Cardiovascular Disease Risk Factors in Japan versus the United States.

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Background & Objectives : Japanese subjects have very low rates of cardiovascular disease (CVD) mortality. Our objectives were to compare CVD risk factor prevalence in Japanese and United States (US) populations.

Methods : CVD risk factors were assessed at baseline in the Kyushu and Okinawa Population Study (KOPS, 5767 females, 2923 males) and the US Pooling Project (PP, 6133 females, 4808 males) populations. All subjects were then followed for 10 years for incident fatal and non-fatal CVD (myocardial infarction and stroke). All Pooling Project subjects were of European origin. At baseline, the following CVD risk factors were assessed: age, sex, blood pressure, diabetes, smoking, and body mass index (BMI). In addition, after an overnight fast, the following chemistry parameters were measured with high-throughput automated analysis: total cholesterol, triglycerides, high-density-lipoprotein-cholesterol (HDL-C), direct small dense low density (LDL) cholesterol (sdLDL-C), lipoprotein(a) [Lp(a)], high-sensitivity C-reactive-protein (hsCRP), and calculated glomerular-filtration-rate (eGFR), LDL-C and non-HDL-C.

Results : Incident CVD rates were about 5-fold higher in PP females and about 7-fold higher in PP males as compared to KOPS counterparts. PP females had: 13-fold more sdLDL-C $\geq$50 mg/dL, 9-fold more Lp(a) $\geq$50 mg/dl, 6-fold more hsCRP $\geq$2.0 mg/L, 2.5-fold more HDL-C <50 mg/dL, and 2.2-fold more BMI >25.0 kg/m^2 than KOPS females. PP males had similar findings for these same parameters (7-fold, 9-fold, 4-fold, 5-fold, and 2-fold).

Conclusions : The higher CVD risk in the US versus Japan may in part be due to significantly greater prevalence of elevated sdLDL-C, Lp(a), hsCRP, BMI, and low HDL-C.

Short-Term Risk, Long-Term Protection: Shingles Risk After Shingrix Vaccination

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Background : Following the introduction of a funded recombinant shingles (RZV, Shingrix®) vaccination program in ≥65 years in Australia, clinician reports of shingles presentations shortly after vaccination emerged. We investigated whether there was an increase in shingles risk immediately post RZV vaccination in South-eastern Australia.

Methods : Two independent datasets- a general practice dataset and a statewide linked dataset- were analysed separately using self-controlled case series analyses (SCCS) with 21-days post-vaccination as the risk window. The observation period was 1 January 2023 to 30 April 2025. Adults ≥18 years old were included, with analyses stratified by age (<65 and ≥65 years) and sex. We calculated the rate of incident shingles in time periods relative to vaccination, along with attributable risk and the risk of postherpetic neuralgia (PHN).

Results : The primary care SCCS analysis found an 11-fold increase (Risk Incidence [RI] 10·96, 95% CI 10.34, 11.62, p <0·0001) in shingles presentations within 21 days post-dose 1 of RZV vaccination in adults ≥65 in the general practice dataset only. No increase was detected in younger adults. Following dose two the risk of shingles presentations was reduced in all age groups. Vaccine recipients had an 73% reduction in shingles following 2 doses. PHN risk was not increased.

Conclusions : There is a transient increase in shingles presentations shortly after dose one of RZV vaccination in adults ≥65 years of age with clear evidence of vaccine effectiveness after the completion of two doses. While not changing the positive benefit-risk of vaccination, informing recipients of this possibility may support vaccine confidence.

Evaluating the implementation of iCTG for antepartum fetal heart rate monitoring in the Pwani region, Tanzania: The RE-AIM framework approach

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Background : Stillbirths and newborn deaths continue to pose substantial concerns in sub-Saharan Africa. Antepartum fetal heart rate (FHR) monitoring by portable mobile cardiotocography (iCTG) presents a viable approach to enhancing perinatal safety in resource-constrained primary care settings. This research evaluated the implementation of iCTG in primary care settings in the Pwani region, Tanzania.

Methods : We conducted a hybrid type 2 implementation study in four health centers in the Pwani Region from October 2023 to May 2024, two serving as implementation sites and two as usual care control sites. Pregnant women ≥32 weeks of gestation who attended antenatal care (ANC) were enrolled. We evaluated the implementation of iCTG using mixed methods informed by the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) framework. Data sources comprised health records, surveys, and in-depth interviews with 18 healthcare providers (HCPs). The effect of training was analyzed using the Wilcoxon's signed rank test. Binary, multinomial logistic regression models and Poisson regression models were used to determine the intervention effect. Qualitative data were analysed via content analysis to identify barriers and facilitators of iCTG implementation.

