Letter in response to the article “The global prevalence of musculoskeletal disorders among operating room personnel: A systematic review and meta-analysis” by Tavakkol et al.

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Dear Editor,

We read with interest the systematic review and meta-analysis by Tavakkol et al.¹ on the prevalence of musculoskeletal disorders among the operating room personnel. We believe that this study suffers from several methodological shortcomings.

The search of the scientific literature appears to be deficient. We recently conducted and published a systematic review that included 24 papers,² of which 12 were not included in the review by Tavakkol et al.¹ In addition to the considerable difference in the number of included studies, it should be pointed out that their first initial string yielded a total of 111 papers. In comparison, our work considered more than 2000 papers.

Moreover, the data on the prevalence of the disorders and sample size abstracted from the original reports contain several errors. For example, Tavakkol et al.¹ abstracted a prevalence of 62.2% in the lower-back district from the study of Moscato et al. rather than the reported 17.3%. Indeed, 62.2% is the percentage of personnel with sons.³ In the waist meta-analysis, the authors abstracted a prevalence of 5% from the study of Nutzi et al., while the correct value was 52.7%.⁴ Furthermore, regarding the ankle-foot musculoskeletal district, they extracted a prevalence of 38% from Nutzi et al.,⁴ but the primary paper reported a prevalence of 9.8%. In the same meta-analysis, Tavakkol et al.¹ incorrectly abstracted from the study by Moscato et al.³ the same event rate for two different musculoskeletal districts, the lower-back and the ankle-foot, respectively.

Overall, pooled estimates suffering from methodological weaknesses could lead to potentially misleading interpretation. Specifically, in the meta-analysis conducted by Tavakkol et al.¹ a misleading interpretation of the results is more likely where methodological issues, such as wrongly extracted data and a small number of included studies, are more relevant.

For these reasons, we think that the results of the meta-analysis by Tavakkol et al.¹ are not interpretable, and their conclusions should not

be used for clinical or public health practice. It is essential to base results of systematic reviews and meta-analyses on stronger methodologic grounds than those by Tavakkol et al.¹

Declaration of competing interest

Paolo Boffetta was involved in litigation on asbestos exposure and prostate cancer risk. All other authors reported no conflict of interest.

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