

Letter

## Could Sampling Bias Be to Blame for Apparent Association Among Rheumatic Diseases?

To the Editor:

We have read with great interest the recent study by Meer et al on novel methods to identify risk factors for psoriatic arthritis (PsA), psoriasis, rheumatoid arthritis (RA), and ankylosing spondylitis.<sup>1</sup> In that article, we appreciate that age, sex, BMI (calculated as weight in kilograms divided by height in meters squared), and time observed between the experimental group and control group were highly matched. However, we have a few suggestions to strengthen the conclusions in the study of Meer et al.

First, the odds ratio (OR) between former drinkers and current drinkers is contrary to common perception. Compared with a former drinker, a current drinker had lower association with disease diagnosis for all 4 diseases. However, to our knowledge, the association of current drinks is usually stronger than that of former drinkers.<sup>2,3</sup> We noticed the same issue for the data on current smokers vs former smokers. We suspect measurement bias due to possible missing codes from The Health Improvement Network database. If the researchers are able to collect lifestyle data through a questionnaire, the result may be more reliable.

Second, previous studies showed that women with depression might have a higher risk of developing RA.<sup>4,5</sup> Further, there are several similar symptoms shared by depression and some rheumatic diseases during the early stage. We suggest that authors include depression as one of the possible confounders.


Third, the cases collected by the authors have already matched BMI (approximately 28). However, in Table 2, "obese (BMI > 30)" is one of the variables. Since the BMIs of the cases were matched, the OR of this risk factor is less accurate. We suggest that cases should not be matched to controls in terms of BMI to avoid overmatching.<sup>6</sup>


Finally, the symptoms of PsA can be easily overlooked sometimes, making PsA underdiagnosed. We suggest that a diagnosis of PsA be confirmed by a rheumatologist and fulfill the Classification Criteria for Psoriatic Arthritis.<sup>7,8</sup>

Pei-Yu Liao<sup>1</sup> , medical student

Chun Hsien Wu<sup>1</sup> , medical student

Yu-Chen Guo<sup>1</sup> , medical student

Je-Kuei Yang<sup>1,2</sup> , MD

James Cheng-Chung Wei<sup>3,4,5</sup> , MD, PhD

<sup>1</sup>School of Medicine, Chung Shan Medical University;

<sup>2</sup>Department of Physical Medicine and Rehabilitation, Chung Shan Medical University Hospital;

<sup>3</sup>Institute of Medicine, Chung Shan Medical University;

<sup>4</sup>Graduate Institute of Integrated Medicine, China Medical University;

<sup>5</sup>Division of Allergy, Immunology and Rheumatology, Department of Internal Medicine, Chung Shan Medical University Hospital, Taichung, Taiwan.

P.Y. Liao and J.K. Yang contributed equally.

The authors declare no conflicts of interest relevant to this work.

Address correspondence to Dr. J.C.C. Wei, Institute of Medicine, Chung Shan Medical University, Taichung, Taiwan; Graduate Institute of Integrated Medicine, China Medical University; Division of Allergy, Immunology and Rheumatology, Department of Internal Medicine, Chung Shan Medical University Hospital, No. 110, Sec. 1, Jianguo N. Rd., Taichung City 40201, Taiwan. Email: jccwei@gmail.com.

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