PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Prevalence of possible sarcopenia in community-dwelling older Chinese adults: a cross-sectional study
AUTHORS	Yao, Jiaqin; Wang, Yaoting; Yang, Lin; Ren, Mengting; Li, LingYan; Wang, Hongyu

VERSION 1 – REVIEW

REVIEWER	Westbury, Leo Tokushima Daigaku
REVIEW RETURNED	06-Sep-2022

GENERAL COMMENTS	Comments to the Author This is a practically important original article indicates that Prevalence of possible sarcopenia in community-dwelling older Chinese adults: a cross-sectional study However, it is necessary to reexamine the research method etc. in several respects. 1. Introduction The originality of this study is unclear. Previous observational studies have reported a sarcopenia and age, physical inactivity, low BMI. 2. Introduction The purpose of this study was to investigate the prevalence of possible sarcopenia. However, skeletal muscle mass and gait velocity were not assessed, so possible sarcopenia, confirm sarcopenia, and severe sarcopenia could not be accurately classified. Therefore, sarcopenia and severe sarcopenia should be excluded from this study and the purpose of this study cannot be clarified. 3. Methods The AWGS2019 definition of case finding is done by screening with calf circumference and SARC-F. Because case finding was not evaluated in this study, the prevalence of possible sarcopenia cannot be compared with previous studies. 4. Methods Physical activity and chronic diseases such as arthritis and diabetes were assessed qualitatively, and outcome information was not accurate. 5. Discussion The discussion of this study is unclear. Previous observational studies have reported a confirm sarcopenia and age, physical

	inactivity, low BMI. Risk factors for possible sarcopenia (but not sarcopenia) should be discussed in the manuscript. 6. limitation In this study, skeletal muscle mass and gait velocity were not assessed, so possible sarcopenia, confirm sarcopenia, and severe sarcopenia could not be accurately classified. Therefore, sarcopenia and severe sarcopenia should be excluded from this study and the purpose of this study cannot be clarified.

REVIEWER	Mori, Hiroyasu MRC Lifecourse Epidemiology Centre, University of Southampton
REVIEW RETURNED	08-Oct-2022

GENERAL COMMENTS	I enjoyed reading this interesting paper. Please see below for some comments and suggested modifications. Please define all abbreviations in the abstract, for example, 'AWGS'. Please also state the cut off values used for low grip strength. In the abstract, it is a little unclear that the values of 79.43 and 7.33 correspond to the mean and SD age among men with possible sarcopenia; please clarify this and the similar sentence regarding women. In the abstract, it is a little unclear whether the odds ratios for age and BMI correspond to unit increases in these variables or whether they relate to one category of the variable in relation to another category; please clarify this. In the third paragraph of the introduction, the prevalence of sarcopenia according to different definitions is stated for different studies. I feel that the mean age or age range of participants included in the cited studies should be stated. In the introduction, the abbreviation EWGSOP2 is used without stating that this is the revised sarcopenia definition proposed by the European Working Group of Sarcopenia in Older People. Furthermore, in the second paragraph of the introduction, it suggests that the 2019 Asian Working group for Sarcopenia updated the guidelines proposed by the 2018 European Working Group; please clarify this. It states that the minimum sample size was calculated to be 792 (page 3, line 37). What objective was this minimum sample size aiming to achieve? For example, was it to determine some kind of minimum detectable effect for an association? If so, this could be stated. Please state how participants were invited and contacted for inclusion in the study. On page 4 (line 4), it states that BMI was calculated as the square of the weight divided by height; please correct this statement. Was any published grip strength protocol followed during the measurement of hand grip strength? If so, this publication could be cited.

