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The Quotient of the Beta-Weibull Distribution

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A new class of distributions recently developed involves the logit of the beta distribution. Among this class of distributions is the beta-Weibull distribution developed by *Famoye et al.* (2005). Many useful statistical properties arising from these distributions and their applications to real life data have been discussed in literature. In this work, the quotient of the beta-Weibull distribution is defined and studied. Various statistical properties of the distribution are provided, including moments, skewness, kurtosis, asymptotic behaviors, and Rényi entropy. The method of maximum likelihood estimation is proposed for estimating the model parameters. Results show that the quotient of the beta-Weibull distribution may be appropriate in modeling events where infant mortality failures are occurring.