

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	DESCRIPTIVE STUDY OF SICKNESS ABSENCE IN SPAIN REGIONS IN 2018
AUTHORS	Alba- Jurado, Matilde-Leonor; Aguado, María-José; Moreno-Morales, Noelia; Labajos-Manzanares, Maria Teresa; Martín-Valero, Rocío

VERSION 1 – REVIEW

REVIEWER	K. Weerdesteijn Amsterdam UMC, Vrije Universiteit Amsterdam, The Netherlands
REVIEW RETURNED	07-Apr-2020

GENERAL COMMENTS	<p>I read your article with pleasure, as it deals with a relevant topic. More knowledge about the incidence and prevalence of sickness absence is indeed important to get more insight if and where are the greatest challenges to help workers in their return to work process.</p> <p>Although this is a relevant topic as more evidence and clarification on this topic is needed, the paper has some weaknesses, and several issues that I like to address below:</p> <p>1. General</p> <ul style="list-style-type: none">- The words: common contingencies, professional contingencies and non-professional contingencies are not clear enough in your abstract and manuscript as well and are used in several ways. Therefore it is very difficult to understand what you mean sometimes.- For example in the method section only professional and non-professional are used, but not common. Besides the explanation of the terms is only given in the method section.<ul style="list-style-type: none">o Please change the terms or describe it better. Furthermore use one term to make it more clear. Maybe you can incorporate it earlier in the first paragraph of the introduction for example, as you already have described the differences there. <p>2. Abstract</p> <ul style="list-style-type: none">- I do not understand the last part of your conclusion in the abstract "This concerning cost demands a better control, making it necessary to improve the knowledge of the diagnosis and the circumstances that surround the worker." This is not what you have studied right?- See also my comment on the conclusion at the end of the discussion.<ul style="list-style-type: none">o Please give it more fluency, so the reader can follow your thoughts and meanings. <p>3. Introduction</p>
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	<p>- “.....occupational disease.....”.</p> <p>o I think you mean disease, please change.</p> <p>- “To be entitled to this subsidy, there.....contributions to the Social Security system.”...“If it is caused by occupational accident or disease,linked to the Social Security system.”</p> <p>o Please rewrite these sentences. Is this only in Spain? What do you mean with occupational disease? What kind of reports by who?</p> <p>o I think you want to compare workers on sick leave with common disorders with those who are on sick leave due to work-related diseases, right? Please make this more clear in the text.</p> <p>- “The maximum duration of such leave is 365 days,.....in that time.”</p> <p>o For all workers, regardless of the underlying cause? And only in Spain?</p> <p>- “This percentage, per se, demonstratesgenerate the SA.”</p> <p>o Please describe this in a more general way, which is more in line with your primary goal of your manuscript; to provide a wide and thorough description of SA in Spain, focusing on the different regions of the country. Or otherwise describe more clearly why it is especially important to know more about the diagnosis, characteristics and work activities? Do you want to compare these factors especially in different regions, and if so, why these factors?</p> <p>o In short; make your primary goal and the importance of it more clear.</p> <p>3. Materials and methods:</p> <p>- “The sample matches the study population.”</p> <p>o In which way? How did you compare?</p> <p>4. Results:</p> <p>- “The national prevalence is 32.98/1000 workers in non-professional contingencies and employees, and 30.48 in self-employed workers.”</p> <p>o I do not understand the difference between the words workers and employees in this sentence. Please describe more clear what you mean. To make it more clear for the reader maybe it is better to choose employee or worker in your text if they have the same meaning.</p> <p>- Isn't it possible that self-employed also have a work-related injury? If not, please add this to the limitations of your study or describe it somewhere else.</p> <p>- The rest of the content of the subtitles SA Prevalence, SA incidence, Average SA duration, and about the diagnosis I can follow, and I understand table 1. But the content under the subtitle “Workers in SA and average duration (age ranges and sex)” are not clear to me.</p> <p>o I do not understand the term “affiliates in SA”. In the methods you have explained that these are the workers who are eligible, but do not receive a sickness benefit, right? Why is it important to mention those group of workers especially? And what is the differences between the total group in which there are more men on SA? Please describe and explain this better.</p> <p>- I also think that the references of the tables and figures are not correctly. I do miss figure 1 for example and table 2 is I think table 3, etc.?</p> <p>5. Discussion:</p>
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	<p>- The discussion gives a good description of the paper and a good comparison with literature. However, in the first paragraph I miss the differences between different regions in Spain and an explanation of this. As this was your primary goal, right?</p> <p>- Furthermore I miss an explanation of the differences between employees and that of self-employed workers and an further description about the outcomes of age you found.</p> <p>6. Conclusion</p> <p>- I think I miss your own findings. Please add. See also my comment under the heading abstract. You have to lead the reader more in your own thoughts. Now you skip some important steps.</p>
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REVIEWER	Laura Salonen Department of Social Research University of Turku Finland
REVIEW RETURNED	25-Apr-2020

GENERAL COMMENTS	<p>This study aims to give an overview of the distribution of sickness absences by regions among the working population in Spain in 2018. The second objective of the study was to describe the incidence, prevalence and duration of sickness absence by sex, age, occupational status, occupational sector, type of sickness absence (professional/non-professional contingencies), diagnostic chapter and diagnosis. Since national-level studies on sickness absence are largely lacking in this country, the study aims to fill this gap. However, due to the very ambitious aim of providing an overview of sickness absence by all of these variables, the manuscript struggles to deliver a consistent analysis, results and discussion.</p> <p>Major points</p> <p>1. The objective of the study is very wide.</p> <p>At the moment it is very hard to follow the results of the study since it tries measure three outcomes – the incidence, the prevalence and the average duration of SA – stratified by region, type of sickness absence (professional and non-professional contingencies), sex, age, occupational status, economic activity, diagnostic group and diagnosis of SA (and each of these variables has multiple categories). The study objective clearly states, that this manuscript is mainly interested in the geographic analysis of SA, and the analysis follows this. However, the written results and discussion are very much focused on the demographic aspects.</p> <p>Thus, if the authors are really interested in the geographical differences, I would recommend (1) provide descriptive demographics of the regions and then (2) analyze the incidence, prevalence and duration of SA by region adjusting for the sex, age, occupational status, ‘economic activity’, diagnostic chapter and type of sickness absence, instead of stratifying by them.</p>
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	<p>Another option could be just to describe incidence, prevalence and duration of SA by region, sex, age, occupational status, occupational sector, type of sickness absence (professional/non-professional contingencies) and diagnosis (or diagnostic chapter), without multi-layer stratification (like, f.em. Table 2 with three-way-stratification).</p> <p>2. This manuscript should be checked by a native English speaker.</p> <p>General notations on terminology</p> <p>3. "Economic activity" usually refers to an individual's employment situation i.e. employed, unemployed or something else. I think that in this study you are actually measuring "work/occupational sector" rather than economic activity. I suggest changing the term.</p> <p>4. It seems you are using "SA", "SA processes" and "SA situations" interchangeably. I suggest you choose one term and choosing something that is more commonly used in this literature, such as SA spell or SA episode.</p> <p>5. Please consider using an alternative term instead of "generate" when you write "generate SA cases" as it implies a causal relationship. For example, writing that "economic activity generates SA" gives an idea that the economic activity causes SA, even though this study consists entirely of associations.</p> <p>Title</p> <p>6. Since this study is focusing on the employed population in 2018, I would add this information at least to the subtitle level.</p> <p>Abstract</p> <p>7. I suggest rephrasing this part of the objective "... and stressing on its main characteristics". It is unclear, whether the "its" refers to the country's main characteristics (as it is now) or the SA's main characteristic (as I think the authors mean).</p> <p>8. I suggest rephrasing this part of the abstract methods: "...describing incidence, prevalence and average duration, by diagnostic chapter, the number of workers in SA and average duration by age ranges and sex, diagnoses and economic activities that generate SA cases." First, "average duration by diagnosis" is mentioned twice in this sentence. Second, the high number of dependent variables that are analyzed by a high number of independent variables makes it confusing what is the main focus. Third, I do not understand what the meaning of "studying SA by the number of workers in SA" here?</p>
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9. There is a mismatch between the objectives and the reported results of the study in the abstract section: the results do not provide any information on SA in different regions, although this was set as the primary objective. I suggest adding results on regional differences in the results section.

