**Longitudinal study on Sweetened Beverage Consumption and Type 2 Diabetes Risk in Australia**

**Aims:** Globally, sugar intake from sugar-sweetened beverages (SSBs) exceeds the daily recommended limits for intake levels of free sugar. Artificially sweetened beverages (ASBs) are now widely used to replace SSBs, but growing evidence suggests its association with adverse health outcomes. In Australia, both SSBs and ASBs are consumed widely; however, there is a scarcity of local evidence regarding a risk following intake, especially with type 2 diabetes (T2DM). Hence, we aimed to assess the association of sweetened beverage intake (SSBs and ASBs) with the risk of T2DM.

**Methods**: Data from the Melbourne Collaborative Cohort Study (MCCS) on 36,608 individuals aged 40 to 69 years were used. Participants were recruited between 1990 and 1994, with follow-ups conducted from 1994 to 1998 and from 2003 to 2007 and self-reported data on diabetes collected. We categorized the frequency of SSBs and ASBs consumption into four: never or <1 time/month; 1-3 per month; 1-6 times per week; >=1 time/day. The association of sweetened beverage intake with the incidence of T2DM was assessed using modified Poisson regression, adjusted for lifestyle, obesity, socioeconomic, and other confounders.

**Results:** Intakes of both SSBs and ASBs were associated with an increased risk of T2DM. A high intake (≥1 time/day) compared to a low intake (never or <1 time/month) was associated with increased risk of T2DM for SSB intake (incidence risk ratio (IRR) = 1.23; 95% CI: 1.05–1.45; p for trend = 0.006) and for ASB intake (IRR = 1.38; 95% CI: 1.18–1.61; p for trend < 0.001). Further adjustment for body mass index (BMI) and waist-to hip ratio (WHR) eliminated the association for SSBs, but not ASBs intake.

**Conclusion**: Consumption of both sugar-sweetened and artificially sweetened beverages was associated with increased risk of T2DM. These findings highlight the need for public health measures to control the intake of sweetened beverages.