ISOLATION AND IDENTIFICATION OF BACTERIAL CONTAMINATION ON TOUCH SCREEN MOBILE PHONES AMONG STUDENTS AND STAFF FROM THE FACULTY OF HEALTH SCIENCES, UNIVERSITI TEKNOLOGI MARA

By

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DECLARATION

I hereby declare this thesis is my original work and has not been submitted previously or currently for any other degree at UITM or any other institution.

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ABSTRACT

Mobile phones are portable electronic devices that become essential for profession and personal telecommunication for social daily life. With all the achievements and benefits of the mobile phones, it is easy to overlook the health hazard it might pose to its many users. Students and staff from the medical field were more exposed to bacterial contamination. This is because their mobile phones are rarely clean and often to touch after handling specimens without proper hand washing. Therefore, this study was conducted to identify, to compare bacterial species isolated on touch screen mobile phones among students and staff from the Faculty of Health Sciences, Universiti Teknologi MARA, Puncak Alam Campus and finally to screen methicillin-resistant *Staphylococcus aureus* (MRSA) from the positive coagulase *Staphylococcus*. A cross-sectional study was conducted from March until May 2019. One hundred mobile phones were collected from 63 health sciences students and 37 staff. Swabs moistened with sterile normal saline were used to swab the whole part of mobile phones. The samples were cultured and processed by using standard microbiological procedure. Methicillin-resistant *Staphylococcus aureus* (MRSA) was identified by Kirby-Bauer disc diffusion method. Statistical analysis was conducted using Pearson Chi-square test in order to compare bacterial species isolated on touch screen mobile phones between health sciences students and staff. All mobile phone samples were contaminated with various type of bacteria. The bacterial isolated from the presence study were *Bacillus* spp. (77%), Coagulase-negative staphylococcus (CoNS) (55%), *Staphylococcus aureus* (23%), *Klebsiella pneumonia* (19%), *Enterobacter aerogenes* 16 (16%), *Escherichia coli* (8%), *Pseudomonas aeruginosa* (5%) and *Proteus vulgaris* (2%). Out of 23 samples with *Staphylococcus aureus*, only one sample was presence of MRSA. There were slight variation for each of bacterial species isolated on touch screen mobile phones between students and staff. However, only *Staphylococcus aureus* was significant (p=0.013) by using Pearson Chi-square test among staff compared to students. It was confirmed in this study that all mobile phones of students and staff from this faculty were contaminated with different types of bacteria due to personal hygiene and environmental condition. Decontamination of mobile phone should be recommended to all people by using alcohol swab or any disinfectant for mobile phones to prevent the carrier of bacterial pathogen.