CHAPTER ONE

1. INTRODUTION AND OBJECTIVES

1.1. **Introduction**

Computer just like microbes are ubiquitous and they continue to have an increasing presence in almost every aspect of our occupational, recreational, and residential environment in place where there are a lot of people moving in and out, such as offices and internet cafes, there is likely to be good number of people sick, and through them comes new bacteria that will eventually settle on the computer keyboards through air or from physical contact. It has been realized that one main cause of bacterial contamination of computer keyboards in non hospital setting is through eating while working with computer in office or browsing the internet with computer. As a result some food crumbs and spills can wind up on and between the keyboard keys given that computer not routinely disinfected. The opportunity for transmission of contaminating microorganism is potentially great (Tagoe and Kumi-Ansah, 2010). The increasing availability of multiple user computers in the institutional setting means that equipment are handled by numerous users on daily basis. Given that computers are not routinely disinfected, the opportunity for the transmission of contaminating microorganism is potentially great. Our understanding of the ubiquity of microorganism in the environment is developing but the risk or hazard of contamination posed by computer keyboards is not yet fully understood (Ali *et al.*, 2013).

One critical factor for the transmission of microorganisms from person to person or from the environment to a person (patient or health care worker) is the ability of the microbe to survive on an environmental surface (Neely and Sitting, 2000)**.** The keyboards of multiple-user (student) and single-user (staff) computers located on a university campus were sampled to assess microbial contamination. The average number of microorganisms present on multiple-user computer keyboards was significantly greater than on single-user keyboards, and the number of keyboards harboring potential pathogens was also greater for multiple-user computers. It is recommended that regular cleaning and disinfection of computers be used to reduce the microbial load, especially for multiple-user workstations (Anderson and Apalombo, 2009).

1.2. Rationale

The ubiquitous sharing of public computers by abroad user base might facilitate increased transmission and prevalence of pathogenic microorganisms throughout the community (Eltablawy and Elhifinawi, 2009). Inadequately performed hand hygiene and non disinfected surface are two the reasons why the computer keyboards could be source of microbial contamination resulting in transmission of pathogens (Chimezie *et al.*, 2013).

1.3. Objectives

1.3.1. General objective

To assess Gram-negative bacteria on computer keyboards at universities.

1.3.2. Specific objectives

1. To determine bacterial load on computer keyboards.

2. To identify Gram-negative bacteria found on computer keyboards.

3. To determine the most prevalent organism on computer keyboards.