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## EFFECT OF PROBIOTIC FOOD SUPPLEMENTATION IN ENHANCING CD4 CELL PROFILE AND MALNOURISHED STATUS OF HIV INFECTED ADOLESCENT CHILDREN IN A SLUM OF MUMBAI

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**H**uman Immunodeficiency Virus (HIV) infection results in gastro-intestinal damage, microbial translocation and immune activation which are associated with decreasing CD4 cell count and persistent abdominal distress. The disease also leads to malnourished conditions like stunting, wasting and growth retardation especially in adolescent population. According to several research studies, probiotic food supplementation has been demonstrated promising result in improving CD4 cell profile and health status in children living with HIV. The current observational prospective study has included 20 malnourished adolescent children (12 boys and 8 girls), aged from 14-16 years, who were supplemented with a local probiotic yogurt (*Lactobacillus bifidus*) every day for 6 months along with their regular diet at a social service centre of a slum in Mumbai city, India. CD4 cell profile, height, weight and BMI were recorded and compared at the baseline and at the 6th month. The children were on regular Antiretroviral (ARV) medication. The result revealed an increase of 0.22 cells/ $\mu$ L/day (95% CI; 0.10-0.46,  $P=0.003$ ) in 15 children and 0.28 cells/ $\mu$ L/day (95% CI; 0.17-0.38,  $P<0.001$ ) in 5 children respectively. The weight has been increased by 68% in 11 children and by 65% in 9 children respectively. The height has been increased by 51% in 13 children and by 53% in 7 children respectively. There was no case of drop out during the intervention. The study has shown that the probiotic yogurt supplementation is significantly associated with enhanced CD4 cell profile and malnourished status of the adolescent children living with HIV. The study encourages inclusion of probiotic foods in the daily diet of the adolescent children living with HIV to prevent malnutrition, promote growth and boost immunity by enhancing CD4 cell profile.

## BIOGRAPHY

Subhasree Ray is a final year PhD scholar from the department of Food Science & Nutrition, SNDT Women's University, Mumbai, India. She is currently working as the Corporate Dietitian of Reliance Industries Limited and heading the Nutrition department of the company. She is a lifetime member of Probiotic Association of India, Indian Dietetic Association and Nutrition Society of India. Her research areas include ketogenic diet therapy, dietary management of neurodegenerative diseases, medical nutrition therapy, public health nutrition, food chemistry, probiotics, food toxicology, corporate wellness, food toxicology, paediatric nutrition and nutrigenomics. She has published 16 research articles so far in National and International journals. She has presented 12 research papers in various conferences worldwide as a young researcher. She is working as a clinical nutritionist since 2010 and worked with UNICEF and national government in managing severe acute malnutrition in remote villages of India. She has also worked as an advisor for several organizations in developing their nutrition policies.

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