

Food Microbiology and Food Market

March 20-21, 2019 | New York, USA

VIDEO PRESENTATIONS | DAY 2

JOURNAL OF NUTRITION & FOOD SCIENCES 2019, VOLUME 9 | DOI:10.4172/2155-9600-C3-095

Anti diarrhoeal prophylactic effect of starter developed *Moringa oleifera* fortified cereal legumes weaning blends

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We investigated the anti-diarrhoeal prophylactic effect of starter-developed cereal-legumes blend fortified with dried leaves of *Moringa oleifera* on diarrhea-induced male Wistar rats for a period of two weeks. The blend was fermented with *Lactobacillus plantarum* MCB18 for 48hours and its nutritional contents determined. Twenty-five (25) male Wistar rats were randomly divided into five different experimental groups (n=5) and treated with diets for 14 days. After overnight fasting, group1 was not induced (negative control), groups 2-5 were induced with diarrhea using castor oil and group3

(positive control) was treated with loperamide (5mg/kg) by gastric gavage. Animals were sacrificed by cervical dislocation for 6 and 24hours of post-diarrhoeal analysis. Proximate and gross energy contents of the developed blend increased while its moisture and carbohydrate decreased with an increase in fermentation time. Mineral contents were observed to increase after 48hours of fermentation while phosphorus recorded highest in the unfermented blend. Diarrhea induction caused evident weight loss, inactivity, raised hair and frequent passage of watery stool. Hematological variables of 6hours post induction for all groups were within the standard range for blood count of rats except the group treated with commercially sold feed (group2). Lowest PCV, HB, RBC, MCHC, and lymphocytes; highest WBC and neutrophils were recorded in group2. Hematological parameters excluding platelets, monocytes, and eosinophils count of

24hours compared with 6hours post-induction observations was significantly higher ($P \leq 0.05$) in groups treated with fermented food only (group 4), probiotic fortified fermented food (group5) and the group treated with loperamide (group 3). The developed weaning blend fermented with probiotic (groups4 and 5) has the potential to supply adequate nutrients needed for growth, development and regulate disrupted bowel movement in infants.

Biography

Sherifah M Wakil has her expertise in Food/Industrial Microbiology. Her research area has been on Fermented cereals with much emphasis on weaning food development. She has focused on fortification/ supplementation of cereal-based weaning foods so as to increase their nutritional compositions; an approach to solving the problem of Protein Energy Malnutrition (PEM) in infants in developing countries. The health implications of this nutritional problem have also prompted the development of probiotic-based weaning foods with prophylactic effects on the management of diarrheal diseases. She has published more than 40 papers in reputed journals

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