# Empirical likelihood inference for censored median regression with weighted empirical hazard functions

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**Abstract**   In recent years, median regression models have been shown to be useful for analyzing a variety of censored survival data in clinical trials. For inference on the regression parameter, there have been a variety of semiparametric procedures. However, the accuracy of such procedures in terms of coverage probability can be quite low when the censoring rate is heavy. In this paper, based on weighted empirical hazard functions, we apply an empirical likelihood (EL) ratio method to the median regression model with censoring data and derive the limiting distribution of EL ratio. Confidence region for the regression parameter can then be obtained accordingly. Furthermore, we compared the proposed method with the standard method through extensive simulation studies. The proposed method almost always outperformed the existing method.