

Introduction

- The success of drug safety surveillance relies on an efficient pharmacovigilance system.
- The Canada Vigilance Program was established in 1965 and is based on spontaneous adverse drug reaction reporting by health professionals and consumers. Reports are collected by the regional offices before being forwarded to the Canada Vigilance National Office for further analysis. Reports are entered into a national database to detect risks.
- Drug safety surveillance is a responsibility for all healthcare professionals. Residents should play an important role.

Purpose

- To compare perceptions and practices associated with reporting adverse drug reaction among pharmacy and medical residents.

Methods

- Cross-sectional study conducted in March and April 2014 using a web questionnaire.
- Initial draft was developed from a literature review, then pilot-tested by 5 students and reviewed by pharmacists. The final version was adjusted with their observations and comments.
- 16 items organized in 5 sections: demographics, pharmacovigilance training and practices, obstacles to reporting adverse drug reaction, measures to improve adverse drug reporting.
- Different likert-type scales were used to assess agreement, importance and frequency.
- The self-administered questionnaire was sent by email to 67 pharmacy residents and 151 medical pediatric residents from Quebec.
- The questionnaire and processing of the responses remained strictly anonymous.

Results

- 70 respondents: 34/67 pharmacy residents (response rate 51%) and 36/151 medical pediatric residents (response rate 24%). 57/70 (78%) female respondents.

Table I: Sources of information about adverse drug reactions often consulted by the respondents

Sources of information about adverse drug reactions	Pharmacy residents n/N (%)	Medical pediatric residents n/N (%)
More experienced colleagues	18/34 (53%)	21/36 (88%)
Pharmaceutical companies	0/34 (0%)	0/35 (0%)
Drug monographs	24/34 (71%)	16/36 (44%)
Evidence-based databases (e.g. Micromedex®)	30/34 (88%)	16/35 (46%)
Bibliographic databases (e.g. PubMed®)	23/34 (68%)	14/36 (39%)
References (e.g. Meyler's Side Effects of Drugs)	4/34 (12%)	0/36 (0%)
Specific databases (e.g. LiverTox®, TOXNET®)	1/34 (3%)	1/36 (3%)
Pharmacovigilance teams	2/34 (6%)	1/35 (3%)

- 16/34 (47%) of the pharmacy residents and 25/36 (69%) of the medical pediatric residents considered the drug monograph as being a reliable source of information.

- Aside undergraduate curriculum, 2/70 (3%) of respondents had completed some pharmacovigilance additional training.
- Pharmacy residents (24/34, 71%) believed that pharmacovigilance was well-covered in their curriculum unlike medical pediatric residents (10/35, 29%).

