The Role of Helicobacter pylori Infection in MAFLD: The Susceptibility in Prediabetes

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Background : Metabolically associated fatty liver disease (MAFLD) induced by glycemic disorder and inflammation. However, there is ongoing debate about the clinical association between *Helicobacter pylori* (H. pylori) and MAFLD.

Aim : We aim to explore the association between *H. pylori* infection and MAFLD in considering glycemic disorders.

Method : We conducted a community-based study of 2,733 participants. Age, sex, disease histories, blood pressures, and body mass index (BMI) was assessed. Lipid profiles, glucose (GLU), HbA1c and status of *H. pylori* infection were determined. MAFLD is defined by Eslam's diagnostic criterion. Odds ratios and related confidence interval were calculated by logistic regression.

Results : The 967 individuals were diagnosed with MAFLD (prevalence 35.4%). Age, sex, BMI, BPs, levels of glucose, lipid profiles, and HbA1c showed significant differences between participants with and without MAFLD (all $p<0.05$), but no significance in infection of H. pylori. However, after stratifying by diabetes severity, a higher seropositive rate and a 1.42-fold risk ($p = 0.082$) of H. pylori to MAFLD risk in participants with levels of GLU 100–125 mg/dL or HbA1c of 5.7–6.4%. In multivariable analysis, *H. pylori* seropositivity had a 1.63-fold of MAFLD risk ($p = 0.05$). After excluding participants with a history of diabetes, the risk increased to 1.94-fold ($p = 0.02$).

Conclusion : H. pylori infection emerged as a positive and independent risk factor for MAFLD in the pre-diabetes population, suggesting that, in the early stage of diabetes combined with H. pylori infection, as a gastrointestinal inflammatory trigger, may significantly increase the risk of MAFLD.

Prevalence of liver steatosis and stiffness in general Japanese children and related serum markers

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Prevalence of steatotic liver disease (SLD) increases progressively in the general pediatric population, however, that in Japanese pediatric population remains unexplored. Therefore, we aimed to examine the prevalence of liver steatosis expressed as controlled attenuation parameter (CAP) and liver stiffness expressed as liver stiffness measurement (LSM) by FibroScan® in general Japanese children, and to examine their associations with gender, BMI, abdominal circumference (AC), and serum biochemical indices. As an Aichi-regional Adjunct Study of the Japan Environment and Children's Study, CAP and LSM were measured in 1,435 children aged 9–12 years. Subjects were divided into two groups, using CAP > 225 dB/m as SLD (n = 154, 12.6%) and LSM > 6.5 kPa as higher liver stiffness (n = 35, 3.9%), respectively, in 11–12 years and the 90%ile value of CAP (> 220 dB/m, n = 22, 10.2%) and LSM (> 5.8 kPa, n = 20, 9.3%) in 9–10 years, respectively. Multivariate logistic regression with gender, BMI or AC, high-density lipoprotein cholesterol, total cholesterol (TC), triglycerides (TG), and alanine aminotransferase (ALT) revealed that BMI (or AC) (BMI: adjusted odds ratio (aOR), 2.34; 95% confidence interval (CI), 1.85–2.97; AC: 2.61; 2.06–3.34), TG (1.56; 1.28–1.89), or ALT (2.01; 1.46–2.84) were significantly associated with SLD in 11–12-year-old children. Meanwhile, aOR of TC for higher liver stiffness was 0.46 (0.28–0.76). The children aged 9–10 years with elevated BMI (or AC) (BMI: 2.77; 1.61–5.12; AC: 3.00; 1.77–5.49) had a significant association with the above CAP cutoff value. Male (3.45; 1.06–13.5) had a significant association with higher LSM values. In conclusion, the prevalence of SLD and of higher liver stiffness was 12.6% and 3.9%, respectively, in a large cohort of general Japanese children aged 11–12 years. Children whose CAP values exceeded the cutoff values presumably have larger BMI or AC.

Commuting by public transport and risk of long-term sickness absence due to mental disorders

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Background : Mental disorders are the leading cause of disease burden in the workplace. Although commuting by public transport may help improve physical health, overcrowding and poor transit connectivity may increase the risk of depression. However, none clarified whether public transport commuting can increase the risk of sickness absence (SA) due to mental disorders. Here, we investigated the association of public transport commuting with long-term SA (LSA) due to mental disorders in Japan.

