

Disinfectants may be helping create superbugs

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By Victoria Weldon for The Herald



Hospital disinfectants are contributing to infections in intensive care units, a study has found.

Doctors have called for common hospital disinfectants to be regulated like antibiotics after research revealed the products are contributing to infections - including potentially spreading superbug MRSA.

High levels of the disinfectants, found in areas such as intensive care units, are causing bacteria to become resistant to antibiotics, prompting a warning from medical experts that it could result in a “significant public health issue”.

The researchers estimate that, each month, as many as 10 to 15 patients in an average-sized intensive care ward are contracting infections linked to the overuse of disinfectants.

This has led to calls for the products - Chlorhexidine and Mupirocin - to be more strictly regulated.

Dr Karolin Hijazi, Senior Clinical Lecturer at the **University of Aberdeen**, who led the study, described the findings as “alarming”.

She added: “Basically, we are saying that intensive use of the particular disinfectants used in hospitals can contribute to the prevalence of bugs that are resistant to most antibiotics commonly used to treat infections.

“Our results suggest that we need to change the way we think about using disinfectants, particularly in the hospital setting.

“We are all aware of the problems associated with the overuse and misuse of antibiotics and similarly, there is evidence that the use of disinfectant in hospitals should be regulated more strictly.”

The study saw Dr Hijazi collaborate with Professor Ian Gould, Consultant Microbiologist at Aberdeen Royal Infirmary to analyse resistance to disinfectants in a specific type of bacteria - staphylococcus epidermidis.

This bacteria is found on the skin of healthy people and is usually considered harmless.

However, in environments with a high concentration of disinfectant, it can become harmful and resistant to antibiotics.

It can also potentially transfer its ‘resistance’ genes to the more dangerous staphylococcus aureus, which then transforms into MRSA.

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Professor Gould said: “Our research shows that in environments with a high concentration of disinfectant, this previously harmless bacteria can develop resistance to treatments commonly used to treat infection.

“This is potentially a very significant public health issue and highlights the importance of investigating how these bugs can become resistant to disinfectants.”

Dr Hijazi said the study initially looked at resistance in a Scottish intensive care unit, but when researchers went on to analyse a collection of bugs from around the world they “found the same alarming trend”.

She added: “To give you an idea of how much of a problem it is, it causes around 10 to 15 infections a month in individual intensive care units. The patients will come down with blood infections which are multi-drug resistant.

“But of course, patients in intensive care units are clearly more susceptible to infections.”

The doctor said there is an ongoing debate in **Scotland**’s hospitals at the moment over the use of disinfectants.

Some hospitals, such as Aberdeen Royal Infirmary, choose to decontaminate all patients, while others - such as units in **Edinburgh** and Tayside - choose to decontaminate only those who are more at risk.

Dr Hijazi believes the latter is the “more rational approach” as there is “certainly a higher risk” of increased infections when all patients are decontaminated.

However, despite the concerns over the use of the disinfectants, the researcher stops short of calling for hospitals to ban them.

She said the question was a “tricky one” as the disinfectants are needed to stop the spread of other infections.

However, she added that further research could be carried out looking at the use of other products.

“If [other disinfectants are] just as safe, just as effective, perhaps there is merit to moving to those,” she said.

Health Protection Scotland said it welcomed the research and the recommendation for further analysis, adding: “The relationship between disinfectants and resistant organisms in hospitals, has been understood for some time.”

A HPS spokesman said: “The National Cleaning Specification, produced for **NHS** Scotland by Health Facilities Scotland (HFS) restricts the use of disinfectant to either sanitary fittings or during outbreak situations.

“Neutral pH detergent is used across NHS Scotland for routine cleaning tasks.

“Routine environmental decontamination is covered by the HFS national cleaning specification and also the HPS National Infection prevention and control manual.”