

A comparison of the degree of agreement with statements on pharmaceutical ethics between interns from France and Quebec

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ETHICS

Ethics have
become an integral
part of
pharmaceutical
practice.

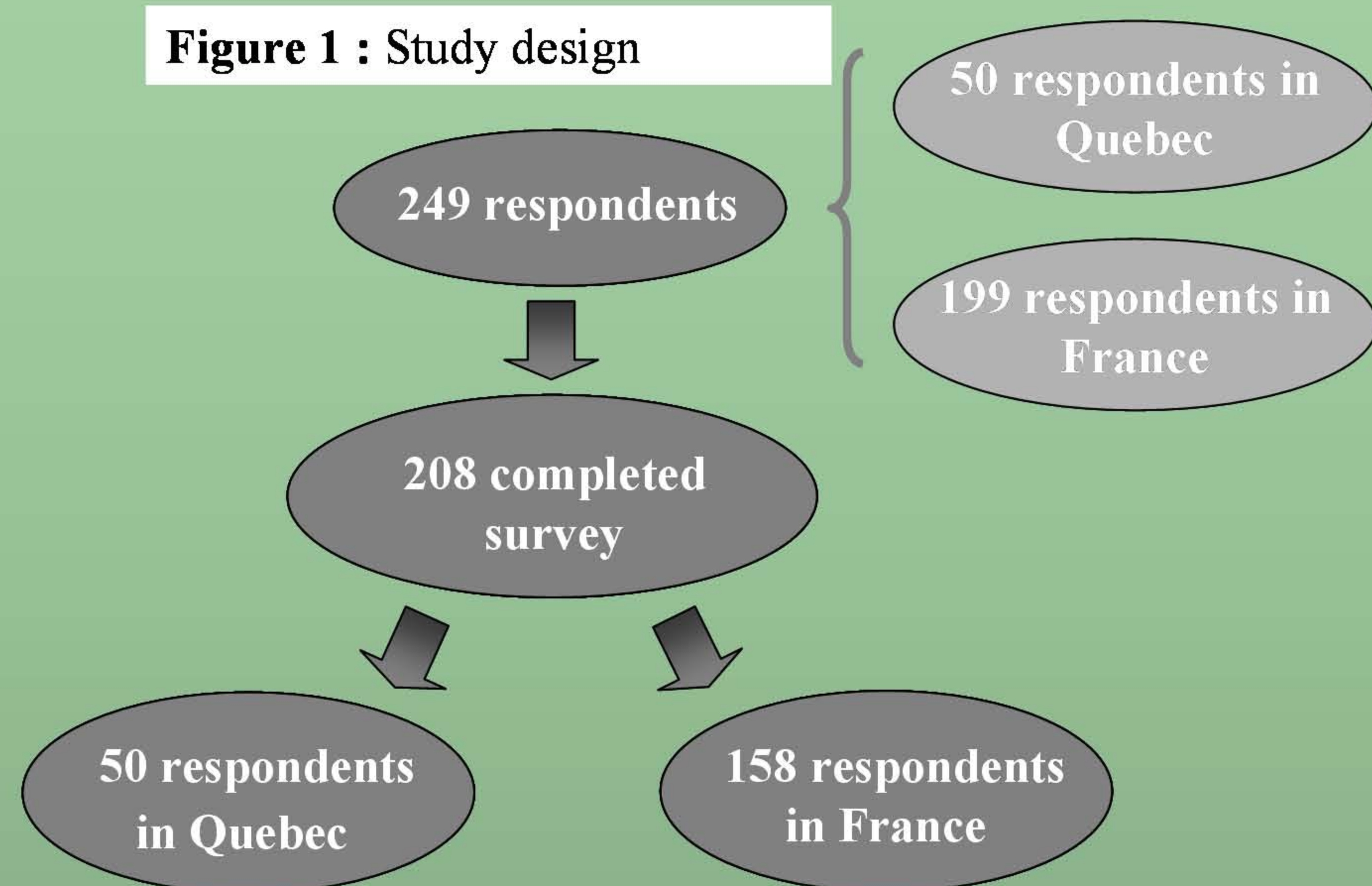
OBJECTIVE

Compare the degree of agreement with statements on pharmaceutical ethics expressed by pharmacy interns in France with the one of pharmacy residents in Quebec.

RESULTS

- Response Rate - Quebec (91%) France (non assessable)
- A statistically significant difference ($p \leq 0.05$) was noted in terms of the degree of agreement (TA + PA)/disagreement (PD + TD) of residents in Quebec vs. that of interns in France for 13/43 statements, particularly with respect to the statements on:
 - relations with the pharmaceutical industry ($n = 6$)
 - evidence-based data (or practice) and its application to natural health products ($n = 2$)
 - professional ethics ($n = 2$)
 - patient relations ($n = 3$)
- Significant difference noted
 - for 10 out of 43 statements by comparing the 1st-year interns in France with those in Quebec.
 - for 4 out of 43 statements by comparing the two groups of interns in France

Figure 1 : Study design



Methods

- Survey conducted from April 1 to May 25, 2008
- Sixteen (16) general questions and 43 statements were developed
 - training and education ($n = 5$)
 - clinical research ($n = 7$)
 - marketing and advertising ($n = 5$)
 - evaluation and evidence-based data ($n = 5$)
 - drug dispensing ($n = 4$)
 - pharmaceutical care ($n = 9$)
 - economic aspects ($n = 6$)
 - professional ethics ($n = 2$)
- A 4-choice Likert scale was used to measure the degree of agreement/disagreement: (totally agree (TA), partially agree (PA), partially disagree (PD), and totally disagree (TD))
- The main outcome was to:
 - Compare the difference between the degree of agreement (TA + PA) of the French interns vs. the Quebec interns.
- The secondary outcome was to:
 - Compare the degree of agreement of 1st-yr. interns in France with 1st-year residents in Quebec and of 1st-/2nd-year interns in France with 3rd-/4th-year interns in France.
- Statistical analysis: the chi-square test and Fisher's exact test were used.

