The relative risk/prevalence ratio and the odds ratio are very popular in medical research and epidemiological studies. Due to the odds ratio’s close relationship with the logistic regression, it is over used in practice and its interpretation of the relative risk may lead to incorrect inference on the prevalence of certain event. In this paper, we address the estimation of the relative risk by maximizing its likelihood with constraint, which can be easily implemented by an existing function in R. Furthermore, we review other existing methods and provide their programs in R. On the basis of comprehensive studies, we recommend the proposed method and COPY method in practice. Additionally, the real data analysis reveals the effects of vigorous physical activities to obese based on the data set from National Health and Nutrition Examination Survey.