The Level of Knowledge among Emergency Department Workers on Methicillin-Resistant Staphylococcus Aureus; A Nosocomial Pathogen

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Abstract

**Objective:** The present study was conducted to determine the level of knowledge on a nosocomial pathogen: methicillin-resistant *Staphylococcus aureus* (MRSA), among emergency department workers (EDWs).

**Materials and methods:** The enrolled 105 EDWs were classified as follows: medical doctors (teaching staff, assistants and intern doctors (MD)), and other personnel. A questionnaire including the socio-demographic characterization, and 13 propositions in order to determine the level of knowledge about MRSA, were completed by EDWs. The person who said “I don’t agree” and “I have no idea” determined as “don’t know”.

**Results:** The percentage of MDs whom agree with the proposal “the most important reservoir for MRSA in hospitals are infected or colonized patients with this microorganism” was 89.5% where 66.7% of the other personnel were agree. The difference between these groups was statistically significant (Fisher chi square, \(p=0.016\)). There were no statistically significance between MDs and other personnel among other proposals.

**Conclusion:** MRSA, one of the major nosocomial pathogen, substantially known by the EDWs because of the in-service trainings. In this situation a lot of work fall to the infection control committees. The outcome of this study may be useful for formulating a MRSA control policy and infection control policy for our hospital.

INTRODUCTION

Methicillin-resistant *Staphylococcus aureus* (MRSA) has become endemic worldwide within the past two decades. There are both the hospital acquired MRSA and the community acquired MRSA strains and infections with a broad spectrum of diseases, ranging from skin and soft tissue infection, myositis, bone/joint infection, pneumonia, endocarditis, bacteremia to life-threatening infections of septicemia, necrotizing fasciitis, and toxic shock syndrome [1-3]. Asymptomatically colonized patients and health care workers (HCWs) and MRSA contaminated surfaces are major source of MRSA in the hospital environment. Health-care associated infections (HAIHs) may cause prolonged hospital stays, higher mortality, long-term disability, increased microbial drug resistance and excess health-care costs [4,5].

Emergency care setting is an area in which the potential risk is most imminent for transmission of HAIHs to patients or to those HCWs who treat them [6]. The EDWs are in the forefront of assisting patients prior a diagnosis, who may be in life-threatening conditions. The purpose of our study is to detect the knowledge about MRSA of the EDWs and to arise awareness of personnel. Also the outcomes of the study may be useful for formulating a MRSA control policy for our hospital.
MATERIALS AND METHODS

It was a cross-sectional study, conducted on Erciyes University, Erciyes Medicine Hospital’s EDWs. The study was planned in two sections: i. *S. aureus*/MRSA carriage rate, antibiotic resistance and risk factors in the ED workers. ii. The level of knowledge of the EDWs on the MRSA as an agent of HAIs. In this section the level of knowledge of the EDWs on the MRSA as an agent of HAIs was studied. The samples were collected in June 2014 (2nd, 3th, 9th, 10th, 16th, 17th, 23th, 24th of June 2014). We were planned to take all the EDWs in day shift (n=111), and reached 105 EDWs (94.5%). The enrolled 105 EDWs were classified as follows: medical doctors (teaching staff, assistants and intern doctors (MD)), and other personnel. The questionnaire elicited information on demographic characteristics as (age, gender, profession) and 13 propositions in order to determine the level of knowledge on MRSA wanted to complete by the EDWs. The answers to the propositions were as: agree, disagree and have no idea. We were determined disagree and have no idea as don’t know. Statistical analysis, all data expressed by numbers and frequencies. Chi-squared Fisher’s exact test used for comparison of categorical variables. A $p$ value <0.05 indicated a significant difference statistically.

RESULTS

The socio-demographic characterizations of EDWs enrolled in the study were shown in (Table 1). The answers to the propositions on MRSA were in (Table 2).

DISCUSSION

HAIs are a serious problem in the health care services as they...
are common causes of illness and mortality among hospitalized patients. Currently, between 5% and 10% of patients admitted to an acute care hospitals acquire at least one infection [6]. It’s important to know the mechanisms how these nosocomial pathogens spread. We were conducted this study in order to arise awareness on MRSA. Our questions were all around the way of spreading of MRSA as well as way of prevention. Especially we wanted to think about way of transmission, role of devices we use in services in spreading of MRSA to the personnel.

Although direct human to human transmission via skin contact is one way for this organism to spread, transmission via environmental contamination of fomites or through air are other potential ways that the organism can be acquired [7,8].

In our study it was showed that EDWs give attention to hand hygiene, which they knew one of the major ways of the transmission was temporarily carrying of this pathogen on their hands. Also they were aware of the danger surrounds them. Contaminated medical devices, stethoscopes, clothes of HCWs, mobile phones, keyboards.

Even we know what is the problem and how can we overcome this threat sometimes, it’s useful to arise awareness on this important situations. The infection control committees in our country do this. All the personnel work in our hospitals take the in-service trainings on infectious diseases and so not only HCWs but also the other personnel just as cleaning workers heard about MRSA. The existing infection control policy in our hospital seems to be effective and the same should be maintained.

ACKNOWLEDGEMENT

Level of knowledge on MRSA among emergency department

this study was supported by Erciyes University Scientific Research Project Unit.

REFERENCES