Key messages

10. Since the regional differences is the main objective of this study, they should be mentioned in “the new findings” section.

Strengths and limitations of this study

11. In the second sentence that starts “This implies...” it remains unclear to what the “this” refers to. Please clarify.

12. I think the strengths of this study are not discussed here clearly enough.

13. There are no limitations mentioned here, please add some.

14. You could add some strengths and limitations that you mention in the conclusions here.

Introduction

15. The motivation behind geographic differences remains unclear. This should be discussed in the introduction section. Why would there be regional differences, why is it interesting and what could drive regional differences?

16. I suggest moving the first chapter to methods –section as it is more about describing the Spanish Social Security system than the actual research problems. Instead, I would start the Introduction by describing the societal context and the need for this study.

17. On line 28 on page 5, the citation should be corrected.

18. One of the advantages of this study is the use of national-level data. I think this could be better underlined. Although they are mentioned on lines 45-50, I have two comments on this: First, please be more precise when referring to what has been studied. Second, the authors mention that “...few studies... describe the current situation of such benefits...” and “...literature ... describe it...”. Instead of writing “current situation of benefits” and “it”, I would write more directly about “studies on the rates/incidence/prevalence of sickness absence”. I would also consider referring to these studies (I think these studies also provide good reference points for the discussion section):

Gimeno D, Benavides FG, Benach J, et al. Distribution of sickness absence in the European Union countries Occupational and Environmental Medicine 2004;61:867-869.

Gimeno D, Bültmann Ü, Benavides F. D., Alexanderson, K, Abma, FI, Ubalde-López, M, Roelen, C.AM, Kjeldgård, L, Delclos, G.L. Cross-national comparisons of sickness absence systems and statistics: towards common indicators, European Journal of Public Health, Volume 24, Issue 4, August 2014, Pages 663–666.

Cuesta, M B. Sickness absence rates in Spain – Evidence for the period 1996–2004. Tasas de absentismo por enfermedad en España: datos para el periodo 1996–2004. Cuadernos de Economía 2012, 35(97): 1-8.

Material and methods

19. In lines 7-8 the citation should be corrected. Also, please rephrase this (line 37, page 6): “The mean general duration is the average of all durations per day.”. I think you mean “average duration per year” not “per day”?

20. Please provide more information on the SA scheme in Spain: Who is covered by the Social Security system? Are there workers who are not covered by the Social Security system? What is the eligible age range, are only the employed covered or also unemployed or others outside employment? Does the sickness benefit scheme begin from the first day of work disability? In many countries, sickness allowance is paid after one or more weeks.

21. In general, are all the variables measured at a yearly level? For example, is the “employed/self-employed” status measured at some specific time of the year? If only the employed and self-employed were included in the study, how was unemployment defined? Where only those who were unemployed during the whole year excluded? What if an individual was both unemployed and employed in 2018, where they included in the study as employed or where they dropped because of the unemployment status?

22. I would mention in the material and methods sections that the diagnostic chapters are based on ICD-10 classification and I would list the precise diagnoses used I in this study.

Results

23. As the main objective of the study was the regional differences, I would describe them first, then followed by the other characteristics – such as professional and non-professional contingencies, occupational status etc.

	<p>24. Why sex, age and diagnostic differences are only studied by the SA duration and not in incidence and prevalence?</p> <p>25. Why aren't the diagnoses studied by region if that is the main objective?</p> <p>Tables</p> <p>26. I suggest deleting the Spanish version of Table 1.</p> <p>27. I don't think table 3 fits with the analysis or answers the study objectives.</p> <p>Discussion</p> <p>28. Since the regional differences were the main objective of this study, I would add more discussion on those. At the moment, regional differences are only mentioned in the last chapter of the discussion section.</p> <p>29. Please provide references for this sentence "The obtained results confirm many of the findings described by other authors at both the national and international levels."</p> <p>30. Since this is a cross-sectional study, I do not think you can talk about 'trends' (refers to a change in time) (lines 27-30, page 8). If you refer to previous studies that have analysed time trends, then please clarify.</p> <p>31. Please provide a reference to the "more fragile health" on line 55, on page 8.</p> <p>32. Please be consistent when you are reporting results on SA – are you referring to incidence or prevalence, for example on line 6 and 26 on page 9?</p> <p>Conclusion</p> <p>33. At the moment, the conclusion section consists entirely of strengths and limitations. Please add a summary of the results.</p> <p>References</p> <p>34. What is the meaning of this link on line 12-13 on page 10? Should it be in the Reference list?</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewers Comments to Author:

1 Reviewer:

1. General

a. The words: common contingencies, professional contingencies and non-professional contingencies are not clear enough in your abstract and manuscript as well and are used in several ways. Therefore it is very difficult to understand what you mean sometimes.

b. For example in the method section only professional and non-professional are used, but not common. Besides the explanation of the terms is only given in the method section.

o Please change the terms or describe it better. Furthermore use one term to make it more clear. Maybe you can incorporate it earlier in the first paragraph of the introduction for example, as you already have described the differences there.

We have changed the words to non-work-related SA (common contingencies) and work-related SA throughout the text. I explain the differences in the introduction, page 3, lines 7-16

2. Abstract

a. I do not understand the last part of your conclusion in the abstract "This concerning cost demands a better control, making it necessary to improve the knowledge of the diagnosis and the circumstances that surround the worker." This is not what you have studied right?

b. See also my comment on the conclusion at the end of the discussion.

o Please give it more fluency, so the reader can follow your thoughts and meanings.

We have deleted that sentence and better specified the objective of the study, which gives more fluency and consistency to the article (page 4, lines 10-26)

3. Introduction

a. ".....occupational disease.....".

• I think you mean disease, please change.

We have changed

b. "To be entitled to this subsidy, there.....contributions to the Social Security system."... "If it is caused by occupational accident or disease,linked to the Social Security system."

• Please rewrite these sentences. Is this only in Spain? What do you mean with occupational disease? What kind of reports by who?

We have rewritten these sentences. We have explained in the introduction, page 3, lines 20-23

• I think you want to compare workers on sick leave with common disorders with those who are on sick leave due to work-related diseases, right? Please make this more clear in the text.

In this study we describe the characteristics of SA and in some cases we have distinguished between non-work-related SA and work-related SA. In other cases, we did not make that difference, only when the results showed important differences

c. "The maximum duration of such leave is 365 days,.....in that time."

• For all workers, regardless of the underlying cause? And only in Spain?

Introduction page 3, lines 24-30...

d. "This percentage, per se, demonstratesgenerate the SA."

