and fracture risk in community-dwelling Japanese women.

Methods : We conducted an analysis using data from the Okazaki study, part of the J-MICC Study. Parity was assessed at baseline (2007–2011) via questionnaire. At the second survey (mean 5.1 years later), participants reported fractures over the past year following a fall. After excluding missing data, 2,110 women were analyzed (2,064 parous, mean age 56.7 ± 9.7 years; 46 nulliparous, mean age 53.4 ± 12.0 years). Confounders included age, adolescent body size and exercise, age at menarche, and education. Odds ratios (ORs) and 95% confidence intervals (CIs) were estimated using logistic regression.

Results : Forty-four fractures were reported: 41 in parous women (2.0%) and 3 in nulliparous women (6.5%). Parous women had a significantly lower fracture risk (OR 0.23, 95% CI 0.07–0.81). This remained after adjusting for adolescent body size and age at menarche. No significant association was observed between the number of deliveries and fracture risk.

Conclusion : In this community-based cohort, parity was associated with reduced fracture risk. Adjusting for adolescent factors, rarely considered in previous studies, strengthens these findings. Further longitudinal studies in other populations are warranted to clarify the long-term impact of parity on skeletal health.

Multiple Antibiotic Resistance of H. pylori and the Difficulty of Its Eradication

Kayoko Ozeki (1,2)

Toshiyuki Ojima (2)

1 : Laboratory of Pharmacy Practice and Science, School of Pharmacy, Aichi Gakuin University

2 : Department of Community Health and Preventive Medicine, Hamamatsu University School of Medicine

Background : *Helicobacter pylori* (*H. pylori*) infection is a major contributor to the development of peptic ulcer disease and gastric cancer. Eradication therapy has been shown to significantly reduce the incidence of these conditions. However, treatment success rates have declined in recent years, primarily due to the global rise in antimicrobial resistance (AMR).

Objective : This study aimed to investigate the relationship between antimicrobial resistance patterns in *H. pylori* and the difficulty of eradication therapy in a Japanese university hospital, with particular focus on multidrug resistance.

Methods : We retrospectively analyzed 250 adult patients who underwent *H. pylori* eradication therapy between January 2017 and December 2021. Among these, 91 patients received antimicrobial susceptibility testing (AST) for clarithromycin (CAM), metronidazole (MNZ), and amoxicillin (AMPC). Eradication outcomes were assessed and analyzed using multivariate logistic regression models adjusting for age, sex, smoking and alcohol use, and medication status, to determine the influence of individual and combined resistance patterns on treatment failure. This study was approved by Ethics Committee of Hamamatsu University School of Medicine (No. 17-072).

Results : AST revealed high resistance rates: 74.7% for CAM, 76.9% for MNZ, and 37.4% for AMPC. Multidrug resistance, especially combinations involving MNZ such as AMPC+MNZ and CAM+MNZ, was significantly associated with eradication failure. MNZ resistance alone had the strongest association with unsuccessful treatment.

Conclusion : The presence of multidrug-resistant *H. pylori* strains significantly reduces the likelihood of eradication success. Routine AST and tailored treatment regimens based on resistance profiles are essential to improving eradication outcomes. These findings highlight the need for enhanced antimicrobial stewardship and greater accessibility to diagnostic testing in real-world clinical settings.

Long-Term CVD Risk Prediction after a Disaster: The Fukushima Health Management Survey

Shiho Sato (1,2)

Tetsuya Ohira (1,2), Fumikazu Hayashi (1,2), Hironori Nakano (1,2), Masanori Nagao (1,2), Kanako Okazaki (1,3)
Michio Shimabukuro (1,4), Akira Sakai (1,5), Junichiro James Kazama (1,6), Masaharu Maeda (1), Itaru Miura (1,7)
Syuntaro Itagaki (1,7), Hitoshi Ohto (1), Seiji Yasumura (1)

1 : Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University
2 : Department of Epidemiology, Fukushima Medical University School of Medicine
3 : Department of Physical Therapy, Fukushima Medical University School of Medical Sciences
4 : Department of Diabetes, Endocrinology and Metabolism, Fukushima Medical University School of Medicine
5 : Department of Radiation Life Sciences, Fukushima Medical University School of Medicine
6 : Department of Nephrology and Hypertension, Fukushima Medical University School of Medicine
7 : Department of Neuropsychiatry, Fukushima Medical University School of Medicine

Objective : Cardiovascular disease (CVD) incidence increases after large-scale disasters. The AFHCHDC7 score estimates short-term CVD risk without requiring lab tests, but is not suited for long-term assessment. This study aimed to develop a long-term CVD risk prediction model using three algorithms, including machine learning, and to identify candidate predictors for a new long-term risk score.

