

A comparison of chronic medicine prescribing patterns between mail order and community pharmacies in South Africa

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SUMMARY

Title: A comparison of the chronic medication prescribing patterns between mail order and community pharmacies in South Africa

Key words: chronic medication; courier pharmacy; mail order pharmacy; retail pharmacy; medication possession ratio; oversupply; private health care system; South Africa

Pharmaceutical care can be defined as “the care that a given patient requires and receives which assures safe and rational drug usage” (Mikael *et al.*, 1975:567). The supply of medication is an important link in the health care chain, and the supply of chronic medication specifically was reviewed in this study. The World Health Organization (WHO, 2008d) states that chronic disease and related deaths are increasing in low- and middle-income countries, causing 39% and 72% of all deaths in low- and middle-income countries respectively.

The main objective of this study was to investigate the difference between chronic medication prescribing patterns and subsequent claiming patterns for community (retail) and mail order (courier) pharmacies in the South African private health care sector.

Computerized claims data for the period 1 January 2009 to 31 December 2010 were extracted from the database of a South African pharmaceutical benefit management company. The chronic database consisted of 6 191 147 prescriptions (N = 17 706 524), 14 045 546 items (N = 42 176 768) at a total cost of R2 126 516 154.00 (N = R4 969 436 580.88). A quantitative, retrospective, cross-sectional drug utilisation review was conducted, and data were analysed using the Statistical Analysis System® programme.

Various providers of chronic medication were analysed, namely dispensing doctors, dispensing specialists, courier pharmacies and retail pharmacies. Chronic medication represented 34.97% of all medication prescribed. Retail pharmacies dispensed 79% of this chronic medication (n = 2 441 613 items) and courier pharmacies 19% (n = 610 964 items). Courier pharmacies dispensed 1 147 687 prescriptions containing chronic medication and retail pharmacies dispensed 4 900 282. The average cost per prescription for chronic medication at retail pharmacies was R325.43 ± R425.74 (2009) and R335.10 ± R449.84 (2010), and that of courier pharmacies was R398.56 ± R937.61 in 2009 and R436.57 ± R1199.46 in 2010.

SUMMARY (continued)

The top-five chronic medication groups dispensed by both these pharmacy types were selected according to the number of unique patients utilising these medications for at least four consecutive months. The most utilised chronic medication groups were ACE inhibitors (n = 1 611 432), statins (n = 1 449 732), diuretics (n = 962 670), thyroid medication (n = 885 891) and oral antidiabetics (n = 696 631).

The average medication possession ratio for retail pharmacies indicated that, on average, statins, diuretics, thyroid medication and oral antidiabetics were undersupplied by retail pharmacies. Courier pharmacies tended to oversupply more often than retail pharmacies, with the cost of oversupplied medication ranging from 9% to 11% of total courier pharmacy medication costs.

The average chronic prescription, item and levy cost did not vary significantly between courier and retail pharmacies. This indicates that the relative cost of acquiring chronic medication is similar at retail and courier pharmacy. The medication possession ratios of the top-five chronic medication groups, however, did differ significantly. In order to choose the most appropriate provider, the medical scheme provider needs to consider the over- and undersupply of medication. Oversupply may lead to unnecessary costs whilst undersupply may lead to future noncompliance and associated health problems. The costs associated with undersupply of medication in the South African health care sector need further investigation.

OPSOMMING

Titel: 'n Vergelyking van voorskrifpatrone tussen posapteke en gemeenskapsapteke in Suid-Afrika

Trefwoorde: chroniese medikasie; koerierapteke; posapteke; kleinhandelapteke; medikasie-besit-ratio; oorverskaffing; private gesondheidsorgstelsel; Suid-Afrika

Farmaseutiese sorg kan gedefinieer word as die sorg wat 'n gegewe pasiënt nodig en verkry om veilige en rasonale medikasiegebruik verseker (Mikael *et al.*, 1975:567). Medikasieversaffing is 'n sleutelement in die gesondheidsorgketting, en die verskaffing van spesifiek chroniese medikasie is in hierdie studie ondersoek. Die Wêreldgesondheidsorganisasie (WHO, 2008d) voer aan dat chroniese siektetoestande en meegaande sterftes toeneem in lae- en middelinkomstelande. Chroniese siektes veroorsaak 39% van sterftes in lae-inkomste en 72% van sterftes in middelinkomste lande.