	In the section ‘Statistical analysis’, I think it would be helpful for the reader if the cut-off values for ‘no sarcopenia’ and ‘possible sarcopenia’ were stated in this section as well. In the second paragraph of the results section, it suggests that 598 female participants were included in the study; this does not agree with information in Table 1 and in the first paragraph of the results section. Many of the characteristics included in Table 1 were not included as exposures in Table 2 and Table 3. Please state the criteria used for determining whether or not a characteristic was included as an exposure in Table 2 and Table 3. On page 7 (line 6), the figure of 65.9% is stated. Is this the proportion of variation in the outcome that the exposure variables explained? If so, please clarify this and state which statistic from the model was used to calculate this value. Cut off values for low and high BMI are not stated in the tables or in the text; please include this information in both of these parts of the manuscript. In the results section, I feel that confidence intervals for the odds ratios, instead of Wald statistics, should be included in the text; please address this. For the logistic regression analysis, it is a little unclear whether a separate logistic regression model was fitted for each of the exposure variables or whether several exposure variables were simultaneously included in the logistic regression models. I think this could be clarified in the text of this manuscript and in the footnotes of Table 2 and Table 3. Please ensure that all tables are fully understandable without any reference to the main text. On page 8 (line 42), the value 52.77 does not match the corresponding value in Table 1; please address this. In the discussion, it states that hypertension was a protective factor for possible sarcopenia. However, it could be clarified that this was only the case among men. I noticed some typos and grammatical errors; please proof-read this manuscript.

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Q1. Introduction

The originality of this study is unclear. Previous observational studies have reported a sarcopenia and age, physical inactivity, low BMI.

A1. Thank you.

Firstly, previous articles have indeed reported studies of sarcopenia in relation to age, physical

inactivity, and BMI. And sarcopenia contains three layers of meaning: skeletal muscle mass, muscle strength and physical performance, the core of which is a decrease in skeletal muscle mass. However, our study is focused on possible sarcopenia with the core being loss of muscle strength (handgrip strength:< 28 kg in men; < 18 kg in women) 1. So, there's a difference between “sarcopenia” and “possible sarcopenia”.
Secondly, the aim of this study was to investigate the prevalence of possible sarcopenia in community-dwelling older adults in Bengbu, China. There are only two articles of this type in China, one of which is from the China Health and Retirement Longitudinal Study (CHARLS) in 2015 2, and the other is from Tianjin, China 3. We believe that more urban, more population-based studies related to possible sarcopenia are needed.
Finally, the purpose of this study was to understand the relationship between related factors and possible sarcopenia, so as to provide reference for early screening and early intervention of older adults with possible sarcopenia in community medical institutions.

Q2. Introduction
The purpose of this study was to investigate the prevalence of possible sarcopenia. However, skeletal muscle mass and gait velocity were not assessed, so possible sarcopenia, confirm sarcopenia, and severe sarcopenia could not be accurately classified. Therefore, sarcopenia and severe sarcopenia should be excluded from this study and the purpose of this study cannot be clarified.
A2. Thank you.
AWGS 2019 1 introduces “possible sarcopenia” defined by low muscle strength with or without reduced physical performance. Weak handgrip strength (< 28 kg in men, < 18 kg in women) with or without long 5-time chair stand test time (≥ 12 s) can be assessed as possible sarcopenia, only those who need to confirm the diagnosis of sarcopenia need to enter the next step "diagnosis" (Figure 1). So our understanding is that possible sarcopenia has two meanings. One is a broad sense of possible sarcopenia including sarcopenia and severe sarcopenia, which requires only handgrip strength with or without 5-time chair stand test for measurement, just as severe sarcopenia belongs to sarcopenia. The other is the narrow sense of possible sarcopenia, which excludes sarcopenia and severe sarcopenia, where skeletal muscle mass is measured along with handgrip strength and 5-time chair stand test.
Our study refers to possible sarcopenia in the broad sense of the word. Details of the assessment are shown in the red box in the figure (Figure 1).
Q3. Methods
The AWGS2019 definition of case finding is done by screening with calf circumference and SARC-F. Because case finding was not evaluated in this study, the prevalence of possible sarcopenia cannot be compared with previous studies.
A3. Thanks for this advice.
The prevalence of the first study compared in the discussion comes from the Colombian article that used the guideline of EWGSOP2 to assess probable sarcopenia in the same way as our study: both used only the concept of decreased muscle strength (handgrip strength < 27 kg for men and < 16 kg for women). Due to the use of different guidelines, we feel that it is unreasonable to compare the two studies, so we have revised the manuscript.
“The prevalence of 48.06% is higher than the prevalence of 38.5% found in adults in another study conducted in China 2. The reason for this discrepancy may be that the population in our study was older than the population (age 68.13 ± 6.46 years) in the previous study.”
The second study compared in our study was from Korea, which used the guideline of AWGS 2019. This study first screened for possible sarcopenia based on calf circumference, SARC-F or SARC-CalF, and then assessed possible sarcopenia based on handgrip strength (< 28 kg in men; < 18 kg in women) with or without 5-time chair stand test (≥ 12 s). The results showed that the prevalence was 20.1% and 29.2% in men (age 76.4 ± 3.9 years) and women (age 75.5 ± 3.9 years), respectively, which was lower than the prevalence in our study.
Xue et al 4 showed the sensitivity and specificity of the SARC-F and SARC-CalF scales in screening

