

The Incidence and Determinants of Primary Non-Adherence with Prescribed Medication in Primary Care

BACKGROUND:

- To address the problem of underuse of recommended treatment for chronic conditions, the contribution of primary non-adherence (not having a prescription filled) needs to be understood.
- Primary non-adherence might be an important contributor to suboptimal disease management, but methodological challenges have limited its investigation.

OBJECTIVE:

- To estimate the incidence of primary non-adherence in primary care and the drug, patient, and physician characteristics that are associated with non-adherence.

METHODS

- Design: A prospective cohort study
- Inclusion Criteria: The study divided the inclusion criteria into three groups:
 - Inclusion factors for physicians: Practice in a community setting and the use of MOXXI to write a minimum of 10 prescriptions/wk.
 - MOXXI is an electronic health record that includes a drug profile showing prescribed and dispensed drugs, ED visits and hospitalizations in the past 12 months and an electronic prescribing tool that requires mandatory entry of on and off label treatment indications.
 - Inclusion factors for patients: Public drug insurance and at least one new medication from primary care physician between 1/06/2006 and 12/31/2009,
 - Inclusion for medication: Covered through the public health system in which the provincial insurance agency (in Quebec) provides health insurance for all provincial residents and drug insurance to approximately 50% of all residents, including seniors, social assistance recipients, and those without private drug insurance.
- Exclusion Criteria: Not listed
- Primary outcome measure: To estimate the incidence of primary non-adherence in primary care
- Secondary outcome measure: To determine the factors pertaining to the physician (gender, years of practice), patient (age, gender, household income, copay plan and proportion of visits to a prescribing physician) and medication (indication, class, cost) that contribute to primary non-adherence
- Enrolled: 15,961 patients from a primary care network of 131 physicians in Quebec, Canada
- Data handling method: Data were available for 99.2% of incident (new drugs that had not been prescribed or dispensed in the past 12 months) prescriptions. There was 295 prescriptions with ≥ 1 missing values that were excluded from the multivariate analysis

RESULTS

- 15,961 patients were prescribed 37,506 new incident prescriptions
- 31.3% of incident prescriptions were not filled within 9 months after the date of issue
- Physician factors:
 - No physician factors showed statistical significance with regard to primary non-adherence.
- Patient factors:

- Increasing patient age reduced the odds by 11% for non-adherence (OR per 10 years, 0.89 [95%CI, 0.85 to 0.92])
- Partial copay or free medication showed a statistically significant reduction of primary non-adherence that was statistically significant. [OR (95% CI), 0.37 (0.32-0.41)] and 0.56 (0.49-0.64), respectively]
- Nearly one third of patients had visited an ED in the past 6 months, 15.3% had been hospitalized, and 5.9% had a Charlson Comorbidity Index score greater than 2.
- Medication factors:
 - The highest primary non-adherence rates based upon indication were for was headache (51.0%), ischemic heart disease (51.3%), and depression (36.8%). The lowest non-adherence rate was for diseases of the genitourinary system (26.2%), with urinary tract infection the most common condition. (21.0%).
 - Primary non-adherence was lower for a switch in medications within the same class for the same indication (11.6%) than for drugs prescribed as new therapies for a treatment indication (34.3%).
 - The pharmacologic classes of medication that showed statistical significance for primary non-adherence include GI medications (p = 0.009); ear, nose and throat preparations (p < 0.001); skin and mucous membrane medications (p<0.001), and autonomic medications (p=0.011).
 - Non-adherence was significantly related to drug cost in the top quartile (\$36.51 - \$913.95) [OR 1.11 (1.07-1.17)] as well as for the odds per \$20 increase in cost. [OR 1.05; (95%CI, 1.03-1.07); for both p < 0.001.

STRENGTHS

- Strengths of the study included the use of the MOXXI, which also documents the indication for drug use.

LIMITATIONS

- Certain patient effects that might influence primary non-adherence (e.g. patient's attitudes and beliefs) were not measured.
- The need for the prescribed therapy was not assessed.
- Consequences of not filling prescriptions were unknown.
- Nine months appears too long of a time to wait before being considered a primary non-adherence prescription.

CONCLUSIONS

- Primary non-adherence is a common and important factor contributing to disease state management.
- Developing different patient and drug interventions need to be considered to address the issue of primary non-adherence.
- Further research is still needed in this area.

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