

Three myths relating to survival analysis.

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Practice of statistical counseling revealed some myths that restrict the application of survival analysis in biomedical research. Myth № 1: Survival curves display the number (%) of the alive and as a sequence – do not understand what censoring is. Myth № 2: Survival analysis could be used only for analysis of life time (deaths) in epidemiology research. In English and Russian text books on basic biostatistics (R.H.Riffenburgh, 1999; Clark et al. 2003; etc.), in software manuals (SPSS and STATA manuals etc.), if the survival analysis is described, it is described as the method for analysis of such events as death and all practical examples are the same. The another usage could be only slightly mentioned. This two myths decrease the application of survival analysis in the analysis of biomedical experiments. In many models of assessment of analgesic properties of drugs the main task is to determine latency of reaction on pain stimuli. One of the problem points of the analysis of such data is the presence of “cut-point” that could be treated as the standard right censoring. Myth № 3: Why only time event? The methodology of survival analysis could be used for analysis not only latent periods of some events: stepwise or continuous increasing of any loading increasing dosage of physical activity till the tachycardia begins, the distance, that person could work in time interval and so on with cut-off points as censored data could be analyzed with survival analysis. In this work we will demonstrate the usage of the survival analysis of the pain sensitivity in rats with unilateral loose ligation of sciatic nerve developed significant tactile hypersensitivity on ligated paw in comparison with nonligated. Threshold in grams is treated as an alternative to time variable and cut-off level of the pressure (28.8 g) treated as censored result. So, the term survival could be confusing and it must be explained more widely, and it is essential to improve education of young scientists in advanced biostatistics, especially the core of the methods.