for sarcopenia in older adults in the community. The diagnostic sensitivity of SARC-F and SARC-CalF was 21.32% and 66.67% respectively, and the specificity was 86.19% and 92.73% respectively. Ito et al 5 using AWGS 2019 criteria, the sensitivity and specificity of lower calf circumference, SARC-F score, and SARC-CalF score were 83.3% and 62.8%, 11.1% and 91.7%, and 66.7% and 81.8%, respectively. Malas et al 6 concluded that the SARC-F test should be used with caution to screen for sarcopenia due to its low sensitivity. So we should take into account that due to the low sensitivity of calf circumference, SARC-F and SARC-CalF, patients with true sarcopenia will be missed in screening. In other words, most of the people who were not screened by calf circumference, SARC-F or SARC-CalF scale still had decreased handgrip strength. Therefore, we believe that direct handgrip strength measurement has important clinical value, which is why we compared the two studies. So we have not changed this part of the manuscript

Q4. Methods
Physical activity and chronic diseases such as arthritis and diabetes were assessed qualitatively, and outcome information was not accurate.
A4. Thank you.
Our assessment of physical activity was the self-reported activity level of older adults, which was then converted according to the latest World Health Organization 2020 Guidelines on Physical activity and Sedentary Behavior 7. For the assessment of chronic diseases, we require that the chronic diseases described by the older adults must have been diagnosed in a hospital and have proof of the diagnosis. These can ensure the accuracy of the results to a certain extent.

Q5. Discussion
The discussion of this study is unclear. Previous observational studies have reported a confirm sarcopenia and age, physical inactivity, low BMI. Risk factors for possible sarcopenia (but not sarcopenia) should be discussed in the manuscript.
A5. Thank you for this suggestion.
We have modified the discussion to focus on the relationship between risk factors and possible sarcopenia (weak handgrip strength). Relevant references have also been updated.

Q6. limitation
In this study, skeletal muscle mass and gait velocity were not assessed, so possible sarcopenia, confirm sarcopenia, and severe sarcopenia could not be accurately classified. Therefore, sarcopenia and severe sarcopenia should be excluded from this study and the purpose of this study cannot be clarified.
A6. Thank you for your advice.
AWGS 2019 1 introduces “possible sarcopenia” defined by low muscle strength with or without reduced physical performance. Weak handgrip strength (< 28 kg in men, < 18 kg in women) with or without long 5-time chair stand test time (≥ 12 s) can be assessed as possible sarcopenia, only those who need to confirm the diagnosis of sarcopenia need to enter the next step "diagnosis" (Figure 1). So our understanding is that possible sarcopenia has two meanings. One is a broad sense of possible sarcopenia including sarcopenia and severe sarcopenia, which requires only handgrip strength and 5-time chair stand test for measurement, just as severe sarcopenia belongs to sarcopenia. The other is the narrow sense of possible sarcopenia, which excludes sarcopenia and severe sarcopenia, where skeletal muscle mass is measured along with handgrip strength and 5-time chair stand test. Our study refers to possible sarcopenia in the broad sense of the word. Therefore, sarcopenia and severe sarcopenia were not excluded from our study. The aim of our study was to investigate the prevalence of the broad sense of possible sarcopenia in community-dwelling older adults in Bengbu, China. Your suggestion provides a direction for our next research.

