

# Effect of a moustache on nasal *Staphylococcus aureus* colonisation and nasal cytology results in men

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## Abstract

**Objective:** This study compared the results of nasal *Staphylococcus aureus* carriage and nasal cytology in men with and without a moustache.

**Methods:** The study group comprised 118 adult men with a moustache, and the control group consisted of 123 adult men without a moustache. Samples were taken from the participants' right nasal cavity for cytology and from the left nasal cavity for microbiology.

**Results:** The results for *S aureus* were positive in 19.5 per cent ( $n = 23$ ) of participants with a moustache and in 20.3 per cent ( $n = 25$ ) of men without a moustache. This difference was not significant ( $p > 0.05$ ). However, nasal cytology revealed rich eosinophil clusters in participants with a moustache.

**Conclusion:** The presence or absence of a moustache had no effect on nasal *S aureus* colonisation. However, further research is needed to understand whether the presence of a moustache increases the risk of allergic or non-allergic rhinitis.

**Key words:** Staphylococcus Aureus; Nasal Cavity; Nasal Mucosa; Rhinitis

## Introduction

The anterior nares are the primary reservoirs of *Staphylococcus aureus*, which is a risk factor for the development of both community-acquired and nosocomial infections.<sup>1,2</sup> The rate of nasal carriage of *S aureus* strains ranges from 16.8 to 90 per cent;<sup>3–6</sup> thus, its presence may be considered a serious public health problem. Despite antibiotic therapy, staphylococcal infections occur frequently in hospitalised patients, often with severe consequences.<sup>3</sup> Therefore, medical staff, food industry employees, and those working in close contact with people should be periodically assessed regarding *S aureus* carriage.

In order to fully address this public health problem, it is important to elucidate whether the presence of a moustache affects nasal colonisation of *S aureus*. Therefore, this study assessed the effect of a moustache on nasal *S aureus* colonisation through nasal cytology and microbiology testing.

## Materials and methods

The study was approved by the local ethics committee of the University of Medipol. Verbal and written

informed consent was obtained from all participants. Between March and July 2013, 118 men with a moustache, aged 20–50 years old (study group), and 123 age-matched men without a moustache (control group) took part in the study. The participants in the study group had been wearing a moustache for at least one year, whereas the participants in the control group had shaved the hair in this region daily over the previous year. None of the participants had been hospitalised or treated with antibiotics in the previous three months. Furthermore, none were smokers, and none had any acute upper respiratory tract infection, chronic metabolic disease, immune insufficiency, significant nasal septal deviation or intravenous drug addiction.

Nasal swabs were taken from the right nasal cavity for cytology and from the left nasal cavity for microbiology. The swabbing was performed by anterior rhinoscopy, using a nasal speculum. The swab was soaked in saline before being inserted 1 cm deep into the left nostril and rotated five times. It was then immediately sent to the laboratory for microbiological assessment.<sup>7</sup> The cells in the right nostril were collected by swabbing

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