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| **ORIGINAL ARTICLE** |

**Rate of Adherence to American Heart Association Guideline for Dealing with Tachy/Brady Dysrhythmia in Emergency Department; a Cross-Sectional Study**

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| Abstract |  |
| **Introduction:** Since the guideline of American Heart Association (AHA) for cardiopulmonary resuscitation (CPR) is the basis for performing CPR in emergency department, updating the knowledge of residents and specialists in this field can play an important role in increasing the survival rate of the patients. This study has been designed with the aim of assessing the rate of adherence to AHA guideline for resuscitation of patients with brady/tachy dysrhythmia. **Methods:** The present study was performed as a cross-sectional study on all emergency medicine residents of Shahid Beheshti University of Medical Sciences in 2018-2019. Ten well-known brady/tachy Dysrhythmia cases, which have a specific treatment, were simulated using a simulator and the measures taken by the residents in dealing with these cases were evaluated considering AHA standards. Items adhered to or not were scored as 1 and 0, respectively. Finally, the percentage of adherence to the guideline was calculated for each resident as well as all residents. **Results:** In the common initial encounter with brady/tachy dysrhythmia scenarios, all the residents performed well in diagnosis, assessing ventilation, asking for oxygen in case of hypoxia, cardiac assessment of the patient, pulse oximetry and blood pressure evaluation. Not ordering proper peripheral artery and 12 leads electrocardiogram in the proper time occurred in 25% of cases among those who had not studied the guideline and 13.8% of cases among those who had taken training classes. Studying the guideline significantly raised awareness of unstable symptoms in treating tachyarrhythmia, and increased diagnosis of wide and narrow QRS and regular and irregular rhythm, yet was not effective regarding use of adenosine for treatment of unstable symptoms with regular and narrow complex. In addition, studying the guideline significantly increased pointing out cardioversion, considering patient sedation before cardioversion and using proper cardioversion energy in treating unstable tachyarrhythmia. Studying the guideline significantly increased use of adenosine as well as procainamide and amiodarone in treating stable tachyarrhythmia with wide and monomorphic QRS, but did not affect using sotalol. Studying the guideline led to significant increase in use of atropine as the first-line medication in treating unstable brady dysrhythmia. In addition, studying the guideline significantly increased the use of 3 temporary alternative treatments in treating unstable brady dysrhythmia. Studying the guideline did not affect asking for cardiology consultation and coordination for permanent treatment. **Conclusion:** The results of the present study showed that adherence to the guideline in the studied items of tachy/brady dysrhythmia ranged between 15% and 100%. Overall, passing the training program in addition to studying the guideline significantly improved the rate of adherence to AHA guideline in many cases. |
| **Key words:** Tachycardia; bradycardia; American Heart Association; guideline adherence; cardiopulmonary resuscitation |