Abstract
Introduction: Good nutrition during pregnancy is essential for ensuring foetal growth and development. This study aimed to investigate the association of seasonality with dietary diversity, household food security, and nutrition status of pregnant women in a rural district of northern Bangladesh.
Methods: A cross sectional study was conducted from February 2013 to February 2015 in Rangpur district, in northern Bangladesh. Skilled community nutrition volunteers
interviewed 288 pregnant women in 12 villages. Data were collected on demographics, household food security, dietary diversity, and mid-upper arm circumference. Descriptive statistics were used to explore demographics, dietary diversity, household food security, nutrition status, and inferential statistics were applied to explore the role of seasonality on diversity, household food security and nutrition status.

Results: Seasonality was found to influence dietary diversity (P = 0.026), and household food security (P = 0.039). Dietary diversity was significantly lower in summer (P = 0.029) and spring (P = 0.038). Food security significantly deteriorated in spring (P = 0.006) and late autumn (P = 0.009).

Conclusion: Seasons play a role on women's household food security status and dietary diversity, with food insecurity deteriorating during the lean seasons and dietary diversity deteriorating during the second 'lesser' lean season, and the season immediately after. Interventions that aim to improve the diet of pregnant women from low-income, subsistence-farming communities need to recognise the role of seasonality on diet, and food security and incorporate initiatives to prevent seasonal declines.