Methods : This study included 16,532 participants aged 30 to 79 years without a history of CVD who underwent the Comprehensive Health Checkup and participated in the Mental Health and Lifestyle Survey in the Fukushima Health Management Survey (FHMS) in 2011. CVD prediction models were developed using stepwise logistic regression, lasso logistic regression, and random forest, with incident myocardial infarction or stroke during a 9-year follow-up as the outcome. Predictor variables included sex, age, medical history, lifestyle, and psychological factors. Model performance was evaluated using category-free net reclassification improvement (NRI) and integrated discrimination improvement (IDI), and compared with the Suita CVD risk score used in Japan under usual circumstances.

Results : Age, sex, smoking history, medical history (hypertension, diabetes, CVD), sleep quality, subjective health status, and psychological distress were commonly identified by all three algorithms. Notably, sleep quality, subjective health status, and psychological distress are not typically included in conventional CVD risk scores. The model developed using these extracted factors demonstrated significantly greater discriminatory performance compared to the Suita CVD risk score (NRI: 0.24, 95% CI: 0.162–0.329; IDI: 0.014, 95% CI: 0.006–0.022).

Conclusion : This study suggests the usefulness of incorporating psychological factors and subjective health indicators into long-term CVD risk scores after a large-scale disaster.

Maternal work and psychological distress during pregnancy: Japan Environment and Children's Study

Sumitaka Kobayashi (1,2)
Yasuaki Saijo (3), Mariko Itoh (2), Naomi Tamura (2), Maki Tojo (2), Hiroyoshi Iwata (2), Takeshi Yamaguchi (2,4)
Yoshiya Ito (5), Reiko Kishi (2)

1 : Division of Epidemiological Research for Chemical Disorders, Research Center for Chemical Information and Management, National Institute of Occupational Safety and Health, Japan
2 : Center for Environmental and Health Sciences, Hokkaido University, Sapporo, Japan
3 : Department of Social Medicine, Asahikawa Medical University, Asahikawa, Japan
4 : Department of Pediatrics, Hokkaido University Hospital, Sapporo, Japan
5 : Division of Clinical Medicine, Japanese Red Cross Hokkaido College of Nursing, Kitami, Japan

Background and aim : Although the maternal work environment has been linked to postpartum depression in many previous studies, the reports on its relationship with psychological distress during pregnancy have been limited. Therefore, the aim of this study was to examine the association between the maternal work environment and psychological distress during pregnancy.

Methods : This study employed a cross-sectional analysis in a prospective birth cohort study of the Japan Environment and Children's Study (JECS). The participants were registered in Japan between January 2011 and March 2014. Information on the maternal work environment occupations was obtained using a self-administered questionnaire in the first trimester. Information on maternal psychological distress was obtained using a self-administered questionnaire of the Kessler-6 (K6) in the first and second/third trimesters at twice. Association between the maternal work environment and psychological distress using the generalized estimating equation adjusted for the confounders.

Results : Of 103,060 pregnancies, the statistical analysis included 42,797 employed pregnant women (pregnancies). Pregnant workers with average working hours of ≥51 hours/week had a 1.19-fold higher odds ratio (OR) of psychological distress than those with average working hours of 36-40 hours/week (95% confidence intervals [CIs]: 1.07-1.32). Pregnant workers with ≥5 days/month of shift work had a 1.11-fold higher OR of psychological distress than those with 0 days/month (95% CIs: 1.00-1.24).

Conclusions : Maternal psychological distress during pregnancy was associated with long working hours and shift work in the first trimester among pregnant workers.