Reviewer: 2
Q1. Please define all abbreviations in the abstract, for example, ‘AWGS’. Please also state the cut off

values used for low grip strength.
A1. Thank you for your advice.
We have defined all abbreviations in the abstract and stated the cut off values used for low handgrip strength. The details are as follows:
① the Asia Working Group for Sarcopenia in 2019 (AWGS 2019)
② confidence interval (CI)
③ body mass index (BMI)
④ Possible sarcopenia was estimated based on handgrip strength with cut-off values (< 28 kg in men; < 18 kg in women)

Q2. In the abstract, it is a little unclear that the values of 79.43 and 7.33 correspond to the mean and SD age among men with possible sarcopenia; please clarify this and the similar sentence regarding women.
A2. Thank you for this suggestion.
It has been rewritten in our revised manuscript. (page line)
“Possible sarcopenia was more prevalent in men (52.79%, n = 246, age 79.43 ± 7.33 years among men with possible sarcopenia) than in women (44.48%, n = 274, age 78.90 ± 7.71 years among women with possible sarcopenia).”

Q3. In the abstract, it is a little unclear whether the odds ratios for age and BMI correspond to unit increases in these variables or whether they relate to one category of the variable in relation to another category; please clarify this.
A3. Thanks for this advice.
In our study, participants were sorted into two groups based on WHO age classification criteria: one group included participants that were aged 60 to 74 years and the other group included participants who were aged at least 75 years. So the odds ratios for age was one category of the variable in relation to another category. But we didn't classify the body mass index (BMI), so the odds ratios for BMI correspond to unit increases in BMI.
This part has been rewritten in our revised manuscript.
“In men, possible sarcopenia positively correlated with high age (odds ratio (OR) = 2.658, 95% CI 1.758-4.019).”
“In women, possible sarcopenia positively correlated with high age (OR = 3.821, 95% CI 2.677-5.455).”
“The risk of possible sarcopenia in men decreased by 12.6% for every 1 kg/m2 increase of body mass index (BMI) (OR = 0.874, 95% CI 0.817-0.935).”
" And BMI was also found to be an independent risk factor for possible sarcopenia in men.”

Q4. In the third paragraph of the introduction, the prevalence of sarcopenia according to different definitions is stated for different studies. I feel that the mean age or age range of participants included in the cited studies should be stated.
A4. Thank you for this suggestion.
It has been stated in our revised manuscript.

Q5. In the introduction, the abbreviation EWGSOP2 is used without stating that this is the revised sarcopenia definition proposed by the European Working Group of Sarcopenia in Older People. Furthermore, in the second paragraph of the introduction, it suggests that the 2019 Asian Working group for Sarcopenia updated the guidelines proposed by the 2018 European Working Group; please clarify this.
A5. Thank you.
The abbreviation EWGSOP2 has been stated in the introduction and we have clarified the sentence.
“the European Working Group on Sarcopenia in Older People in 2018 (EWGSOP2)”
“In 2019, the Asia Working Group for Sarcopenia (AWGS) updated its guideline first issued in 2014

and proposed the concept of “possible sarcopenia”, which was defined as the existence of low muscle strength with or without reduced physical performance.”

