

Pharmacological treatment pathways of chronic cough in adults in primary care in the Netherlands

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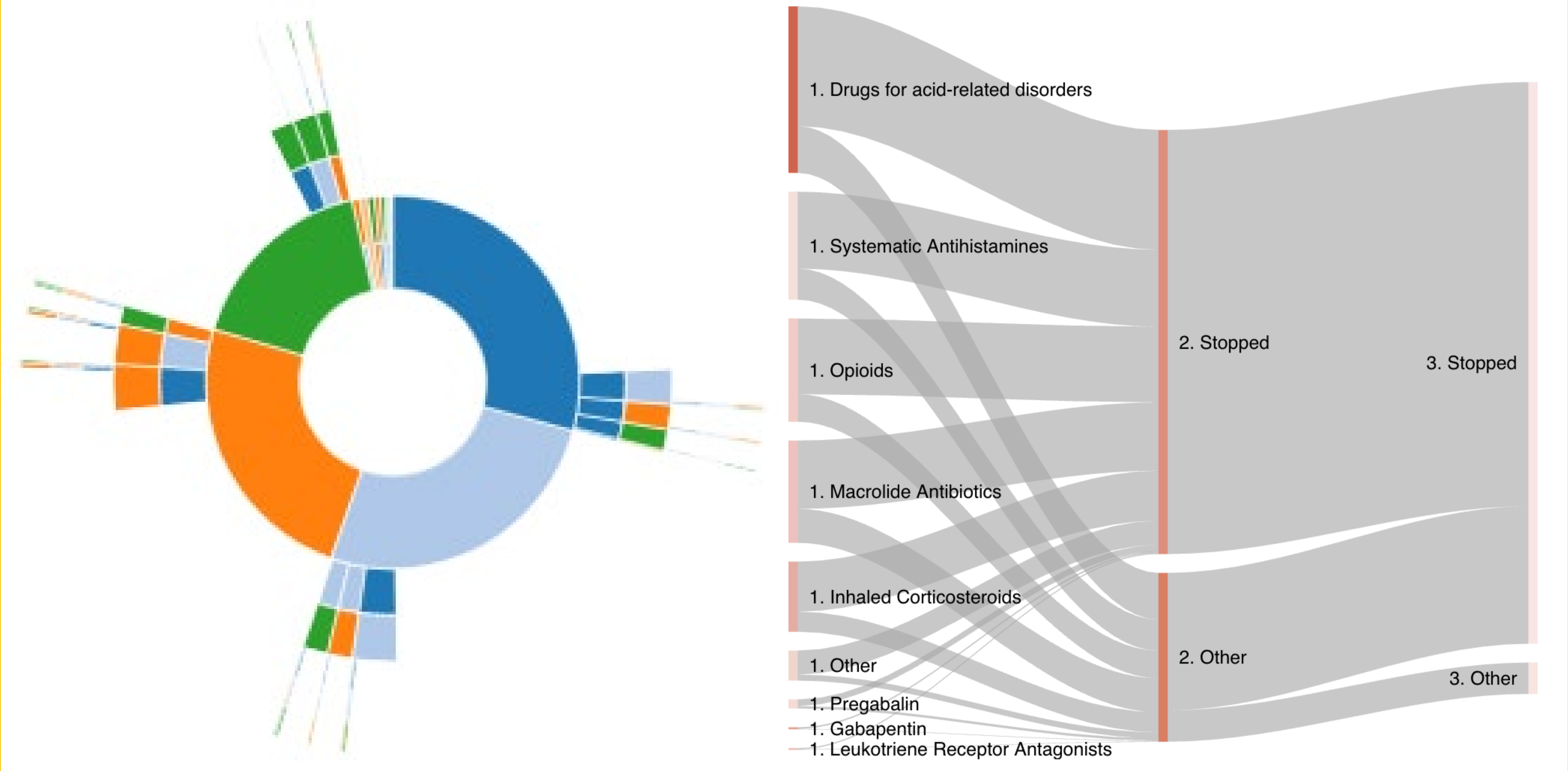
INTRODUCTION:

- There are presently no approved targeted pharmacological treatments for chronic cough.
- Guidelines recommend treating underlying conditions and initiating therapeutic trials for unexplained cases; however, about 50% of chronic cough cases are refractory to treatment. Therefore, insights into the real-world treatment patterns of chronic cough are needed to guide future clinical interventions.

