



UNIDAD DE MEDICINA BASADA EN EVIDENCIA

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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?

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PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE

Language barriers

عجز مالي كبير

وذكر ان العاملين في البلدية لم يتقاضوا رواتبهم منذ ثلاثة اشهر موضحا ان البلدية تعاني من عجز مالي بقيمة مليون دولار حتى الان لقلبية الخدمات اليومية للمدينة.

نحو اعادة بناء

وحول الاصلاحات والترميمات التي تجريها البلدية جراء الاحتلال الاسرائيلي للمدينة قال ناصر انه من المستحيل اعادة الوضع الى سابق عهده، اما الان فنقوم باصلاح بعض الاضرار التي تعرضت لها المدينة اثناء الاجتياح الاسرائيلي الثالث وهذه كلها كانت

- 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
 - Sousa Escandon MA, Gonzalez Guitian C, Gonzalez Fernandez MM. Which language Will MEDLINE speak in the next millennium?. Arch Esp Urol. 2000; 53(2):93-9
- Non-English speaking medical students and clinicians are expected to stay up to date although most of medical literature is published in English.

INTRODUCTION

- A study assessing language barriers was done in Scandinavian countries
 - Gulbrandsen P, et al. Paper or screen, mother tongue or english: which is better?. JAMA. 2002; 287: 2851-3.
- 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.

METHOD

- ✓ 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

Characteristic	Group 1	Group 2	p
<i>Year of Graduation \geq 2003</i>	64,58%	63,27%	0,892
<i>No Previous Speciality</i>	83,33%	77,55%	0,436
<i>Previous Contact with the Cochrane Library</i>	70,83%	75,51%	0,603
<i>Autoperception in Hability of Reading English</i>			
<i>Correct Reading</i>	66,67%	59,57%	0,474
<i>Previous Contact with English Language*.</i>	50%	42,86%	0,481

* 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

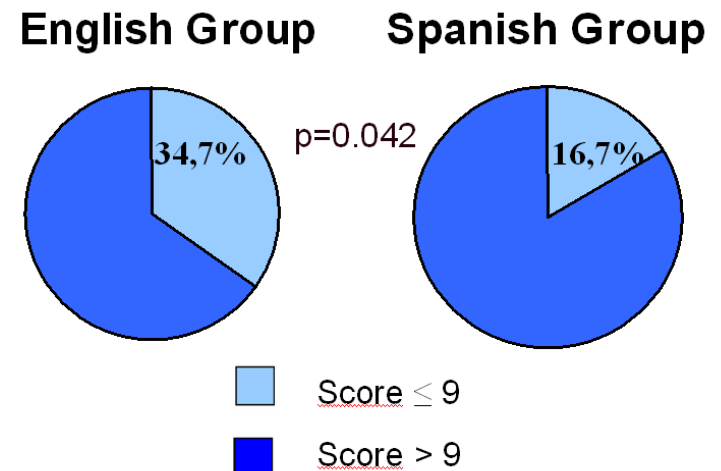
- ❖ The group reading in Spanish needed 11.8 min
 - ❖ (SD=2, range = 7.7 to 17.2)
- ❖ The group reading in English needed 12.6 min
 - ❖ (SD=2, range = 8.8 to 17.7min)

$P = 0.047$

RESULTS

- ❖ 16.7% of the group reading in Spanish scored 9 or less compared to 34.7% of the group reading in English
- ❖ $p=0.042$

Score ≤ 9 by language



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