Table 1: Demographic profile of the 208 respondents to the questionnaire

	France		Quebec		P-value
	N	%	N	%	
Number of respondents ¹	158	76	50	24.0	
Educational level at the time of answering to the survey					
1 st -year interns in France	46	29			
2 nd -year interns in France	34	22			
3 rd -year interns in France	36	23			
4 th -year interns in France	42	27			
Pharmacy interns (residents) in Quebec (M.Sc.)			50	100	
Number of women among respondents	103	65	43	86	0.005
Career orientation at the time of answering to the survey					
Hospital	73	46	47	94	
Biology	64	41	0	0	
Industry	15	10	0	0	
Retail	0	0	2	4	
Others	6	4	1	2	
Courses related to ethical aspect	74	47	49	98	<0.001
Research on human subject	57	36	39	78	<0.001
Relations with pharmaceutical industry	5	3	19	38	<0.001
Clinical pharmacy and pharmaceutical care	47	30	42	84	<0.001
Professional ethics	60	38	46	92	<0.001
Others	5	3	3	6	0.4
In practice					
Has already been exposed to ethical problems	87	55	36	72	0.03
Has enough background/knowledge/training to make a decision related to ethical problems	33	21	28	56	<0.001
Know the existence of an IRB*	55	35	30	60	0.002
Have already submitted a project to an IRB*	9	6	25	50	<0.001
Have already completed an activity/training/symposium funded by pharmaceutical industry					
No, never	68	43	4	8	
Yes, once	34	22	4	8	
Yes, many times	56	35	42	84	
	Mean \pm Standard deviation	Median (Q1-Q3)	Mean \pm Standard deviation	Median (Q1-Q3)	
Age (years)	26 \pm 2	26 (24-28)	25 \pm 2	24 (23-25)	<0.001
Lessons completed and related to pharmaceutical ethics (hours) ²	14 \pm 14	10 (4-20)	38 \pm 23	45 (22-50)	<0.001

The results are expressed in terms of the total number of respondents from France (N = 158) and Quebec (N = 50).

¹ Percentages are based on the total number of respondents (N = 208)

² Percentages are based on the total number of respondents who took ethics courses (N = 125)

Q1: First Quartile; Q3: Third Quartile

Mean t test comparison of quantitative variables and χ^2 test comparison of qualitative variables

Table 2 : Statements with significantly different level of agreement between interns in Quebec and interns in France (level of agreement in % (A = TA + PA))

Categories	Statement number	Quebec	France	P
Training and education	Statement 3 - The pharmaceutical industry or wholesale distributors should not be allowed to fund "recreational" activities.	64.0%	28.5%	< 0.001
Clinical research	Statement 7 - The pharmaceutical industry should be obliged to conduct studies on vulnerable populations (e.g., in pediatrics, obstetrics, geriatrics) even if the market is not sufficiently profitable and important.	82.0%	92.4%	0.033
Marketing and advertising	Statement 13 - The presence of pharmaceutical representatives/visitors in health care facilities should not be permitted.	50.0%	24.1%	0.001
	Statement 19 - The sale of natural healthcare products without proven safety and efficacy in the view of a regulatory authority should not be permitted.	90.0%	69.6%	0.004
Evaluation	Statement 20 - The sale of homeopathic products without proven safety and efficacy in the view of a regulatory authority should not be permitted in drugstores.	84.0%	40.5%	< 0.001
Drug delivery	Statement 26 - Pharmacists should be permitted to refuse emergency oral contraceptives if this practice contravenes their personal or religious values.	28.0%	5.7%	< 0.001
Pharmaceutical care/clinical pharmacy	Statement 30 - Explicit and written consent should be obtained from patients before pharmacists or professionals from other sectors (e.g., retail pharmacies, hospitals) may be contacted to obtain clinical information that concerns them.	52.0%	31.6%	0.009
	Statement 35 - Healthcare professionals should declare any relevant adverse drug reactions they are aware of that are presented by a patient.	94.0%	99.4%	0.044*
	Statement 36 - Financial kickbacks to pharmacists from the pharmaceutical industry that may influence the choice of a one drug over another should not be permitted.	98.0%	83.5%	0.008
Economic aspect	Statement 39 - There should be a way to bill drug companies for costs related to managing patients and dealing with supply shortages (i.e., price differences + staff training, information dissemination).	100.0%	88.6%	0.008*
	Statement 41 - The pharmaceutical industry should not be allowed to pay for any travel- or accommodation-related expenses for continuing education activities.	52.0%	20.3%	< 0.001
Professional ethics	Statement 42 - Colleagues who practice under the influence of illegal substances should be systematically reported to the pharmacy regulatory authority.	100.0%	79.1%	0.009*
	Statement 43 - Colleagues who practice incompetently or dangerously should be systematically reported to the pharmacy regulatory authority.	100.0%	88.0%	0.009*

* = p-value measured with Fisher's test (not chi-square test)

CONCLUSION

This study reveals a significant difference in the degree of agreement/disagreement with various aspects of pharmacy ethics between pharmacy interns in France and Quebec.

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