• Please describe this in a more general way, which is more in line with your primary goal of your manuscript; to provide a wide and thorough description of SA in Spain, focusing on the different regions of the country. Or otherwise describe more clearly why it is especially important to know more

about the diagnosis, characteristics and work activities? Do you want to compare these factors especially in different regions, and if so, why these factors?

Introduction page 4, lines 10-26

•In short; make your primary goal and the importance of it more clear.

Introduction page 4, lines 10-26

3. Materials and methods:

a. "The sample matches the study population."

•In which way? How did you compare?

Material and methods: Page 4, lines 41-42

4. Results:

a. "The national prevalence is 32.98/1000 workers in non-professional contingencies and employees, and 30.48 in self-employed workers."

•I do not understand the difference between the words workers and employees in this sentence.

Please describe more clear what you mean. To make it more clear for the reader maybe it is better to choose employee or worker in your text if they have the same meaning.

They do not have the same meaning: workers are workers, in general. Employee are only the employed workers (not self-employed)

b. Isn't it possible that self-employed also have a work-related injury? If not, please add this to the limitations of your study or describe it somewhere else.

We have explained the differences in the section limitations and results, page 5 lines 33-35

c. The rest of the content of the subtitles SA Prevalence, SA incidence, Average SA duration, and about the diagnosis I can follow, and I understand table 1. But the content under the subtitle "Workers in SA and average duration (age ranges and sex)" are not clear to me.

•I do not understand the term "affiliates in SA". In the methods you have explained that these are the workers who are eligible, but do not receive a sickness benefit, right? Why is it important to mention those group of workers especially? And what is the differences between the total group in which there are more men on SA? Please describe and explain this better.

We have described it in page 6, lines 17-22

d. I also think that the references of the tables and figures are not correctly. I do miss figure 1 for example and table 2 is I think table 3, etc.?

We have corrected it

5. Discussion:

a. The discussion gives a good description of the paper and a good comparison with literature.

However, in the first paragraph I miss the differences between different regions in Spain and an explanation of this. As this was your primary goal, right?

We have described in sections discussion

b. Furthermore I miss an explanation of the differences between employees and that of self-employed workers and an further description about the outcomes of age you found.

We have described it in sections discussion, page 8, lines 11-36

6. Conclusion

a. I think I miss your own findings. Please add. See also my comment under the heading abstract. You have to lead the reader more in your own thoughts. Now you skip some important steps.

We hope we have given more consistency to the article

Thank you very much for your comments and corrections.

Reviewer: 2
Major points

1. The objective of the study is very wide.

At the moment it is very hard to follow the results of the study since it tries measure three outcomes – the incidence, the prevalence and the average duration of SA – stratified by region, type of sickness absence (professional and non-professional contingencies), sex, age, occupational status, economic activity, diagnostic group and diagnosis of SA (and each of these variables has multiple categories). The study objective clearly states, that this manuscript is mainly interested in the geographic analysis of SA, and the analysis follows this. However, the written results and discussion are very much focused on the demographic aspects.

Thus, if the authors are really interested in the geographical differences, I would recommend (1) provide descriptive demographics of the regions and then (2) analyze the incidence, prevalence and duration of SA by region adjusting for the sex, age, occupational status, ‘economic activity’, diagnostic chapter and type of sickness absence, instead of stratifying by them.

Another option could be just to describe incidence, prevalence and duration of SA by region, sex, age, occupational status, occupational sector, type of sickness absence (professional/non-professional contingencies) and diagnosis (or diagnostic chapter), without multi-layer stratification (like, f.em. Table 2 with three-way-stratification).

We have conducted a descriptive study, without comparing it to anything. We just want to give a global vision of the SA in Spain. We have divided it up between the different Autonomous Communities (regions) because we think there are differences between them and we wanted to highlight them.

We hope that with the new revision, we have been able to clarify these concepts.

2. This manuscript should be checked by a native English speaker.

This manuscript has been revised by a native English speaker. The invoice is attached.

General notations on terminology

3. “Economic activity” usually refers to an individual’s employment situation i.e. employed, unemployed or something else. I think that in this study you are actually measuring “work/occupational sector” rather than economic activity. I suggest changing the term.

We have changed this term

4. It seems you are using “SA”, “SA processes” and “SA situations” interchangeably. I suggest you choose one term and choosing something that is more commonly used in this literature, such as SA spell or SA episode.

We have changed this term

5. Please consider using an alternative term instead of “generate” when you write “generate SA cases” as it implies a causal relationship. For example, writing that “economic activity generates SA” gives an idea that the economic activity causes SA, even though this study consists entirely of associations.

We have changed this term

Title

6. Since this study is focusing on the employed population in 2018, I would add this information at least to the subtitle level.

We've added the year to the title

Abstract

7. I suggest rephrasing this part of the objective "... and stressing on its main characteristics". It is unclear, whether the "its" refers to the country's main characteristics (as it is now) or the SA's main characteristic (as I think the authors mean).

We were referring to the characteristics of the SA. We have changed the sentence

8. I suggest rephrasing this part of the abstract methods: "...describing incidence, prevalence and average duration, by diagnostic chapter, the number of workers in SA and average duration by age ranges and sex, diagnoses and economic activities that generate SA cases." First, "average duration by diagnosis" is mentioned twice in this sentence. Second, the high number of dependent variables that are analyzed by a high number of independent variables makes it confusing what is the main focus. Third, I do not understand what the meaning of "studying SA by the number of workers in SA" here?

We have modified the methods

9. There is a mismatch between the objectives and the reported results of the study in the abstract section: the results do not provide any information on SA in different regions, although this was set as the primary objective. I suggest adding results on regional differences in the results section.

Key messages

10. Since the regional differences is the main objective of this study, they should be mentioned in "the new findings" section.

We have removed key message

Strengths and limitations of this study

11. In the second sentence that starts "This implies..." it remains unclear to what the "this" refers to. Please clarify.

12. I think the strengths of this study are not discussed here clearly enough.

We have modified this section

Changed

13. There are no limitations mentioned here, please add some.

Se han añadido limitaciones

Limitations have been added

14. You could add some strengths and limitations that you mention in the conclusions here.

We have rewritten this section (page 2, lines 2-9)

Introduction

15. The motivation behind geographic differences remains unclear. This should be discussed in the introduction section. Why would there be regional differences, why is it interesting and what could drive regional differences?

16. I suggest moving the first chapter to methods –section as it is more about describing the Spanish Social Security system than the actual research problems. Instead, I would start the Introduction by describing the societal context and the need for this study.

We have maintained the same structure in the introduction. We have clarified some concepts that you and the other reviewer (Kristel Weerdesteijn) requested

17. On line 28 on page 5, the citation should be corrected.

There was a mistake in the numbering of the tables that has already been corrected

18. One of the advantages of this study is the use of national-level data. I think this could be better underlined. Although they are mentioned on lines 45-50, I have two comments on this: First, please be more precise when referring to what has been studied. Second, the authors mention that "...few studies... describe the current situation of such benefits..." and "...literature ... describe it...". Instead of writing "current situation of benefits" and "it", I would write more directly about "studies on the rates/incidence/prevalence of sickness absence". I would also consider referring to these studies (I think these studies also provide good reference points for the discussion section):

Gimeno D, Benavides FG, Benach J, et al. Distribution of sickness absence in the European Union countries Occupational and Environmental Medicine 2004;61:867-869.

