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WHAT WE LEARNED



Between 2000 - 2016:

- The prevalence of polypharmacy defined as 5+ medications increased from 62% to 73%
- The prevalence of polypharmacy defined as 10+ medications increased from 26% to 38%



In 2016:

- The prevalence of polypharmacy was higher among women and increased with age.



Perspectives:

- Concerted and targeted interventions should be considered to deprescribe potentially inappropriate medications in the subgroups most exposed to polypharmacy

BACKGROUND

- In 2016-2017, 45% of people 65 years and older in Quebec had at least 2 chronic diseases and 28% had 3 or more¹. The presence of chronic diseases favors the use of multiple medications.
- Exposure to several pharmacological treatments is called polypharmacy. Polypharmacy is most often defined as the use of 5 or 10 medications².
- Although beneficial in some cases, polypharmacy has been associated with important side effects, such as an increased risk of hospitalization, mortality, falls and frailty in older adults^{3,4,5}.
- Therefore, it appears necessary to monitor the evolution of polypharmacy in the population in order to better guide public health decisions and to inform clinical practice.

OBJECTIVES

- To estimate the prevalence of polypharmacy between 2000 and 2016 among older adults in Quebec.
- To identify potential differences in polypharmacy prevalence according to sex and age in 2016.

METHODS

Data source and design: Retrospective population-based study using data from the Quebec Integrated Chronic Disease Surveillance System (QICDSS) of the Institut national de santé publique du Québec (INSPQ).

Cohort: Adult aged 66 and over covered by the public drug insurance plan in Quebec (90% of total population). The individuals had to be insured for the entire year studied. Annual cohorts were created from April 1, 2000 (2000 fiscal year) to March 31, 2017 (2016 fiscal year).

Definition of polypharmacy: Three definitions were used:

- 1) the use of at least 5 different medications annually (5+)
- 2) the use of at least 10 different medications annually (10+)
- 3) the use of at least 15 different medications annually (15+)

Medications were identified from non-proprietary name codes included in the pharmacy service file. Each different medication was treated regardless of dose, length of treatment or number of refills issued.



Analysis: Objective 1: The prevalence of each of the different polypharmacy measures (5+, 10+, 15+) was calculated for each fiscal year. The prevalences were standardised for age using the 2011 Quebec population as the reference population.

Objective 2: The prevalence of each of the polypharmacy measures (5+, 10+, 15+) were stratified according to age and sex for the 2016 fiscal year.

RESULTS

Figure 1. Age-adjusted prevalence of the various polypharmacy measures according to the years (histograms) and the average number of different medications per person (curve) among people 66 years and over in Quebec

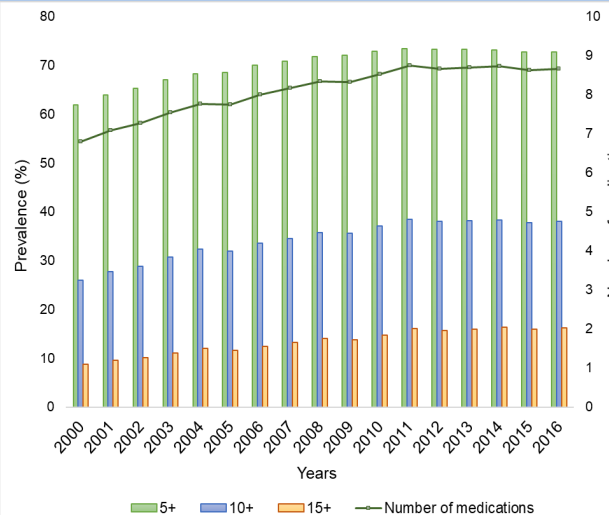
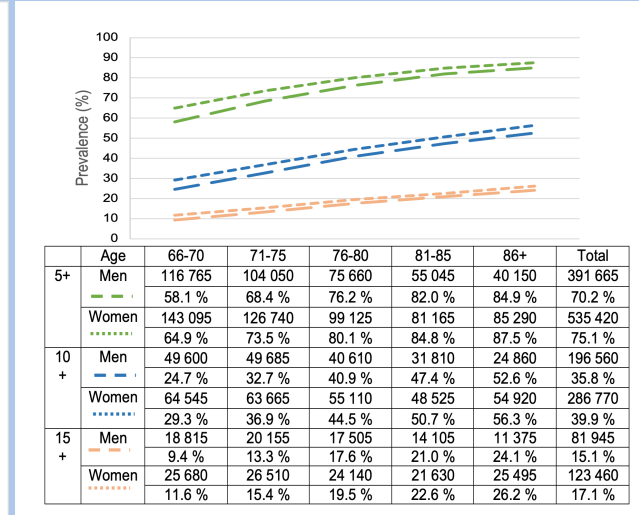


Figure 2. Crude prevalence and number of people with a polypharmacy measure of 5+, 10+ and 15+ by sex and by age in the population aged 66 and over for the 2016 fiscal year, Quebec



DISCUSSION

This study shows an increase in the prevalence of all types of polypharmacy among older adults between 2000 and 2016, and the number of medications per person rising from 6.8 to 8.7. The study highlights that this exposure to polypharmacy (5+, +10 or 15+ drugs) affects many groups of people and advanced age is a risk factor for receiving polypharmacy. The prevalence of polypharmacy is higher in women and often accompanied by potentially inappropriate use of medications. Targeted deprescribing interventions could be considered for these more vulnerable groups of people.

Limits

- There is currently no consensus on the definition of polypharmacy; the definition used did not involve simultaneous use of medications.
- The use of non-proprietary denomination codes may overestimate the prevalence of polypharmacy.
- Only medications reimbursed by the public health plan (RAMQ) are included in the study.

Conclusion and perspectives

With the aging of the population and the increase in multimorbidity, polypharmacy appears to be a public health issue. Surveillance of polypharmacy at the population level is paramount, in order to describe its evolution and impacts. Polypharmacy indicators should integrate notions of quality of treatment in addition to a number of medications. These indicators could support the implementation and monitoring of interventions both at population level and among vulnerable older people.

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