PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Chronic Kidney Disease in adults aged 18 years and older in Chile: Findings from the cross sectional Chilean National Health Surveys 2009-10 and 2016-17
AUTHORS	Walbaum, Magdalena; Scholes, Shaun; Pizzo, Elena; Paccot, Melanie; Mindell, Jennifer

VERSION 1 – REVIEW

REVIEWER	Massimo CIRILLO University of Naples "Federico II" – Italy
REVIEW RETURNED	28-Feb-2020

GENERAL COMMENTS	Walbaum et al. reported observational, cross-sectional data on the prevalence of chronic kidney disease (CKD) defined as reduced kidney function (eGFR) and/or increased albuminuria (ACR) in a sample of the Chilean general population that participated in the Chilean National Health Surveys 2009-10 and 2016-17. The authors concluded that CKD is high in the Chilean population but did not increase from Survey 2009-10 to Survey 2016-17. The authors have to address the following major points: 1.The authors did not give any information about the assay for serum creatinine measurements. The CKD-Epi equation can be used only if the measurements were done using IDMS-traceable calibration. 2. the CKD-Epi equation was not developed or validated in individuals with age < 18 years. Thus, data for individuals with ages 15-17 years should be excluded from the analyses. 3. As clearly described by the authors, ACR data are missing in individuals without hypertension and without diabetes. This is major bias because several studies, including population-based studies, proved that other traits associate per se with high ACR independently of hypertension and diabetes (e.g., obesity or smoking). Thus, in contrast with the sample with eGFR data, the sample with ACR data can be considered representative only of the individuals with hypertension or diabetes and should be reported separately. The combination of two different samples in the same table is very confusing. The authors have to split Table 2 in two separate tables: Table 2 for eGFR data (whole cohort) and Table 3 for ACR data (hypertensive/diabetic cohort). The same has to be done for the original version of Table 3 that has to be split in Table 4 for eGFR data (whole cohort) and Table 5 for ACR data (hypertensive/diabetic cohort). In each table, the first raw should report the number of individuals with complete data to spell

	out that different tables refer to different individuals. Also, a conclusion about the CKD prevalence cannot be proposed for the general Chilean population but only for the subgroup of individuals with hypertension and/or diabetes given that a major component of CKD was not assessed in a large fraction of the population. Minor points Age stratification could be modified to 18-44, 45-64, and 65+ for better comparability with other studies. Data presentation could be improved splitting the results for men and women because the prevalence of reduced eGFR and increased ACR most often differs between sexes.

REVIEWER	Meda Pavkov Centers for Disease Control and Prevention
REVIEW RETURNED	05-Mar-2020

GENERAL COMMENTS	Walbaum et al. estimates the prevalence of CKD and its association with sociodemographic characteristics, health behaviors, and comorbidities among Chilean adults in the nationally representative Chilean Health Surveys 2009-10 and 2016-17. They found that prevalence of low eGFR was slightly but not significantly higher in 2016-17 than in the previous survey; they also found a lower prevalence of CKD among participants ≥40 years with diabetes and/or hypertension in 2016-17 than 2009-10. This study provides a wealth of information, adding important data to the existing literature on the global prevalence of CKD. I offer the following suggestions for consideration: 1. The clarity of the manuscript could be improved by reducing the repetitive information or excessive description of the KDIGO staging. For example, reduced (or low) kidney function, elevated albuminuria, and CKD can be defined once in the methods section and then only referred to as “low (or reduced) eGFR”, “albuminuria” and “CKD”, without re-iterating each time the definitions. 2. There is some confusion throughout the manuscript regarding CKD in participants 40 years and older. According to the methods section, ACR was only measured in this age category who also had diabetes and/or hypertension. Yet sometimes this is not clear: for example, in the abstract CKD prevalence is indicated as 15.4% in 2016-17, whereas according to table 4 it should be 38.5% (since 61.5% have eGFR>60 and ACR <30). This is important to clarify. 3. On page 8 and similarly in the abstract, the authors state: “The presence of CKD can also be ascertained using an expanded definition to include persons with an eGFR of at least 60 mL/min/1.73 m2 but who have increased albuminuria.” First, there is only one definition of CKD, so using the term “expanded” creates confusion; second the word “but” should be replaced with “or” to correctly state the definition, i.e., CKD is defined by low eGFR or albuminuria. 4. Table 1 is empty and therefore superfluous. Since all these categories were already defined in the methods, the authors could fill in this table with their own data. For example, the information in Tables 2 and 4 could be shown as formatted in table 1, which would be much easier to read. The additional information in Table 4 could be included as supplemental material.

	5. Table 3 includes data on different denominators, i.e., all participants with serum creatinine and those ≥40 years with diabetes and/or hypertension, so the data on low eGFR and albuminuria should not be presented in the same table. The authors may consider including the data on low eGFR for the two surveys in one table and the data for ACR in a separate table.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1:
1. We included the information requested about the serum creatinine measurements. Both health surveys used IDMS-traceable calibration and this was included in the methods section.
2. Data was re-analysed including only population 18 years and over. Thus, the sample size for the analysis of eGFR data changed (the N was reduced and modified in the methods section) and the prevalence of some stages and of some risk factors (all modifications are with track changes), and some OR in the multiple regression analysis.
3. Table 3 was was split in two separate tables. One for eGFR data (population 18 years and older) and one for ACR data (hypertensive/diabetic individuals 40 years and older). Sample size of each group was specified in the methods sections accordingly.
4. The suggestion for age stratification was taken and modified to enhance comparability with other studies.
5. The difference between males and females was not significant in the Chilean health survey, so we mentioned it and presented the p value for further clarification.

Reviewer 2:
1. We reduced the excessive description of the KDIGO staging to improve clarity and as suggested we defined each analysis in the methods section.
2. We detailed in the methods section about the ACR group (only hypertensive/diabetic, 40 years and older) and made sure to mention it in the results and discussion.
3. We deleted the term "expanded definition" to improve clarity of the manuscript.
4. We moved Table 1 to the supplementary material and specified that it is only for the reader to see the classification of CKD stages by KDIGO using both eGFR and ACR.
5. Table 3 was split in two separate tables. One for eGFR data and the other for ACR data.

VERSION 2 – REVIEW

REVIEWER	Massimo CIRILLO University of Naples 'Federico II' – Italy
REVIEW RETURNED	23-Jun-2020

GENERAL COMMENTS	The authors adequately addressed the comments of this reviewer.

REVIEWER	Meda Pavkov CDC, USA
REVIEW RETURNED	06-Jul-2020

GENERAL COMMENTS	The authors addressed previous comments satisfactorily. I have no further concerns.