

## Problems in Coding Causes of Deaths

Sir,

We read with interest the original article titled "Risk of Cardiovascular Death in Osteosarcoma" by Jia *et al.*<sup>1</sup> In the study, it was stated that the data were obtained from the database, extracted from the patients with primary osteosarcoma between the years 1975 and 2019.<sup>1</sup>

World Health Organization (WHO) recommends ICD-10 coding for recording causes of death. But, WHO also does not find it appropriate to write some ICD-10 codes while specifying the causes on death certificates, such as codes characterised as ill-defined causes of death when written as a cause of death; all codes from R00 to R94, all codes from R96 to R99 codes, all codes from Y10 to Y34, Y87.2, C76, C80, C97, I47.2, I49.0, I46, I50, I51.4, I51.5, I51.6, I51.9 and I70.9.<sup>2,3</sup>

WHO recommends performing diagnostic tests to avoid ill-defined and unknown causes of death.<sup>4,5</sup> But, this is usually impossible for unsuspected deaths.

In most countries, abnormal laboratory and clinical findings and symptoms, which belong to ill-defined causes of death group, can be documented as the main causes of death. So, we think the major problem is differences between the disease codes specified in the hospital automation system and the names of the diseases stated in the death certificates and patient records.<sup>3,6</sup>

Since the accuracy and consistency of death statistics are largely dependent on physician-provided data, so physicians must be careful about this.

The authors stated as a limitation that the causes of death identified from death certificates may be misclassified. I wonder what the authors have done to minimise the limitation.

### COMPETING INTEREST:

The author declared no competing interest.

### AUTHOR'S CONTRIBUTION:

HA: Conception design of the work, drafting of the initial manuscript, revising, critical analysis, and final approval of the work.

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## AUTHOR'S REPLY

Sir,

According to the International Classification of Diseases, 10<sup>th</sup> Revision [ICD-10] codes definitions, there are six causes of death from cardiovascular disease in the SEER database: diseases of heart (I00-I09, I11, I13, I20-I51), hypertension without heart disease (I10, I12), cerebrovascular diseases (I60-I69), atherosclerosis (I70), aortic aneurysm and dissection (I71), and other diseases of arteries, arterioles, and capillaries (I72-I78).<sup>1,2</sup>

SEER registries use death certificates to determine the cause of death instead of autopsy or electronic chart information, which may introduce misclassification bias. Deaths from cardiovascular disease may thus be over/underestimated. Indeed relevant studies suggest that the causes of cardiovascular disease on death certificates may be overestimated.<sup>3,4</sup> This is one of the limitations of this study, as this study is a retrospective study and is limited by the study data, which is something this study cannot avoid at this time, and this needs to be reduced by subsequent prospective studies.

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