Nepali women of child bearing age are recommended to consume an energy and nutrient dense diet with particular emphasis on high quality protein, calcium, iron and folic acid (DFTQC, 2012).

A typical traditional Nepali diet that includes foods such as gundruk (fermented vegetables), yogurt, millet, dal (lentil soup), and maseura (sun-dried lentil paste) that are naturally rich in protein, iron, and calcium.

However 41% of women 15-49 are anemic while 17% are underweight and 22% are overweight and/or obese implying that a significant proportion have improper and/or inadequate dietary patterns, making them nutritionally vulnerable during pregnancy and lactation (MOH 2016).

The objective was to conduct a dietary pattern analysis of rural Nepali women of child-bearing age.

The study used data from 2994 non-pregnant women between 15 to 49 years of age. Data were extracted from an ongoing nationally representative, multi-year annual household panel (POSHAN study) performed in 21 Nepali districts in years 2013 and 2014.

Using a food frequency questionnaire (FFQ), women were asked how often they consumed an individual food list in the last 24 hours and in the past 7 days.

Component/Pattern 1 included diverse animal source foods (ASF), legumes, vegetables and fruit. Component/Pattern 2 included carbohydrates (rice, noodle, potato, sweet potato, potato chips, biscuits, cakes, and candies) and vegetables rich in Vitamin A. Component/Pattern 3 included grains, legumes, milk, and milk products. Component/Pattern 4 included grains, legumes, ASFs and vegetables like cauliflower and cabbage.

We derived four major dietary patterns using PCA which explained 20% variation only findings similar to other studies (Crozier et al, 2009). The two patterns that explained the most variation were both nutrient and energy dense (Component/Pattern 1 and 2).

The next two patterns (3 and 4) were primarily energy dense (snack foods such as puffed rice, beaten rice, biscuits, popcorn), vegetable oil as a source of fat and lentils as a source of protein. Vegetables as a source of iron and calcium, and legumes as a source of energy and nutrient density.

Fruits

Mango 2.17 2.06 0.11
Jackfruit (ripe) 0.05 0.06 0.001
Guava 0.3 0.18 0.12
Orange 0.08 0.0 0.04
Papaya (ripe) 0.19 0.16 0.03
Apple 0.33 0.38 0.14
Pineapple 0.01 0.01 0.01
Banana 0.4 0.51 0.12

Snacks

Potato chips 2.58 2.6 -0.02
Other Snacks 0.05 0.02 0.03
Vegetable Oil 17.59 18.71 -1.12
Ghee 1.3 1.18 0.13
Hydrogenated Oil 0.07 0.08 -0.01

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References