Effects of type-2 resistant starch (high-amylose maize starch) on the glycemic index of chinese steamed buns and its influence on glycemic response in healthy human subjects

ABSTRACT

The incorporation of resistant starch (RS) in food has gained importance to be a good replacement for carbohydrate. This study aimed to determine the effects of resistant starch (RS) known as high-amylose maize starch (HM) as wheat flour substitute in Chinese steamed bun (CSB) formulation on postprandial glycemic response in healthy human subjects. In the single-blind cross-over experimental trial, subjects (female, n=15) consuming 30% HM (HM30) composite CSB had significantly lower postprandial blood glucose response compared with control consuming CSB (without HM) within 2 hours after ingestion of both samples. Compared with control CSB, HM30 produced lower glycemic response with a mean iAUC of 105.2 mmol x min/L. The mean iAUC of control CSB was 186.1 mmol x min/L. The low GI property of HM30 stabilized the blood glucose concentration level and did not cause sudden rapid increase in blood glucose concentration similar to high-GI reference food and medium-GI control CSB.