

Marketing in the lay media and prescriptions of terbinafine in primary care: Dutch cohort study

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In May 2000 in the Netherlands, the manufacturer of terbinafine, Novartis, started a nationwide "information campaign" which included television advertisements advising people with onychomycosis to visit their general practitioner. The Dutch Society of General Practitioners objected to this campaign as an unnecessary focus on an unimportant health problem.¹ In the Netherlands, terbinafine and itraconazole are available as oral treatments for onychomycosis, but the Society's guidelines recommend terbinafine.^{2,3} In May 2002, a Dutch court decided that Novartis's campaign did not violate laws prohibiting advertising of prescription drugs as neither Novartis nor terbinafine were specifically named⁴; however, Novartis stopped the campaign in July 2002. We studied the changes in rates of prescriptions of oral terbinafine and itraconazole and the consultation rate before and after the start of the campaign.

Participants, methods, and results

We retrieved all data from the integrated primary care information project—a Dutch research database for general practice—with data from a group of 150 general practitioners.⁴ To determine rates of prescription of terbinafine and itraconazole for onychomycosis, we counted all prescriptions (first and repeat) written for that specific indication before (1996-9) and during the campaign (2000-2) and divided these by the amount of person time in the population. We also assessed the consultation rate for new onychomycosis.

The source population comprised 470 775 patients (239 154; 50.8% males) with a total follow up of 1.5 million person years. During the study period, general practitioners issued 11 930 prescriptions for terbinafine and 10 014 prescriptions for itraconazole for onychomycosis. Before the television campaign (1996-9), the overall prescription rates of terbinafine and itraconazole were 6.50 (95% confidence interval 6.33 to 6.66) and 6.84 (6.67 to 7.01) prescriptions per 1000 person years. The prescription rate of terbinafine increased from 7.7 in the month before to 15.2 (13.5 to 16.9) in the month after the launch of the campaign, and was 10.26 (9.99 to 10.53) per 1000 person years in the entire

period during the campaign (2000-2). Conversely, during the campaign the prescription rate of itraconazole decreased to 6.07 (5.86 to 6.28) (figure). The consultation rate for new onychomycosis increased from 5.9 (5.6 to 6.2) in 1999 to a peak of 8.2 (7.9 to 8.6) in 2000-1 and fell to 4.9 (4.6 to 5.1) per 1000 person years in 2002.

Comment

The rate of prescription of terbinafine increased considerably after the launch of an advertising campaign about onychomycosis in the Netherlands; the rate of prescription of itraconazole slightly decreased. This seems surprising for a campaign in the lay press which did not specifically mention terbinafine. That the campaign was successful in motivating people to seek care for onychomycosis is strongly suggested by the concurrent increase in the consultation rate for onychomycosis. Since terbinafine is recommended in prescribing standards, the stimulating effect of anonymous advertising in the lay press on prescriptions of terbinafine was predictable. Novartis's campaign, therefore, was not beneficial to the prescription of drugs used for onychomycosis in general, as the company claimed, but specifically beneficial for terbinafine. After the campaign was stopped in July 2002, rates of consultations and prescriptions dropped again.

The effects on work load in primary care of the lay media marketing medicinal products for cosmetic indications which cannot be treated with over the counter drugs should not be underestimated. Several synchronous campaigns like this would cause a serious adverse impact on general practitioners' workloads and costs. This may affect patients who need care for more serious problems.

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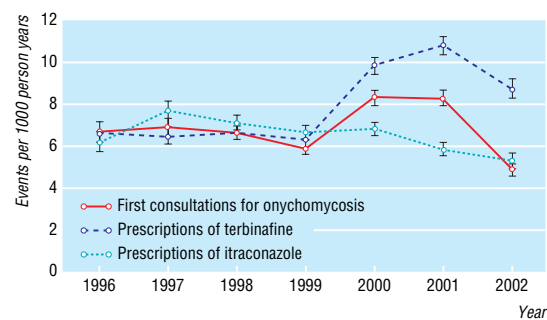
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- 1 Sheldon T. Dutch GPs call for ban on Novartis products. *BMJ* 2002;325:355.
- 2 Brütigam M, Nolting S, Schopf RE, Weidinger G. Randomised double blind comparison of terbinafine and itraconazole for treatment of toenail tinea infection. *BMJ* 1995;311:919-22.
- 3 Nederlands Huisartsen Genootschap. Dermatomyosen (oktober 1997). <http://nhg.artsennet.nl/upload/104/standaarden/M64/start.htm> accessed 10 Feb 2004. (In Dutch.)
- 4 Vlugg AE, van der Lei J, Mosseveld BM, van Wijk MA, van der Linden PD, Sturkenboom MC, et al. Postmarketing surveillance based on electronic patient records: the IPCI project. *Methods Inf Med* 1999;38:339-44. (Accepted 20 November 2003)

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Prescription rates and consultation rates before (1996-9) and during the campaign (2000-2) (averages are calculated per year)

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