We have used this study and it is attached in the bibliography. Reference nº15 (page 11)

Gimeno D, Bültmann Ü, Benavides F. D., Alexanderson, K, Abma, FI, Ubalde-López, M, Roelen, C.AM, Kjeldgård, L, Delclos, G.L. Cross-national comparisons of sickness absence systems and statistics: towards common indicators, European Journal of Public Health, Volume 24, Issue 4, August 2014, Pages 663–666.

We haven't used this study

Cuesta, M B. Sickness absence rates in Spain – Evidence for the period 1996–2004. Tasas de absentismo por enfermedad en España: datos para el periodo 1996–2004. Cuadernos de Economía 2012, 35(97): 1-8.

Very interesting. Thank you for the information. This article was unknown to us (reference number 19)

Material and methods

19. In lines 7-8 the citation should be corrected. Also, please rephrase this (line 37, page 6): "The mean general duration is the average of all durations per day.". I think you mean "average duration per year" not "per day"?

Indeed, it is per year. We've already corrected it

20. Please provide more information on the SA scheme in Spain: Who is covered by the Social Security system? Are there workers who are not covered by the Social Security system? What is the eligible age range, are only the employed covered or also unemployed or others outside employment? Does the sickness benefit scheme begin from the first day of work disability? In many countries, sickness allowance is paid after one or more weeks.

All workers are protected by the Social Security system. The workers excluded from the study (page 4 line 33-37) are also protected, but their system of management and control of SA is different from the rest of the workers and that is why we have excluded them.

Our database does not distinguish between employed and unemployed. We have added this to limitations of the study (page 4, line 38-40)

21. In general, are all the variables measured at a yearly level? For example, is the "employed/self-employed" status measured at some specific time of the year? If only the employed and self-employed were included in the study, how was unemployment defined? Where only those who were unemployed during the whole year excluded? What if an individual was both unemployed and employed in 2018, where they included in the study as employed or where they dropped because of the unemployment status?

All variables have been gathered at the annual level. We have just broken down the variable SA spells/1000 affiliates in occupational sector to a monthly level

22. I would mention in the material and methods sections that the diagnostic chapters are based on ICD-10 classification and I would list the precise diagnoses used I in this study.

We've added the year to the title

Results

23. As the main objective of the study was the regional differences, I would describe them first, then followed by the other characteristics – such as professional and non-professional contingencies, occupational status etc.

As our study is descriptive, we have first described the different variables and in the discussion section we have analysed the results and shown the differences between the different regions

24. Why sex, age and diagnostic differences are only studied by the SA duration and not in incidence and prevalence?

The data we have included only average duration. The incidence is included (SA spells/1000 affiliates). It has not been possible to calculate the prevalence with the data provided.

25. Why aren't the diagnoses studied by region if that is the main objective?

Our main objective is not to study the diagnoses in each region. Our aim is to describe the main characteristics that can influence SA and diagnosis is just a factor.

Tables

26. I suggest deleting the Spanish version of Table 1.

It was a mistake. We're sorry.

27. I don't think table 3 fits with the analysis or answers the study objectives.

We have replaced table 3 and added a more detailed table, with the average duration of each diagnostic chapter and each region.

We have also modified table 5, adding the SA incidence in each occupational activities.

Discussion

28. Since the regional differences were the main objective of this study, I would add more discussion on those. At the moment, regional differences are only mentioned in the last chapter of the discussion section.

We have added more regional differences

29. Please provide references for this sentence "The obtained results confirm many of the findings described by other authors at both the national and international levels."

Done!

30. Since this is a cross-sectional study, I do not think you can talk about 'trends' (refers to a change in time) (lines 27-30, page 8). If you refer to previous studies that have analysed time trends, then please clarify.

Right, we cannot talk about trends, so this comment has been deleted.

31. Please provide a reference to the "more fragile health" on line 55, on page 8.

Reference 28

32. Please be consistent when you are reporting results on SA – are you referring to incidence or prevalence, for example on line 6 and 26 on page 9?

We have modified

Conclusion

33. At the moment, the conclusion section consists entirely of strengths and limitations. Please add a summary of the results.

We have modified this section

References

34. What is the meaning of this link on line 12-13 on page 10? Should it be in the Reference list? This link is web page where data are available in a public open access repository. We added it, because the journal's recommendations requested.

Thank you very much for your comments and corrections.

VERSION 2 – REVIEW

REVIEWER	K.H.N. Weerdesteijn Amsterdam Univeristy Medical Center, The Netherlands
REVIEW RETURNED	24-May-2020

GENERAL COMMENTS	<p>I read your revised article and your comments on my earlier suggestions. I must say that you did a good job. The manuscript is so much easier to read and better to follow. In addition, you have incorporated my comments in a good way. Although, there are still some points that I like to address below:</p> <p>1. As also mentioned by the other reviewer before, your aims of the study are very broad. But as the description of your primary goal is better described in the introduction and you have made a better distinction between your secondary and primary goals in your study, your results are easier to follow now. In addition, you have stated your conclusion in a better way at the end of the manuscript.</p> <ul style="list-style-type: none"> - However, your conclusions in the abstract section are still not stated very well. Please highlight your main points, by stating what you can conclude from your main results (primary objective of the study). What do you want to reach with your results, what can you advise to others, what can you tell from your results? I can follow the line "For a better SA management,of Spain." But why is this important? I do not think the reader can follow your point here. - Furthermore, in the whole manuscript stick with the order by describing your main results first (primary objective), and then further divide this into your secondary objectives. Therefore, move the sentence "The Community of Madrid shows work-related SA." To the beginning of the result section in the abstract. <p>2. Describe your abstract more concise. I think it is too long, as the last part is not visible under the abstract link on the site of the journal.</p> <p>3. Please check grammar in the lines 12-18 and line 40 of the introduction (page 3).</p> <ul style="list-style-type: none"> - Please replace the words "the" and "it" or delete them because they are not always used correctly or are not clear enough to what or who you want to refer. - I do not think that "is certifies" is correct. - "Sheme".... I think you mean scheme. <p>4. I think that you can better move the text "In Spain, our system ... an occupational accident". (line 27-33 of the introduction) and the text "Our database doesn't distinguish ... division is made"</p>
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	<p>(line 37-39 of the results) to the method section as it does not contribute to your primary goal and results. It is more important for describing your 'participants'.</p> <p>5. Please check the words "in" and "if" in the result section. The words are mixed-up several times.</p>
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REVIEWER	Laura Salonen University of Turku Finland
REVIEW RETURNED	25-May-2020

