

Sessions: Sustainable education

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Title: Respiratory protection in a public hospital - what can improve?

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ABSTRACT

Aiming the rational investment of public funds, the acquisition of materials for consumption in hospitals of Brazilian Health Care System (SUS) needs to meet both quality and costs. Among regularly acquired materials in public hospitals are the N95 filtering facepieces or respirators. These are materials for personal protective equipment for healthcare professionals and aim respiratory protection against biological aerosols such as *Mycobacterium tuberculosis*, which is about 1 to 5µm in size and can survive for a long time polluting the air, disseminating tuberculosis. In the present study, some models of N95 respirator for hospital use and available in Brazilian market were evaluated and some differences among the models were related to the material the nose clip is made of. The nose clip is a mechanic device made of metal, in linear form or pre curved, attached to the superior part of the respirator which ensures proper fit to the user's nasal curves area. It is made of flexible metal containing aluminium or metal covered in plastic. The authors concluded from mechanical analysis and qualitative tests on the user comfort that single metal clip nose on N95 respirator is superior to the ones covered with plastic. However, the authors intend to develop a model of nose clip made of natural fiber associated with biocompatible adhesive substance for direct contact of user's face skin; and the authors also believe this new associations of materials can be of higher quality than the models available currently in market regarding its fitting on nasal curves, comfort and usability, besides reducing metal dispose in environment.

Key words: respiratory protective devices; airborne infection, N95 filtering facepiece respirator, occupational risks.

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