Spanish-language patient education materials for obstetric anesthesia: a comparison of readability and quality of online Spanish-language resources

Mariana Restrepo BA, Sananda Pai BS, Talia Scott MD, and Garrett W. Burnett MD

Mount Sinai

Background and Hypothesis

- 25%, or 890,000, of all live births in the United States are to Hispanic parturients[1]

- The American Medical Association recommends patient education materials (PEMs) be written at a 4-6th grade reading level[2]

- 82.5% of internet-based Spanish-language PEMs exceed current recommended reading levels[3]

- Lack of education on labor analgesia correlates with lower odds of receiving labor analgesia for Hispanic parturients[4]

- **Aims**
  - To analyze the readability and quality of Spanish-language PEMs on obstetric anesthesia by comparing academic medical center (AMC) and general internet search materials

- **Hypothesis**
  - The readability and quality of PEMs from AMCs will be superior to those found via general internet search

Study Design and Methods

- **Search methods**
  - Webpages of 62 AMCs recognized as OB anesthesia leaders were screened
  - General internet search using "anestesia y alivio del dolor durante el parto" ("anesthesia and pain relief during labor and delivery") was conducted
- **Readability analysis**
  - Fernandez-Huerta Reading Ease (FHRE) and INFLESZ analyses
- **Quality analysis**
  - DISCERN instrument and the Health Education Materials Assessment Tool (HEMAT)

Results

- 28 Spanish-language PEMs from AMCs and 28 from a general internet search were identified

- **Readability analysis (Table 1)**

	Mean (SD)	Grade Level
AMC		
Fernandez-Huerta Grade Level	57.7 (7.5)	9-10th grade
INFLESZ Grade Level	53.0 (7.5)	9-10th grade
General Internet Search		
Fernandez-Huerta Grade Level	58.9 (5.4)	9-10th grade
INFLESZ Grade Level	54.3 (5.5)	9-10th grade

Table 1. Readability analysis using Fernandez-Huerta and INFLESZ grade levels and mean scores for PEMs from academic medical centers (AMCs) and a general internet search.

- **Quality analysis**

  - DISCERN: partial completion of quality criteria for both cohorts

  - HEMAT: more than 70% of quality criteria was met for both groups

Discussion and Conclusion

- **Discussion**
  - All included OB anesthesia PEMs intended for Spanish-speakers were written at higher than recommended reading levels
  - Overall quality for PEMs was low, with no significant difference between groups
    - General internet PEMs scored higher in aims, informational sources, using visual cues, and limiting distracting information
  - Only 26% (n=16/62) of AMC websites contained relevant Spanish-language PEMs on
  - Preferred spoken language of Spanish has been associated with decreased likelihood of receiving neuraxial analgesia of all types[5]
- **Conclusion**
  - There is a demonstrated need for improved Spanish-language obstetric anesthesia education, as the readability and content of readily available online materials may not sufficiently reflect patient needs

References

[1] U.S. Census Populations With Bridged Race Categories. October 30, 2024. Accessed December 8, 2024. https://www.cdc.gov/nchs/nvss/bridged_race.htm

[2] Weiss, Barry. Health Literacy. Published online 2003. http://lib.ncfh.org/pdfs/6617.pdf

[3] Aponte J, Tejada K, Figueroa K. Readability Level of Spanish Language Online Health Information: A Systematic Review. Hisp Health Care Int Off J Natl Assoc Hisp Nurses. Published online October 3, 2024:15404153241286720. doi:10.1177/15404153241286720

[4] Orejuela FJ, Garcia T, Green C, Kilpatrick C, Guzman S, Blackwell S. Exploring Factors Influencing Patient Request for Epidural Analgesia on Admission to Labor and Delivery in a Predominantly Latino Population. J Immigr Minor Health. 2012;14(2):287-291. doi:10.1007/s10903-011-9440-2

[5] Caballero JA, Butwick AJ, Carvalho B, Riley ET. Preferred spoken language mediates differences in neuraxial labor analgesia utilization among racial and ethnic groups. Int J Obstet Anesth. 2014;23(2):161-167. doi:10.1016/j.ijoa.2013.09.001