

The Examination of mecA gene in Methicillin-Resistant Staphylococcus aureus (MRSA) and inappropriate antibiotic use from healthcare workers and communities in Banyumas

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Abstract	<p>Background: Methicillin-Resistant Staphylococcus aureus (MRSA) has become a major pathogene and its incidence continues to increase in various countries. The resistance to methicillin is caused by the mecA gene that encodes the expression of Penicillin Binding Protein 2a (PBP2a) so it has a low affinity for beta-lactam antibiotics. One of the factors that can increase the incidence of MRSA is inappropriate antibiotics use. Objective: The purpose of this study was to identify the presence of the mecA gene in MRSA and compare the history of inappropriate antibiotics use in healthcare workers and the community in Banyumas. Methods: This was a cross-sectional study conducting 120 samples from nasal swab. Isolates of MRSA tested by bacteriological examinations and PCR of the mecA genes. History of antibiotic uses assessed by using a questionnaire, then analysed descriptively and by using Fisher Exact test (SPPS, version 20). Result: One sample of S. aureus from microbiology examination (0.83%) was an MRSA nevertheless there was no mecA gene which was identified by using the PCR method. A total of 66.1% of healthcare workers and 88,3% of community use antibiotics inappropriately. The results show that there is a statistically significant difference in the history of irrational use of antibiotics ($p < 0.05$). Conclusion: The number of community who use inappropriate antibiotics was more than the health workers. Furthermore, one MRSA strain with a negative mecA gene found in Health workers group.</p>
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Author	Dr Dr DWI UTAMI ANJARWATI, M.Kes