

ABSTRACT

According to Cox and Oakes (1984), survival analysis is univariate, because there is only one response variable, even though there are lots of explanatory variables. Explanatory variables are useful, eg we may want to consider whether each individual smokes or not.

In practice, it is difficult to obtain real data, since it may be time consuming and expensive. To overcome these problems, we use simulation. However, we should remember that the speed of data collection depends on what make and model of computer we are using. Computer programs and packages are essential in this project. We need them to use various methods and/or models.

I am using continuous distributions, because time is a continuous random variable and I will be modelling this variable. Continuous distributions can be integrated, hence easy to simulate. However, it is sometimes useful to consider discrete distributions that are independent.

Any method in survival analysis has very good links with other methods. EG Distributions of failure time may relate to estimation. It is therefore easy to develop.

Although survival analysis is widely used in medical work, it may be useful in science, mathematical modelling and other areas. EG Modelling radioactive decay, studying heart rates, etc.