Abstract

Legumes and pulses have high nutritive values and functional properties that exert positive effects on health and nutrition. This study developed a novel complementary baby food using germinated mung bean and cowpea as sources of extra nutrients supplemented to the infants (aging 6-12 months). The carbohydrate contents of mung bean and cowpea showed 64.3 and 64.0% reduction, respectively, during 48 h of germination. However, phosphorous and zinc contents and antioxidant activities of mung bean and cowpea and the iron content of cowpea increased over the same period of germination. Five baby food formulations were prepared and evaluated according to a standard formula for a commercial baby food which was also used as the control. The finalized formula had higher protein (22.4%), calcium (6,100 mg kg\(^{-1}\)), phosphorus (5,133 mg kg\(^{-1}\)) and vitamin D (329 IU in 100 g) contents but lower contents of iron (55.5 mg kg\(^{-1}\)), vitamin C (0.1 mg in 100 g) and vitamin B12 (1.2 mg in 100 g) than the control. A finalized formula with good appearance, flavor and taste as well as an overall general acceptance was obtained that can be used to fight malnutritional issues in certain developing countries.

Keywords

Cowpea, Mung bean, Germination, Antioxidant activities, Complementary baby food