



**A STUDY OF THE BACTERIAL CONTAMINATION
IN THE HOUSEHOLD BATHROOM**

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ABSTRACT

Changes in lifestyle and living environment had lead to the arising of a new problem such as recurrent of infectious diseases, allergies and so on. The level and diversification of microorganisms found in a certain environment can be affected by the human activities. Microorganisms such as bacteria are found everywhere in the living environment including in the household. In household area such as bathroom is frequently thought as an unsanitary site since the environment tend to be damp. Thus, in this study several sites in bathroom were selected to isolate the potential pathogenic bacteria found in the household bathroom. The aims of this study are to isolate and identify the potential pathogenic bacteria from household bathroom and also to determine the most frequent bacteria isolate from the bathroom. Fives household in Puncak Alam area were selected for the study where sample from toilet seat, floor and sink of each households were collected for isolation of bacteria. While collected samples in the households, a pre sampling survey with respect to hygiene were distributed. The study found that floor area from household bathroom had higher rate of contamination which was 100% compared to toilet seat and sink (80%). Among the bacteria contaminants isolated, *Staphylococcus epidermidis* had the highest prevalence (40%), followed by *Enterobacter* spp. (27%), *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Klebsiella pneumoniae* (20%) respectively, *Staphylococcus saprophyticus* (13%), while *Escherichia coli* and *Acinetobacter* spp. had the least prevalence (7%). The findings of the present study can be used to identify areas of potentially higher bacterial contamination and highlight the significance of a proper hygiene and sanitation practices in the homes to promote health.

CHAPTER 1

INTRODUCTION

1.1 Background of the study

The household is a central part of the larger society. There is a growing recognition that the households play an essential role in several public hygiene and health issues (Scott, 1996). In recent years, a good diagnosis of the degree of microbial contamination in households becomes more important since the homes can become a source of microbial contamination, where the proliferation of bacteria and mold take place. Besides, surface of the samples are helpful in documentations of the nature of microbial contamination. Thus, many studies have been done related to this topic (Anderson, 1969; Anderson, Mackel, Stoler, & Mallison, 1982).

The previous study has provided the information about the bacteria types and their populations isolated from various positions of washrooms and toilets (Mendes & Lynch, 1976). In home or occupational environments, humans are vulnerable to dust from microbial origin, animal or vegetable (Bouillard, Michel, Dramaix, & Devleeschouwer, 2005). Microorganisms can form in the air together with saliva or water droplets are commonly known as droplet nuclei which contain more than one microbe for particle (Jawetz & Adelberg, 1980).

Previous study showed that the bathroom site such as toilet floor often contaminated with coliforms bacteria during the flushing of the household toilets (Scott & Bloomfield, 1985). The size of particles produced by the flushing of household toilets were found in a range that were able to reach the lower respiratory tract (Darlow & Bale, 1959). Others studies also showed that areas in the home especially bathroom, laundry and kitchen act