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Isolation and Identification of Microorganisms Associated with Mobile Phones

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Aim: This study aims to examine the microorganisms that generally contaminate the mobile phone and to raise the level of awareness among the people regarding the need to clean it periodically by following proper hygienic measures.

Purpose of Study: The dissertation investigates the dangerous causes and effects of the microorganisms associated with mobile phones. The purpose of this study is to observe the microbial contamination of mobile phones and also to identify the most important microbial species associated with these phones. In turn this will help take the necessary measures to curb the potential transmission of diseases.

Methodology: 31 mobile phone samples were collected from 30 volunteers on the basis of two groups- Group A (doctors and clinicians) and Group B (workers, receptionist, security guard, and student involved in current study) and immediately streaked in Mac Conkey and blood agar plates. Identification of microorganisms were done using Biochemical test, gram staining and colony morphology.

Results: Results show that, out of 31 samples, 16 were contaminated with bacteria. In this findings, unexpectedly the most abundant microorganisms were found to be Non-Fermenting Gram Negative Bacilli followed by Gram Positive Bacilli, Klebsiella pneumoniae (9.677% each) and Aerobic Spore Forming bacteria and Coagulase Negative Staphylococci (6.4516 % each). Group A showed the highest rate of contamination (13 positive growth) when compared to Group B as people in Group A are in direct contact with the patients.

Conclusion: These findings indicate that mobile phones can act as reservoirs of both pathogenic and non-pathogenic organisms. It is therefore necessary to take remedial hygienic measures while using mobile phones as people rarely disinfect their own. Also, doctors and clinicians should regularly disinfect their phones as they are more prone to diseases and infections when compared to other people and it serve as vectors or fomites for the microorganisms to grow.

Keywords: Mobile phones, Contamination, Non-fermenting Gram Negative Bacilli.