



Isolation and Characterization of Bacteria Associated with Dental Plaque and Effect of Different types of Toothpastes for Preventing Dental Caries

• Madhu Muskan • Harshita Varsha • Richa Sinha
• Sonal Suman

Received : November 2017

Accepted : March 2018

Corresponding Author : Sonal Suman

Abstract : Dental caries is one of the most common chronic disease caused due to bacterial activities which are accumulated with dental plaque. The study was done to determine the antibacterial activity of herbal and non-herbal toothpaste on dental plaque. Plaque samples of different age group (1-20, 21-40 and 41-60 year old) were collected and cultured for isolation of microbes. 21 bacterial strains were isolated by streak plate technique and were tested for their antibiotic susceptibility test and toothpaste susceptibility test. The zone of inhibition was observed and 7 most susceptible strains were selected and their biochemical test was performed. The result of present study revealed that herbal toothpaste is more effective as compared to non-herbal

toothpaste due to presence of natural ayurvedic ingredient and some chemicals like fluoride, triclosan etc. in small amount. So, herbal toothpaste should be preferred to reduce dental problem.

Keywords: Dental plaque, Toothpaste, Antibacterial activity, susceptibility, Bacteria.

Madhu Muskan

B.Sc. III year, Industrial Microbiology (Hons.),
Session : 2015-2018, Patna Women's College,
Patna University, Patna, Bihar, India

Harshita Varsha

B.Sc. III year, Industrial Microbiology (Hons.),
Session : 2015-2018, Patna Women's College,
Patna University, Patna, Bihar, India

Richa Sinha

B.Sc. III year, Industrial Microbiology (Hons.),
Session : 2015-2018, Patna Women's College,
Patna University, Patna, Bihar, India

Sonal Suman

Asst. Prof., Deptt. of Industrial Microbiology,
Patna Women's College, Bailey Road,
Patna – 800 001, Bihar, India.
E-mail : sonal.micro89@gmail.com

Introduction :

Dental caries is the most chronic disease caused due to bacterial activities which is accumulated with dental plaque. A dynamic equilibrium exists between dental plaque and the innate host defense. Antoine van Leeuwenhoek was first to report bacteria in the oral cavity in 1639. Tatakis and Kumar (2005) which causes oral diseases like dental caries and periodontal disease. Colonization of dental plaque on teeth is a concern for both cosmetic and its pathogenic nature. In India, the prevalence of dental caries was reported to be 50-60% and periodontal diseases affecting more than 50% of the community. Over 50% of children in the United States 5-9 years old