Q6. It states that the minimum sample size was calculated to be 792 (page 3, line 37). What objective was this minimum sample size aiming to achieve? For example, was it to determine some kind of minimum detectable effect for an association? If so, this could be stated.
A6. Thank you.
Firstly, our study used a sample survey to estimate the prevalence of possible sarcopenia in the general population. As a result, the purpose of calculating the minimum sample size is to ensure that the results of the sample survey are effective in estimating the prevalence of possible sarcopenia in the general population.
Secondly, the aim was to ensure statistical significance on the basis of $\delta=0.03$, $\pi=0.246$, $\alpha=0.05$ and . The formula is in the “Reply Letter to Editor”.
Finally, the calculation of the minimum sample size can also reasonably allocate financial, material, human and time resources to avoid waste.
Q7. Please state how participants were invited and contacted for inclusion in the study.
A7. Thank you for this suggestion.
We have stated the methods in the section “Sample”.
“Finally, we contacted the leaders of the selected communities, and randomly recruited residents aged 60 years and above in each community to travel to nearby stalls for assessment.”

Q8. On page 4 (line 4), it states that BMI was calculated as the square of the weight divided by height; please correct this statement.
A8. Thank you.
It has been corrected in our revised manuscript.
“BMI was calculated as the weight in kilograms divided by the square of the height in meters.”

Q9. Was any published grip strength protocol followed during the measurement of hand grip strength? If so, this publication could be cited.
A9. Thanks for this advice.
The publication has been cited in our revised manuscript.
“10. Chen LK, Woo J, Assantachai P, et al. Asian Working Group for Sarcopenia: 2019 Consensus Update on Sarcopenia Diagnosis and Treatment. J Am Med Dir Assoc 2020;21(3):300-07.e2.”

Q10. In the section ‘Statistical analysis’, I think it would be helpful for the reader if the cut-off values for ‘no sarcopenia’ and ‘possible sarcopenia’ were stated in this section as well.
A10. Thank you for this suggestion.
It has been stated in our revised manuscript.
“The male and female samples were divided into two groups: no sarcopenia (normal handgrip strength) or possible sarcopenia (weak handgrip strength: < 28 kg in men; < 18 kg in women).”

Q11. In the second paragraph of the results section, it suggests that 598 female participants were included in the study; this does not agree with information in Table 1 and in the first paragraph of the results section.
A11. We sincerely thank you for careful reading.
We have corrected the “598” into “616”.

Q12. Many of the characteristics included in Table 1 were not included as exposures in Table 2 and Table 3. Please state the criteria used for determining whether or not a characteristic was included as an exposure in Table 2 and Table 3.
A12. Thank you for this suggestion.
We have stated the criteria in the section “Statistical analysis”.

“The associated factors [age group, WC, BMI, physical inactivity, cancer, heart diseases, hypertension, hyperlipidemia, diabetes, respiratory diseases, arthritis, pain in the waist or lower extremities] that were determined to reach the level of significance ($p < 0.05$) were included as independent variables in separate binary logistic regression analysis models for males and females, with possible sarcopenia as the dependent variable.”

Q13. On page 7 (line 6), the figure of 65.9% is stated. Is this the proportion of variation in the outcome that the exposure variables explained? If so, please clarify this and state which statistic from the model was used to calculate this value.
A13. Thank you.
We feel sorry for the mistakes. The figure of 65.9% is the percentage accuracy in classification of the binary logistic regression analysis model for men (Table 1). The proportion of variation in the outcome that the exposure variables explained is 23.6%（Nagelkerke’s R2 = 0.236）(Table 2). For women, the percentage accuracy in classification of the binary logistic regression analysis model is 67.4% and the proportion of variation in the outcome that the exposure variables explained is 18.5% (Nagelkerke’s R2 = 0.185) (Table 3, Table 4). What's more, we rewritten these parts in our revised manuscript.
“For male participants, a binary logistic regression analysis showed that the significantly correlating variables age, BMI, physical inactivity, hypertension, diabetes and respiratory diseases explained whether a participant had possible sarcopenia or not to 23.6% (Nagelkerke’s R2 = 0.236, Chi-squared (6) = 90.767, $p < 0.0001$) and the percentage accuracy in classification is 65.9%.”
“For female participants, a binary logistic regression analysis showed that the significantly correlating variables age, physical inactivity, arthritis and pain in lower extremities or waist explained whether a participant had possible sarcopenia or not to 18.5% (Nagelkerke’s R2 = 0.185, Chi-squared (4) = 91.593, $p < 0.0001$) and the percentage accuracy in classification is 67.4%.”
Q14. Cut off values for low and high BMI are not stated in the tables or in the text; please include this information in both of these parts of the manuscript.
A14. Thank you for this suggestion.
We didn't classify the BMI, so the odds ratios for BMI correspond to unit increases in BMI. We have realized the imprecision of the statement of low and high BMI, so we have modified the corresponding parts.
“The risk of possible sarcopenia in men decreased by 12.6% for every 1 kg/m2 increase of body mass index (BMI) (OR = 0.874, 95% CI 0.817-0.935).”
“Moreover, the risk of possible sarcopenia decreased by 12.6% for every 1 kg/m2 increase of BMI (OR = 0.874, 95% CI 0.817-0.935).”
“We also found that the risk of possible sarcopenia in men decreased by 12.6% for every 1 kg/m2 increase of BMI.”