Methods : This cohort study used longitudinal data from a substudy of Japan Epidemiology Collaboration on Occupational Health Study. The study population included 39,812 employees who underwent annual health checkup in 2011 or 2010 (baseline). Participants were followed up through 2024. Primary commuting mode was self-reported at baseline. Incident LSA due to mental disorders (ICD-10 codes F00-F99) were identified via a study-specific registry. Multivariable Cox models were used to estimate hazard ratios (HRs) and 95% confidence intervals (CIs), adjusting for demographic, lifestyle, and occupational factors.

Results : During the follow-up period, 1,040 employees experienced LSA due to mental disorders. As compared with inactive commuting (car or motorbike), public transport commuting (train or bus) was significantly associated with an increased risk of LSA due to mental disorders (adjusted HR: 1.46). In contrast, active commuting (walking or cycling) was not significantly associated with the risk. When stratified by occupational physical activity level, the increased risk associated with public transport commuting persisted, although some results were not statistically significant.

Conclusions : These findings suggest that public transport commuting may increase the risk of LSA due to mental disorders. Further studies are warranted to clarify the underlying mechanisms and to develop effective strategies for mitigating the mental health risks associated with public transport use.

Prevalence and Predictors of patient and healthcare delay among Tuberculosis Patients in Selangor, Malaysia: A Cross-sectional Analysis

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Introduction : Tuberculosis (TB) remains a significant public health challenge in Malaysia, particularly in high-burden states such as Selangor, where delayed presentation for diagnosis and treatment contributes to poor outcomes and continued transmission. This study aimed to determine the prevalence and predictors of delayed tuberculosis (TB) presentation among TB patients in Selangor, Malaysia.

Method : A cross-sectional study was conducted involving 222 TB patients selected from four high-burden districts in Selangor. Data were collected using a validated questionnaire and analysed using univariate and multivariate regression techniques.

Result : The prevalence of patient delay (>14 days) was 64.3%, healthcare provider delay (>14 days) was 24.3%, and total delay (>30 days) was 63.8%. The average total delay was approximately 53.5 days. In multivariable analysis, high stigma and risky health-seeking behaviour were significant predictors of patient delay. Healthcare delay was significantly associated with age group 46–55 years, divorced marital status, income level, presence of chronic illness, and Chinese ethnicity.

Conclusion : These findings highlight the need for policymakers and relevant stakeholders to address the issue of delayed TB presentation in Selangor and other high TB burden areas in Malaysia. Strategies should focus on reducing stigma, promoting early healthcare-seeking behaviours, and targeting vulnerable populations such as those with lower income and chronic diseases.

The associations between extreme temperatures and childhood obesity: A multi-cohort analysis

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Background : Climate change and obesity are two significant global health threats that share common upstream determinants. Children represent a particularly vulnerable group affected by these interconnected risks. However, evidence on the causal relationship between ambient temperature and childhood obesity remains scarce. We investigated these associations using multicohort studies across five cities in Australia and New Zealand.

Methods : We used harmonized longitudinal data from the Early Prevention of Obesity in Children (EPOCH) Collaboration, which recruited mother–infant dyads across Australia and New Zealand (2009–2014), with follow-ups at ages 1, 2, 3.5, and 5 years. Obesity was defined according to the WHO standards. Exposures to minimum and maximum temperatures and extreme heat (>95th percentile of maximum temperatures) were assigned based on residential postcode. Cohort-specific associations between temperature metrics and repeated anthropometric outcomes across four follow-ups were estimated. Meta-analysis and sensitivity analyses were used to assess consistency across sites.

Results : Data from 2372 mother–child pairs across five study sites were analysed. Meta-analysis showed that daily minimun temperature was positively associated with obesity risk (12-month exposure: RR =1.97, 95% CI:1.35 to 2.88), and daily maximum temperature showed a similar positive association (12-month exposure: RR =1.65, 95% CI: 1.03 to 2.65). However, our analysis did not find significant associations between extreme heat exposure and obesity across the cohorts.

Conclusion : Our findings suggest that sustained long-term exposure to higher minimum and maximum temperatures may increase the risk of childhood obesity. However, the effects of extreme heat exposure remain unclear. Further research is needed to elucidate the underlying pathways to address childhood obesity in the context of climate change.