Exploring language barriers to EBHC:
Is it different to read a Cochrane Review abstract in English or in Spanish for Chilean post graduate medical students?

PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE
Language barriers

- Could you appraise this paper?

- Have you ever experienced difficulties trying to understand an article?
CHILE AND EBHC

- Latin America has some problems following international health developments.
- Chile is particularly remote....
- Our official language is Spanish
CHILE and EBHC

- In Chile as in other non-english speaking countries, language becomes a barrier to teaching and practicing EBHC
INTRODUCTION

• English is the international scientific language. By 2014 all publications indexed in Medline might be in English.

• Non-English speaking medical students and clinicians are expected to stay up to date although most of medical literature is published in English.
A study assessing language barriers was done in Scandinavian countries

Language barrier in Spanish-speaking countries is not quantified.

In Chile there are no data on english skills in the general population.
- www.censo2002.cl
AIM

➢ To determine if reading in English or in Spanish:

➢ Affects post-graduate’s understanding of medical literature.
➢ Affects the time needed to achieve this understanding.
METHOD

• We conducted a randomized trial on physicians starting their Residency at the Pontificia Universidad Católica de Chile.
METHOD

☑ Residents were assigned by concealed random allocation to read a Cochrane Review Abstract in English or in Spanish.

☑ Recorded baseline characteristics.

☑ Answered 5 open questions in Spanish to assess their understanding, while investigators recorded individual time to complete the task.
Questionnaires were validated by an expert in instrument design and a group of students and clinical teachers.

We developed a chart of possible correct answers.

Total questionnaire score ranged from 0 to 19.
METHOD

✓ Two investigators blindly and independently reviewed and scored the questionnaires; a third reviewer solved disagreements.

✓ Analysis was done blind to language allocation.

✓ Chi square and student T test were used. Significance was set at p < 0.05.
RESULTS

- 97 residents agreed to participate.
- Baseline characteristics were similar in both groups.
## Baseline characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Group 1</th>
<th>Group 2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of Graduation ≥ 2003</td>
<td>64.58%</td>
<td>63.27%</td>
<td>0.892</td>
</tr>
<tr>
<td>No Previous Speciality</td>
<td>83.33%</td>
<td>77.55%</td>
<td>0.436</td>
</tr>
<tr>
<td>Previous Contact with the Cochrane Library</td>
<td>70.83%</td>
<td>75.51%</td>
<td>0.603</td>
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<tr>
<td>Autoperception in Hability of Reading English</td>
<td></td>
<td></td>
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<tr>
<td>Correct Reading</td>
<td>66.67%</td>
<td>59.57%</td>
<td>0.474</td>
</tr>
<tr>
<td>Previous Contact with English Language*</td>
<td>50%</td>
<td>42.86%</td>
<td>0.481</td>
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</tbody>
</table>

* Include live more than six months in a english speaking country, learn english in a validate institute for at least one year, going to a bilingual school with more than 10 hours for week of english lessons and/or belong to a english speaker family.
RESULTS

Comprehension

- The group in Spanish had a mean score = 11.9
  - (SD=2.8, range=5 to 18)

- The group in English had a mean score = 10.5
  - (SD=3.8, range 1 to 17)

P = 0.04
RESULTS

Time to complete questionnaire

- The group reading in Spanish needed 11.8 min
  - (SD=2, range = 7.7 to 17.2)

- The group reading in English needed 12.6 min
  - (SD=2, range = 8.8 to 17.7 min)

P = 0.047
16.7% of the group reading in Spanish scored 9 or less compared to 34.7% of the group reading in English.

\[ p = 0.042 \]
Discussion

- We measured the magnitude of language barrier in terms of comprehension and effort (time needed to achieve the goal) for our post-graduate students.

- Reading in English, doubled the risk of scoring low (16.7 vs 34.7%) and took longer.
Discussion

- This is a highly selected population that might not represent regular practicing clinicians in Chile or in other Spanish-speaking countries.

- Therefore, in other groups, language barrier could be even greater.
Discussion

- For EBHC practice, critical appraisal of the literature, requires to understand medical literature.

- In non-english speaking countries, language becomes a new barrier to the process of teaching and practicing EBHC.
Discussion

- Some organisations, devote efforts to translating evidence into different languages........ **Is it enough?**

- Possible solutions:
  - more widespread translations of evidence.
  - medical schools in non-english speaking countries should consider English skills in their curricula.
Conclusion

- Language barrier affects post-graduate medical student’s comprehension and effort (time) needed to achieve understanding of medical literature.

- In non-English speaking countries language barrier should be taken into account while introducing EBHC practice.
Thanks