

## Abstract

Long QT Syndrome (LQTS) is a cardiac disorder in which the heart has delayed repolarization beyond normal time so that it can cause an irregular heartbeat and lead to Ventricular Tachyarrhythmias and even death. To detect LQTS, an Electrocardiogram (ECG) test is performed and look for corrected QT (QTc) values obtained from the formula for calculating the QT interval with RR intervals. The QTc value is then compared to the normal QTc value limit. There are five types of formulas that can be used to calculate QTc, namely Bazett, Fridericia, Framingham, Hodges, and Rautaharju. The formula commonly used is the Bazett formula. But there are no studies that prove that the use of Bazett formula in detecting LQTS has higher accuracy and sensitivity than other formulas. Therefore, further studies are needed on the types of formulas in order to get the right formula to detect LQTS with accurate results. Analysis of the QTc formula is done by comparing the detection of LQTS using five different types of QTc formulas. The method used is Discrete Wavelet Transform (DWT). The matrix used is the value of accuracy, specificity and sensitivity of each formula in detecting LQTS. The results obtained showed that the Rautaharju formula had the highest yield of accuracy = 96,06% specificity = 98,44% and sensitivity = 60,77%

**Keywords:** Long QT Syndrome, Wavelet, Electrocardiogram.

