

## Short Communication

# Is Wearing of Uniforms in Public by Nurses safe?

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### Abstract

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Through observations it has increasingly become a habit for staff of some qualifications to move around in uniforms which they are supposed to be wearing at places of work either for identification or as protective gears. One such group of staff is health care providers. Just as it is important to wash hands between patients it becomes crystal clear that one would also change attire(s) between hospital and community as these may be potential vectors for spread of infection as Marie-Anne Sanon and Sally Watkins clearly indicated in their study. The significance of this is the transmission of Multidrug-resistant organisms (MDROs) which would result in extra healthcare costs and worse, death. We advise that Governments develop local uniform and workwear policies, after taking a full risk assessment to ensure that local policies are appropriate for different categories of staff and should ensure staff complies with needs of their service

**Keywords:** Hospital acquired infections, MRSA, Nurses' uniforms, wearing in public, transmission

## INTRODUCTION

The way staff dress sends messages to the patients they care for, and to the public about their professionalism and standards of care. All employees are expected to keep themselves neat, clean and well-groomed at all times. Indeed patient prefer being treated by staff dressed in a certain dress code and also this helps them to be identified by those patient who are in need of help. Traditionally nurses' uniforms were meant to be worn at work and rooms are provided at places of work for changing from casual wear to the work attire. These in most units are clearly labeled changing rooms.

### Nurses uniforms as carriers of infection

Healthcare providers' uniforms can be vectors that spread infections not only within hospitals, but also potentially within communities (Marie-Anne Sanon and Sally Watkins, 2012). Nurses as well as other health workers may bring microorganisms into the hospital from home; they can also carry them in the opposite direction. It is obvious to everyone in hospital setting that if you work in a hospital then uniforms get soiled with

hazardous body fluids or blood, bacteria and viruses to mentioned but a few. If you have rules to wash bed linen hygienically, it is common sense that you replicate this process with clothes worn by people who come into contact with patients. The worst case scenario is when a nurse takes home his or her clothes and infects the family with a virus, or infects a patient with something brought in from outside the hospital.

Methicillin Resistant *Staphylococcus Aureus* (MRSA) can be transmitted by surface contacts of persons to devices and person to person. Most of the transmissions are linked to textile materials such as bed linens, towels, dresses, and surgical uniforms (Fijan, 2012; Dancer, 2008). More importantly, people in hospital environments including healthcare workers and patients are potential carriers of *Staphylococcus aureus* and MRSA, and experimental results have revealed that *Staphylococcus aureus* lives on human bodies in pretty high rates regardless of ages, genders, and professions (Wertheim *et al.*, 2005). Nasal carriage of SA has been the most important source of the disease with 100% rate on all human SA carriers, and has been more frequently found from nurses than physicians. In a study done in Israel on

Health workers, up to 60% of hospital staff's uniforms were found to be colonized with potentially pathogenic bacteria, including drug-resistant organisms. (Wiener-Well *et al.*, 2011). These facts just confirmed that healthcare workers are sources of pathogens, and with these moving sources available the infection control is indeed a complicated and difficult mission to accomplish in hospitals (Albrich, 2008).

Meanwhile, pathogenic microorganisms carried by human bodies could be transmitted by hand touching noses and then textiles or other surfaces, possibly spreading them to all areas (Munoz-Price *et al.*, 2012). Eventually, hand hygiene has been considered critical in infection control however, only has limited effect if the bacteria reservoirs are always available for the hands to get contaminated (Weber, 2010). Furthermore, microorganisms could survive on medical textiles for weeks and months and can contribute to secondary transmission from these materials to hands and other surfaces (Blanchard, 2009; Galvin, 2012; Maclean, 2010). It's common to see someone wearing scrubs outside a hospital, but organizations devoted to stopping the spread of infectious diseases need to change this. Nurses and nursing students wear their scrubs home, and they're busy, so they pick up their children from school and go make dinner without changing uniform. They're carrying bacteria into their homes. In some of American states dress code dictates that employees who work in clinical areas report to work in street clothes. They are then provided with scrubs that are laundered by the hospital. They change back into their street clothes at the end of the day. But generally in United States there are no regulations on whether or not health care providers wear their uniforms to and from work. Therefore, uniforms remain potential vectors for spreading multi-drug resistant pathogens such as methicillin-resistant *Staphylococcus aureus* (MRSA) (Rao, 2009; Treacle *et al.*, 2009).

