TITLE: USE OF LAB COAT BY HEALTH PROFESSIONALS IN THE NORTHEAST BRAZIL

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Inadequate use of the lab coat has been widely discussed, since this personal protective equipment (PPE) may carry microorganisms involved in healthcare-associated infections (HAIs). Its use should be restricted to the hospital and care environment; however, there are reports on increased of the risk and sanitary safety by use in non-clinical place, such as: restaurants, snack bars, parking lots, among others. This study aimed to carry out a systematic review on the use of the lab coat by health professionals and microorganisms frequently identified in this PPE. Research was performed through Virtual Health Library in Scientific Electronic Library Online, Latin-American and Caribbean System on Health Sciences Information, and Medical Literature Analysis and Retrieval System databases in publications developed between January 2006 and December 2016. Search was performed with following keyword: lab coat, from the descriptors: personal protective equipment, protective clothing, and hospital infection, according to the vocabulary contained in the descriptors in Health Sciences (http://decs.bvs.br). For inclusion of the articles were used the criteria: available complete articles, temporal limitation of publication, and researches developed in the Brazilian Northeast; and exclusion criteria: studies developed in other Brazilian regions or other countries, and in different period than those established, studies with only abstract, and environmental, veterinary and other research. A total of 122.115 articles were identified from the previously established descriptors. Of these, 1.696 articles were developed in temporal limitation and geographic location previously defined, excluding duplicities. After, only 2 articles were related to the use of the lab coat. In Brazil, several studies show that the use of the lab coat in non-clinical place may become a possible vehicle for microbial dissemination of epidemiological relevance, such as *Staphylococcus aureus* and *Klebsiella* sp., commonly involved in HAIs. An analysis of 200 samples obtained from lab coats, *Staphylococcus* sp. was present in 69.5%, followed by *Streptococcus* sp. (4.9%), *Enterococcus faecalis* (1.2%), and *Acinetobacter baumannii* (1.2%), which presented resistance to one or more antimicrobials tested. Despite of the few studies, microbiological analysis of the garb shows a similarity between microorganisms recovered from professionals' lab coats and epidemiological profile of the microorganisms-associated in hospital outbreaks. Thus, the lab coat is necessary for individual protection, evidenced by the vulnerability of workers to occupational risks. However, the inadequate practice of their use represents a risk to patients and health professionals.

Keywords: Lab coat, Biosafety, Northeast, Brazil.