Author’s response to reviews

**Title:** Sexuality and contraceptive knowledge in university students: instrument development and psychometric analysis using item response theory.

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Reviewer #1:

- Abstract page 1 in results second sentence word as seem to be disrupting grammar, could be deleted.

  Answer: We delete the word: as

- Abstract page 1 in results second sentence word university level is not clear. Was this study done in one university so that it is mentioned or various universities?

  Answer: The study was conducted in the university of Jaen. We modified the abstract to clarify.

- Page 2 line 26 title "plain English summary" Is this introduction or ??? Heading not clear

  Answer: This is a brief summary written without technical terminology so that it can be understood by patients and any non-professional reader. In the rules of the journal it is specified that this section must be present in the manuscript after the abstract. We move it to the correct place.

- Page 4 line 61 word as seem to be disrupting grammar, could be deleted.
Answer: We delete the word: as

• Page 4 line 61 word university level is not clear. Was this study done in one university so that it is mentioned or various universities?
Answer: The study was conducted in the university of Jaen. We modified the abstract to clarify.

• Page 8 line 135, the sentence could read well without word "first" at the beginning.
Answer: We delete the word: first

• Page 8 line 136, 137 abbreviations should be first written in full at first time of usage.
Answer: These are the names of the databases that we use in the literature review.

Reviewer #2:
• Title; It must be rephrased to make it interesting and catchy.
Answer: We change the title.

• Introduction;
  o Lacks the details of validity types, their definitions to the reader for understanding and cut off limits to be appropriate to be included. Kindly add that.
Answer: We add a part between line 129 and 144 of the clean version of the manuscript.
  o Rationale is correct but rephrase it with strong words to give justification.
Answer: We modify the justification

• Methodology;
  o Remove duplication in this section in main article as well as in abstract.
Answer: We delete the duplication.
Descriptive cross sectional observational study design cannot be written; please be specific with the design.

Answer: We have specified the study design

Add the number of items before validation as well.

Answer: At the line 176 of the clean version of the manuscript.

Ethical considerations must be given in a sentence if not in detail.

Answer: Ethical considerations are included according to the rules of the journal in the final part of the manuscript at the line 473 and 474 (clean version).

Experts were validating through which of the technique; kindly give the name and explain.

Answer: We include an explanation of the technique used for expert consultation.

- What is infit and outfit; no explanation in this section; do add that.

Answer: We include an explanation between the line 249 and 254 (clean version).

- Tables; Must be clearly stating the frequencies and percentages (Table- 3).

Answer: We add the percentages on table 3.

- Limitation in discussion section must highlight that present study is on learned people and why were ill literate ones not added, so it is one of the limitation.

Answer: We include this limitation between line 442 and 445 (clean version).

- Research Tool; Why it not included all family planning products for knowledge sake; was it not necessary?

Answer: According to the literature consulted and the evaluation by the experts, it was not necessary to include other contraceptive methods because those we mention in our study are the most commonly used contraceptive methods by young people and to include other methods would not contribute to the discriminatory capacity of the scale.