

Glycaemic responses of staple south Asian foods alone and combined with curried chicken as a mixed meal

Abstract

Background: The glycaemic responses of staples differ when eaten as mixed meals. We determined the glycaemic responses and glycaemic index (GI) values for common South Asian carbohydrate rich foods and the effect of adding curried chicken to them as mixed meals. Methods: The GI and glycaemic response to staples (basmati rice, pilau rice and chapatti) and mixed meals (pilau rice with chicken curry and chapatti with chicken curry) were measured in healthy volunteers. Paired comparisons in each subject were carried out for staples and their equivalent mixed meals (n = 9). Results: GI values for the mixed meals were significantly lower than the staples alone (41 and 60 for pilau rice with chicken curry and pilau rice alone, $P = 0.001$; 45 and 68 for chapatti with chicken curry and chapatti alone, $P = 0.004$). Both, pilau rice and chapatti with chicken curry had a significantly lower glycaemic response than their equivalent staples alone: incremental area under the blood glucose response curves (IAUC) 111.9 mmol min⁻¹L⁻¹ for pilau rice with curry versus 162.4 mmol min⁻¹L⁻¹ for pilau rice alone ($P = 0.001$) and IAUC 110.1 mmol min⁻¹L⁻¹ for chapatti with chicken curry versus 183.6 mmol min⁻¹L⁻¹ for chapatti alone ($P = 0.002$). Conclusions: Adding fat and protein-containing curries as part of a mixed meal to carbohydrate rich staple foods reduced glycaemic responses, and also changed the GI category.