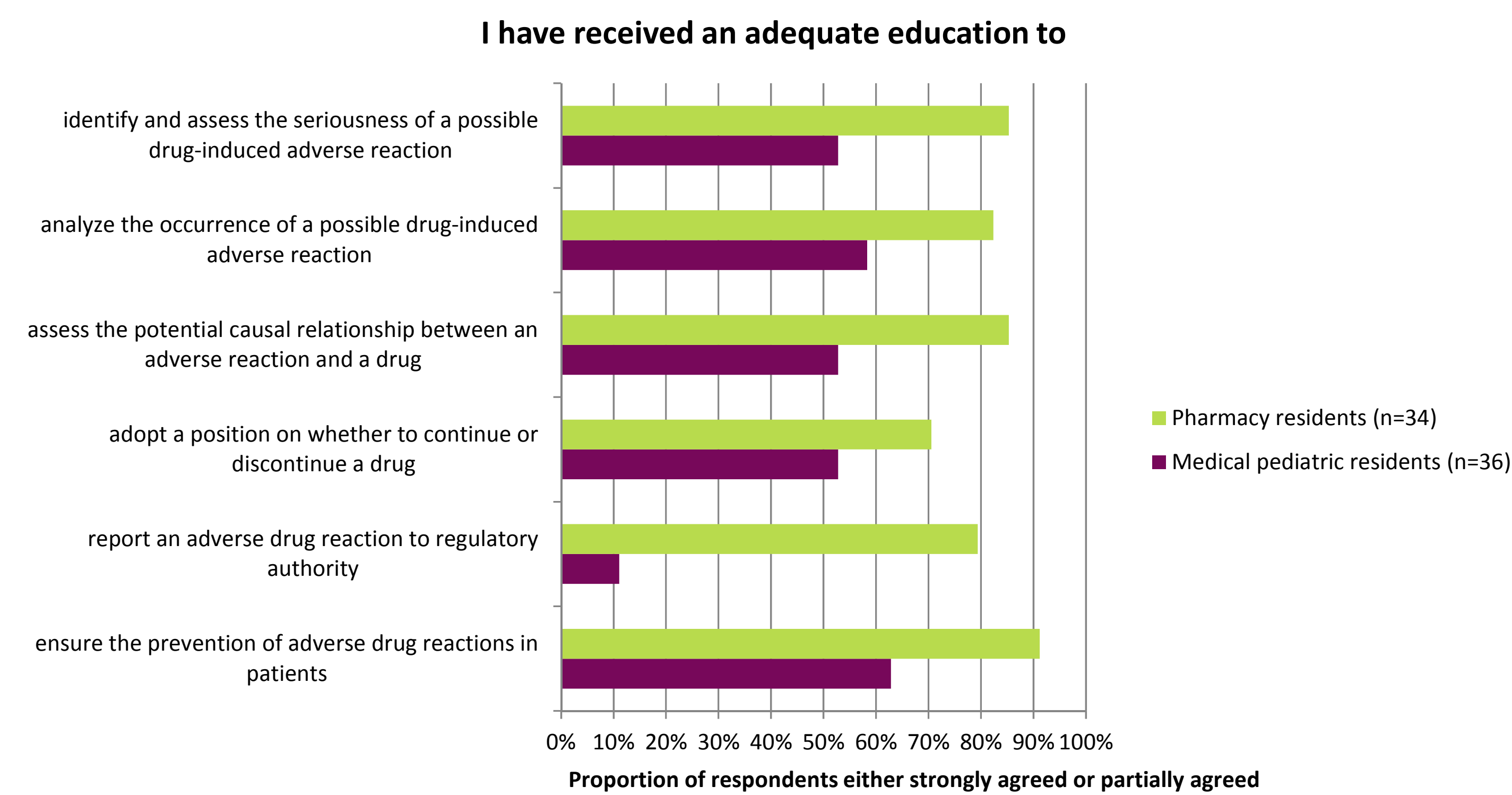


Figure 1: Ability of respondents to practice pharmacovigilance

- During their residency, the majority of respondents were exposed to more than 100 patients (63/70, 90%).
- 30/36 (83%) of medical pediatric residents were exposed to 1 to 16 serious or unexpected adverse drug reaction, whereas 28/34 (82%) of the pharmacy residents were exposed to more than 17 serious or unexpected adverse drug reaction.
- 33/34 (97%) pharmacy residents and 7/36 (19%) medical pediatric residents reported at least one or more serious or unexpected adverse drug reaction to Health Canada.
- 33/34 (97%) of pharmacy residents and 33/36 (92%) of medical pediatric residents considered that adverse drug reaction reporting is part of their work.

