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***Research Paper***

# Effect of processing methods on phytic acid, total iron and iron bioavailability of cowpea

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**ABSTRACT :** Cowpea is a oval creamy white bran with a black eye, soft textured, an excellent source of fibre and folate and a good source of iron. One of the main drawbacks that limits the nutritional quality of legumes is the presence of anti-nutritional factors. The present study was undertaken to investigate the effects of processing methods such as soaking, germination, fermentation, wet heating on phytic acid, total iron, iron bioavailability of cowpea. 100g. sample was weighed for each processing technique separately as soaking and germination for 24,48,72 hrs. fermentation and wet heating (10,15,20 min.). Samples were analyzed in triplicate for phytic acid, total iron and iron bioavailability using standard procedure. Results showed that soaking for 24 ,48,72 hrs. decreased phytic acid and increased total iron and iron bioavailability. It can be concluded that germination for 24 hrs. was better than 48 hrs. as phytic acid increased during 48 hrs. germination and $T_1$(24hr.) germination was more effective than other as it increased total iron and iron bioavailability. 20 mints wet heating decreased not only phytic acid but also total iron and its bioavailability as compared to control, so 20 min. cooking is not suitable for cowpea,10 mints cooking is good as it maintains both iron and its bioavailability. Fermentation can be suggested as a best method of processing as it decreased the phytic acid more than other methods and increased total iron and its bioavailability, respectively.

**KEY WORDS :** Bioavailability, Anti-nutritional factors, Bioavailability, Cowpea

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