

Peer Review File

Article information: <https://dx.doi.org/10.21037/jtd-21-1108>.

Reviewer A:

Major remarks

Comment 1: It may be interesting to include the presentation of the distribution of age of specialists in the context of different specialties as it was achieved in the context of gender differences.

Reply 1: Thanks so much for your review. Specific data on age and gender distribution in most specialties were updated in 2018. We have included the demographic data on the Thoracic Surgery workforce in the Country and compared to Vascular and Cardiac surgery in Table I. Also new reference (number 13th) has been included in the text and consequently reference numbers have been modified.

Changes: Title of the section “Thoracic Surgery services around the Country” changed to “Thoracic Surgery workforce and services around the Country”. In the same section, the following text has been included: “According to data published in 2018 (13), 244 certified thoracic surgeons were working in the Spanish network of public hospitals, representing 0.5 specialists per 100,000 habitants. At that time, almost one third were female. Gender differences almost disappear in the subset of specialists aged 30 to 39, where half of them were female. On Table 1 we are comparing demographic data of three related specialties: Thoracic, Vascular and Cardiac Surgery”. Reference 13th and Table 1 added.

Comment 2: Lines 72-74. I would delete the section about the experience of the authors. Their names are well recognized in the field of general thoracic surgery, and in my opinion further presentation is obsolete.

Reply 2: We totally agree.

Changes: Please see after comments from Reviewer B since most of the text of the Abstract section has been modified according to your and his/her comments.

Minor remarks

Comment: The SI unit would be km instead of Km.

Changes: km instead of Km

Comment: Lines 195-201 Different font.

Changes: Calibri font changed to Times New Roman

Comment: Line 242. The abbreviation RNM should be explained.

Changes: RNM changes to “magnetic resonance image (MRI)”

Reviewer B:

I thank the authors for their contribution to the invited article. I have few comments open to their perspective

Comment 1: The abstract looks great; I believe the last few sentences were written for avoiding the misunderstanding and hurt authors position or mission are needed. But these could be shortened and purified. This would be just mentioning that the observational and sourced data has been expressed by the authors' group perspective (just a clear sentence)

Reply 1. Thanks for your kind comments. The abstract has been modified according to your suggestions and those from Reviewer A.

Changes: The new abstract text is: "This manuscript reports the current situation of Thoracic Surgery in Spain in terms of national spread of thoracic units, education, technological development, and other relevant aspects. Thoracic Surgery national workforce is also reviewed and compared to sister specialities. Prospects and authors' recommendations for development are included".

Some changes have been also included in the Introduction paragraph: "In this article we discuss some of the most relevant features of the current situation, achievements, and future expectations of the speciality of Thoracic Surgery in our country. It also includes some reflections and suggests changes that could improve the future development of our speciality at the national level".

Comment 2: The sentences starting from line 85 to 90 would be modified to discussion or the last part of the manuscript.

Reply 2: You are quite right. The sentence has moved to the final comments.

Comment 3: Geographic particularities and population- Politics, administrative divisions, and economy might be shortened and detailed information might be given in health system and thoracic surgery workload parts.

Reply 3: Text shortened accordingly.

Changes: After deleting some sentences, this is the new text for geography description: "Spain (formally the Kingdom of Spain) is the second-largest country in the European Union, with an area of 505.990 km². Most of the Spanish territory is European continental but includes also the Canary and Balearic Islands and other small territories in the North Coast of Morocco.

In mid-2020, the Spanish population was 47.450.795 people (24.195.205 women).

According to the National Institute of Statistics (Instituto Nacional de Estadística, INE) 5.434.153 people were immigrants residing permanently in the Spanish territory (1).

Increased life expectancy and decreased birth rates during the last decades (Figure 1) is to note. Currently, 26.3% of the Spanish population are 60 or older, compared to 21.5% in 2000 and 15.2% in 1980 (2). As we will see later, these figures must be considered due to its influence on Thoracic Surgery practice, since most lung cancer cases are diagnosed in advanced age patients”.

And this is for Politics, administration, and economy: “The unitary state of Spain is composed by 17 autonomous communities and 2 autonomous cities, with varying degrees of autonomy.

Spain is a member country of the European Union (EU) since January 1, 1986 and became a member of the Eurozone since January 1, 1999. Spain is also a member country of the Schengen Area since March 26, 1995 (3).

With a gross domestic product (GDP) of \$1.45 trillion, Spain is 14th in the World rank and 4th in the EU behind Germany, France, and Italy (4). According to the World Data Bank, in 2019 Spain was the 16th larger exporter in the World (5).

The tourism industry is an important economic driver in the country, accounting for about 11% of the nation’s annual GDP”.

Comment 4: Line 239. more than half of all anatomical resection in the country are performed via VATS with reference 14 might be given in numbers and more detailed pattern (if possible) this was done very well for lung transplantation numbers.

Reply 4: Previous reference 14 is a report of a cooperative multi-centric study from teams specifically interested and devoted to VATS surgery, nor representing the current national situation. Going deeper in data offered in that report could not represent a real picture of the situation in Spain. With all due respect to your suggestion, we have opted for keeping the information as is. An analysis in depth would take much more time and methodology would be quite different to the one in this review.

Changes: None.

Comment 5: 240. subtitle education may be located separately (not in the comment part in the previous parts)

Reply 5: Previous subheadings on education include the access and description of the training program, and the recognition of medical certifications in Europe. The paragraph “Education” at the Comments section is suggesting some improvements or changes recommended by the authors.