Die hoofdoel van hierdie studie was om die verskil in voorskrifpatrone (en gevolglike medikasie-eise) van chroniese medikasie in die Suid-Afrikaanse private gesondheidsorgsektor te ondersoek, spesifiek die verskil tussen gemeenskaps- (kleinhandel-) en pos- (koerier-) apteke.

Elektroniese eise vir die tydperk 1 Januarie 2009 tot 31 Desember 2010 is vanaf 'n Suid-Afrikaanse farmaseutiese voordelebestuurmaatskappy se databasis verkry. Die chroniese databasis het bestaan uit 6 191 147 voorskrifte ($N = 71\,706\,524$), 14 045 546 items ($N = 42\,176\,768$) teen 'n totale koste van R2 126 516 154.00 ($N = R4\,969\,436\,580.88$). 'n Kwantitatiewe, retrospektiewe, deursnee- medisyneverbruikstudie is uitgevoer en data is geanaliseer deur die Statistical Analysis System® program.

Onderskeie verskaffers van chroniese medikasie is ondersoek, naamlik resepterende dokters, resepterende spesialiste, koerierapteke en kleinhandelapteke. Chroniese medikasie het 34.97% van alle voorgeskrewe medikasie verteenwoordig. Kleinhandelapteke het 79% van hierdie chroniese medikasie geresepteer ($n = 2\,441\,613$ items) en koerierapteke 19% ($n = 610\,964$ items). Koerierapteke het 1 147 687 voorskrifte vir chroniese medikasie geresepteer en kleinhandelapteke 4 900 282. Die gemiddelde koste per voorskrif vir chroniese medikasie by kleinhandelapteke was $R325.43 \pm R425.74$ (2009) en $R335.10 \pm R449.84$ (2010), en die gemiddelde koste per voorskrif vir koerierapteke was $R398.56 \pm R937.61$ in 2009 en $R436.57 \pm R1199.46$ in 2010.

OPSOMMING (vervolg)

Die top-vyf chroniese medikasiegroepe wat die gereeldste deur beide apteektipos geresepteer is, is bepaal deur die aantal unieke pasiënte wat hierdie medikasie vir minstens vier agtereenvolgende maande gebruik het. Die mees algemeen gebruikte medikasiegroepe was ACE-inhibeerders (n = 1 611 432), statiene (n = 1 449 732), diuretika (n = 962 670), tiroïedmedikasie (n = 885 891) en orale antidiabetiese middels (n = 696 631).

Die gemiddelde medikasie-besit-ratio vir kleinhandelapteke het aangedui dat statiene, diuretika, tiroïedmedikasie en orale antidiabetiese middels onderverskaf is deur kleinhandelapteke. Koerierapteke het geneig om meer gereeld oorverskaffing van medikasie te toon, met die koste van oorverskaffing wat gewissel het tussen 9% en 11% van die totale koerierapteekkostes.

Die gemiddelde chroniese voorskrifkoste, itemkoste en bybetalingskoste het nie betekenisvol verskil tussen koerier- en kleinhandelapteke nie. Dit dui daarop dat die relatiewe koste van chroniese medikasie soortgelyk is by kleinhandel- en koerierapteke. Die besitratios van medikasie het egter wel betekenisvol verskil tussen die top-vyf chroniese medikasiegroepe. Wanneer 'n gepaste verskaffer gekies word, is dit belangrik dat oor- en onderverskaffing in ag geneem word deur die mediese skema. Oorverskaffing kan lei tot onnodige kostes terwyl onderverskaffing kan lei tot toekomstige nie-nakoming en geassosieerde gesondheidsprobleme. Dit is nodig dat die koste van die onderverskaffing van medikasie in die Suid-Afrikaanse gesondheidsorgsektor verder ondersoek word.

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Now to Him who is able to do immeasurably more than all we ask or imagine, according to His power that is at work within us, to Him be glory in the church and in Christ Jesus throughout all generations, for ever and ever!

-Ephesians 3:20-21

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