GENERAL COMMENTS	<p>I am pleased to see that the authors have made a big effort in improving the manuscript. I think this an important study, which is why I feel it is very crucial to be as clear as possible in terms of study objectives, methods and readability. I still have some comments and suggestions, which I think would help to improve the manuscript in this regard. Additionally, I think this study is very ambitious in its goals. It is hard to create a well-defined and coherent study with multiple independent, dependent and stratifying variables. I also provide some suggestions that I believe would help to create a more unified story to the study.</p> <p>GENERAL NOTATIONS Now that the study objectives, results and discussions are more concentrated on the regional differences, I would like to see a more detailed rationale for the regional stratification (see the last point in comment #9). Also in the discussion section, more about the possible causes of regional differences could be provided (see comment #23). Lastly, the authors could consider adding this to the title, f.em. – "Descriptive study of sickness absence in Spanish regions in 2018".</p> <p>Please be consistent in the terminology. In the manuscript, "diagnosis" (f.em. page 9, line 1), "diagnostic chapter" (f.em. page 8, line 38), "diagnosis chapter" (f.em. table 3) and "diagnostic group" (f.em. page 7, line 3) are used interchangeably.</p> <p>ABSTRACT</p> <ol style="list-style-type: none"> 1. I think you are providing a national, not a global description of the SA in Spain. I suggest changing the word global to national everywhere in the study. 2. On page 3, line 3, please provide a full meaning of the abbreviation "SA" when you present it for the first time. 3. I suggest removing this phrase "SA is one of the benefits of the Social Security system whose economic 26 cost was 11,554,711.16 euros in 2019, 8.89% of the general Social Security budget for 27 that year" from the abstract conclusions, as it is more about background information than conclusion of the study. <p>STRENGTHS AND LIMITATIONS OF THIS STUDY</p> <ol style="list-style-type: none"> 4. First bullet point: It is unclear what is meant by "thoroughness" of the data. Please use a more specific term or describe what is meant by thoroughness of the data. 5. Last bullet point: For clarity, I suggest changing the word "It" to "the study". In general, I recommend avoiding the use of words such as "it" or "they" when it is possible to write the objective these words are referring to. This would help to clarify the text. Further, although you are not able to establish causal relationships, I would not say that the study "did not allow concluding relationships..." because you are concluding associations (which is a relationship).
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	<p>6. I would add other study limits. At the moment you are providing only one.</p> <p>INTRODUCTION</p> <p>7. On page 5, line 11, it is unclear what is meant by “ the economic amount”. Please clarify or rephrase.</p> <p>8. Thorough the introduction you use the terms “common disease and non-occupational accident” and “occupational accidents or professional illness” and in the results section you use the terms “non-work-related” and “work-related”. I suggest using only one of these terms during the manuscript.</p> <p>9. On page 6, lines 5-10: First, the phrase “...shows significant differences between...” does not include information on in what are they differing. If you mean regional differences, then I suggest rephrasing this sentence: “The 2018 Labour Force Survey (reference!) show significant regional differences in the employment rate, main occupational activities ...”. Second, what does “health resources” mean? Are you referring to health care resources? Third, if you are still referring to regional differences here, then I suggest rephrasing the last sentence of this chapter: “However, there are no significant regional differences...”</p> <p>10. In the next chapter (page 6, lines 11-13) I would suggest being more precise on what differences you are referring to. Since there were no regional differences in the prevalence and incidence of diseases, one could assume that, the differences in SA would be small or non-existent. I suggest rephrasing the first sentence to something following: “Considering these regional differences in the labour market composition, and health care resources and expenditures ... “ (or include whatever factors you think would contribute to SA differences between regions).</p> <p>11. On page 6, lines 21-22, “... stressing on the main characteristics and differences ...”. The main characteristics of what and differences between what are you referring to here? Please be more specific.</p> <p>MATERIALS AND METHODS</p> <p>12. On page 7, line 1, I suggest writing “we used 2018 ...” instead of “we have used...”</p> <p>13. On page 7, line 9, I suggest changing “it is” to “this is”</p> <p>14. Please describe how the unemployed are treated. Are they not included in parts of the analysis of the study?</p> <p>RESULTS</p> <p>15. On page 7, lines 32-37, I think this information belongs to Materials and methods –section.</p> <p>16. Please write everything in the same past tense (is □ was).</p> <p>17. To be consistent, I would write everything in a passive mode. On lines 32-33 I would write, for example, “The prevalence of non-work-related SA was 32,68/1000 among employed and 30,48/1000 among self-employed” instead of writing “if you are ... “. Similar notation applies for the use of the word “your” on page 10, line 23.</p> <p>18. Please use “SA” instead of “sick leave”: on page 8, line 20 and on page 9, line 40.</p> <p>19. On page 9, lines 1-12, why are some titles and some occupations in italic while some are not?</p> <p>20. On page 9, lines 2-4, it remains unclear to me, what is the relevance of Table 4. Why did you choose exactly eight most common diagnoses? Why are you only describing “Sickness</p>
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absence spells/per year”, and not, for example the incidence, prevalence or SA spell (per 1000 affiliates / per month)?

DISCUSSION

21. I think you should present your results in the results section and discuss the results in the discussion section in the same order. Now, each paragraph in the results section starts by presenting the results stratified by work-related and non-work-related, and then by region. The discussion section starts the other way around by presenting region-related results first and work-related / non-work-related results after. Furthermore, I think this ordering should follow the order of importance of the study objectives introduced at the end of the Introduction section. (general objective was about regional differences, and specific objectives were about stratifying by age, sex and occupation). Furthermore, especially the results section and to some extent the discussion section are mainly focused on stratifying the results by work-related and non-work-related SAs. If this is central, it should be mentioned already in the study objectives (at the end of the Introduction).

22. On page 9, line 1 and lines 5-6, I think in these titles you can just write “SA spells by diagnostic group” and “SA spells by occupations” since you already described these abbreviations in the Materials and Methods section.

23. On page 9, lines 18-20, you write that Aragon and Community of Madrid are on the national average in terms of SA prevalence. In the next sentence, where stratify by non-work- and work-related SA, you write that Aragon is one the regions that are below the average – how is this possible since Aragon had also the national average? Did the national average change after stratifying? If yes, then please describe which region was on the new national average.

24. Since you have information on the sex, age, employment status, occupational and diagnostic composition of the regions, could these explain some of the regional differences in the SA incidence/prevalence?

25. On page 9, line 36, I think you mean “the incidence of SA between the employees and self-employed...” and not “the incidence of employees...”

26. I suggest writing “employees” instead of “the rest of the workers” to be consistent.

27. On page 10, lines 9-11, you write “Besides, the longest duration is for oncological diseases and mental disorders, the origin of which is usually unrelated to work.” However, a strong agreement exists in the literature that mental disorders are one of the most important diagnoses related to well-being at work – both as a cause and as a consequence. Thus claiming that mental disorders are unrelated to work requires a strong justification.

28. On page 10, lines 17-29, starts with describing sex differences and continues with describing age differences and the possible mechanisms behind age differences. The following chapter on lines 30-43 continues with sex differences, although the second sentence of the chapter describes again age differences. I suggest writing one chapter about the age differences and another about sex differences.

29. On page 11, line 10, what is meant by “The frequency” (of SA) and by “function”?

30. I do not find it surprising that employees working in the public sector would have a higher incidence or prevalence of SA than those working in the private sector. For example, in many

	<p>countries, the former have more often permanent contracts, more stable and secure jobs, and better health insurance. However, I am not familiar with the Spanish situation or the previous studies conducted in Spain on this subject.</p> <p>KEY MESSAGES</p> <p>31. First bullet point of “what are the new finding?”. Please add “of SA” after “...a much higher incidence” and “...the average duration”</p> <p>32. Again, frequency is not defined in the manuscript. What does it refer to if not incidence or prevalence?</p>
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VERSION 2 – AUTHOR RESPONSE

REVIEWER: 1

1. As also mentioned by the other reviewer before, your aims of the study are very broad. But as the description of your primary goal is better described in the introduction and you have made a better distinction between your secondary and primary goals in your study, your results are easier to follow now. In addition, you have stated your conclusion in a better way at the end of the manuscript.

- However, your conclusions in the abstract section are still not stated very well. Please highlight your main points, by stating what you can conclude from your main results (primary objective of the study). What do you want to reach with your results, what can you advise to others, what can you tell from your results? I can follow the line “For a better SA management,of Spain.” But why is this important? I do not think the reader can follow your point here.

