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Effect of functional foods (prebiotics) incorporated chikkis for HIV positive adults in Madurai district, Tamil Nadu, India

Acquired Immune Deficiency Syndrome or AIDS, is a disease of the immune system that makes the individual highly vulnerable to life threatening infections and diseases, such as tuberculosis (TB) and certain types of cancer. CD4 (cluster of differentiation 4) is a glycoprotein expressed on the surface of T helper cells, monocytes, macrophages and dendritic cells. In humans, the CD4 protein is encoded by the CD4 gene. The CD4 count is used to assess the immune system of patients. When the CD4 count reaches a level less than 200 cells per micro liter, an HIV positive individual is diagnosed as AIDS. Functional Foods, Nutraceuticals and HIV are linked. Any immune impairment as a result of HIV/AIDS can contribute to malnutrition leading to immune impairment. This worsens the effects of HIV and contributes to a more rapid progression of the disease. The study focuses on the organoleptic evaluation of formulated Prebiotics incorporated chikkis and the impact of supplementation among HIV infected subjects. Functional foods (Prebiotics) were incorporated in chikkis mixed with gingelly seeds and jaggery. The raw materials were dried, powdered and mixed at various proportions like 20%, 30% and 40% along with rice bran and the proportions were standardized. Prebiotics incorporated Chikkis were evaluated based on organoleptic characteristics. The Chikkis were analysed for the nutrients (protein, fat, carbohydrates, energy, minerals) and Nutraceuticals contents (dietary fiber, phenols, beta carotene and ascorbic acid). Around 100 HIV positive adult patients in Madurai were selected based on the inclusion – exclusion criteria. Using Baseline investigation like CD4 count greater than > 250 cells/cu.mm and hemoglobin, patients were selected and categorized as control and experimental groups. The supplementation of two chikkis of 20 g each was carried out for period 180 days. The mean initial haemoglobin content of the selected subjects of experimental group was 9.4g.dl-1, placebo group was 8.94g.dl-1 and control group was 9.44g.dl-1. At the end of the supplementation of functional foods especially prebiotics incorporated chikkis, final mean of haemoglobin content of experimental group was 9.9, placebo group was 9.2 and control group was 9.72g.dl-1. There was a significant improvement in the haemoglobin content in the experimental group than the placebo and control group at five per cent level of significance. The mean initial CD4 count of the experimental group was 562, placebo group was 376 and control group was 453. At the end of the supplementation of prebiotics incorporated chikkies, mean final CD4 count of the experimental group was 759, placebo group was 399 and control group was 479. It could be concluded that there has been a significant improvement in the CD4 count in the experimental group than the placebo and control group at five per cent level of significance. Thus supplementation of prebiotics incorporated chikkis to the HIV adults of Madurai District had a significant impact on the haemoglobin levels and the CD4 count of selected HIV subjects.

Biography

Vasantha Esther Rani has 32 years of Research and Teaching experience. She is a Professor and Head, Research Center of Home Science with Food Biotechnology at Fatima College (Autonomous), Madurai, Tamil Nadu, India from 1999. She is the Coordinator of the UGC sponsored Innovative Program M.Sc Human Nutrition and Nutraceuticals. She is the Fellow of the International College of Nutrition from 1988. She has to her credit several research papers published in reputed journals. She has served as Principal Investigator in University Grants Commission sponsored Major Research Project. She enthusiastically involves herself as Regional Director/Convenor/Chapter President in the activities of Nutrition Society of India, Indian Dietic Association, Home Science Association of India, Indian Association of Parenteral and Enteral Nutrition. She has authored a book 'Developing a Software "Dia Diet @ Ease" on Diet Advice for Diabetics' published by Lambert Academic Publishing, Germany. She is the reviewer for the Journal Malaysia Journal of Public Health Medicine (MJPHM).

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