Results : At the two implementation sites, iCTG reached 40.7% (n=525) of 1,291 eligible pregnant ANC registrants. Compared to usual care, iCTG effectively detected abnormal FHR rates (adjusted rate ratio 10.54, 95% CI: 3.18–34.92) and was associated with fewer perinatal deaths (p=0.003). The assessment of implementation dimension showed that among 20 HCPs we initially planned to train, 16 completed the train-the-trainers program (adoption rate of 80%). Trainees showed significant CTG knowledge gains (mean difference 2.3 points [95% CI: 1.1–3.6], p<0.001). Seventy-five percent of trainees remained involved in the iCTG delivery. Sixty-eight percent of CTG waveforms from non-stress tests were clear for clinical interpretation. Maintenance was supported by focal personnel responsible for integrating the iCTG into care and overseeing the intra-facility training throughout the implementation period. A low subjective burden perceived by HCPs was reported, with 93.0% of participants indicating minimal difficulty. Qualitative analysis showed that barriers and facilitators included resource availability and support, client's attitude, acceptance, training and confidence of users, availability of technical assistance, and functionality of iCTG.

Conclusion : Implementing iCTG in Tanzania's primary healthcare facilities showed moderate reach, favourable early adoption, and potential for improving perinatal outcomes. Sustaining success requires continuously resolving infrastructural limitations, improving continuous professional development training, and ensuring long-term technical support. These findings inform scalable strategies for improving maternal and newborn outcomes in primary healthcare settings.

Arterial stiffness parameter cardio-ankle vascular index in general Japanese school-aged children

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Children with cardiovascular risk are likely to develop cardiovascular disease in adulthood. Arteriosclerosis begins in childhood and it should be prevented. Cardio-ankle vascular index (CAVI) is a parameter of arterial stiffness and is considered a blood pressure-independent predictor of cardiovascular risk. This study aimed to reveal the distribution of CAVI in general Japanese school-aged children. Additionally, we clarified an association between CAVI and age, sex, salt intake, blood pressure [Systolic blood pressure (SBP) and diastolic blood pressure (DBP)], and body mass index (BMI) using repeatedly measured data.

Participants of the Japan Environment and Children's Study were enrolled in this adjunct study of the Aichi Regional Center. Written informed consents were obtained from their guardians. CAVI was measured by trained medical staff using a VS-3000 (Fukuda Denshi Co., Ltd, Tokyo, Japan).

The average (±standard deviation) of left and right CAVI in 1533 children aged 7–12 on a single visit was 4.9±0.6. SBP and DBP at CAVI measures were 110.3±5.9 mmHg and 63.8±5.9 mmHg, respectively. Salt intake estimated by urinary sodium and creatinine and anthropometric factors was 7.4±1.6 g/day. Generalized estimating equation revealed that BMI, sodium intake, and SBP but not age, sex, and DBP were associated with CAVI in 200 children who visited repeatedly at 7–8 and 9–10 years (β=-0.04 (95% confidence interval, -0.06,-0.01) for BMI, β=-0.01 (-0.02, -0.005) for SBP, and β=0.05 (0.01, 0.08) for salt intake).

We first revealed that the CAVI distribution and its change during two years in Japanese general school-aged children. In this period, sodium intake positively affected CAVI. CAVI was comparable to the reports from Slovak Republic in children aged 7–10.

Trends in Vaccination Readiness in Japan: A Nationwide Longitudinal Survey, 2023-2025

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Background : Vaccine hesitancy is increasing globally and has become a major public health concern. Vaccination readiness, defined as the willingness and preparedness to be vaccinated, may have been undermined by the COVID-19 pandemic. However, recent trends in vaccination readiness remain unclear. This study aimed to clarify the trends in vaccination readiness among Japanese population from 2023 to 2025.

Methods : This longitudinal study utilized data from a large-scale nationwide internet survey (JASTIS and JACSIS). Participants were individuals who completed surveys at all three time points: February 2023 (T1), November 2023 (T2), and January 2025 (T3). We assessed vaccination readiness using the Japanese short version of the 7C Scale. We calculated scores for each of the seven components (confidence, complacency, constraints, calculation, collective responsibility, compliance, and conspiracy) and a total vaccination readiness score. Higher scores indicated greater vaccination readiness. Trends in mean scores at the three points in time were clarified.

Results : A total of 14,222 individuals were included in the analysis (52.3% male; mean age, 52.1 years). The mean total vaccination readiness score declined from 4.09 (T1) to 4.00 (T2) and 3.79 (T3). Among the components, scores for confidence, complacency, constraints, and collective responsibility decreased over time. The most substantial decline from T1 to T3 was observed in collective responsibility (change: -2.13), followed by complacency (-0.69).

Conclusion : Vaccination readiness among the Japanese population declined between 2023 and 2025. This trend mainly appears to be driven by a marked reduction in citizens' sense of collective responsibility and their perception of disease risk (complacency). These findings suggest that public health strategies to reduce vaccine hesitancy may need to focus on rebuilding collective responsibility and improving perception of disease risk.