We have changed the conclusions in abstract section, page 1 lines 24-27

- Furthermore, in the whole manuscript stick with the order by describing your main results first (primary objective), and then further divide this into your secondary objectives. Therefore, move the sentence “The Community of Madrid shows work-related SA.” To the beginning of the result section in the abstract.

We have removed the sentence, page 1, lines 19-20

2. Describe your abstract more concise. I think it is too long, as the last part is not visible under the abstract link on the site of the journal.

We have changed

3. Please check grammar in the lines 12-18 and line 40 of the introduction (page 3).

- Please replace the words “the” and “it” or delete them because they are not always used correctly or are not clear enough to what or who you want to refer.

We have replaced

- I do not think that “is certifies” is correct.

We have changed.

- “Sheme”.... I think you mean scheme.

We have changed, page 3, line 27. Thank you for your correction.

4. I think that you can better move the text “In Spain, our system an occupational accident”. (line 27-33 of the introduction) and the text “Our database doesn’t distinguish ... division is made” (line 37-39 of the results) to the method section as it does not contribute to you primary goal and results. It is more important for describing your ‘participants’.

We have moved, page 4 , lines 35-41, pages 5, lines 1-3

5. Please check the words “in” and “if” in the result section. The words are mixed-up several times.

We have changed

Thank you very much for your comments and corrections.

REVIEWER: 2

GENERAL NOTATIONS

Now that the study objectives, results and discussions are more concentrated on the regional differences, I would like to see a more detailed rationale for the regional stratification (see the last point in comment #9). Also in the discussion section, more about the possible causes of regional differences could be provided (see comment #23). Lastly, the authors could consider adding this to the title, f.em. – “Descriptive study of sickness absence in Spanish regions in 2018”.

We have changed

Please be consistent in the terminology. In the manuscript, “diagnosis” (f.em. page 9, line 1), “diagnostic chapter” (f.em. page 8, line 38), “diagnosis chapter” (f.em. table 3) and “diagnostic group” (f.em. page 7, line 3) are used interchangeably.

We have changed

ABSTRACT

1. I think you are providing a national, not a global description of the SA in Spain. I suggest changing the word global to national everywhere in the study.

We have changed

2. On page 3, line 3, please provide a full meaning of the abbreviation “SA” when you present it for the first time.

We have changed

3. I suggest removing this phrase “SA is one of the benefits of the Social Security system whose economic cost was 11,554,711.16 euros in 2019, 8.89% of the general Social Security budget for 2019 that year” from the abstract conclusions, as it is more about background information than conclusion of the study.

We have removed, page 3, lines 29-30

STRENGTHS AND LIMITATIONS OF THIS STUDY

4. First bullet point: It is unclear what is meant by “thoroughness” of the data. Please use a more specific term or describe what is meant by thoroughness of the data.

We've suppressed it

5. Last bullet point: For clarity, I suggest changing the word “it” to “the study”. In general, I recommend avoiding the use of words such as “it” or “they” when it is possible to write the objective these words are referring to. This would help to clarify the text. Further, although you are not able to establish causal relationships, I would not say that the study “did not allow concluding relationships...” because you are concluding associations (which is a relationship).

We have changed

6. I would add other study limits. At the moment you are providing only one.

We've added more limitations, page 2, line 8

INTRODUCTION

7. On page 5, line 11, it is unclear what is meant by “the economic amount”. Please clarify or rephrase.

We have changed, page 3, lines 38-40, page 4, lines 1-7

8. Throughout the introduction you use the terms “common disease and non-occupational accident” and “occupational accidents or professional illness” and in the results section you use the terms “non-work-related” and “work-related”. I suggest using only one of these terms during the manuscript.

We have changed

9. On page 6, lines 5-10: First, the phrase “...shows significant differences between...” does not include information on in what are they differing. If you mean regional differences, then I suggest rephrasing this sentence: “The 2018 Labour Force Survey (reference!) show significant regional differences in the employment rate, main occupational activities ...”. Second, what does “health resources” mean? Are you referring to health care resources? Third, if you are still referring to regional differences here, then I suggest rephrasing the last sentence of this chapter: “However, there are no significant regional differences...”

We have changed, page 4, lines 1-7

10. In the next chapter (page 6, lines 11-13) I would suggest being more precise on what differences you are referring to. Since there were no regional differences in the prevalence and incidence of diseases, one could assume that, the differences in SA would be small or non-existent. I suggest rephrasing the first sentence to something following: "Considering these regional differences in the labour market composition, and health care resources and expenditures ... " (or include whatever factors you think would contribute to SA differences between regions).

This study finds it difficult to draw conclusions about the causes of these findings

11. On page 6, lines 21-22, "... stressing on the main characteristics and differences ...". The main characteristics of what and differences between what are you referring to here? Please be more specific.

We believe that we have explained it better, by modifying this paragraph

MATERIALS AND METHODS

12. On page 7, line 1, I suggest writing "we used 2018 ..." instead of "we have used..."

We have changed

13. On page 7, line 9, I suggest changing "it is" to "this is"

We have changed.

14. Please describe how the unemployed are treated. Are they not included in parts of the analysis of the study?

Our study does not include unemployed workers, because they do not receive SA benefits

RESULTS

15. On page 7, lines 32-37, I think this information belongs to Materials and methods –section.

We have changed, this information is on page 5 line 1-3.

16. Please write everything in the same past tense (is \diamond was).

We have changed

17. To be consistent, I would write everything in a passive mode. On lines 32-33 I would write, for example, "The prevalence of non-work-related SA was 32,68/1000 among employed and 30,48/1000 among self-employed" instead of writing "if you are ... ". Similar notation applies for the use of the word "your" on page 10, line 23.

We have changed

18. Please use "SA" instead of "sick leave": on page 8, line 20 and on page 9, line 40.

We have changed

19. On page 9, lines 1-12, why are some titles and some occupations in italic while some are not?

We have changed

20. On page 9, lines 2-4, it remains unclear to me, what is the relevance of Table 4. Why did you choose exactly eight most common diagnoses? Why are you only describing "Sickness absence spells/per year", and not, for example the incidence, prevalence or SA spell (per 1000 affiliates / per month)?

We have changed a Table 4, pages 19-22

DISCUSSION

21. I think you should present your results in the results section and discuss the results in the discussion section in the same order. Now, each paragraph in the results section starts by presenting the results stratified by work-related and non-work-related, and then by region. The discussion section starts the other way around by presenting region-related results first and work-related / non-work-

related results after. Furthermore, I think this ordering should follow the order of importance of the study objectives introduced at the end of the Introduction section. (general objective was about regional differences, and specific objectives were about stratifying by age, sex and occupation). Furthermore, especially the results section and to some extent the discussion section are mainly focused on stratifying the results by work-related and non-work-related SAs. If this is central, it should be mentioned already in the study objectives (at the end of the Introduction).

We have changed, page 7, lines 12-16

22. On page 9, line 1 and lines 5-6, I think in these titles you can just write "SA spells by diagnostic group" and "SA spells by occupations" since you already described these abbreviations in the Materials and Methods section.

We have changed

23. On page 9, lines 18-20, you write that Aragon and Community of Madrid are on the national average in terms of SA prevalence. In the next sentence, where stratify by non-work- and work-related SA, you write that Aragon is one the regions that are below the average – how is this possible since Aragon had also the national average? Did the national average change after stratifying? If yes, then please describe which region was on the new national average.

