TITLE: MICROBIOLOGICAL CONTAMINATION IN POLYURETHANE SPONGES IN DIFFERENTS DETERGENTS AND SIMPLE DECONTAMINATION TECHNIQUES.

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ABSTRACT:

Currently the incidence of gastrointestinal infections caused by pathogens microorganisms as *Escherichia coli*, *Staphylococcus sp* e *Salmonella sp* is unacceptably high. These microorganisms presented in the domestic environment are found in polyurethane sponge and synthetic fiber used in kitchens that provide high rate of cross-contamination due to the lack of their appropriate cleaning. Nowadays, studies analyzed the action of detergents, stone and paste soaps action correlated to the microbiological growth and survival in the decontamination through boiling water, immersion in sodium hypochlorite at 2,5% and the use of the microwave energy. Samples of on week used sponge interstices were collected into Cysteine Lactose Electrolyte Deficient agar enrichment (CLED agar) and selective MacConkey agar plates. They accomplished initial distribution and the sponge were longitudinally cut in three parts and submitted to the decontamination techniques following into selective Muller Hinton agar plates were confirmed. After the colony growth, they made coloring by Gram's Method for identification of the Gram-positive and Gram-negative in all used agar. The Gram-negative bacterium CLED was confirmed into MacConkey, it was identified using the Rugai method; the results were analyzed according to the manufacturer's instructions. For the Gram-positives, it was used catalase test to certify the presence of *Staphylococcus sp*. In samples treated with stone and paste soaps, *Escherichia coli* and *Enterobacter sp* bacteria were frequently with 40%, in the detergent *Enterobacter sp* it was obtained 60%. In decontamination techniques, it achieved 60% efficiency in all samples analyzed. The techniques by boiling water and immersion in hypochlorite inactivate completely the Gram-negatives bacteria previously mentioned, however, the microwave technique used was not as efficient. Although, the Gram-positive bacteria and hyphae found proved to be more resistant than the techniques employed, it is believed it has not been identified in by Gram's due to exacerbated growth of Gram-negatives. The analysis of sponge proved to be a large conductor of microbiological contamination. The correct hygiene process is highly important. The decontaminate means used here demonstrated to be simple, effective in the domestic environment and to afterwards results**,** making possible a better quality of the population lives.

Keywords: Sponge**,** Cross-contamination, Microbiological contamination*,* Decontamination techniques.