

Exercise day 4 (Thursday before lunch)

Truncation bias and immortal time bias

Read Brøndum-Jacobsen et al. Skin cancer as a marker of sun exposure associates with myocardial infarction, hip fracture and death from any cause. *International Journal of Epidemiology* 2013;42:1486–1496 and answer the following questions:

1. What is the aim of the study?

In the following questions, only look at the association between exposure and death of any cause (overall mortality)

2. How are exposure and outcome defined?
3. When does the risk time start and end for both exposed and unexposed? In the alternative design (matched case-control design), how is the cases and controls sampled?
4. Please explain the statistical model used in the main study.
5. What is the main finding of the main study?
6. And what is the main finding of matched study?
7. Please try to explain how immortal time bias may have influenced the results?
8. Please consider whether truncation bias may have influenced the results?