**ABSTRACT**

The diets of children in poor and developing countries are almost exclusively comprised of cereals or starchy root crops. Plant source foods are deficient in key nutrients. Food processing techniques enhance nutrient intake and bioavailability. Study was conducted to formulate complementary food and evaluate nutrient content and acceptability. Samples (Barley, Maize and Broad bean) were obtained from local market of Hawassa. Soaking, germination and roasting were applied as household food processing techniques. Nutrient analysis and acceptability testing was done. Result showed significant decrement in phytate content in processed samples. There was significant increment in protein and iron content in 30% broad bean added samples. Test of 10% broad bean added sample was preferred over all other formulations. All broad bean added porridge had over all acceptability to the maize barley control. Thus, inclusion of processed broad bean can effectively be done to improve nutrient content and nutrient availability of traditional cereal based complementary foods in this region of Ethiopia.

**METHODOLOGY**

Randomized controlled study design was used for selecting and processing ingredient crops. Food Ingredients (Barley, Broad bean and Maize) were purchased in bulk from local market, Hawassa. Laboratory work was conducted at HUNSFST and EPHI laboratories. Acceptability testing was conducted at Rural kebele (Titecha, Sidama zone).

**RESULTS**

There was statistically significant mean difference of phytate between processed and unprocessed ingredients.

Iron and zinc content of ingredients showed decreament after application of processing.

Addition of 30% broad bean enhanced protein content of complementary diet by about 50%. Iron and zinc content of complementary diet was also increased.

Children and their mothers preferred 10% broad bean added sample. However, mean sensory test result in the laboratory and the field was about 3.50 and this is good sign for accepting broad bean added sample food.

**REFERENCES**


**CONCLUSION**

- The current processing method and formulation demonstrated complementary food with high nutrient quality.
- The mean sensory result of all products being above acceptable score demonstrated possibility of introduction and increasing pulse content of the diet through time.
- The product developed is of low cost in relation to its nutrient content.
- From processing , nutrient analysis and sensory tasting it was found that there is possibility of preparation of a nutritionally enhanced and accepted complementary diet.
- This diet can be one solution for problems in protein and micro- nutrients such as iron and zinc, which occur in Ethiopia.