

# **The level of competency of emergency residents to interpret the electrocardiogram in Riyadh regions, Saudi Arabia : A cross-sectional study.**

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## **Abstract:**

**Introduction :** An electrocardiogram (ECG) is a simple test that can be used to check your heart's rhythm and electrical activity. In addition to the standard 12-lead ECG and 24-48 hour ECG Holter, continuous 24-hour ECG monitoring can detect arrhythmias that have been missed by 12-lead ECGs and Holters.

**Aim :** This study aimed to assess the level of competency of emergency residents to interpret the ECG in Riyadh region, Saudi Arabia.

**Methods:** This is a multicenter cross-sectional study conducted among emergency residents in Riyadh, Saudi Arabia. A self-administered questionnaire was sent to the targeted residents of the emergency department using an online survey. The questionnaire includes basic demographic data (i.e. age, gender, hospital, etc.) and a 12-item questionnaire assessing the level of competency using a different scenario. All statistical analyses were carried out using SPSS version 26.

**Results:** Of the 96 emergency residents involved, 63.5% were aged between 25 – 27 years old. Overall, the level of competency was average among 63.5%, 24% were considered as having high levels and only 12.5% were considered as low competency levels. The mean score of competency was 7.80 (SD 2.21) out of 12 points. Factors associated with increased competency were working in King Abdulaziz Medical City, having more than 5 years of working experience in emergency care, and attendance to electrocardiography training courses.

**Conclusion:** The level of competency among emergency medicine residents in reading electrocardiograms was deemed adequate. Residents who had more years of experience in emergency care and had attended courses and training related to ECG reading tend to increase competency levels more than the other emergency residents. More research is needed to establish the competency level of emergency residents in our region.

- **Keywords:** Electrocardiogram, emergency residents, competency, Riyadh