



European Conference on Information Literacy
Information Literacy of Public Health Students in Bordeaux, France
A Cross-sectional Study

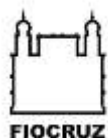
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Introduction

Methodology

Results

Discussion

References

In the health arena, Information Literacy (IL) studies have been conducted worldwide

In 2006, an American study applied the Research Readiness Self-Assessment (RRSA) Health Version on thousands of higher education students. The authors showed the **lack of important competencies essential for finding and evaluating health information** and suggested that the RSSA provides objective measures of IL skills

The RRSA scores varied widely among participants, even within students with equivalent education levels. In addition, they considered that individuals with more education had better IL skills than individuals with less education

In 2005, a Brazilian study assessed IL using an original questionnaire applied to medical residents

In 2009, we adapted this questionnaire and undertook a cross-sectional study to investigate IL among Public Health Graduate students attending the *Escola Nacional de Saúde Pública Sergio Arouca, Fundação Oswaldo Cruz, Brazil*

In 2011, we translated and adapted the Brazilian PH questionnaire to French

We aimed to **describe the IL of PH master students (PHMS) in a French institution** and investigate **IL differences considering country of origin** in order to better plan specific teaching strategies



Introduction

Methodology

Results

Discussion

References

Methodology

A cross-sectional study accessed the IL of Public Health Master Students (PHMS) attending the *Institut de Santé Publique d'Épidémiologie et de Développement (ISPED), Bordeaux, France*. ISPED is a teaching and research institution welcoming French and foreign students on face-to-face (FF) and distance education (DE) modalities

January 2011: enrolled **M1 and M2 PHMS** were contacted ("*La recherche documentaire en santé publique. Méthodes, pratiques et outils*"). FF students (printed version) x DE students (electronic template with a built-in database)

Study open for a month, two e-mail messages reminded students to participate

E-mail addresses allowed to match IL items with academic and demographic data

Statistical analysis was performed with SPSS (17.0)

The response rate (**RR**): participants / overall enrolled students

Descriptive study for participants (Ps) and non-participants (NPs). Academic, demographic and IL data were **analysed** regarding Ps' geographical origin as French (**FrPs**) or Foreigner (**FoPs**)

Chi-square used for statistical significance of proportions; **Mann-Whitney U test** to compare median age values

p -values smaller than 0.05 were considered significant



Introduction
Methodology
Results
Discussion
References

Results

For the Totality (n=151)

93 (61.6%) **women**

Age: 20-55 years; **mean 28.9** (SD: 7.9)

98 (65.3%) **from France**

Foreigners: **18 different nationalities**

M1: 62.3%

FF: 64.9%

For the **Totality** (n=151):

73 (48.3%) **Bachelor degree (licence)**

12 (7.9%) Master of Science degree

47 (31.1%) physicians

8 (5.3%) pharmacists

7 (4.6%) nurses

versus

For the Participants (n=86)

RR = 56.9%

statistically similar to NPs

except for year=M1

Participants less frequently from France

Participants less frequently on FF

Participants more frequently enrolled in M1

Table 1. Demographic and Academic Profile Regarding Study Participant and Non-participant

	Ps n=86	NPs n=65	p	Total n=151
Sex			0.991	
Men	33 (38.4%)	25 (38.5%)		58 (38.4%)
Age (years)			0.104	
Median	25	28		26
Mean	28.1	29.9		28.9
Country of origin France*	55 (64.0%)	43 (67.2%)	0.681	98 (65.3%)
Year M1	67 (77.9%)	27 (41.5%)	< 0.001	94 (62.3%)
Face-to-face	55 (64.0%)	43 (66.2%)	0.779	98 (64.9%)
Graduation background			0.326	
Medicine	24 (27.9%)	23 (35.4%)		47 (31.1%)
Other	62 (72.1%)	42 (64.6%)		104 (68.9%)

(* n=150)

Results

For the Participants (n=86)

French Ps (n=55)

- Age: 21-32 years
- mean 23.5 (SD: 3.2)
- mostly women
- younger
- FF modality

versus

Foreign Ps (n=31):

- Age: 26-49
- Mean age: 36.3 (SD: 5.7)
- mostly men,
- Older
- DE modality
- doctors

Foreign Ps (n=31): Algeria, Benin, Burkina Faso, Cameroun, Chad, Congo, Egypt, Gabon, Germany, Guiney, Haiti, Ivory Coast, Kosovo, Mali, Niger, South Africa, Spain, Syria

Table 2. Demographic and Academic Profile Regarding French and Foreign Participants

	FrPs n=55	FoPs n=31	<i>p</i>	Total n=86
Sex			< 0.001	
Men	11 (20%)	22 (71.0%)		33 (38.4%)
Women	44 (80%)	9 (29.0%)		53 (61.6%)
Age (years)			< 0.001	
Median	22	36		25
Mean	23.5	36.3		28.1
Years			0.025	
M1	47 (85.5%)	20 (64.5%)		67 (77.9%)
M2	8 (14.5%)	11 (35.5%)		19 (22.1%)
Face-to-face	48 (87.3%)	7 (22.6%)	< 0.001	55 (64.0%)
Graduation background			< 0.001	
Medicine	0	24 (77.4%)		24 (27.9%)
Other	55 (100.0%)	7 (22.6%)		62 (72.1%)
Internet access at home			0.695	
	51 (92.7%)	28 (90.3%)		79 (91.9%)

