ABSTRACT

In this study, we propose a novel two-parameter Quasi-XLindley distribution that extends the XLindley distribution. The proposed model can be utilized for both symmetric and left-skewed data. Moments and reliability properties of the proposed distribution are derived to describe the utility and actuarial measures. The parameters are estimated using maximum likelihood, maximum product spacing, Anderson Darling minimum distance and Cramer von-Misses minimum distance ordinary, and weighted least-squares methods. A comprehensive simulation study is used to assess the performance of these proposed estimators. Three real datasets including two datasets about cancer patients are used to show the applicability and flexibility of the new proposed distribution.