

Probiotics as a Supplementary with Antibiotics: A review

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Antimicrobial therapy is one of the significant therapies to avoid premature death due to bacterial infection and has enormous application in medical treatment. Though, antibiotics are generally administered to kill specific microorganisms, they have a wide range of effect and may kill other microorganisms. Besides with this, antibiotics are the responsible for destroying the bacterial community structure, disturbing the interactions among microbial species of the nutrient metabolic pathways of complementary systems which causes a huge imbalance of intestinal microbiota and their environment. As a result, antibiotics creates a disturbing situation among microbiota and vigorously effects on immune systems development and regulation ultimately it rises the risk of various intestinal diseases. Exposure to diverse antibiotics in particular, meropenem, cefotaxime and ticarcillin-clavulanate to new born baby leads to destroy the initial formation of microbial communities and biofilm. These intestinal microbial communities are also known as health friendly bacteria or probiotics found various fermented foods. The aim of this review is to claim probiotics as prescribed supplement with antibiotics. Probiotics has broad range of health impacts on our body in particular, promoting intestinal epithelial homeostasis, cell survival, enhance barrier function and remarkably protective modulation of the immune system, initiating responses mediated by macrophages and T and B lymphocytes. Regulation of gene expression and signaling pathways in the host cells for example, A probiotics mixture consisting of *L. acidophilus*, *L. casei*, *L. reuteri*, *B. bifidum* and *Streptococcus thermophilus* stimulated regulatory dendritic cells. Prescription of probiotics with every types of antibiotics can retain the intestinal microbial ecosystem and protect body from antibiotic-associated side effects as Rotavirus diarrhea, food allergies and lactose intolerance, atopic eczema, prevention of vaginitis, urogenital infections, irritable bowel syndrome, inflammatory bowel disease, cystic fibrosis, traveler's diarrhea, enhance oral vaccine administration, *H. pylori* infection etc.

Keyword: Antibiotics, Bacterial community, Immunity, Probiotics.

Biography:

Shah Rucksana Akhter Urme has completed her Bsc in Biotechnology and Genetic Engineering from Sylhet Agricultural University and continues Msc from the same University. She has attended National and International Conference. She researched more than one year about pathogenic bacteria both in wet lab and dry lab and now she enroll in a Environmental project work in National Institute of Biotechnology. She is very passionate about microbial scientific research.