

## **Comparison of simple and multiple imputation methods applied to a risk model for surgical mortality**

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It is common for studies in health to face problems with missing data. Through the imputation complete data sets are artificially constructed and can be analysed by traditional statistical analysis. The objective of this paper is to compare three types of imputation. The data used come from a study for the development of risk models for surgical mortality. The sample size was 450 patients. The applied imputation methods were: two single imputation and one multiple imputation and the assumption was MAR. The variable with missing data was the serum albumin with 27,1% of missing. The logistic models adjusted with the imputed data by the simple imputation were similar, but differed from models obtained with imputed data by the multiple imputation in relation to the inclusion of variables. The MAR assumption seems adequate since different results are obtained if the relation among the albumin and the other observed variables is considered. The single imputation underestimate the variability generating confidence intervals too narrow. The multiple imputation was better than the simple imputation since the multiple imputation account for the variability among imputations for the model estimates.