

## Miscellany of Hospital Contact Surfaces Microbiome: A Case Study of Selected Hospitals in Owerri South Eastern Nigeria

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### Abstract

Hospital contact surfaces are provided for the comfort of the patient and for the convenient of visitors and healthcare workers. They are however reported to be reservoir of an array of microbial species. This study was carried out to understand and elucidate the miscellany of the microbiota of hospital contact surfaces and the potential health challenges they pose to patients, visitors and healthcare workers (HCWs), so as to advice on effective cleaning and disinfectant regime. Using sterile swab sticks moistened in normal saline, 300 samples were collected from contact surfaces of 25 randomly selected hospitals in Owerri South East Nigeria. The samples were cultured in suitable growth media. Using standard laboratory protocols and with reference to standard identification manuals, microbial species were isolated and characterized. *Pseudomonas*, *Enterococci*, *Bacillus*, *Klebsiella*, *Streptococcus*, *Staphylococcus*, *Proteus*, *Micrococcus*, *Corynebacterium*, *E. coli*, *Penicillium*, *Fusarium*, *Trichoderma spp.*, *Yeast*, *Mucor*, *Aspergillus*, *Rhizopus* and *Verticillium* were isolated. Mean total aerobic and coliform count in cfu/square swabbed surface of the high and low contact surfaces were  $7.4 \times 10^7 \pm 0.03$  and  $1.4 \times 10^2 \pm 0.06$ , while that of fungal count was  $3.4 \times 10^4 \pm 0.03$ . Majority of these bacterial and fungal isolates are potentially pathogenic and have been involved in diseases outbreaks, some are opportunistic pathogens and could initiate diseases in immune - suppressed individuals. Continuous cleaning and disinfection of hospital contact surfaces and good hand hygiene, therefore, is recommended to control the spread of hospital acquired infections (HAIs).

**Key words:** *cleaning, contact, disinfection, hospital, microbiota, surfaces,*