Letter to the Editor

Response to Population screening for prostate cancer: An overview of available studies and meta-analysis

Cancer screening is a hot topic. By definition, population screening is acceptable if earlier detection offers the potential for treating cancers at an earlier stage with the aim to reduce mortality.

We read with great interest the paper published by Lumen et al.1 However, we would like to express some concerns about this study.

First, as the authors clearly mentioned, the quality of the included studies was quite low and leaves fundamental questions open. The high proportion of true heterogeneity expressed by very high values of I² particularly challenges the rationality of carrying out a meta-analysis with such data. Furthermore, the applied adjustments were not able to remove this heterogeneity (Figs 4b and 5b). The aim of a systematic review is also to further explore the true heterogeneity and try to explain it, rather than to mathematically aggregate the effect sizes.2

Second, the authors presented the results in terms of relative risks and relative risk reductions (24% decrease in specific mortality for the screened group compared with the non-screened group). We do agree that in meta-analyses, where the baseline risk (non-screened group) varies from study to study, the relative risk is often a better approach than the absolute risk.3 However, from Figure 4b, we calculated the following numbers required to screen (NNS) to avoid one specific prostate cancer-related death (for the duration of the studies) using the absolute risk reduction (ARR) between the two groups (the 95% CI are not given).

NNS = 1/ARR.

Nörkoping study: not applicable (the null hypothesis was not rejected)
Göteborg study: NNS = 294
Rotterdam–Ireland study: NNS = 500
ERSPC: NNS = 1429.

The baseline risk for death related to prostate cancer for the three aforementioned studies vary from 0.36% (ERSPC) to 0.78% (Göteborg). The summary NNS value from these three studies is therefore subject to caution, but we can calculate from Figure 4b an ARR of 0.44% (non-screened group) – 0.31% (screened group) = 0.13%, and a NNS of 797 to avoid one death specifically related to the prostate cancer.

Repeatedly, the clinician alone is faced with the relative risk deception. The presentation of the results in terms of relative risk creates the impression of a substantial effect, where actually it is a very small effect. It should be noted that the mortality rate related to prostate cancer was 2.1% of the overall mortality rate in the Göteborg study, and 2.4% in the Rotterdam–Ireland study.

Third, as clinicians, we need the real outcomes to be highlighted. In the paper by Lumen et al., although prostate cancer-related death was slightly decreased, all cause mortality was comparable in both groups. Thus, population screening for prostate cancer does not save lives. This is in line with the very recent USA preventive Services Task Force recommendations.4

Conflict of interest
None declared.

References

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