Take-away milk tea intake was associated with cholesterol independent of adiposity in young adults

Xin Liu1, Huan Chang2, Mengnan Lu3, Huangtao Chen3, Junxiang Wei1 and Xia Liao4
1Department of Epidemiology and Biostatistics, School of Public Health, Xi’an Jiaotong University Health Science Center, Xi’an, China,
2Department of Nutrition and Food Safety, School of Public Health, Xi’an Jiaotong University Health Science Center, Xi’an, China,
3Xi’an Jiaotong University Health Science Center, Xi’an, China and
4Department of Nutrition, The First Affiliated Hospital, Xi’an Jiaotong University Health Science Center, Xi’an, China

Introduction: Take-away milk tea (TAMT) is popular among young generation, and the numbers of retails of TAMT have increased dramatically in recent years in many cities in China. Non-dairy cream is one of the major ingredients of TAMT. Concerns have been raised whether trans-fat originated from non-dairy cream may have an influence on cardio-metabolic traits. We evaluated the associations between daily intake of TAMT with plasma lipid profiles among young Chinese adults, who are the major customers of TAMT retailers.

Materials and Methods: The study population was from the phase 1 sample (104 adults) of the Carbohydrate Alternatives and Metabolic Phenotypes study. Those lacking blood samples or with a body mass index less than 18.5 kg/m² were excluded, therefore, a total of 88 subjects with an average age of 22.8 years were included in the analysis. A food frequency questionnaire with 27 items was used to collect the dietary intake. Generalized linear regression was used to evaluate the associations between TAMT intake and cholesterol levels.

Results: The estimated mean (± SE) of TAMT intake was 14.4 ± 3.4 ml/day, with apparent differences between males (8.8 ± 2.7 ml/day) and females (17.7 ± 5.1 ml/day). The mean of total cholesterol of the participants was 4.1 ± 0.1 mmol/L. After adjusted for age, sex, education attainment, smoking status, alcohol drink habit, and physical activity level, daily TAMT intake was positively associated with total cholesterol (beta ± SE = 0.0053 ± 0.0020, P = 0.011). The association was not substantially changed with further adjustment of body fat percentage (beta ± SE = 0.0053 ± 0.0020, P = 0.010). Similar associations were observed for high/low density lipoprotein cholesterols. When analysis was performed by sex, the association was only observed among females (beta ± SE = 0.0049 ± 0.0022, P = 0.031), but not in males (beta ± SE = 0.0022 ± 0.0060, P = 0.703).

Conclusion: In young adult Chinese, we observed an association between TAMT intake with plasma cholesterol level, independent of body adiposity.

Conflict of Interest
There is no conflict of interest