

The rise and fall of SARS-CoV-2 rapid antigen self-tests at primary care level: a Portuguese case-study

João Almeida Santos^{1,2}, Verónica Gomez², Ana Paula Rodrigues¹

¹Department of Epidemiology, National Institute of Health Doctor Ricardo Jorge, Lisbon, Portugal; ²CISP, CHRC, NOVA National School of Public Health, NOVA University Lisbon, Lisbon, Portugal

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BACKGROUND & AIM

- SARS-CoV-2 rapid antigen tests (RAT) became widely available to detect a SARS-CoV-2 infection:
 - > Can be used by individuals prior to a healthcare consultation
 - > Can be used during consultation with a healthcare professional
- Self-testing may affect the health seeking behaviour and the general practitioner (GP) consultation practices
- Selection bias in primary care vaccine effectiveness (VE) studies



Aim

The aim of this study was to describe the use of RAT within those patients selected for a COVID-19 vaccine effectiveness study at primary care in Portugal in the 2022-23, 2023-24 and 2024-25 seasons

METHODS



Sample population

Patients from a primary care VE study (VEBIS Primary Care study)

VEBIS (Vaccine Effectiveness, Burden and Impact Studies) it's a framework build by ECDC to monitor VE against COVID-19 and influenza across different settings in different European countries

Inclusion criteria

Patients aged ≥ 60 years with acute respiratory infection (ARI)

Consulted a GP (September 2022-March 2025)

Variables

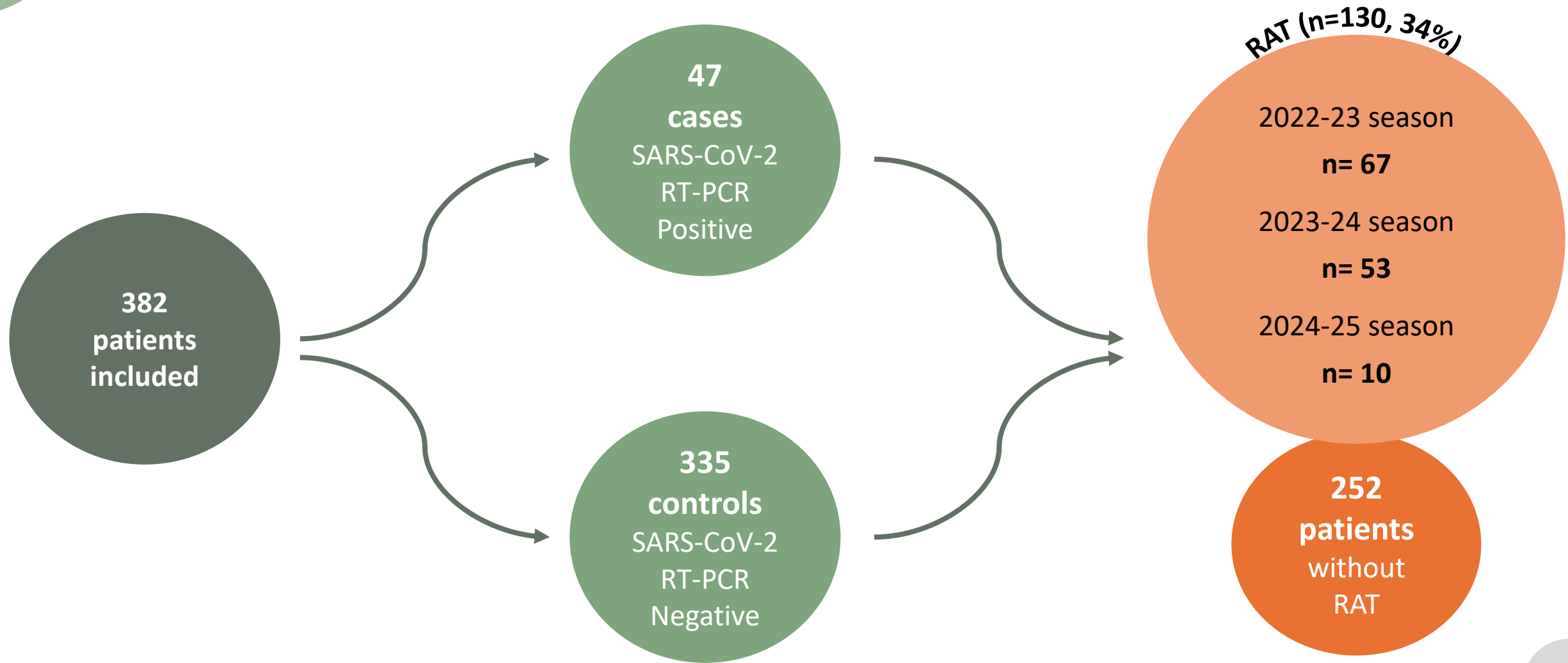
Demographics, COVID-19 vaccination status, self-test use, laboratory results (SARS-CoV-2 RT-PCR) and presence of chronic conditions