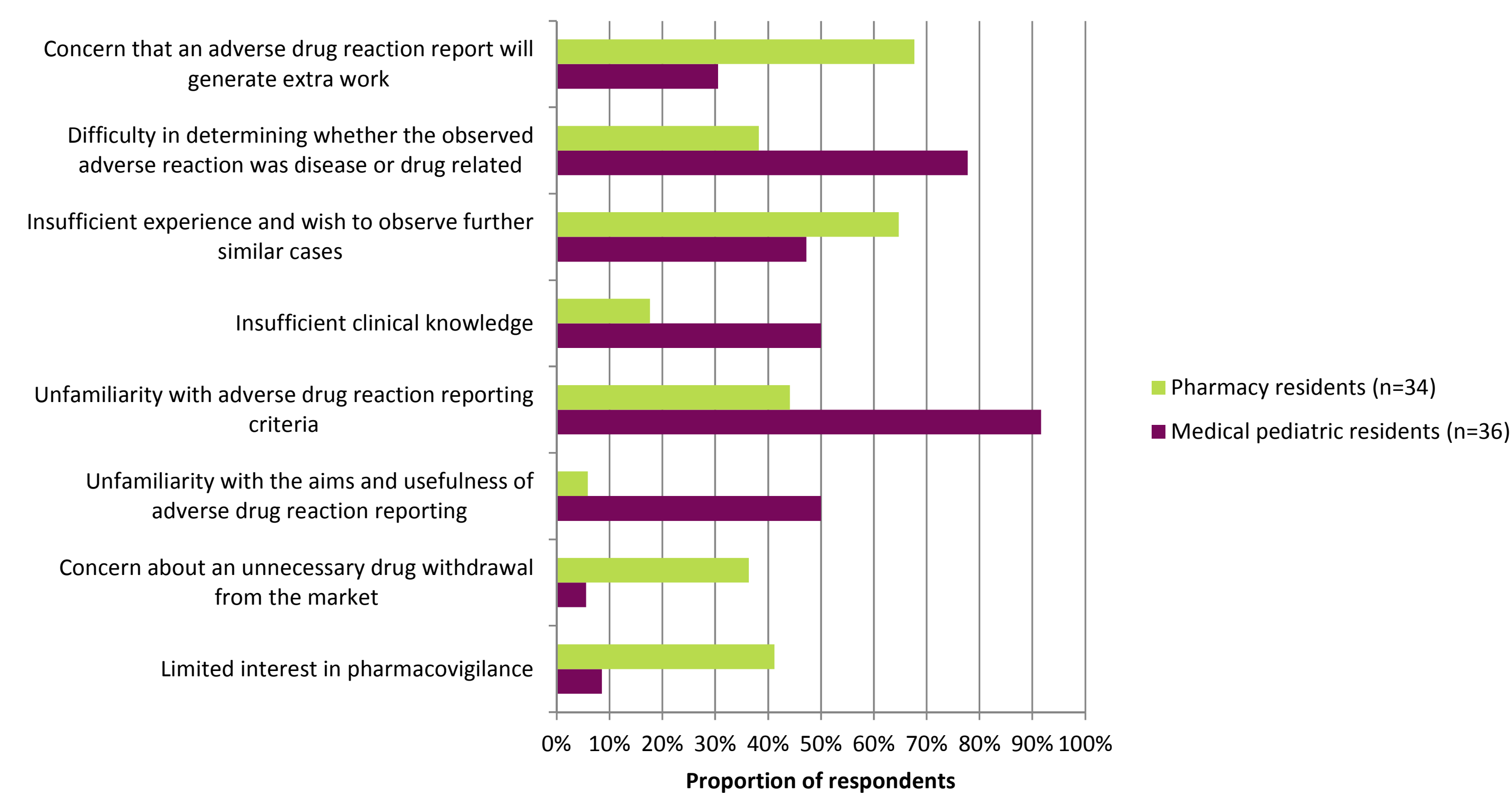


Figure 2: Obstacles to reporting adverse drug reactions to be of very high and high importance

Table II: Top 5 reasons for reporting adverse drug reactions

Reasons for reporting	Pharmacy residents n/N (%)	Medical pediatric residents n/N (%)
Serious reaction	34/34 (100%)	36/36 (100%)
Reaction due to a recent drug	34/34 (100%)	36/36 (100%)
Quick apparition of the reaction after drug exposure	33/34 (97%)	35/36 (97%)
Visible reaction (cutaneous > renal)	31/33 (94%)	28/36 (78%)
Unexpected reaction	29/34 (85%)	30/36 (83%)

Table III: Measures that could improve adverse drug reaction reporting

Measures	Pharmacy residents n/N (%)	Medical pediatric residents n/N (%)
Presence of a clinical pharmacist in the care unit	31/34 (91%)	36/36 (100%)
Regular rounds by a pharmacovigilance team member to gather adverse drug reaction within care units	27/34 (79%)	31/36 (86%)
Adoption of adverse drug reactions targets to be reported per care unit	29/34 (85%)	31/36 (86%)
Periodical multidisciplinary meetings to discuss the cases of adverse drug reactions	29/34 (85%)	20/36 (56%)
Analysis by the pharmacovigilance team of adverse reaction signals	28/34 (82%)	26/36 (72%)
Means of communicating that facilitate contact with a pharmacovigilance team	26/34 (76%)	28/36 (78%)
Feedback after adverse drug reaction reporting	29/34 (85%)	29/36 (81%)
Support of a pharmacovigilance coordinator within the hospital	31/34 (91%)	31/36 (86%)
Support for a multidisciplinary regional center of pharmacovigilance	25/34 (74%)	21/36 (58%)
Periodical summary of adverse drug reactions reported to Health Canada	24/34 (71%)	22/35 (63%)
Dissemination of pharmacovigilance alerts from national and international authorities	26/34 (76%)	29/36 (81%)
Improved awareness of adverse drug reaction reporting	22/34 (65%)	28/36 (78%)
Improvement of academic pharmacovigilance education	27/34 (79%)	34/36 (94%)
Financial compensation to professionals involved in adverse drug reaction reporting	15/34 (44%)	10/36 (28%)

- 32/34 (94%) of pharmacy residents and 34/36 (94%) of medical pediatric residents considered that adverse drug reaction reporting contributes to the development of scientific knowledge.
- 32/34 (94%) of pharmacy residents and 33/35 (94%) of medical pediatric residents considered that it contributes to the improvement of the care quality given to the patients.

Conclusions

- This study reveals a lack of training in pharmacovigilance in particular within medical pediatric residents and a willingness of pharmacy residents to contribute to drug safety surveillance activities.
- Even though both residents were exposed to a large number of serious or unexpected adverse drug reactions, underreporting remains a critical issue to resolve.
- A better understanding of perceptions and practices towards adverse drug reaction reporting can help identify measures to improve drug safety surveillance. According to respondents, interaction of a pharmacovigilance team with healthcare professionals seem to be of the utmost importance. Therefore, dedicating appropriate resources is at the same time a challenge and an opportunity for pharmacy departments to ensure drug use safety.