We aimed to determine the effect of APS on apoptosis in gastric carcinoma cells (SGC-7901) with or without adriamycin.

Methods SGC-7901 cells were conditioned and given APS (50–200 µg/mL, for 24–48 h) with or without adriamycin (0.1 mg/L). Cell viability was examined by MTT assay, while apoptosis was observed through the evaluation of active caspase-3 activity and DNA fragmentation. Real-time PCR was used to analysis the expression of multi-drug resistant (*mdr1*) gene and tumor suppressor. Cleaved caspase-3 and phosphorylated AMPK (p-AMPK) were detected by Western blot.

Results Cellular viability was profoundly reduced, but apoptosis was increased by APS in a time- and dose-dependent manner, which was related to the increase in p-AMPK levels. More importantly, APS enhanced the sensitivity to adriamycin-induced decrease of cellular viability and increased apoptosis in gastric carcinoma cells (SGC-7901). Additionally, APS increased tumor suppressor genes [F-box and WD repeat domain containing semaphorin III/F (SEMA3F), 7 (FBXW7), and p21^{Cip1} (p21)] but decreased *mdr1* expression. Eventually, p-AMPK levels were decreased in adriamycin-resistant gastric cancer cells comparing to adriamycin-sensitive gastric cancer cells and human immortalized gastric epithelial cell line.

Conclusions APS not only induces apoptosis alone but also strengthen pro-apoptotic effect of adriamycin in gastric carcinoma cells, which is the basis of further study to develop APS as a chemotherapeutic sensitizer against gastric cancer.

IDDF2019-ABS-0259 PREVENTION OF GESTATIONAL DIABETES BEFORE AND DURING PREGNANCY, SURVEY IN DARBHANGA, INDIA: ROLE OF DAILY DIET LEAFY GREEN VEGETABLES, FRUIT, AND MILK

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Background Prospective observational studies suggest that maternal diets rich in leafy green vegetables, milk and fruit may help prevent gestational diabetes mellitus (GDM). The objective was to test whether increasing women's dietary intake of leafy green vegetables, fruit, and milk before conception and throughout pregnancy reduced their risk of GDM.

Methods During 2015–2018 was a non blinded, individually randomized, controlled trial in women living in slums in the city of Darbhanga, India. The interventions included a daily snack made from leafy green vegetables, fruit, and milk for the treatment group or low-micronutrient vegetables (e.g., potato and onion) for the control group, in addition to the usual diet. Results for the primary outcome, birth weight, have been reported. Women were invited to take an oral-glucose-tolerance test (OGTT) at 28–32 wk gestation to screen for GDM (WHO 1999 criteria). The prevalence of GDM was compared between the intervention and control groups, and Kernel density analysis was used to compare distributions of 120-min plasma glucose concentrations between groups.

Results Of 3750 women randomly assigned, 1880 became pregnant; of these, 1014 reached a gestation of 28 wk, 504 (50%) attended for an OGTT, and 50 (9.9%) had GDM. In an intention-to-treat analysis, the prevalence of GDM was reduced in the treatment group (7.5% compared with 11.2% in controls). The reduction in GDM remained significant after adjusting for pre-pregnancy adiposity and fat or weight gain during pregnancy.

Conclusions In low-income settings, in which women have a low intake of micronutrient-rich foods, improving dietary micronutrient quality by increasing intake of leafy green vegetables, fruit, and/or milk may have an important protective effect against the development of GDM.

IDDF2019-ABS-0260 STUDY OF CONSUMPTION OF SPICY FOODS AND THE PREVALENCE OF IRRITABLE BOWEL SYNDROME IN DARBHANGA DISTRICT, BIHAR, INDIA

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Background Irritable bowel syndrome (IBS) is considered to be prevalent in the general population, but there are little data on bowel habits and IBS in India. To study and explore the association between the consumption of Indian spicy foods and the prevalence of irritable bowel syndrome among Indian adults.

Methods In this cross-sectional study, data from 7468 Indian adult participants were used in Darbhanga district, Bihar, India. Consumption of spicy foods was estimated using a dietary habits questionnaire that included a question on spicy foods consumption: 'how frequently do you use spicy foods (pepper, curry, ginger, cinnamon and turmeric) during a week?' Participants could respond to the question by choosing one of these choices: never, 1–3 times, 4–6 times, 7–9 times, or more than 10 times per week. A modified Persian version of the Rome III questionnaire was used to determine the prevalence of IBS.

Results IBS was prevalent in 28.4% (26.6% of men and 32.1% of women) of the study population. After controlling for potential confounders including dietary behaviors, those consuming spicy foods ≥ 10 times per week were 92% more likely to have IBS compared with those who never consumed spicy foods (OR = 1.92; 95%CI: 1.23–3.01, P trend < 0.01). The association remained significant even after taking lactose intolerance into account (OR = 1.85; 95%CI: 1.18–2.90, P trend < 0.01). Stratified analysis by gender revealed that the association between consumption of spicy foods and IBS was not significant in men; however, a significant association was found among women after taking potential cofounders, including meal regularity and lactose intolerance, into account. Women who consumed spicy foods ≥ 10 times per week were two times more likely to have IBS compared with those who never consumed spicy foods (OR = 2.03; 95%CI: 1.09–3.77, P trend = 0.02).

Conclusions Consumption of Indian spicy foods is directly associated with IBS, particularly in women. Further, prospective studies are warranted to examine this association in other populations; and evaluate whether dietary interventions, for example, a reduction in spice consumption, would improve IBS symptoms.

IDDF2019-ABS-0268 LINC00920 CONTRIBUTES TO THE MAINTENANCE OF MRNA STABILIZER IGF2BP2 IN COLORECTAL CANCER

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Background Long non-coding RNAs (lncRNAs) play an unneglectable role in epigenetic regulation of cancer cells, including