

Knowledge, Opinions, Risk Perception, and Practice towards Carbapenem-Resistant Enterobacteriaceae among Physicians in North Palestinian Hospitals

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Abstract :

Introduction:

Carbapenems are broad-spectrum antibiotics that are used as a last resort for resistant bacteria. Recently, some bacterial strains even developed resistance against carbapenems. In our study, we aimed to assess the Palestinian physicians' knowledge, opinions, risk perception and practice towards carbapenem-resistant enterobacteriaceae (CRE).

Methods:

A cross-sectional study was conducted on physicians who work in 14 North Palestinian hospitals. A self-administered questionnaire was distributed among the physicians using convenient sampling.

Results:

147 physicians completed the questionnaire. Overall, 54.4% of the respondents scored high on the knowledge questions. Physicians who work at An-Najah National University Hospital (NNUH) tended to have higher knowledge scores compared with other hospitals (odds ratio, OR: 3.60; p value = 0.013). Physicians who were general practitioners had lower knowledge scores compared with other specialties (OR: 0.39; p value = 0.035). The majority of physicians (85.5%) reported that they are concerned about gram-negative resistance at least a little, and many of them (60.5%) believed new antibiotics are being developed to treat resistant bacteria. However, not as many physicians could identify the risk factors for resistant bacteria. Physicians who practiced medicine for 3-10 years were more likely to identify 'hemodialysis' (OR: 2.47; p value = 0.019) and 'immunocompromised patients' (OR: 2.81; p value = 0.030) as risk factors compared with physicians with <3 years of practice. When prescribing antibiotics, 71.4% of the physicians consider whether their patients are at risk for resistant organisms at least half the time. When physicians prescribe antibiotics, most of them review their patient's antimicrobial history at least half the time (81.4% for the current infection and 69.3% for previous infections). When they do review microbiological reports, 49.0% used the susceptibility designation (susceptible/resistant), while 33.8% looked at the minimum inhibitory concentration (MIC) value.

Discussion:

Infections caused by CRE have a high mortality rate, as easily treatable illnesses become resistant to the usual treatment. Therefore, physicians should have the accurate knowledge, correct practices, and the ability to identify patients at risk for resistant organisms. Our data suggests a reasonable level of knowledge in Palestinian physicians that is comparable to another study on the same topic. Although the majority showed concern on resistance, they appear to be less qualified to identify patients at risk for resistant bacteria.