A STUDY OF ANTIBIOTICS SUSCEPTIBILITY PROFILE OF CLINICAL BACTERIAL ISOLATES IN ILE-IFE AND THE MINIMUM BACTERICIDAL CONCENTRATIONS OF SELECTED ANTIBIOTICS.

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ABSTRACT

The study evaluated the minimum inhibitory concentrations (MIC) and the minimum bactericidal concentrations (MBC) of selected antibiotics. This was with a view to determine the antibiotic resistance profile of selected bacterial isolates from clinical sources in Ile-lfe.

Clinical specimens were taken from 196 patients from Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), Seventh Day Adventist Hospital (SDAH), Obafemi Awolowo University Health Centre (OAUHC) and Osun State Comprehensive Health Centre (OSCHC) in Ile-lfe from July 2005 to June 2006. A total of 222 bacterial isolates were cultured from the specimens. Using the broth macrodilution method, the MIC and MBC of some commonly used antibiotics in the environment were assayed. The antibiotic susceptibility patterns were determined by the Kirby-Bauer disc-agar diffusion method. Descriptive statistics was used to analyse the data.

The results showed that out of 222 isolates tested, 86.04% were resistant to amoxicillin, 74.77% to cotrimoxazole, 65.76% to tetracycline and 59.46% to augmentin. Of the 145 isolates tested with nitrofurantoin, nalidixic acid and ofloxacin. 48.96°/x, were resistant to nalidixic acid, 43.50% to nitrofurantoin, and 13.10% to ofloxacin. The results also showed that the incidence of multiple resistant bacterial isolates in the four hospitals ranged from 91.9% for OAUHC to 94.8% for OSCHC. These values were higher than those recorded in previous studies in the same environment. The ratio of MIC to MBC revealed that some of the antibiotics had lost their effectiveness against the organisms on which they were tested. Ofloxacin (a quinolone) was found to be the most effective against *pseudomonas aeruginosa* with MBC/MIC ratio of 1 while gentamicin (an aminoglycoside) was the most effective against *Staphylococcus aureus* with MBC/MIC ratio of 1.

The study concluded that the phenomenon of bacterial resistance to antibiotics is increasing and has become widespread in Ile-Ife.