We've specified it better, page7, lines 17-24

24. Since you have information on the sex, age, employment status, occupational and diagnostic composition of the regions, could these explain some of the regional differences in the SA incidence/prevalence?

It has not been possible to explain these differences, taking into account the type of study carried out

25. On page 9, line 36, I think you mean "the incidence of SA between the employees and self-employed..." and not "the incidence of employees..."

We have changed

26. I suggest writing "employees" instead of "the rest of the workers" to be consistent.

We have changed, page 8, line 6

27. On page 10, lines 9-11, you write "Besides, the longest duration is for oncological diseases and mental disorders, the origin of which is usually unrelated to work." However, a strong agreement exists in the literature that mental disorders are one of the most important diagnoses related to well-being at work – both as a cause and as a consequence. Thus claiming that mental disorders are unrelated to work requires a strong justification.

We have deleted this data. We simply wanted to say that cancer diseases and psychiatric problems are not considered in Spain as occupational diseases, according to RD 1999/2006, but we know the relationship they have with work.

28. On page 10, lines 17-29, starts with describing sex differences and continues with describing age differences and the possible mechanisms behind age differences. The following chapter on lines 30-43 continues with sex differences, although the second sentence of the chapter describes again age differences. I suggest writing one chapter about the age differences and another about sex differences.

We have changed

29. On page 11, line 10, what is meant by "The frequency" (of SA) and by "function"?

We have delated this data

30. I do not find it surprising that employees working in the public sector would have a higher incidence or prevalence of SA than those working in the private sector. For example, in many countries, the former have more often permanent contracts, more stable and secure jobs, and better health insurance. However, I am not familiar with the Spanish situation or the previous studies conducted in Spain on this subject.

You're right. It's also the same in Spain

KEY MESSAGES

31. First bullet point of “what are the new finding?”. Please add “of SA” after “...a much higher incidence” and “...the average duration”

We have changed, pag 10, line 13

32. Again, frequency is not defined in the manuscript. What does it refer to if not incidence or prevalence?

Frequency we refer to the net SA number, but we have preferred to delete this word and simply speak of SA number (usually per 1000 affiliates)

Thank you very much for your comments and corrections.

Your feedback has been a great help to us and we believe that our study has been enriched.

VERSION 3 – REVIEW

REVIEWER	K. Weerdesteijn Amsterdam University Medical Center
REVIEW RETURNED	13-Jul-2020

GENERAL COMMENTS	I only have one minor point left and one minor suggestion/option: Point: I miss the context of the duration in the tables 1 and 3. I think you mean days? Suggestion: to make the manuscript easier to read you can try to make the flow better or you may use more subheadings in the material and method section.
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REVIEWER	Laura Salonen University of Turku Finland
REVIEW RETURNED	13-Jul-2020

GENERAL COMMENTS	<p>In general</p> <ol style="list-style-type: none">1. Please be consistent in the use of either passive or third-person term AND in the use of time tense thorough the text.2. I would not refer to “our country” “our system” etc. Instead, just write “In Spain...” or “In the Spanish system...” thorough the text.3. To be more clear, avoid using “it”, “its” or “they were” as they make the already complicated results difficult to follow. Prefer full sentences.4. You are still listing only one limitation. <p>Abstract</p> <ol style="list-style-type: none">5. Please complete the sentence in Objectives – main characteristics in what?6. Methods: The first sentence is lacking a subjective. Please add “SA” after “incidence, prevalence and average duration in...”7. Results: you report that the average prevalence in non-work related SA spells was 32.98/1000 among employed and 30.48/1000 among self-employed. Then you report again that work-related SA spells it (what? prevalence?) was 3.99/1000. Why is the SA prevalence reported twice for work-related SA spells and only once for non-work related? What is the difference between these reported numbers (30.48/1000 and 3.99/1000) ?8. By “national incidence” do you mean “national average (of SA incidence)”?
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9. You report diagnosis-related results both with apostrophes and without – please use one way of writing.
10. Last sentence of results: Instead of “the ones” I would refer these to as “occupations”.
11. As stated earlier, the order of which you are presenting your results (regional differences or work-relatedness first) is different in the abstract section compared to other sections (results, discussion). Please be precise in presenting your results. I think the reviewer #1 is also referring to the same issue – state your primary and secondary goals and report the results accordingly systematically in every (relevant) section of the manuscript.
12. Conclusions: Please correct the first sentence of the conclusions – are you missing a word after “and” or is it an extra word?

Introduction

13. Since this paper is not principally about social security law, social security system or the changes in them, I would not begin this paper by describing law articles. I think this is more about study context, not the focus of it study itself. Thus I would move it to the Data and methods section. In general, a large part of the Introduction section focuses on the context of the study (Spanish demographics and social security system in Spain). All this belongs to the Data and methods section. I would start the Introduction by describing what is known so far and then moving into describing the knowledge gaps in the field. At the moment, this section is described only in the last three sections in the Introduction.
14. Please rephrase the general objective: main characteristics of what? and differences in what or between what?
15. Please complete the last sentence.

Material and methods

16. In this sentence “We also described the number of workers in SA per 1000 affiliates”, what do you mean by “workers *in* SA”? Who received sickness absence? who were entitled to sickness absence?

Results

17. Please add the title “Results” to this section
18. Please delete the word “is” from the first sentence of this chapter.
19. Instead of writing “it” I would write “the corresponding numbers in xxx were yyy...”.
20. The results presented in the first chapter are difficult to follow: they are jumping back-and-forth between “non-work related” and “work-related” and “employed” “self-employed” and unclarified groups of people. Please try to clarify the reporting of the results.
21. Please use the word “SA” more often in the results section. For example, instead of writing “the average duration was...” or “the incidence of non-work-related was...” write “the average duration of SA...” and “the incidence of non-work-related SA was...”.

Table 1. The work-related –column is missing the text “employed” “self-employed” or “all”? Please write both “non-work related” and “work-related” with or without “SA”.

Discussion

22. At the moment, the results are discussed in an unclear manner. Please see comment #10.

	<p>23. Please write out what are the confirmed findings that you are referring to here: “The obtained results confirm many of the findings described by other authors at both the national and international levels.”</p> <p>24. Third chapter: “It is difficult to know the reasons for these differences” differences in what? or differences between what?</p> <p>25. “There was a significant difference in the incidence of SA between the employed and self-employed which was much higher in the former. This was in line with the results obtained in other studies conducted in Spain and at an international level” could you provide some (possible) explanations to why would this be?</p> <p>26. “The average duration was shorter in all regions...” shorter than what?</p> <p>27. “Besides, the longest duration was for oncological diseases and mental disorders, the origin of which is usually unrelated to work.” in the last review, you said you deleted this part from the study, but it’s still here? I don’t think you can say that these diseases are “unrelated to work”. If you want to keep this sentence, explain it to the reader in a similar fashion as you explained to me in the previous review.</p> <p>28. As noted already in previous review rounds, you are using apostrophes inconsistently when referring to diagnoses. Please be consistent in their use.</p> <p>29. Please provide a reference here “These activities have a high level of job instability, with a high worker turnover and very short term contracts.”</p> <p>30. Please provide a reference here “They are often temporary and unstable jobs, and many young people work and study at the same time.”</p> <p>31. Since the main focus of this study is (at least in the beginning stated to be) in regional differences, I would like to see more possible explanations to the regional differences in the discussion section.</p> <p>Conclusions</p> <p>32. “The regions that show the most difference” difference in what?</p> <p>33. Please use the term “region” or “autonomous community” consistently through the text.</p> <p>Key messages</p> <p>34. “and greater risk of disease, unemployment, and death in Spain and nearby countries.” Please correct this sentence, I think you mean “increases the risk of “ ?</p>
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VERSION 3 – AUTHOR RESPONSE

REVIEWER: 2

In general

1. Please be consistent in the use of either passive or third-person term AND in the use of time tense thorough the text.

