

Study of Zubair Inverse Weibull Distribution Properties and Estimation

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Abstract:

In this work, a new method as a modern strategy proposed to grow a family of the lifetime distribution by including an extra parameter. The new suggested model is called the Zubair inverse Weibull distribution. For this model, common expressions for a few mathematical properties are inferred such as the probability density function, cumulative distribution function, reliability function, hazard function, reversed hazard function, moments, quantile; order statistics and so on were obtained. The maximum likelihood estimators of the three-parameter Zubair inverse Weibull are considered. In addition, the confidence interval and asymptotic Fisher information are discussed. In addition, the simulation study is presented to illustrate the theoretical results of the proposed model. To indicate the flexibility of our suggested model in real life, the bladder cancer data is applied.

Keywords:

lifetime distribution, Zubair inverse Weibull distribution, hazard function and reliability function.