Results

Item 1: 95.2% used health agencies websites
94.1% relied on PubMed/MEDLINE bibliographic database

Item 2: **96.5%** did their own information search

Item 3: **44.2%** learned on their own to interrogate the bibliographic databases

Item 4: **84.7%** used the "Advanced Search" option
1/3 used the Medical Subject Heading (MeSH) Thesaurus

Item 5: **32.5%** were satisfied with the results, even though obtaining a large number of references

Item 6: 64% used often the MEDLINE database
64.7% did not know the Cochrane Library database

Item 7: "Knowing where to go for information" (n=24)

Item 8: "The full-text document is free" (n=29)

Item 9: "Looking carefully whether the documents are available online"(n=23)

Table 3. Answers to selected questionnaire items regarding French and foreign participants

Item	Answer	FrPs n=55	FoPs n=31	p	Total n=86
1. Through which of the resources it is more frequent that you receive information on innovations or discoveries in your professional area?	Library or Librarians	44 (83.0%)	15 (60.0%)	0.027	78
	Documents from your own sources (for ex. Books)	34 (61.8%)	26 (96.3%)	0.001	82
	University Portal of electronic resources	38 (73.1%)	11 (45.8%)	0.021	76
3. How did you learn the techniques for database searching?	You received orientation or training from a librarian	15 (27.3%)	0	0.001	86
	You received orientation or training from a professor during an undergraduate or graduate course	25 (45.5%)	7 (22.6%)	0.035	86
4. Strategies you use when searching electronic databases	Select the «advanced search» option	53 (96.4%)	19 (63.3%)	< 0.001	85
	Use other database tools (i.e. "limits", "field search" or "index")	24 (43.6%)	6 (20.0%)	0.029	85
6. How often do you search in the databases?	Don't know the Cochrane Library database	41 (75.9%)	14 (45.2%)	0.004	85
7. In relation to your scientific literature search in electronic sources what are the problems you find more frequently?	Finding keyword(s) for a good search strategy	14 (77.8%)	4 (22.2%)	0.018	74
8. What factors do you use to select the documents that you would like to read?	Free full-text	22 (75.9%)	7 (24.1%)	0.005	75
9. How do you obtain the full-text of the documents selected in the databases?	I look in details if the document is available online	18 (78.3%)	5 (21.7%)	0.006	74

Obs1: For estimates, missing values were disregarded.

Obs2: For items 7, 8 and 9, options were sorted by frequency and top choices were compared.



Introduction
Methodology
Results
Discussion
References

The Brazilian and Bordeaux studies were both cross-sectional in design, but had **different data collection methodologies**

The **questionnaire versions** in Portuguese and French ended up different from each other. The questionnaire translation and adaptation to the French information context was a challenging process. Experts agreed on the **content validity** of the questionnaire and the results supported the construct validity of IL as assessed by the questionnaire

Measures for quality control of data entry would have been prevented from missing/mistakes in the electronic version of the questionnaire

Although there were **no sampling methods**, the 86 **Ps** in the Bordeaux study seem to **well represent** the universe of the 151 **enrolled** students

On the other hand, as the **31 FoPs came from 18 different nations**, further discussion involving individual countries is not possible due to diversity

The Bordeaux study **shares important aspects** with the Brazilian one: **High-level PH student consisted of a mixed profile for age, different under graduation courses and geographical origin**

IL basic skills, less frequently used more sophisticated resources

Satisfied with their search results, even after realizing the volume of inappropriate referrals

Inability to choose keywords/use Thesaurus

→ **unawareness** that trustworthy information does not consist in the quantity but in the **relevance**

Foreigner participants (FoPs) were mostly older, males and physicians

→ These may explain why **FoPs were more aware of the Cochrane library database** (for clinical practice)

French participants (FrPs) more frequently accessed resources like Library/Librarians and University Portals

Previous learning opportunities with librarians/professors were more frequently observed among FrPs

→ FrPs preferences for free full-text/online documents could be explained by the fact that they were already used to a wealth of information and “easy to get” materials, while **FoPs were still not aware or used to it**

“How did you learn the techniques for database searching?” → the **need of formal IL teaching**

→ The current literature ratifies our observations regarding access to resources, level of search skills, previous learning opportunities and language barriers

→ English barriers may have **biased** our results

The lack of IL skills among international post-graduation students contrasts with the emerging number of academic institutions expanding their teaching horizons through online courses

Apart from students' age, command of the English language and graduation background, PH course planners worldwide should consider the shortage of information resources and lack of previous expert tutoring at the students' home country as IL associated variables



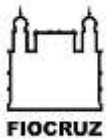
Introduction
Methodology
Results
Discussion
References

References

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