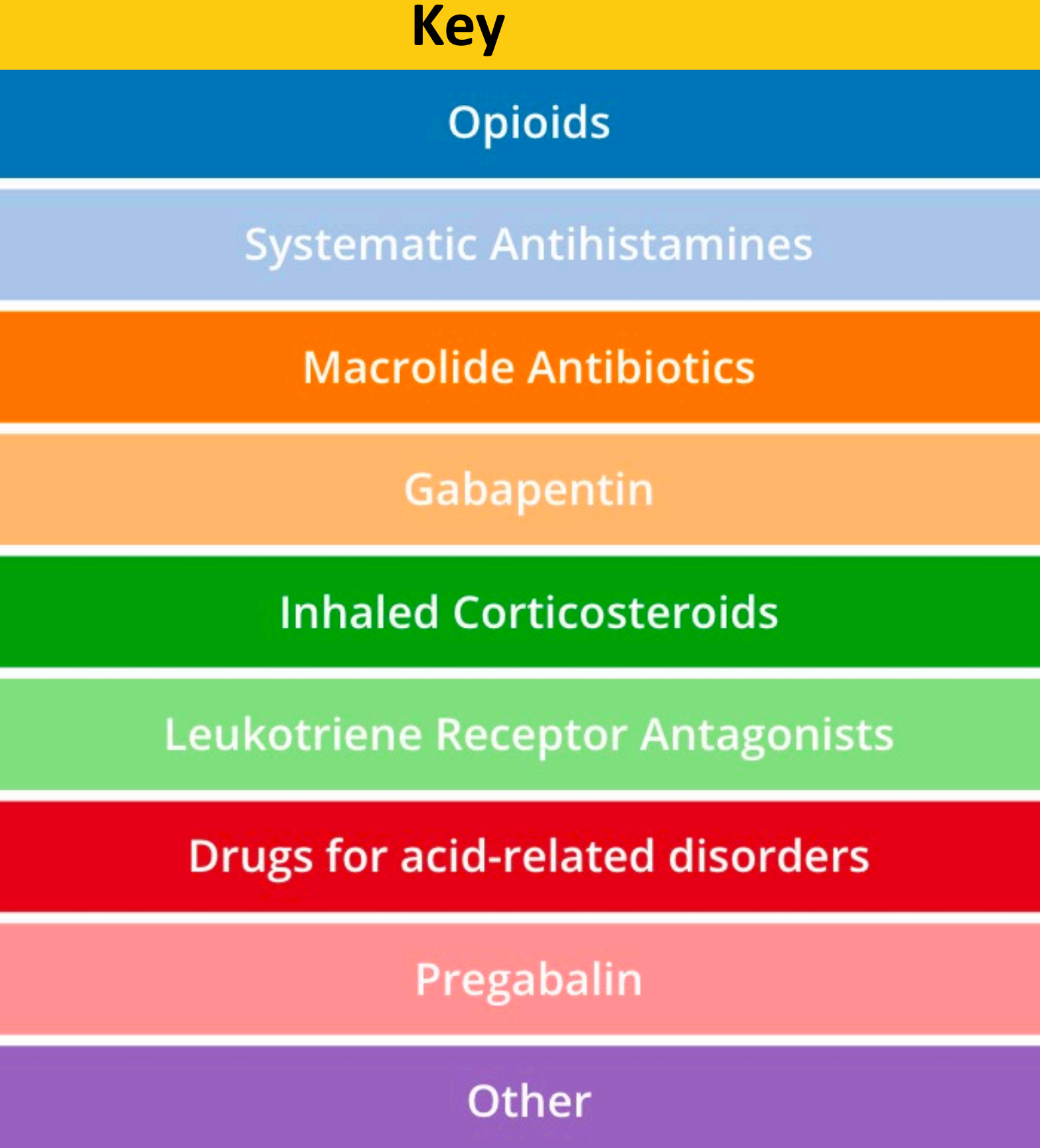
METHODS:

1. This retrospective cohort study described the drug utilization pathways of chronic cough patients in the Dutch primary care database (IPCI), from 2010 to 2020. The IPCI database is mapped to the OMOP-CDM, but the source vocabulary lacks a specific disease concept; therefore, we created a custom definition based on literature.
2. Two consecutive reports of cough within an 8-week interval were considered chronic cough.
3. Eligibility: ≥18 years, ≥1year of observation before baseline, and ≥3 years of database follow-up.
4. Drug utilization records were extracted based on the OMOP-CDM drug exposure table standardized to RxNorm concepts.
5. Analyses were performed using the R package, TreatmentPathways, that generates drug eras and duration of exposure.
6. Incident drug use was presented for each drug class, and defined as new drug exposure in an index year without previous exposure in the preceding 365 days.

In primary care, 2 in 5 adults with chronic cough receive drug treatment, and nearly 30% of them require further treatment after initial therapy.



Sunburst plot and Sankey diagram depicting the treatment pathways of chronic cough in the Dutch primary care (N = 100,230, Treated = 41.7%)



RESULTS:

- Study participants: 100,230 adults, 56.6% females, mean age – 52.9 years, and Charlson comorbidity index score – 0.8.
- Treatments during the entire study period are described in the Figures.
- First-line treatment (41.7%): monotherapy (94.3%) with drugs for acid-related disorders (27.7%), systemic antihistamines (18.0%), opioids (17.2%), macrolide antibiotics (17.2%), inhaled corticosteroids (11.8%). Leukotriene receptor antagonists (0.4%) was less commonly prescribed as first-line treatment, as were neuromodulators (2%) namely pregabalin (1.6%) and gabapentin (0.4%).
- Second-line treatment (12.7%): included drugs for acid-related disorders (25.0%), macrolide antibiotics (18.2%), systemic antihistamines (16.6%), opioids (14.8%), and inhaled corticosteroids (10.8%) .
- Third-line treatment – 3.1% .
- Fourth-line treatment – 0.7%

CONCLUSION:

- In primary care, drugs for acid-related disorders, systemic antihistamines, opioids, macrolide antibiotics, and inhaled corticosteroids are commonly used as first-line treatment for chronic cough.
- The use of opioids among patients with chronic cough is notably high.

ABBREVIATIONS:

- IPCI – Integrated Primary Care Information
- OMOP – Observational Medical Outcomes Partnership
- CDM – Common Data Model

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