



# DEMOGRAPHICS AND CLINICAL INDICATIONS FOR METHICILLIN-RESISTANT *STAPHYLOCOCCUS AUREUS* SCREENING IN A MALAYSIAN TERTIARY HOSPITAL



Fadia Sharmin Fauzi<sup>1</sup>, Siti Norbahiyah Awad<sup>1</sup>, Noraziah Sahlan<sup>1</sup>

<sup>1</sup>Medical Microbiology & Parasitology Department, Faculty of Medicine, Universiti Teknologi MARA, Sg. Buloh Campus, Selangor, Malaysia

## BACKGROUND:

Targeted active surveillance of Methicillin-resistant *Staphylococcus aureus* (MRSA) to identify the carriers is important to prevent further transmission. Understanding the demographic profile and primary clinical indications for screening can help optimize resource allocation and diagnostic stewardship. This study aims to analyse the demographic data (age and gender) and clinical indications associated with MRSA screening, and to determine the positivity rate across these variables at Hospital Sungai Buloh, Malaysia.

## METHODS:

A cross-sectional study was conducted analysing 183 screening swabs (nasal, axilla, groin) processed at the microbiology laboratory. Data regarding patient age, gender, and the primary indication for screening were extracted. All samples were cultured and confirmed for MRSA using standard phenotypic methods. Duplicate and non-screening samples were removed to analyse the true data.

## RESULTS:

125 samples meeting our inclusion criteria were analysed with MRSA colonization prevalence was 33.6% (n=42). The patient cohort was predominantly male (61%), with a median age of 47.5 years. MRSA positivity was higher among males (35.5% vs 30.6%) and peaked among adults > 60 years old (37.14%). Most samples were received from the medical ward. The ICU has the highest positivity rate (42%). The common screening indications include decolonization workup (50%), ICU admission/pretransfer screening (13%), and pre-operative screening (11%). The highest positivity rate was observed in swabs sent for decolonization workup, where 55.56% (35/63) of screened patients were confirmed positive, compared to 7.14% (1/14) for pre-operative screening.

Figure 1: MRSA Screening Composition by Age Group

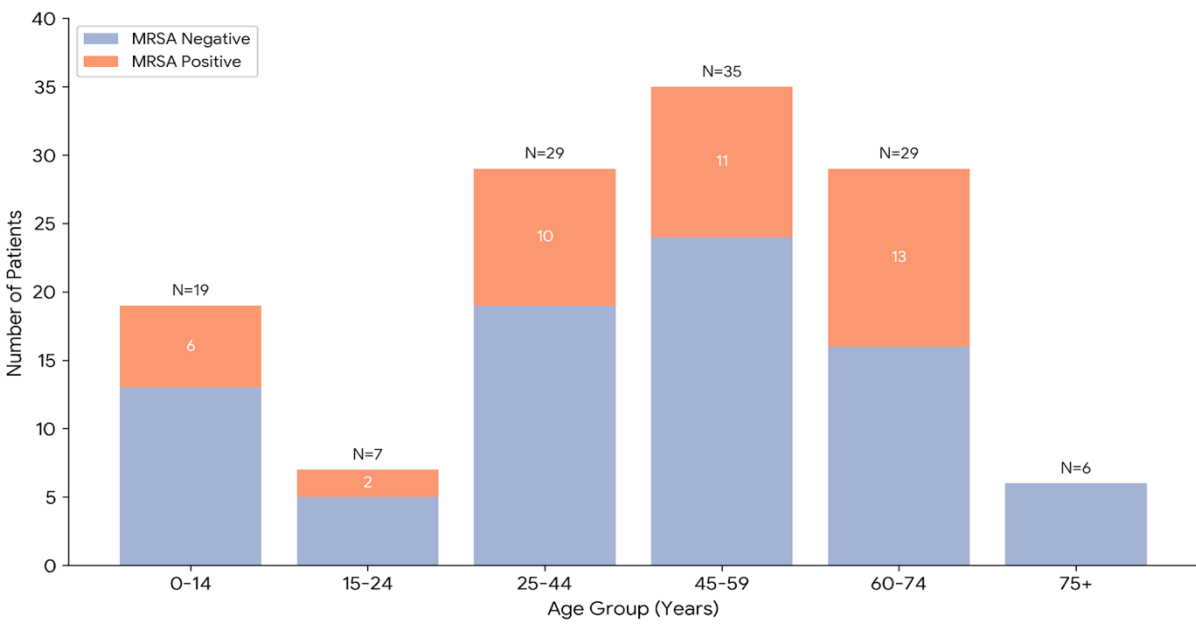
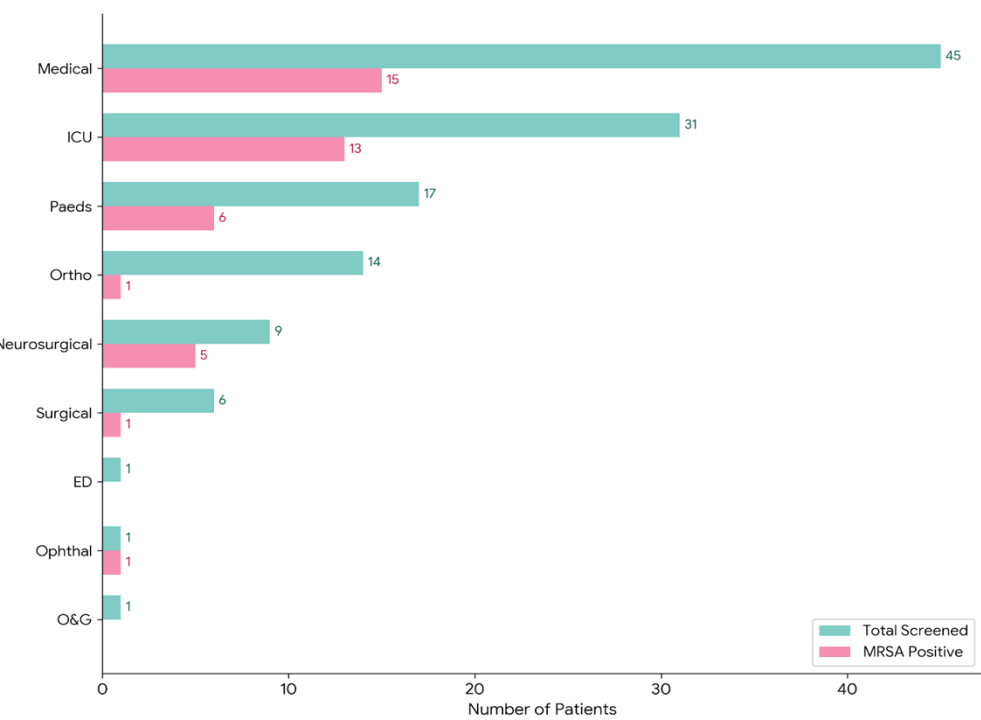


Figure 2: MRSA Screening by Department



## CONCLUSION:

Our findings reveal a high burden of MRSA colonization among the screened group. The data suggests that the clinical indication significantly influence the screening yield, with decolonisation workup strongly correlates with positive carriage ( $p < 0.001$ ). In addition, MRSA colonization rate are higher among males and those above 60 years of age, indicating that these subgroup may benefit from closer surveillance. This highlights the importance of targeted, indication-based screening protocols to optimise diagnostic efficiency in resource-limited settings.