Beauty or Beast: A Study of Microbial Growth on Artificial Nails in the Healthcare Field

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A recent concern in healthcare agencies is that many members of their staff wear artificial nails in the work setting. Although many agencies do not necessarily prohibit their use, they are concerned about how these manicures might affect the spread of disease. Some hospitals have taken measures to restrict the use of artificial nails and to make standards for nail length. Past studies have indicated that the risk of spreading infection may be higher among Healthcare workers (HCW) who decorate their nails. However, these studies suggested the need for more extensive research and evidence. This study tested the microflora content found on natural and artificial nails of the nursing team at our regional medical care centers. After collecting the samples, we determined the average number of bacteria colonies for the natural nails was 4.3, while the average for the artificial nails was 17.5. We then used the data to create a normal distribution curve based on the number of bacteria colonies on the natural nails. The amount of variance was determined from all of the natural nail samples. The natural nails were chosen as our control sample and as our standard because the hospital has a set policy of restrictions on artificial nails. When the microflora from the artificial nails was cultured, they tended to be more abundant than the natural nails. For the results to be considered significant, at a confidence level of $p<0.05$, the artificial nails would have to have a z score of +2.920. With the average of the artificial nails having a deviance of +3.8, we conclude that these results are repeatable. More sampling and testing is required, but these results should be considered significant to our regional medical centers and to the healthcare community at large.

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