Laboratory results: SARS-CoV-2 RT-PCR Positive: Cases | SARS-CoV-2 RT-PCR Negative: Controls

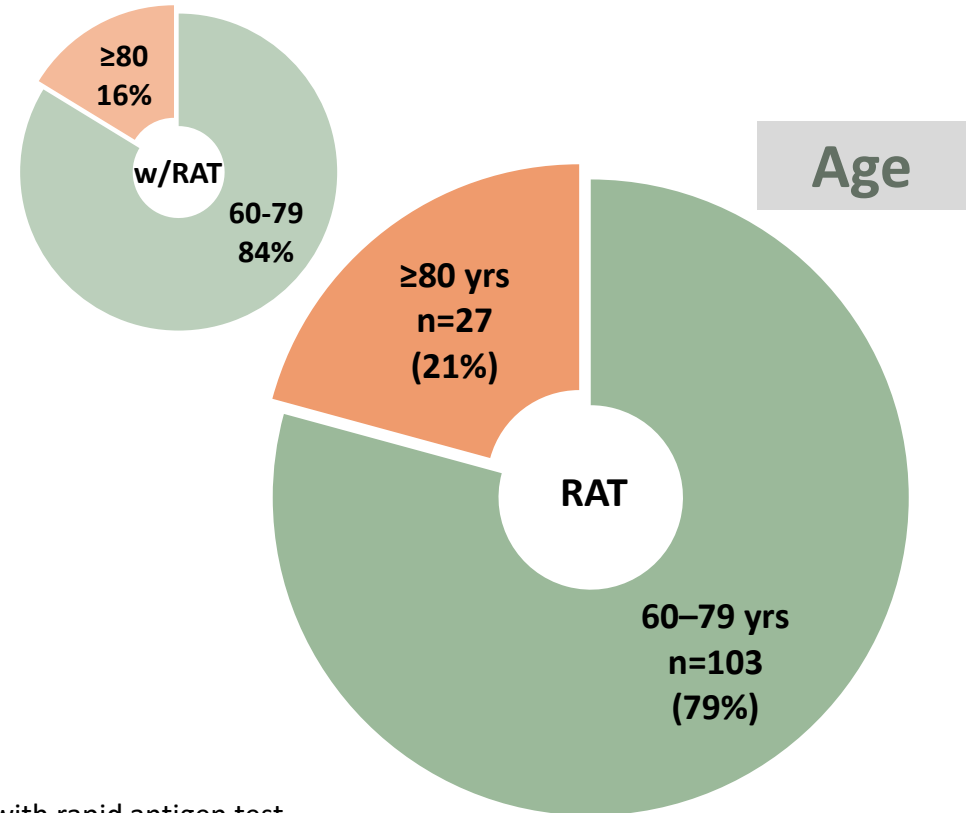
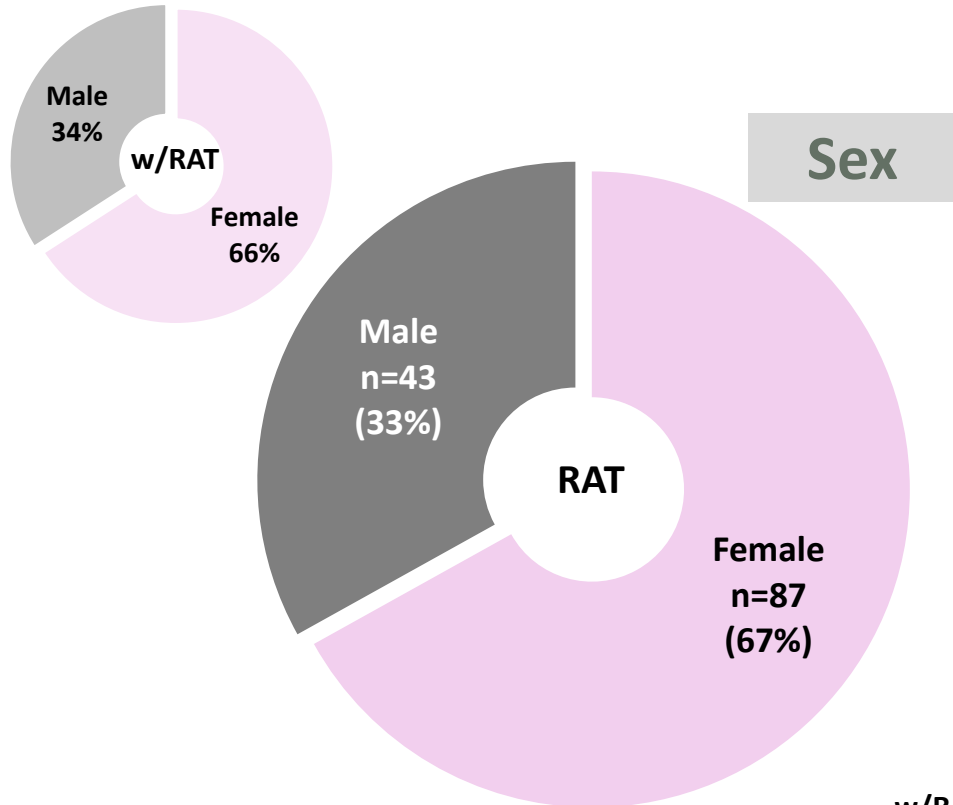
Statistical analysis