### **Are Short-sleeved uniforms better than long-sleeved ones?**

According to one study bacterial contamination was found to occur within hours after donning newly laundered short-sleeved uniforms (Marisha *et al.*, 2011). The spread of pathogens breaching hospital walls and into communities is a major public health concern (Committee to Reduce Infection Deaths, 2008). Transmissions of infectious diseases such as MRSA in healthcare facilities have been an important and urgent challenge to infection control community. Countries such as the United Kingdom, Belgium, Australia, and Canada have acknowledged and addressed this problem by prohibiting now the wearing of hospital clothing outside the workplace. In September 2007, the British Department of Health developed guidelines for health

care workers regarding uniforms and work wear that banned the traditional white coat and other long-sleeved garments in an attempt to decrease nosocomial bacterial transmission (National Health Service, 2007). Similar policies have recently been adopted in Scotland (Scotland Dress Code, 2008).

### **Significance of Hospital Acquired Infections**

In Europe, the European Centre for Disease Prevention and Control (ECDC) reported that 25,000 people die each year from antibiotic-resistant bacteria. Serious financial consequences of bacterial resistance due to Multidrug-resistant organisms (MDROs) result in massive extra healthcare costs and loss to productivity estimate at least 1.5 billion euros each year (Joint Technical Report; 2009). But when we talk about hospital acquired (nosocomial) infections, millions of pounds are spent per year to supply hospitals with drugs, hand gel, soap, disinfectants and other supplies, and yet when we are traveling home in public transport (taxis, buses, motorcycles, trams, trains etc.), you see dozens of nurses wearing their own uniform from and to work milling with the public!

### **Way forward**

Governments should develop local uniform and workwear policies, after taking a full risk assessment to ensure that local policy is appropriate for different categories of staff and should ensure staff complies with needs of the service. For example staff should change into and out of uniform at work and should change out of their uniform at the earliest opportunity at the end of their shift. It is preferable that staff should avoid undertaking activities in public, such as shopping, whilst wearing their uniform, except where such activities form an integral part of their duties (Scotland Dress Code, 2008).

Halamine treated cotton fabrics which are widely used in dish cloth, incontinence pads, wipers and mops, can be also used to make medical uniforms, and bed linens. Biocidal functions of halamine treated cotton and cotton/polyester fabrics have been proven to be excellent, both in killing speed and log reduction of bacteria. Another advantage is that the biocidal functions of the halamine treated textiles is that they can be repeatedly be recharged in chlorine bleach solution. Such rechargeable biocidal functions is mostly meaningful for reusable and environmentally friendly medical textiles such as doctors' uniforms, nurses and patients' dresses, linens, and wipes and mops. (Sun, 2001).

### **CONCLUSION**

The fact that health worker's uniforms carry organisms

which can be passed on to patients and the members of the community, it is not prudent for them to wear them in public. Health worker in particular nurses, should therefore, use uniforms in hospitals settings and change to casual/or street wear whenever they leave hospital and go to mix up with members of the public. This therefore, implies that hospital facilities should have provisions for changing rooms for nurses and where they are not available, a plan for central cleaning facilities for these uniforms be provided in hospitals. This would add a much smaller cost to the healthcare budget compared to that of managing MDROs which may have been transmitted by these vectors. Alternatively governments should consider using halamine treated cotton fabrics for making nurses or other healthcare worker's uniforms.

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