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Short Communication

Use of over-the-counter medicines by privately insured patients with common chronic conditions in South Africa

Neelaveni Padayachee[1,*], Alan D. Rothberg[2], Ilse Truter[3] and Neil Butkow[1]

[1]Department of Pharmacy and Pharmacology, School of Therapeutic Sciences, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa
[2]School of Therapeutic Sciences, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa
[3]Drug Utilization Research Unit (DURU), Department of Pharmacy, Faculty of Health Sciences, Nelson Mandela University, Port Elizabeth, South Africa

*Correspondence: Neelaveni Padayachee, Department of Pharmacy and Pharmacology, School of Therapeutic Sciences, Faculty of Health Sciences, University of the Witwatersrand, 7 York Road, Parktown, Johannesburg, 2193, South Africa. Email: neelaveni.padayachee@wits.ac.za

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Abstract

Objectives The study measured access to commonly used over-the-counter (OTC) medicines (OTCMs) by individuals who were insured for the management of chronic diseases and considered reasons for selection of the medicines in addition to mainstream drugs usually prescribed for treatment.

Methods Data were extracted from a large corporate database. Eligible subjects were aged ≥40 years and registered for management of one of the prevalent non-communicable diseases. Utilization of aspirin, inhaled corticosteroids and bronchodilators was assessed.

Key findings The study population included 12 108 controls and 4149 individuals with one of 11 common chronic conditions that were categorized as metabolic, respiratory, cardiovascular or glaucoma. There was high utilization of bronchodilators in the respiratory group, possibly indicative of poor control of the primary condition and moderate access to bronchodilators by controls, possibly self-medicating for an undiagnosed chronic condition. Aspirin was not only utilized for primary or secondary prevention in the cardiovascular and metabolic groups but also appeared to be used to treat glaucoma. Bronchodilators may also have been used to treat side effects of drugs used to treat hypertension.

Conclusions Reasons for use of OTCMs in the treatment of a chronic condition include poor control, treatment of a side-effect of a drug used to treat the chronic condition and self-medication for an undiagnosed condition. To gain further insight, insurers should routinely analyse claims and develop performance-enhancing interventions.

Keywords: chronic medicines; over-the-counter medicines; health insurance; disease management

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Introduction

In South Africa, 8.9 million citizens have private health insurance cover. To ensure comprehensive cover, the legislation specifies 207 medical conditions for which funding of diagnosis, treatment and ongoing care is guaranteed.[1] Accompanying the legislation is a Chronic Disease List (CDL) covering 26 conditions, with treatment algorithms that specify therapy (mainly prescribed medicines)[1] that should also be paid in full without a copayment.[1, 2] Patients with these conditions register with a medical insurer's disease management program (DMP), and payment for the condition-appropriate medicines should be guaranteed. OTCMs are not always included, however, patients can access these medicines and submit claims to their insurer. The aim was to determine the extent to which patients accessed OTCMs for supplementary/complementary treatment of a chronic condition, and whether the OTCMs were prescribed by doctors or accessed as self-medication by patients.

Method

Data were provided by a South African medical insurer from January to December 2015. Eleven of the most prevalent chronic conditions were subcategorized into four groups: metabolic syndrome/metabolic (hypertension, hyperlipidemia, Type 2 diabetes); respiratory (asthma, chronic obstructive pulmonary disease, bronchiectasis) and cardiovascular (ischemic heart disease, cardiomyopathy, cardiac failure, arrhythmia, vascular disease). Glaucoma was included because it was among the top 10 individual conditions encountered. Eligible subjects were ≥40 years with one of the selected chronic conditions, and those with no chronic conditions formed a control group. Patients with >1 chronic condition were excluded.

The relevant OTCMs for the identified chronic conditions included aspirin, inhaled glucocorticoids and bronchodilators. The latter two included fluticasone, salbutamol and theophylline (Table 1). The majority of the OTCMs contained active agents other than the index ingredient. Statistical analysis was done using Statistica.

Results

Table 1 provides details of the patient and control groups, and OTCMs of interest. In Figure 1, panel A shows doctor-prescribed OTCMs and the percentage of patients in the control and disease groups for whom aspirin, fluticasone and bronchodilators were prescribed. Fluticasone was prescribed for 50% of respiratory patients and bronchodilators for 65%. These rates were significantly different from control and other groups ($P < 0.0001$). Prescriptions for aspirin were similar for controls and respiratory patients (±20%), significantly higher for cardiovascular patients (70%; $P < 0.00001$) and intermediate for glaucoma patients and those with conditions included in the metabolic group (40%; $P < 0.0001$ versus controls and respiratory).

Utilization rates of OTCMs accessed directly by patients are shown in Figure 1, panel B. Aspirin access by respiratory patients was negligible, while glaucoma patients accessed at a significantly higher rate than controls and patients in the cardiovascular and metabolic groups ($P < 0.0002$). Fluticasone was accessed at a low rate by all patients (0–5%). Bronchodilators were accessed by 17–22% of controls and patients in the cardiovascular and metabolic groups. There was significantly lower use of bronchodilators by the glaucoma group (±10%; $P < 0.0001$) and higher use by the respiratory group (±35%; $P < 0.00001$).

Discussion

As indicated in Table 1, 25% of patients suffered from one of the common chronic conditions and were registered with one of the insurer's DMPs designed to provide comprehensive care. Thus, it should not be necessary for patients to access additional OTCMs. However, poor control of the chronic condition; treatment for a side-effect of a drug used to treat the chronic condition; provision of an appropriate OTCM that is not included in the CDL algorithm; or self-medication for an undiagnosed chronic condition is possible reasons for additional access.

