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Comments on *Research trends of macrophage polarization: a bibliometric analysis*

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Gao *et al*[1] recently published a paper in *Chinese Medical Journal* entitled "*Research trends of macrophage polarization: a bibliometric analysis*." In this article, Gao *et al* mentioned in Section Methods, that "Data were obtained from the Science Citation Index Expanded (SCI-E) database of the 'Web of Science Core Collection' on October 25, 2017. The search query used was 'TS = (macrophage AND polarization).' The timespan was set between the years 2007 and 2016, and the language was set to 'English,' and document type was set to 'article.' The search resulted in 3064 articles that met the inclusion criteria."

The Web of Science Core Collection is designed mainly for researchers to find published literatures, not for bibliometric studies.[2] Therefore, using SCI-E with an accurate bibliometric method is critical for all researchers.[2] Due to the biases from the Web of Science Core Collection, Ho's group proposed "front page" (including the article title, the abstract, and the author keywords) as a filter to improve the bibliometric method.[3]

Using the same method as mentioned in the original paper by Gao *et al*,[1] 3079 articles were found. Further analysis results were shown as follows: 2224 articles (72% of the 3079 articles) include only "macrophage" in their "front page"; 2022 articles (66%) include only "polarization" in their "front page"; 1557 articles (51%) include both "macrophage" and "polarization" in their "front page"; 928 articles (30%) include phrase "macrophage polarization" in their "front page"; 390 articles (13%) do not include any of "macrophage" and "polarization" in their "front page." For example highly cited articles with 100 or more total citations from Web of Science Core Collection since publication to the end of 2016 ($TC_{2016} \geq 100$)[4] were "Eosinophils sustain adipose alternatively activated macrophages associated with glucose homeostasis" by Wu *et al*,[5] and "Regulatory mechanisms for adipose tissue M1 and M2 macrophages in diet-induced obese mice" by Fujisaka *et al*.[6]

The result (1557 articles) showed a difference from the result in the original paper with 3064 articles by Gao *et al*.[1] It is clear that using of the TS = (macrophage AND polarization) is inappropriate for "Research trends of macrophage polarization: a bibliometric analysis." In addition, keywords ("macrophage" and "macrophages") and ("polarization," "polarizations," "polarize," "polarizes," "polarized," "polarizing," and, "polarizability") used in SCI-E may also be considered.

From my view, authors could have provided more accurate results if they had used appropriate method.

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