



Investigation of possible changes in general medicine prescribing patterns before and during the COVID-19 pandemic: Analysis of medicines claims data

Shirie van Rooyen¹, Martie S. Lubbe¹, Irma Kotzé¹, Nkengafac V. Motaze¹

¹Medicine Usage in South Africa (MUSA), Faculty of Health Sciences, North-West University, Potchefstroom 2520, South Africa.

KEY FINDINGS

- There was a 1.94% increase in claims for cytostatics and a 3.5% rise in claims for vitamins, tonics, and minerals.
- Prescriptions for NSAIDs decreased by 4.27%, with COX inhibitors leading this reduction at 4.68%.
- Topical nasal preparations (23.06%) and beta-lactams (11.58%) dropped with penicillin showing the largest decline at 10.6%.

BACKGROUND

The COVID-19 pandemic significantly impacted the prescribing patterns of medicines globally. Data on the influence of the COVID-19 pandemic on medicine prescribing patterns in the private healthcare sector of South Africa is scarce. This study investigated the changes in prescribing patterns before (2018-2019) and during (2020-2021) the COVID-19 pandemic.

The aim of this study was to investigate possible changes in general medicine prescribing patterns before (2018-2019) and during (2020-2021) the COVID-19 pandemic.

METHODOLOGY

A cross-sectional analysis was conducted using medicine claims data from a South African pharmaceutical benefit management (PMB) company. All claims processed during the study period were included. Differences in the proportion of patients who claimed medicines before and during the COVID-19 pandemic were compared using McNemar's test, and Cohen's g was used to determine practical significance.

Competing interests: The authors have no potential conflict of interest to declare.

Acknowledgements: We wish to thank the PBM company for allowing the use of the database for the study.

Author contact information:

Shirie van Rooyen. shirievannooyen14@gmail.com

RESULTS

A total of 321 966 patients were identified. There were more female patients (54%) than males (46%) and the median age of participants was 45 years, ranging from 0 - 105 years. A reduction of 8.45% was observed in prescriptions for antimicrobials, beta-lactams reduced by 11.58% and penicillin was the beta-lactam with the highest decrease of 10.6%. There was an increase in the use of cytostatics (1.94%) and vitamins, tonics, minerals and electrolytes (3.5%). A decrease of 23.06% was observed for topical nasal preparations and a 4.27% reduction was also found for NSAIDs, with COX inhibitors reducing the most (4.68%).

Category	Value
Total Patients	321,966
Gender Distribution	
- Female Patients	54% (173,861)
- Male Patients	46% (148,105)
Mean Age (Overall)	43 years (SD = 22.90)
Mean Age (Female)	44 years (SD = 22.90)
Mean Age (Male)	42 years (SD = 22.63)

Table 1: Demographic characteristics of the study population

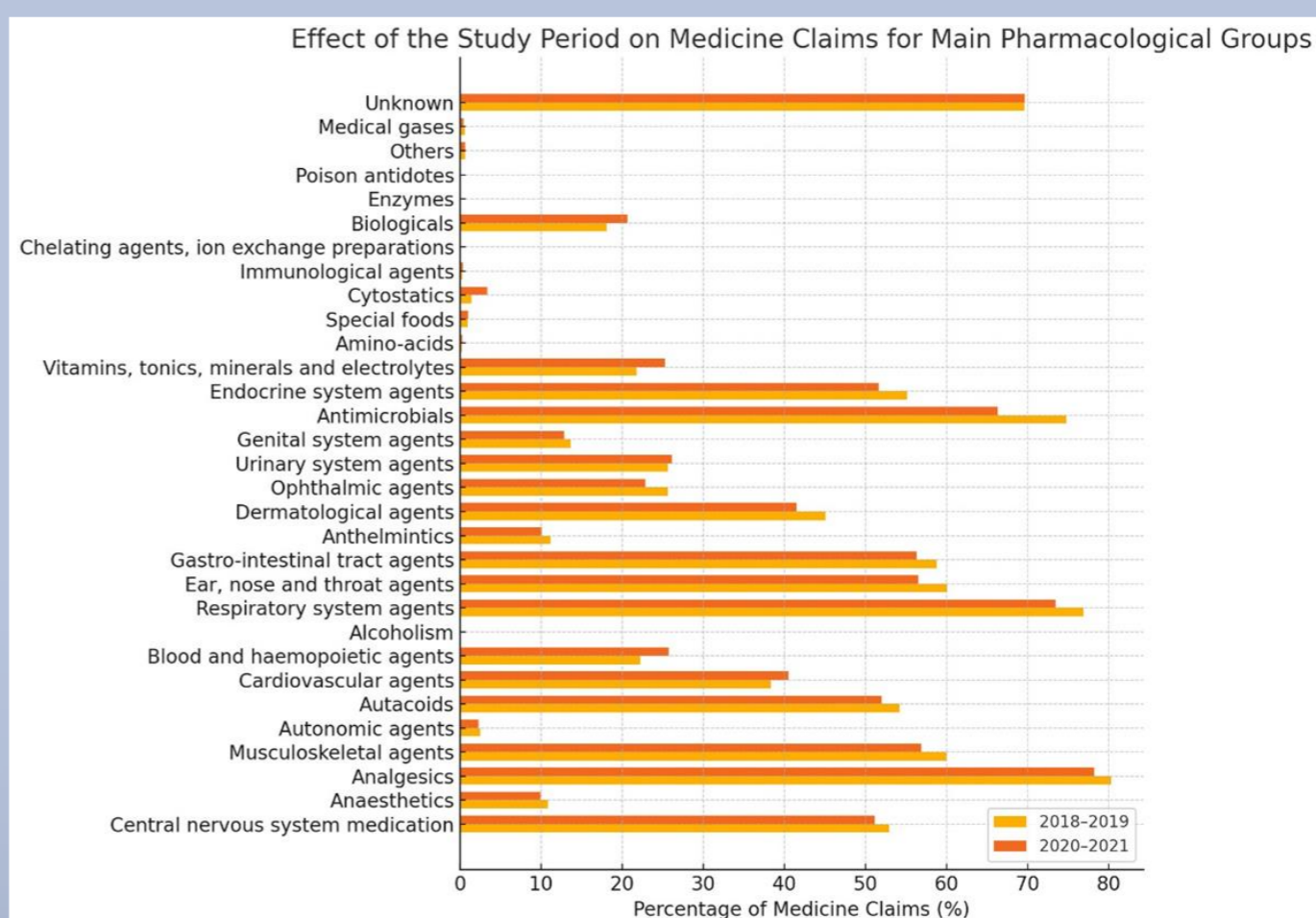


Figure 1: Effect of the study period on medicine claims for main pharmacological groups

CONCLUSION

Our findings revealed that the COVID-19 pandemic influenced general prescribing patterns within South Africa's private healthcare sector.