Reviewer’s report

Title: Chronic disease and malnutrition biomarkers among unemployed immigrants and Canadian born adults

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Reviewer: Dolores Sanchez-Rodriguez

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AOPH-D-19-00156: Reviewer comments

Ms. No.: D-19-00156

Title: Chronic disease and malnutrition biomarkers among unemployed immigrants and Canadian born adults

Archives of Public Health

Date: 2 July 2019

Reviewer's report: This cross-sectional study assesses the relationships among biomarkers, inflammation, and health status due to different socioeconomic/demographic factors (unemployment, immigration, and gender) in community-dwelling adults in Canada. This preliminary study found very small differences in biomarkers in immigrant, female, and unemployed subjects.

The topic is interesting, but differences in health status due to socioeconomic reasons are a well-known topic. The methodology used is not clear. Health, nutritional status, and inflammation are complex, multidimensional conditions and these preliminary results are based on small differences obtained in blood tests and demographic data, without taking into account food intake, clinical history, physical examination, or any anthropometric measurement. The assessment is incomplete in its present form.

In the study, the survey was administered to the respondents, and later, blood test was proposed. Did all respondents agree to the blood extraction? How was the measurement of fasting glucose levels ensured? The use of an isolated determination of glucose to determine inflammation or health status should be discussed. Albumin is no longer recommended as a nutritional marker, but rather as a marker of inflammation; the thresholds used are higher than those recommended by ESPEN. Moreover, the study does not define them by any validated tool (e.g., Mini-
nutritional assessment) or updated definition, such as the European Society of Clinical Nutrition and Metabolism (ESPEN) guidelines on definition and terminology of clinical nutrition (Cederholm et al., 2017), etc.

I would recommend that the authors clarify the statistical method used in order to make their findings more understandable and reach a wider audience. For example, the mean values in the different parameters of the blood tests obtained in the sample are within the ranges of normality. The results and table 3 showed significant differences between employed and unemployed men by the analysis of the mean deviation, this should be explained more clearly. The study focused on minimal changes in the values; it might be more interesting if the minimal clinically important difference were defined, analyzed, and discussed for each biomarker.

Background and discussion should be based on scientific literature. I would recommend updating your references and reframing the article. The study involves a large sample and could certainly have some value if the authors improve the methodology.

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