# ESTIMATION OF SURVIVAL TIMES OF COVID-19 PATIENTS USING SOME LIFETIME DISTRIBUTIONS

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| **ABSTRACT** In this study, the survival time (in days) of Covid-19 patients from hospitalization and death were modeled with some known lifetime distributions such as Weibull, transmuted Weibull, exponentiated Weibull, and generalized Lindley distributions. The maximum likelihood method is considered for point estimation. We present four data sets on Covid-19 patients. The goodness of the fitted distribution is evaluated via some selection criteria such as Akaike information criterion, the Bayesian information criterion, the Kolmogorov-Smirnov test statistic, the Anderson Darling statistic, the Cramér von Mises statistic, and the p-value criteria Also, the estimated probabilities of the survival times of Covid-19 patients were calculated via the invariance property of maximum likelihood estimation. In dying Covid-19 patients, the average survival time is estimated approximately 15 days. |

# Keywords: Covid-19, Lifetime distribution, Maximum likelihood, Point estimation

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