Q15. In the results section, I feel that confidence intervals for the odds ratios, instead of Wald statistics, should be included in the text; please address this.
A15. Thanks for this advice.
This part has been rewritten in our revised manuscript.

Q16. For the logistic regression analysis, it is a little unclear whether a separate logistic regression model was fitted for each of the exposure variables or whether several exposure variables were simultaneously included in the logistic regression models. I think this could be clarified in the text of this manuscript and in the footnotes of Table 2 and Table 3.
A16. Thank you for this suggestion.
In our study, several exposure variables were simultaneously included in the logistic regression models. These parts have been rewritten in the text of revised manuscript and in the footnotes of Table 2 and Table 3.
“For male participants, a binary logistic regression analysis showed that the significantly correlating

variables age, BMI, physical inactivity, hypertension, diabetes and respiratory diseases explained whether a participant had possible sarcopenia or not to 23.6% (Nagelkerke's R2 = 0.236, Chi-squared (6) = 90.767, p < 0.0001) and the percentage accuracy in classification is 65.9%."
"Age groups, physical inactivity, hypertension, diabetes, respiratory diseases and BMI were simultaneously included in the model."
"For female participants, a binary logistic regression analysis showed that the significantly correlating variables age, physical inactivity, arthritis and pain in lower extremities or waist explained whether a participant had possible sarcopenia or not to 18.5% (Nagelkerke's R2 = 0.185, Chi-squared (4) = 91.593, p < 0.0001) and the percentage accuracy in classification is 67.4%."
"Age groups, physical inactivity, arthritis and pain in the waist or lower extremities were simultaneously included in the model."

Q17. Please ensure that all tables are fully understandable without any reference to the main text.
A17. Thank you for this suggestion.
This part has been modified in our revised manuscript.

Q18. On page 8 (line 42), the value 52.77 does not match the corresponding value in Table 1; please address this.
A18. Thanks for this advice.
We feel sorry for our carelessness. In our resubmitted manuscript, we have corrected the "52.77" into "52.79".

Q19. In the discussion, it states that hypertension was a protective factor for possible sarcopenia. However, it could be clarified that this was only the case among men.
A19. Thank you for this suggestion.
It has been clarified in our revised manuscript.
"We also found that hypertension is a protective factor for possible sarcopenia in men."

Q20. I noticed some typos and grammatical errors; please proof-read this manuscript.
A20. Thank you.
We feel sorry for our carelessness. In our resubmitted manuscript, the typos and grammatical errors have been revised.

