

Non-guideline-recommended prescribing of proton pump inhibitors; implications for the future and reducing over use

Commentary on the recent paper by Mares-Garcia et al

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Abstract

Drs Godman and Fadare review the paper by Mares-Garcia and colleagues in Spain regarding the extent of non-guideline recommended prescribing (NGRP) of proton pump inhibitors (PPIs) in ambulatory care. NGRP of PPIs is an increasing public health concern given the implications of overuse of PPIs on infection rates, osteoporosis and chronic kidney disease as well as increasing polypharmacy rates. Costs are less of an issue especially where there are low prices for generic PPIs; the main focus is on improving the quality of PPI prescribing. Encouragingly, Mares-Garcia and colleagues identified key factors associated with NGRP, providing direction to others.

Key words: Guidelines; PPIs; Public Health; prescribing

Main text

Mares-Garcia and colleagues are to be congratulated on their recent paper regarding the non-guideline recommended prescribing (NGRP) of proton pump inhibitors (PPIs) in ambulatory care in one of the Spanish provinces (Alicante) (1). In addition, documenting the costs associated with NGRP of PPIs, which has typically not been examined before. This is particularly important as most studies assessing the extent of NGRP PPI prescribing have concentrated on hospitals (1); however, the vast majority of PPI prescriptions are for ambulatory care patients.

The authors used a robust approach to examine the extent of PPI NGRP(1). This involved electronic prescribing, which in Spain includes diagnosis information. This combined information helps healthcare professionals, including health authority personnel, assess their prescribing against current guidance as a basis for future improvement. Similar combined information is also available in other Spanish regions as well as in other countries to enhance the future quality of prescribing (2, 3). These combined data sets are particularly helpful in this situation to enable an accurate assessment of NGRP versus perceptions. This is important as compliance with guidelines is variable across countries (4-8), which compliance enhanced by the instigation of multifaceted approaches, reminders and the involvement of key personnel in those developing the guidance (2, 3, 9, 10).

The authors point out that the utilisation of PPIs has increased appreciably in recent years across countries, with PPIs becoming the most prescribed medicine by volume in Spain in recent years. All age groups appear involved with increasing utilisation rates (11). Considerable growth rates in the prescribing of PPIs have been seen in other European countries especially Western European countries (12-14). Despite this appreciably increased utilisation of PPIs in Europe, expenditure has

fallen in recent years and is now lower in a number of countries than before generic PPIs became available. This has been helped by countries encouraging the preferential prescribing of low cost generic PPIs versus patented PPIs with no perceived differences in effectiveness between the various PPIs (12-15). Prices of generic omeprazole have been as low as 2% of pre-patent loss prices in some European countries (12) further lowering expenditure, with low prices also seen in Spain but not as low as 2% of pre-patent loss prices(1).

Unfortunately, these low prices for generic PPIs, as well as lower expenditure in recent years, may well have resulted in health authorities and physicians paying less attention regarding the quality and efficiency of PPI prescribing. This compares with other high volume classes of medicines in ambulatory care where patented products are still available, which appreciably increase costs if preferentially prescribed versus generics with no obvious patient benefits. This included the statins, until generic atorvastatin became available, as well as the angiotensin receptor blockers once generics became available (15, 16). However, savings can only be made if physicians trust the quality of available generics, which is less of an issue in Europe compared with a number of lower and middle income countries (17-19). Physicians in a number of countries, including European countries, are encouraged via health authorities or education starting in medical schools to enhance their prescribing of generics, combating the activities of pharmaceutical companies (14, 20, 21).

This is now changing., As Mares-Garcia and colleagues pointed out, there is now increasing scrutiny regarding the prescribing of PPIs in ambulatory care, especially in Western countries, with concerns regarding their over use. Potential over use of PPIs was seen in their study, with 122 patients older than 60 out of 302 patients studied having no obvious reason for being prescribed PPIs; similarly 70 patients under 60 had no risk factors for upper GI bleeding (1). This is perhaps not surprising since many physicians prescribe PPIs prophylactically for elderly patients with conditions such as osteoporosis without adequate risk stratification (22, 23). Over use of PPIs can increase the extent of polypharmacy, leading to concerns with adherence and drug: drug interactions (24, 25). In addition, increasing the risk of infection, osteoporosis (11, 26-31) and chronic kidney disease (32, 33), although there is some controversy (34). These concerns have resulted in calls to educate both ambulatory care physicians and specialists on appropriate PPI use (35). This includes using the lowest effective dose where PPIs cannot be avoided and reducing prescribing generally in low risk patients (31, 35).

Encouragingly, Mares-Garcia and colleagues identified key factors associated with NGRP of PPIs. Identifying such risk factors can help researchers and health authorities target efficiently at-risk prescribers of PPIs and subsequently implement targeted preventative educational programmes. . The alternative is to restrict prescribing of PPIs to targeted indications, with 100% co-payments for non-reimbursed indications. In for instance in Lithuania, PPIs have a 50% co-payment for reimbursement, with reimbursement restricted to patients with reflux oesophagitis, duodenal ulcers, or for *Helicobacter pylori* eradication (36). This appreciably reduced their reimbursed prescribing to one twentieth to one thirtieth of that seen among Western European, although higher utilisation rates are seen once self-purchasing is included (12, 36, 37). However, prescribing restrictions are not always possible, with a combination of physician education, agreed quality targets and financial incentives equally effective in achieving changes in physician prescribing behaviour (13, 14, 37, 38). This is the suggested approach in this situation.

Finally, whilst the authors highlight the acquisition costs of NGRP, this is perhaps less of an issue among Western countries if the cost of PPIs dispensed is Euro1/ month as seen for instance in the Netherlands (12). As discussed, the higher public health priority surrounds the appropriateness of PPI prescribing and the clinical implications associated with their over use as highlighted by the authors in their introduction (1). This includes patients with osteoarthritis as well as those with multiple co-morbidities (1).

The authors conclude that their analysis provides good insight into current PPI prescribing and associated factors with NGRP in Spain. Their analysis can help guide future prescribing of PPIs in ambulatory care in Spain and generally among Western countries, with all physicians beholden to improve the judicious use of these medicines.

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