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عنوان مقاله:

Comparison of competing risks models based on cumulative incidence function in analyzing time to cardiovascular diseases

محل انتشار:

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نویسندگان:

Minoo Dianatkhah - *Department of Statistics and Computer Sciences, University of Social Welfare and Rehabilitation Sciences, Tehran AND Isfahan Cardiovascular Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan,*

Mehdi Rahgozar - *Assistant Professor, Department of Statistics and Computer Sciences, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran*

Mohammad Talaei - *Isfahan Cardiovascular Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran AND Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore*

Masoud Karimloua - *Assistant Professor, Department of Statistics and Computer Sciences, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran*

Masoumeh Sadeghi - *Associate Professor, Cardiac Rehabilitation Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran*

Shahram Oveisgharan - *Department of Neurology, Tehran University of Medical Sciences, Tehran, Iran*

Nizal Sarrafzadegan - *Professor, Isfahan Cardiovascular Research Center, Isfahan Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran*

خلاصه مقاله:

BACKGROUND: Competing risks arise when the subject is exposed to more than one cause of failure. Data consists of the time that the subject failed and an indicator of which risk caused the subject to fail. METHODS: With three approaches consisting of Fine and Gray, binomial, and pseudo-value, all of which are directly based on cumulative incidence function, cardiovascular disease data of the Isfahan Cohort Study were analyzed. Validity of proportionality assumption for these approaches is the basis for selecting appropriate models. Such as for the Fine and Gray model, establishing proportionality assumption is necessary. In the binomial approach, a parametric, non-parametric, or semi-parametric model was offered according to validity of assumption. However, pseudo-value approaches do not need to establish proportionality. RESULTS: Following fitting the models to data, slight differences in parameters and variances estimates were seen among models. This showed that semi-parametric multiplicative model and the two models based on pseudo-value approach could be used for fitting this kind of data. CONCLUSION: We would recommend considering the use of competing risk models instead of normal survival methods when subjects are

exposed to more than one cause of failure. Keywords: Competing Risks, Cumulative Incidence Function, Fine and Gray Model, Binomial Approach, Pseudo-value Approach, Cardiovascular Diseases

کلمات کلیدی:

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