Einladung zum Biometrischen Kolloquium

WILLI SAUERBREI

University of Freiburg, Germany

COMPLETE, TRANSPARENT AND UNBIASED REPORTING AS A REQUISITE TO IMPROVE RESEARCH IN THE HEALTH SCIENCES

23. Oktober 2019, 9:15h

Informatikbibliothek, Raumnummer 88.03.806

Medizinischen Universität Wien, Spitalgasse 23, 1090 Wien

HOST: Georg Heinze

ABSTRACT:

For many years the quality of research in the health sciences has been heavily criticized. It is argued that serious improvement would be possible if biomedical research is better chosen, designed, done, analyzed, regulated, managed, disseminated, and reported (Macleod et al 2014). Serious improvements are far from being simple for many of the issues mentioned, but suitable guidelines have been developed to improve on the reporting of research. Severe weaknesses in this area are unnecessary and can be avoided.

Concerning issues in reporting of health science the EQUATOR (Enhancing the QUAlity and Transparency Of health Research, https://www.equator-network.org/) network acts as an umbrella organization (Simera et al 2009). After a very brief overview I will use the REporting recommendations for tumor MARKer prognostic studies (REMARK) for a detailed illustration of the current situation (Mc Shane et al 2005, Altman et al 2012, Sauerbrei et al 2018). I will also provide more details about the TRIPOD (Transparent reporting of a multivariable prediction model for individual prognosis or diagnosis) guidelines (Collins et al 2015, Moons et al 2015).

Despite of guidelines for reporting, many reviews of publications have clearly shown that the quality of reporting is still bad (Sekula et al 2017, Heus et al 2018). For (nearly) all relevant diseases many prediction models have been published, but they are often far from being clinically applicable

(Kleinrouweler et al 2016). For many prognostic and prediction studies even basic items of the study population and relevant details of statistical analyses are often not provided. The two-part REMARK profile, a structured display which summarizes key aspects of a study, especially the derivation of the sample, and information about all analyses performed, has been proposed to improve completeness and transparency of reporting, specifically of statistical analyses (Altman et al 2012, Winzer et al 2016). We will illustrate that many studies are badly reported and argue that this hinders suitable meta-analyses of prognostic factors and in many related areas (Sauerbrei and Haeussler 2018).

References

Altman DG, McShane L, Sauerbrei W, Taube SE (2012): Reporting recommendations for tumor marker prognostic studies (REMARK): explanation and elaboration. In: PLoS Med 9(5)

Collins GS, Reitsma JB, Altman DG, Moons KG (2015): Transparent reporting of a multivariable prediction model for individual prognosis or diagnosis (TRIPOD): The TRIPOD statement. Ann Intern Med. 162:55-63

Heus P, Damen JAAG, Pajouheshnia R, Scholten RJPM, Reitsma JB, Collins GS, Altman DG, Moons KGM, Hooft L (2018): Poor reporting of multivariable prediction model studies: towards a targeted implementation strategy of the TRIPOD statement. BMC Medicine. 16:120. doi:10.1186/s12916-018-1099-2

Kleinrouweler CE, Cheong-See FM, Collins GS, Kwee A, Thangaratinam S, Khan KS, Mol BW, Pajkrt E, Moons KG, Schuit E (2016): Prognostic models in obstetrics: available, but far from applicable. Am J Obstet Gynecol. 214(1):79-90.e36. doi: 10.1016/j.ajog.2015.06.013

Macleod MR, Michie S, Roberts I, Dirnagl U, Chalmers I, Ioannidis JPA, Al-Shahi Salman R, Chan AW, Glasziou P (2014): Biomedical research: increasing value, reducing waste. The Lancet. 383 (9912): 101-104. doi: 10.1016/S0140-6736(13)62329-6

McShane LM, Altman DG, Sauerbrei W, Taube SE, Gion M, Clark GM for the Statistics Subcommittee of the NCI-EORTC Working on Cancer Diagnostics (2005): REporting recommendations for tumor MARKer prognostic studies (REMARK). Journal of the National Cancer Institute. 97: 1180-1184

Moons KG, Altman DG, Reitsma JB, Ioannidis JP, Macaskill P, Steyerberg EW, Vickers AJ, Ransohoff DF, Collins GS (2015): Transparent Reporting of a multivariable prediction model for Individual Prognosis Or Diagnosis (TRIPOD): Explanation and Elaboration. Ann Intern Med.162(1):W1-W73

Sauerbrei W, Taube SE, McShane LM, Cavenagh MM, Altman DG (2018). Reporting Recommendations for Tumor Marker Prognostic Studies (REMARK): An Abridged Explanation and Elaboration. J Natl Cancer Inst. 110(8): 803-811

Sauerbrei W., Haeussler T. (2018): Comment on "BAG-1 as a biomarker in early breast cancer prognosis: a systematic review with meta-analyses", British Journal of Cancer, 118:1152-1153

Sekula P, Mallett S, Altman DG, Sauerbrei W (2017): Did the reporting of prognostic studies of tumour markers improve since the introduction of REMARK guideline? A comparison of reporting in published articles. PLoS ONE. 12(6):e0178531. doi:10.1371/journal.pone.017853

Simera I, Moher D, Hoey J, Schulz KF, Altman DG (2009): The EQUATOR Network and reporting guidelines: Helping to achieve high standards in reporting health research studies. Maturitas. 63 (1): 4–6. doi: 10.1016/j.maturitas.2009.03.011

Winzer KJ, Buchholz A, Schumacher M, Sauerbrei W (2016): The prognostic ability of the Nottingham Prognostic Index in breast cancer: better use of standard information and clinical relevance. PLoS ONE, 11(3):e0149977