Changes: None

Comment 6: According to the authors’ institution some numbers and distribution of

work load lung tumour, secondary cancer, palliative approach (malignant pleural effusion) , non malignant surgical indications, trauma could be mentioned (this not not mandatory just an idea so consider on that view)

Reply 6: You are quite reight, unfortunately, due to the absence of a national database we were unable to include these data. The limitation has been commented at the end of the text.

Changes: This sentence included: “These kinds of projects would be very much facilitated by the implementation of a national database of surgical thoracic procedures sponsored by related professional and scientific societies”.

Comment 7: As mentioned in text the ratio between male and female , the total number of existing specialist, academic staff and resident might be additive

Reply 7: Thanks for this suggestion which has been also recommended by Reviewer A. Recently published data on the national Thoracic Surgery workforce, including age and gender distribution has been included in the text.

Changes: New paragraph, reference 13th and Table 1 have been included and, accordingly reference numbers have been changed along the text. New paragraph: “According to data published in 2018 (13), 244 certified thoracic surgeons were working in the Spanish network of public hospitals, representing 0.5 specialists per 100,000 habitants. At that time, almost one third were female. Gender differences almost disappear in the subset of specialists aged 30 to 39, where half of them were female. On Table 1 we are comparing demographic data of three related specialities: Thoracic, Vascular and Cardiac Surgery”.

Comment 8: The figure legends do not need to be underlined

Reply 8: Underlined deleted in all figures.

Reviewer C:

Congratulations to the authors for presenting a clear and very well structured manuscript about the current situation of the Thoracic Surgery in Spain.

I have enjoyed the paper but i found minor issues that should amended before recommending the paper for review.

Comment 1: - English needs a native speaking review. There are some sentences or parts of a section that need a refinement of the language although most of the work is perfect.

Reply 1: Thank you very much for your kind comments. Text has been re-edited.

Comment 2: - In line 261, authors refer to a data from December 2021. This is a typo. Please, amend it to the adequate date.

Reply 2: December 2020.

Reviewer D:

Comment: Well written article. Remarkable exposure of the data.

Reply: Thanks for your comments and reading.

Reviewer E:

Comment 1: -on line 162: grammatical error “such as oesophageal...” instead of “such are oesophageal...”

Reply 1: Thanks for reading and commenting.

Changes: Modified in text

Comment 2: -number of authors cited in each reference of the manuscript should follow a preestablished journal instruction, if it is so established

Reply 2: References 9, 11, 14, 16, 17, 18, 19, 24 modified accordingly.

Comment 3: -references number 14 and 20 are both the same (repeated)

Reply 3: Thanks so much for noticing. Duplicate reference deleted.

Comment 4: -No comparisons with other countries are expressed (number of thoracic surgery units per million habitants, number of major thoracic procedures yearly per thoracic surgery units, etc.) in the manuscript. Authors could add some paragraphs and figures about it or it is that way according to any fixed structure of the series “thoracic surgery worldwide”.

Reply 4: We have been invited by the Editor to report on the current status of Thoracic Surgery in Spain. We have tried hard to obtain as much information as possible from available sources including the Spanish the Ministry of health and different autonomic institutions plus data published in scientific journals. In the opinion of the authors, trying to get similar information from the rest of European countries is out of the scope of this report and will take an enormous effort from the authors.

Changes: None.

Reviewer F:

Comment 1: In this article, the authors provide an organized and comprehensive description of the current state of thoracic surgery in Spain. The content of the paper

was detailed and comprehensive, starting with an introduction to the Kingdom of Spain, its healthcare system, medical education system, professional education, and ongoing clinical trials.

It would have been better if the paper had included actual clinical outcomes, such as the number of surgeries in the country as a whole, the breakdown of diseases covered, the main procedures performed, and the proportion of approaches used. However, this would have been difficult to provide in the absence of a registry.

Reply 1: Thanks for your kind comments and suggestions. As you correctly points-out, the absence of a national registry comparable to the ESTS Database constitutes one of the main limitations of our review. We have commented on that at the end of the manuscript.

Changes: The following sentence has been added in the text: “These kinds of projects would be very much facilitated by the implementation of a national database of surgical thoracic procedures sponsored by related professional and scientific societies”.

Reviewer G:

I am looking forward to

Comment 1. more elaboration on "uniportal VATS"

Reply 1: Thanks for reading. Data from the multi-institutional database cited in the text do not differentiate between one or multiple ports or other types of access to the pleural cavity. On the other hand, relevant differences in postoperative outcomes depending on the number of incisions or ports have never been published by properly designed epidemiological studies. We believe that the lack of conclusive evidence minimizes the relevance of including this topic in our manuscript.

Changes: none

Comment: 2. more information on lung transplant donor supply, e.g. DCD donor protocol.

Reply 2: Donation after cardiac death protocol is described in detail in reference 18. We have added a few comments on that paper summarizing their findings.

Changes: Paragraph added: “The last published Spanish report on lung transplantation with lungs obtained after circulatory death describes in detail a simple and effective preservation method using only topical lung cooling associated with an excellent 5-year survival rate of 87.5%. The authors attribute their results to effective cardio-pulmonary resuscitation using external compression devices and to shorter warm ischemic times gained (18)”.