Antibiotics susceptibility study of bacteria isolated from packaged milk products sold in Sokoto metropolis, Nigeria

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Packaged milk products commonly referred to as yoghurts are fermented milk products produced by bacteria fermentation of milk which is consumed throughout the world. Fermented milk, like the fresh milk from which they are produced, is liable to contamination. Evaluation of the bacterial quality of yogurts become apparent due to the high risk associated with consuming substandard or unhygienic yogurts containing pathogenic organisms and health complications associated with this include serious infections that are difficult to treat with antibiotics. This study was conducted to determine the antibiotics susceptibility of bacteria isolated from packaged milk products sold in Sokoto metropolis. Twenty seven packaged milk product samples were bought from three locations (nine samples for each location) in Sokoto metropolis. Isolation and identification of the bacteria species were carried out using standard microbiological procedures. Antibiotics susceptibility of the isolates was determined using a single disc of 7 antibiotics by disc diffusion method following Clinical and Laboratory Standards Institute guideline. Forty six (46) bacterial isolates were identified from the yoghurt samples. The result obtained showed that the major contaminants of yoghurt samples analysed were mostly Gram-positive organisms comprising Bacillus spp (30.4%) and S. aureus (21.8%) whereas among Gram-negative organisms, E coli had the highest percentage of 15.2%. Susceptibility result showed that high percentage of the isolated bacteria were resistant to erythromycin (73.9%) but were however susceptible to ciprofloxacin (91.3%) and tetracycline (89.1%). The finding of the study showed that yoghurts sold at Ungwar Rogo, Rungin Sambo and Sokoto Central Markets in Sokoto metropolis contained pathogenic bacteria, some of which were resistant to commonly used antibiotics in the study area, and therefore posing a serious health risk to the consumers. So to ensure the proper quality of yoghurt, there should be a complete check on the methods through which yogurts are being produced and sold in local markets and major streets.

Keywords: Antibiotic susceptibility, Antibiotics, Bacteria, Packaged milk products, Sokoto metropolis.