

Letter to the Editor
Max 500 words; Max 5 ref

Response to the letter to the editor: “Conceptual and Clinical interpretation of 2007 WCRF/AICR score in relation to cancer-related health outcomes”, by Rama Jayaraj, Chellan Kumaraswamy, Greg Raymond, Siddhartha Baxi, Peter Shaw.

Marta Solans, Doris SM Chan, Panagiota Mitrou, Teresa Norat and Dora Romaguera*

Dear Sir:

We are happy to address the comments of Jayaraj *et al.*¹ regarding the interpretation of our results. First, we calculated summary estimates for cancer incidence and mortality when at least two studies reported results and the required information for conducting a meta-analysis. Our statement “no statistically significant associations were reported for prostate and pancreatic cancers”, which refers to cancer risk, is supported by summary estimates provided in the text and in **Figure 3** (RR per 1 score 0.99, 95% CI 0.97-1.02; I^2 0%, P het 0.43; 6 studies and 0.86, 95% CI 0.62-1.18; I^2 90%, P het <0.001; 2 studies, respectively). Apart from lacking a dose-response relationship, the results for pancreatic cancer were only reported in two studies and were highly heterogeneous. Unfortunately, meta-analysis was not possible for mortality data, since not enough studies assessed the relationship between meeting the 2007 WCRF/AICR recommendations and survival in pancreatic or prostate cancer patients (**Table 2-B**). As already stated in our discussion, upcoming studies using the recently updated score are warranted to draw firmer conclusions regarding mortality or cancer survival. Concerning the comment regarding the use of relative risks (RR), we used this term to uniformly refer to risk estimates (i.e. hazard ratio (HR), risk ratio, odds ratio (OR)) in tables and figures. In particular, all cohort studies provided results in HRs and only case-control studies used ORs. Thus, primary meta-analysis synthesizing findings within the same study design do not have an issue of combining different measures of association. In addition, results for HR and OR were pooled to produce a summary estimate in the meta-analysis. This was done under the assumption that when events are rare and absolute cancer risks are small, these measures will be approximately equal in the studies².

Finally, we assessed between-study heterogeneity and small-study effects using standard methods (Cochran’s Q, I^2 , Egger’s regression asymmetry test and funnel plot), and we appreciate the efforts of Jayaraj *et al.*¹ to complement our analysis with additional statistics that make our findings more transparent.

All authors have declared no conflicts of interest.

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References

1. Jayaraj R, Kumaraswamy C, Raymond G, Baxi S, Peter Shaw. Conceptual and Clinical interpretation of 2007 WCRF/AICR score in relation to cancer-related health outcomes. *Ann Oncol.* 2020.

2. Zhang J and Yu KF. What's the Relative Risk? A Method of Correcting the Odds Ratio in Cohort Studies of Common Outcomes. *JAMA.* 1998;280(19):1690-1691.