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A medicine utilization study for viral bronchitis in primary healthcare settings in Johannesburg

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ABSTRACT

Viral bronchitis or acute bronchitis is an infection of the airways which is mostly of viral origin and occurs mainly in the winter months. It affects 6% of children, 5% of the adult population annually and it tends to affect women more than men. Little is known about the level of adherence to guidelines in the treatment of acute bronchitis in South African primary care. Several medicines such as antibiotics, corticosteroids, and opioids are being used routinely in practice to treat acute bronchitis, although, several guidelines do not recommend them.

This study aimed to assess prescribing patterns, dispensing practices, medicine utilization and legal aspects in the treatment of acute bronchitis in both public and private primary healthcare settings in Johannesburg. This study was a non-experimental drug utilization study that included prescriptions from 181 patient visits and dispensed medicines from 378 patient visits by standardized patients. These 559 patient visits were made to 186 private doctors and 73 public clinics in Johannesburg. Data was captured on REDCap and analysed using STATA software version 15 for windows.

The research findings show a total of 1789 medicines from this study, with the maximum number of drugs in the public sector being four, while in the private sector the maximum was seven. Combination medicines or fixed-dose combinations were prescribed and dispensed most frequently (29.0%; n=520), followed by antibiotics (22.5%; 402) and thirdly corticosteroids (12.6%; 226). Of all the 559 patient visits, 29.34% (n=164) had drug-drug interactions.

Based on the label requirements of the Medicines and Related Substances Control Act 101 of 1965, five labels were fully compliant in the private sector, while two labels were fully compliant in the public sector. For labels on original containers of medicines, the study found that there were no statistically significant differences ($p > 0.05$) between dispensing doctors in the private sector and Primary Healthcare (PHC) nurses in the public sector in terms of labelling for the name of patient ($p = 0.199$) and reference number ($p = 0.227$), where dispensing doctors complied better than the PHC nurses. For labels of dispensed medicines that had been repacked, the study found that there were no statistically significant differences ($p > 0.05$) between dispensing doctors in the private sector and PHC nurses in the public sector in terms of labelling for the batch number ($p = 0.397$), reference number ($p = 0.397$) and expiry date ($p = 0.836$).

As per regulation 33 of the Medicines and Related Substances Control Act 101 of 1965 which sets out the legislation for a prescription, none of the 181 prescriptions was fully compliant. With regard, to the dispensing and prescribing practices in this study, there was an overuse of combination medicines, underuse of antivirals and polypharmacy was a major problem. It is not clear why antibiotics and corticosteroids were used so frequently, especially given that there is no evidence base for the prescribing or dispensing of these medicines. The results from this study highlight areas in practice needing immediate attention such as non-adherence to evidence-based treatment guidelines, polypharmacy, drug-drug interactions, and non-compliance to legislation. Further research in drug utilization is needed before strategies may be developed to improve dispensing and prescribing practices in primary care.

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