Descriptive analysis to compare patients that performed a RAT with those who did not

RESULTS – *Sample study*



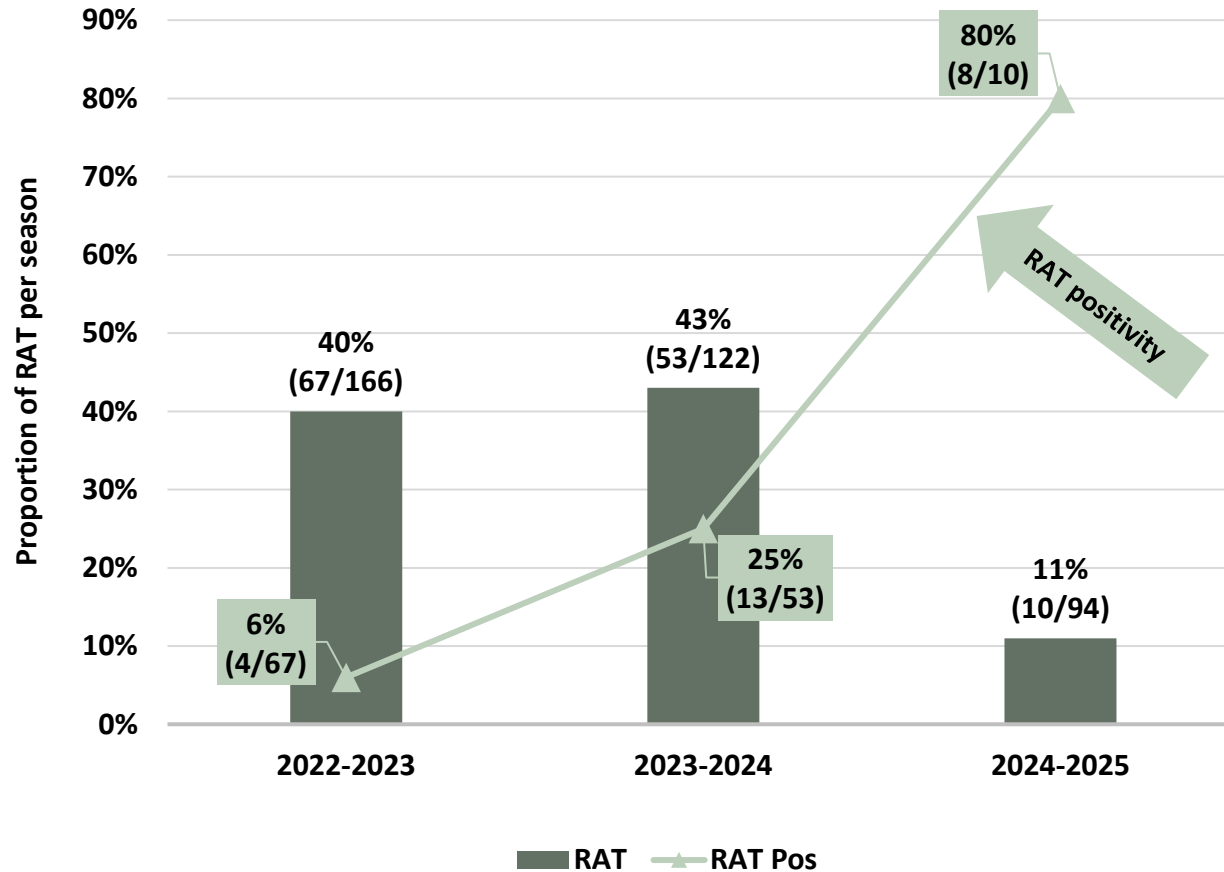
RESULTS – Sex & Age



w/RAT – Patients not tested with rapid antigen test
