

Microbiological Contamination of Mobile Phones and Mobile Phone Hygiene Practices Among Undergraduates of a Selected Higher Education Institute

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Mobile phones have been identified as a potential global public health risk for disease transmission. Recently, mobile phone manufacturers revised their user support guidelines and stated that the exterior surfaces of phones could be disinfected. Mobile phone usage has become a vital part of students' lives for communication and accessing vital information for education. This study aims to assess the mobile hygiene practices adopted by undergraduates, and the microbiological contamination of mobile phones at a selected higher education institute. A cross-sectional study was carried out. A pre-validated questionnaire was distributed among the undergraduates of KAATSU International University of Sri Lanka. Descriptive statistics were used to analyse the data. Swab samples were collected and cultured on nutrient agar from randomly selected 50 participants' mobile phones. The number of colony types produced by each device was used to determine the level of bacterial contamination. A total of 353 undergraduates participated in the study. Two hundred and thirty-three (66%) students knew that phone surfaces can get contaminated with pathogens, and 34% weren't aware of this. Two hundred and five (58%) students have shared their mobile phones with others. Two hundred and fifteen (61%) have used mobile phones while eating. Hundred and seventy-three (49%) students were using mobile phones in washrooms, and 208 (59%) used them during laboratory sessions. Two hundred and eighty-six (81%) students stated that they clean their phones. Of these, 25.5% were cleaning their mobile phones regularly, 41% were occasionally cleaning, and 15% were rarely cleaning. Sixty-four (18%) students have not cleaned their mobile phones at any time. Around 124 (35%) have used more than one method to clean their phones. Two hundred and forty-four (69%) students used normal tissue/dry cotton cloth to wipe the phones, 235 (67%) used wet tissues, 219 (62%) used cotton cloth with alcohol-based products; and 30 (8.5%) used cotton cloth with water. Twenty-five (7%) mobile phone users used Dettol® products to wipe their phones. Of the 50 swab samples collected, 48 (96%) showed contamination with one or more types of bacteria: 24 (48%) had three colony types, 14 (28%) had two types, 6 (12%) had one type, and 4 (8%) had four types. Despite most undergraduates' claims of cleaning their devices, a considerable level of microbial contamination is cause for concern.

Keywords: Contamination, Mobile phones, Phone hygiene practices