References
1. Chen LK, Woo J, Assantachai P, et al. Asian Working Group for Sarcopenia: 2019 Consensus Update on Sarcopenia Diagnosis and Treatment. J Am Med Dir Assoc 2020;21(3):300-07.e2.
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3. Wang j. Study of functional fitness and serum inflammation differences and risk factors in elderly people with various stages of sarcopenia [Master]. Tianjin University of Sport, 2021.
4. Xue X, Qin T, Wu Q, et al. Comparison of three sarcopenia screening tools in community-dwelling older adults. Journal of Nursing Science 2021;36(20):10-14.
5. Ito A, Ishizaka M, Kobayashi K, et al. Changes in the screening efficacy of lower calf circumference, SARC-F score, and SARC-CalF score following update from AWGS 2014 to 2019 sarcopenia diagnostic criteria in community-dwelling older adults. J Phys Ther Sci 2021;33(3):241-45.
6. Malas F, Kara M, Özçakar L. SARC-F as a case-finding tool in sarcopenia: valid or unnecessary? Aging Clin Exp Res 2021;33(8):2305-06.
7. Bull FC, Al-Ansari SS, Biddle S, et al. World Health Organization 2020 guidelines on physical activity and sedentary behaviour. Br J Sports Med 2020;54(24):1451-62.
8. Sun Z, Xu Y. Medical Statistics. 4 ed. Beijing: People's Medical Publishing House 2014:525.
9. Kim M, Won CW. Sarcopenia in Korean Community-Dwelling Adults Aged 70 Years and Older:

Application of Screening and Diagnostic Tools From the Asian Working Group for Sarcopenia 2019 Update. J Am Med Dir Assoc 2020;21(6):752-58.
We tried our best to improve the manuscript and made some changes in the manuscript.

VERSION 2 – REVIEW

REVIEWER	Westbury, Leo Tokushima Daigaku
REVIEW RETURNED	12-Nov-2022

GENERAL COMMENTS	Many thanks for revising the paper in response to my suggestions. I just have a couple of further comments (please see below). I think it will be helpful for the reader to clarify that the purpose of the sample size calculation was to estimate the prevalence of possible sarcopenia in the general population. I feel that the following statements could be a little confusing: "For male participants, a binary logistic regression analysis showed that the significantly correlating variables.." and "For female participants, a binary logistic regression analysis showed that the significantly correlating variables...". This is because some of these variables were not statistically significant in these mutually adjusted models. Please address this statement accordingly.

REVIEWER	Mori, Hiroyasu MRC Lifecourse Epidemiology Centre, University of Southampton
REVIEW RETURNED	14-Nov-2022

GENERAL COMMENTS	No comments.

VERSION 2 – AUTHOR RESPONSE

Reviewer: 2

Q1. I think it will be helpful for the reader to clarify that the purpose of the sample size calculation was to estimate the prevalence of possible sarcopenia in the general population.

A1. Thank you for this suggestion.

We have clarified the purpose of sample size calculation in our revised manuscript. (page3 line48-50)

"To ensure that the sample findings were valid for estimating the prevalence of possible sarcopenia in the general population, we calculated a minimum sample size of 792"

Q2. I feel that the following statements could be a little confusing: "For male participants, a binary logistic regression analysis showed that the significantly correlating variables.." and "For female participants, a binary logistic regression analysis showed that the significantly correlating variables...". This is because some of these variables were not statistically significant in these mutually adjusted models. Please address this statement accordingly.

A2. Thank you for your advice.

The significantly correlating variables in our sentence refer to variables with $p < 0.05$ in the participant characteristics, not in the binary logistic regression model. The statement in the article may be misleading, so we have made the following changes:

"For male participants, a binary logistic regression analysis showed that the correlating variables age, BMI, physical inactivity, hypertension, diabetes and respiratory diseases explained whether a participant had possible sarcopenia or not to 23.6% (Nagelkerke's $R^2 = 0.236$, Chi-squared (6) = 90.767, $p < 0.0001$), and the percentage accuracy in classification was 65.9%." (page7 line27-33)

"For female participants, a binary logistic regression analysis showed that the correlating variables age, physical inactivity, arthritis and pain in lower extremities or waist explained whether a participant had possible sarcopenia or not to 18.5% (Nagelkerke's $R^2 = 0.185$, Chi-squared (4) = 91.593, $p < 0.0001$), and the percentage accuracy in classification was 67.4%." (page7 line46-52)

We appreciate for your warmwork earnestly, and hope that the correction will meet with approval. Once again thank you very much for your comments and suggestions.