RAT - Patients tested with rapid antigen test

Patients who had a RAT were predominantly female & aged 60-79 years across all seasons

RESULTS – RAT results



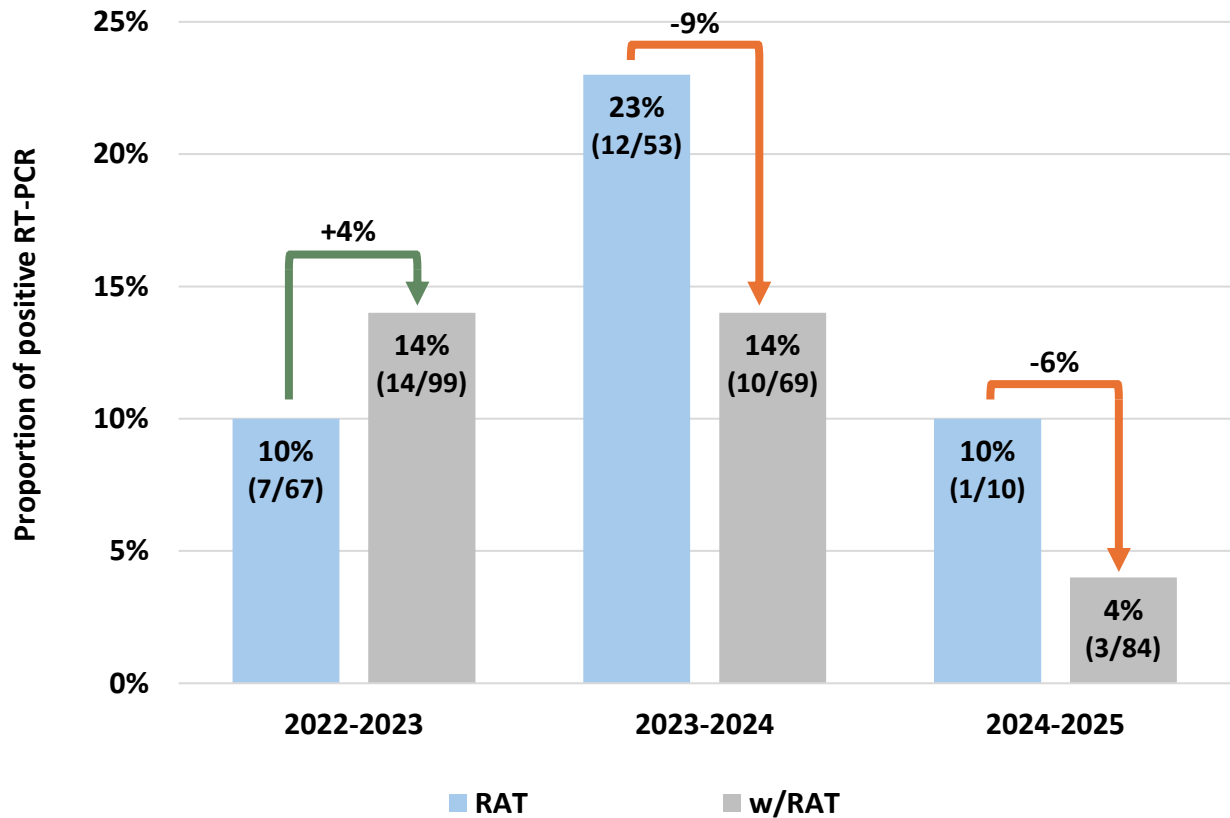
RAT positivity increased across the seasons