In the doctor-prescribed OTCMs for respiratory patients, potentially the insurer's DMP was falling short and fluticasone and bronchodilators were required because patients' disease was poorly controlled.[4] Aspirin, although not on the CDL algorithm, has a place as an anti-inflammatory for primary prevention in the management of metabolic syndrome.[5] Similarly, there is evidence that aspirin may be protective in patients with glaucoma.[6–8] Among the cardiovascular patients, 70% received prescriptions for aspirin, with two-thirds of them suffering from ischemic heart disease (IHD) or vascular disorders (see Table 1). Certainly, for IHD the CDL algorithm is clear that aspirin should be administered, but it appears that the prescriptions are not being included by the DMP.

Direct access of OTCMs by patients is detailed in Figure 1, panel B. It appears that respiratory patients were self-medicating with bronchodilators, most likely due to poor control of their conditions by the DMP. Regarding access to bronchodilators by 17–22% of patients in the cardiovascular and metabolic groups, a case can

Table 1 Groups, chronic conditions and OTC medicines of interest

Groups	Chronic diseases (% contribution to the group)	OTC medicine/s of interest
Metabolic (n = 3638)	Hypertension (69%); type 2 diabetes (14%); hyperlipidemia (13%)	Aspirin[3]
Respiratory (n = 247)	Asthma (90%); chronic obstructive pulmonary disease/bronchiectasis (8%)	Fluticasone, Theophylline, Short-acting β_2 agonists[1]
Cardiovascular (n = 200)	Ischemic heart disease (31%); congestive heart failure (31%); vascular disorders (31%); arrhythmia (5%)	Aspirin,[3] Short-acting β_2 agonists, Theophylline[1]
Glaucoma (n = 87)	Glaucoma	
Control (n = 12 108)		Aspirin, Fluticasone, Theophylline, Short-acting β2 agonists

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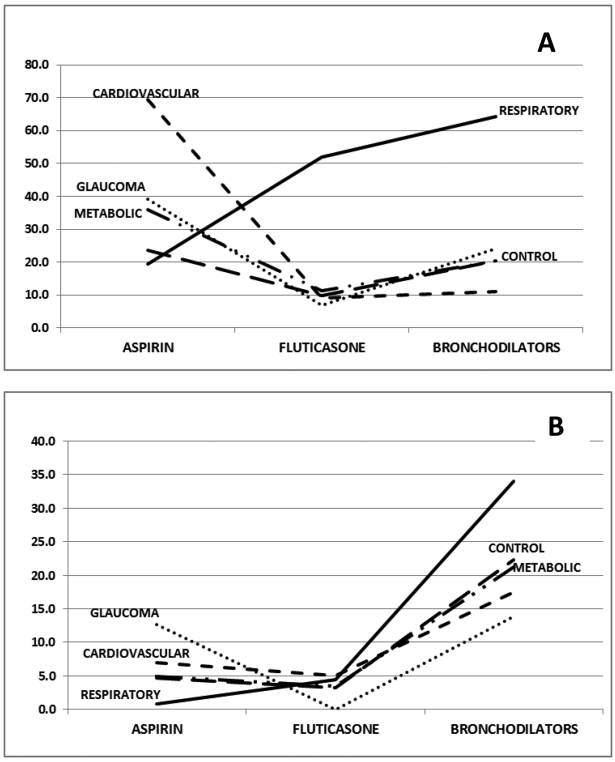


Figure 1 Percentage of patients in the chronic disease groups for whom OTCMs of interest were prescribed by a doctor (panel A) or directly accessed by patients (panel B).

be made for self-treatment of side-effects of drugs used for the primary condition. Angiotensin-converting enzyme inhibitors or beta-blockers prescribed for hypertension may respectively cause a cough or bronchoconstriction, resulting in patients obtaining 'cough medicines' from their pharmacies.[9] Approximately 20% of control patients also accessed bronchodilators. In this group, there is the possibility of self-treatment of a condition such as asthma or chronic obstructive airway disease that had not been formally diagnosed and therefore not registered with the DMP. The relatively high use of aspirin by glaucoma patients was also evident, possibly for the reason mentioned above. Respiratory patients accessed aspirin at a very low rate, perhaps because of its action as a bronchoconstrictive trigger.[10]

The possible reasons for the prescription of an OTCM by a doctor or direct access by a patient are speculative. Since clients of the insurer are paying for the DMPs and are entitled to comprehensive care, the onus is on the insurer to monitor the programs, identify where control of disease is poor, and where there are lapses in adhering to algorithms. Furthermore, data analysis by the insurer could identify areas for further investigation, as in the case of aspirin that appears to be used for the management of glaucoma.

This study was limited to one medical insurer. The utilization of OTCMs such as bronchodilators could vary by season. This was not explored.

Conclusion

Reasons for use of OTCMs in the treatment of a chronic condition include poor control, treatment of a side-effect of a drug used to treat the chronic condition and self-medication for an undiagnosed condition. To gain further insight, insurers providing DMPs should routinely analyse claims and develop appropriate interventions.

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Author Contributions

NP and AR conceptualised the study, methodology and analysis. IT and NB contributed to the final draft of the study.

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None.

Conflict of Interest

The authors declare that they do not have any competing interests.

Ethics

Ethics approval was obtained from the Human Ethics Committee of the University of the Witwatersrand (certificate M160141).

Consent for Publication

Not Applicable.

Data Availability

The data that support the findings of this study are available from the administrator but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of the administrator.

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