We have removed. Thank you for your correction.

2. I would not refer to “our country” “our system” etc. Instead, just write “In Spain...” or “In the Spanish system...” thorough the text.

We have removed

3. To be more clear, avoid using “it”, “its” or “they were” as they make the already complicated results difficult to follow. Prefer full sentences.

We have removed

4. You are still listing only one limitation.

We highlight these four limitations:

- This study has not always been possible to compare the data between employed and self-employed workers.
- It has not always been possible to distinguish in this study between non-work-related and work-related in all SA spells
- SA spells lasting less than 4 days has not been included in this study.
- In this study we have not been able to analyze the factors involved in the SA in Spain

Abstract

5. Please complete the sentence in Objectives – main characteristics in what?

We have completed it

6. Methods: The first sentence is lacking a subjective. Please add “SA” after “incidence, prevalence and average duration in...”

We’ve added it

7. Results: you report that the average prevalence in non-work related SA spells was 32.98/1000 among employed and 30.48/1000 among self-employed. Then you report again that work-related SA spells it (what? prevalence?) was 3.99/1000. Why is the SA prevalence reported twice for work-related SA spells and only once for non-work related? What is the difference between these reported numbers (30.48/1000 and 3.99/1000) ?

Our database doesn’t distinguish between employed and self-employed workers in the case of work-related SA. However, in non-work-related SA such division is made.

The meaning of this difference is explained in the results section.

8. By “national incidence” do you mean “national average (of SA incidence)”?

SA incidence

9. You report diagnosis-related results both with apostrophes and without – please use one way of writing.

We’ve corrected it

10. Last sentence of results: Instead of “the ones” I would refer these to as “occupations”.

We’ve corrected it

11. As stated earlier, the order of which you are presenting your results (regional differences or work-relatedness first) is different in the abstract section compared to other sections (results, discussion). Please be precise in presenting your results. I think the reviewer #1 is also referring to the same issue – state your primary and secondary goals and report the results accordingly systematically in every (relevant) section of the manuscript.

12. Conclusions: Please correct the first sentence of the conclusions – are you missing a word after “and” or is it an extra word?

Sorry. And it’s a typo. We’ve eliminated it

Introduction

13. Since this paper is not principally about social security law, social security system or the changes in them, I would not begin this paper by describing law articles. I think this is more about study context, not the focus of it study itself. Thus I would move it to the Data and methods section. In general, a large part of the Introduction section focuses on the context of the study (Spanish demographics and social security system in Spain). All this belongs to the Data and methods section. I would start the Introduction by describing what is known so far and then moving into describing the

knowledge gaps in the field. At the moment, this section is described only in the last three sections in the Introduction.

Sorry. It has not been possible to make this suggested change, because for us the article was lost coherence

14. Please rephrase the general objective: main characteristics of what? and differences in what or between what?

We've corrected it

15. Please complete the last sentence.

We've corrected it

Material and methods

16. In this sentence "We also described the number of workers in SA per 1000 affiliates", what do you mean by "workers *in* SA"? Who received sickness absence? who were entitled to sickness absence?

In our benefit system, not all workers are entitled to SA, because in order to receive the corresponding economic amount per SA it is necessary to be affiliated with social security, have paid the corresponding contributions and have quoted a minimum of 6 months in the last 5 years. The calculations have therefore been obtained on the part of the social security workers who meet this requirement.

Results

17. Please add the title "Results" to this section

We've added it

18. Please delete the word "is" from the first sentence of this chapter.

We have deleted it

19. Instead of writing "it" I would write "the corresponding numbers in xxx were yyy...".

Sorry. It has not been possible to make this change, because we exceeded the number of words

20. The results presented in the first chapter are difficult to follow: they are jumping back-and-forth between "non-work related" and "work-related" and "employed" "self-employed" and unclarified groups of people. Please try to clarify the reporting of the results.

These terms have already been clarified in the introduction section and material and methods

21. Please use the word "SA" more often in the results section. For example, instead of writing "the average duration was..." or "the incidence of non-work-related was..." write "the average duration of SA..." and "the incidence of non-work-related SA was..."

We've added it

Table 1. The work-related –column is missing the text "employed" "self-employed" or "all"? Please write both "non-work related" and "work-related" with or without "SA".

We've already added it

Discussion

22. At the moment, the results are discussed in an unclear manner. Please see comment #10.

23. Please write out what are the confirmed findings that you are referring to here: "The obtained results confirm many of the findings described by other authors at both the national and international levels."

It's a generic phrase. Then we break down the results

24. Third chapter: "It is difficult to know the reasons for these differences" differences in what? or differences between what?

The differences in the prevalence of SA in different regions

25. "There was a significant difference in the incidence of SA between the employed and self-employed which was much higher in the former. This was in line with the results obtained in other

studies conducted in Spain and at an international level” could you provide some (possible) explanations to why would this be?

We've added a possible explanation

26. “The average duration was shorter in all regions...” shorter than what?

With respect to the average duration in non-word-related SA

27. “Besides, the longest duration was for oncological diseases and mental disorders, the origin of which is usually unrelated to work.” in the last review, you said you deleted this part from the study, but it's still here? I don't think you can say that these diseases are “unrelated to work”. If you want to keep this sentence, explain it to the reader in a similar fashion as you explained to me in the previous review.

As we have already clarified in various parts of the article, in Spain are considered work-related SA, only the diseases that are included in the Royal Decree 1299/2006

And of course we share with you that possible cause, the relationship with work, but not all neoplastic, cardiovascular or psychic processes are considered occupational diseases in our country, because it is not legally contemplated that way.

28. As noted already in previous review rounds, you are using apostrophes inconsistently when referring to diagnoses. Please be consistent in their use.

We have deleted it. Thank you for your correction.

29. Please provide a reference here “These activities have a high level of job instability, with a high worker turnover and very short term contracts.”

Reference 40

30. Please provide a reference here “They are often temporary and unstable jobs, and many young people work and study at the same time.”

Reference 40

31. Since the main focus of this study is (at least in the beginning stated to be) in regional differences, I would like to see more possible explanations to the regional differences in the discussion section. No further explanations have been found

Conclusions

32. “The regions that show the most difference” difference in what?

We have completed it

33. Please use the term “region” or “autonomous community” consistently through the text.

We've changed Autonomous Community by regions

Key messages

34. “and greater risk of disease, unemployment, and death in Spain and nearby countries.” Please correct this sentence, I think you mean “increases the risk of “ ?

Yes, we agree with you. Thank you

REVIEWER: 1

1. I only have one minor point left and one minor suggestion/option:

Point: I miss the context of the duration in the tables 1 and 3. I think you mean days?

We've added it. Thank you for your correction.

2. Suggestion: to make the manuscript easier to read you can try to make the flow better or you may use more subheadings in the material and method section.

Yes, we agree with you. We've added it.

Thank you very much for your comments and corrections.

Your feedback has been a great help to us and we believe that our study has been enriched.