- Proportion of patients tested with RAT in the first two seasons was similar (40% vs. 43%) but in the last season it decreased substantially (~40% vs. 11%)
- Proportion of RAT positivity increased across the seasons (from 6% to 80%)



Suggesting that RAT was used only in patients with high suspicion of SARS-CoV-2 infection

RESULTS – RT-PCR positivity & RAT



RT-PCR positivity decreased in patients without RAT

PCR positivity and having performed a RAT:

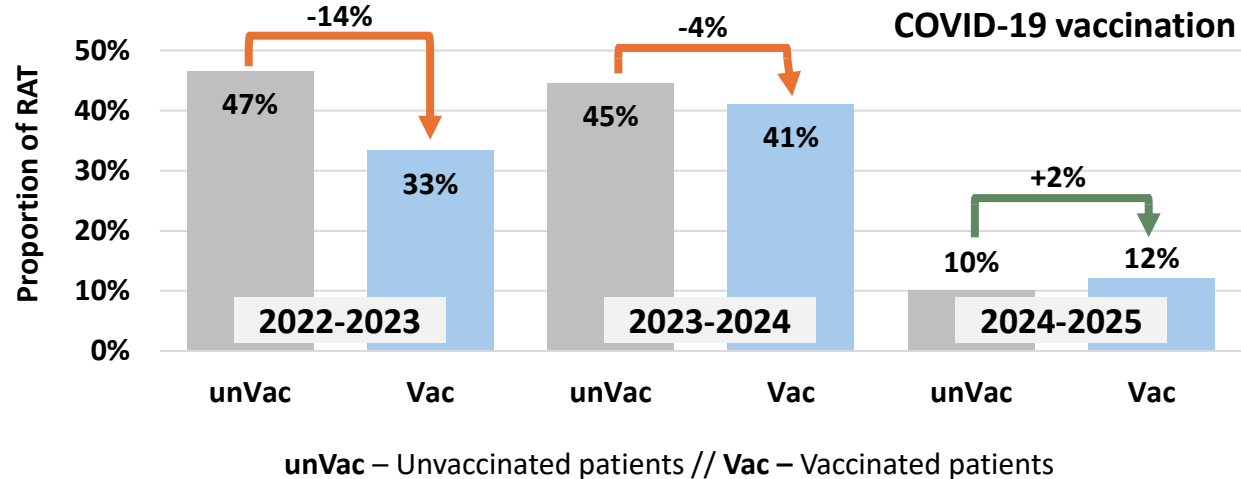
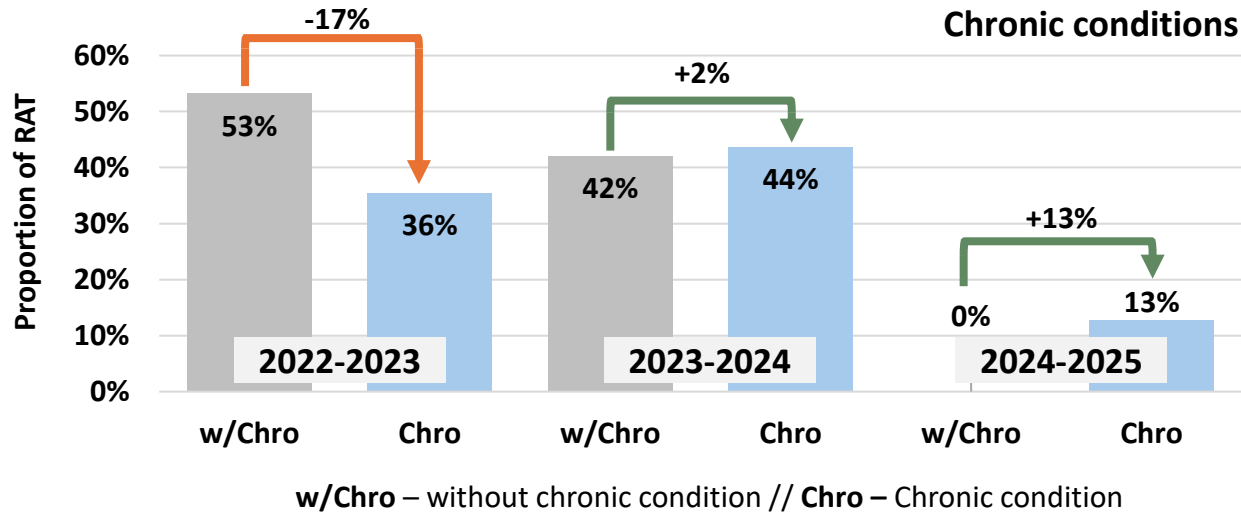
- Lower SARS-CoV-2 RT-PCR positivity rate in 2022-23 (10% vs. 14%)
- Higher SARS-CoV-2 RT-PCR positivity rate in 2023-24 (23% vs. 14%) and 2024-25 (10% vs. 4%)



Indicate that in the last two seasons, patients with a RAT were more frequently selected for VE surveillance

w/RAT – Patients not tested with rapid antigen test
RAT - Patients tested with rapid antigen test

RESULTS – Other variables



- Proportion of **patients with chronic conditions** that performed a RAT **increased** in **2023-24** and **2024-25**
- Proportion of **patients with seasonal COVID-19 vaccination** that performed RAT were **lower** in **2022-23** and **2023-24** but **slightly higher** in **2024-25**
- In terms of when the RATs were performed**
 - 2022-23 & 2023-24 seasons** → highest number of RAT was performed during the months with the highest incidence of ARI
 - 2024-25 season** → self-testing was lower and did not overlap with trends of ARI cases and did not present differences throughout the season

CONCLUSIONS



- In the present season, the use of RAT decreased and their use does not reflect the notification of ARI cases, that is, in periods with a greater number of cases there was no increase in RAT use
- Results suggest that the potential negative association between vaccination and rapid antigen testing (unvaccinated patients were more likely to self-test) practically disappeared throughout the seasons
- Use of RAT as increased over the seasons by patients with chronic conditions suggesting that RAT use is more driven by risk factors
- The increase positivity in RT-PCR may suggest that GPs may select more frequently for surveillance patients with a positive RAT, highlighting the need to monitor this trend in order to evaluate possible selection bias impact in the VE assessment
- The small sample size limited further analysis, highlighting the need for larger studies with VE estimates stratified by self-testing

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Obrigado! Muchas gracias! Thank you!