Reviewer's report

Title: Availability and Use of Essential Medicines in China: Manufacturing, Supply, and Prescribing in Shandong and Gansu Provinces

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Reviewer: Agnes Vitry

Reviewer's report:

This is a very interesting article about the availability and use of essential medicines in China though it is very ambitious as it explores the production, availability and prescription of essential medicines in 2 Chinese regions.

Major compulsory revisions

Background

A bit more information on the place of Chinese medicines in Therapeutics would be helpful for western readers. How frequently are they used compared to western medicines, in particular in hospitals? Are there practitioners/hospitals who use Chinese medicines exclusively? What is their therapeutic value compared to Western medicines? This may explain some of the results obtained and this data are relevant for the discussion as well.

Please could you give also more information on the roles and differences between primary, secondary and tertiary hospitals, and the functions of retail pharmacies? It is not clear to me if primary hospital are primary health care centers or whether they accept inpatients only.

How many essential medicines are reimbursable by urban health insurance schemes?

Methods

More information is required on the content of the interviews of manufacturers and pharmacy managers.

Prescription review: more detail should be given about the type and accuracy of information kept in medical records.

Random sample of essential medicines: it is clear from the results that this was not the best methodology to choose as many randomly chosen products may be only useful in hospitals and then, the results do not give an accurate description of the availability of essential medicines in retail pharmacies that may provide medicines to primary care patients only (??).

Results

What was the response rate of interviews with manufacturers and pharmacy managers?

Page 5 4th paragraph: give results in % as well (7 and 19 products)
Hospital pharmacies: please could you give the overall % of essential medicines from the NEML that have production licenses in the study manufacturers? Please could you give the overall % of essential medicines from the NEML that are produced by at least one of the study manufacturers in each region?

The term median (text and table 4) should not be used for binary variables such as percentages, average and SDs should be used instead. SD are only mentioned in the text for hospital pharmacies but not for the other results, maybe keep them in tables only.

Discussion

It is stated that manufacturers did not produce 40% of the list of products on the NEML. It’s an ambiguous statement as a higher % could be found if you looked at the overall % (or the opposite: what is the % of essential medicines that is not produced by any manufacturer?)

Limitations: it is not clear why you “lacked data on all products manufactured”. The way the article is written gives the impression that you collected all data that you wanted. Please explain a bit further. You could still calculate an overall % of essential medicines produced even if you have not surveyed all manufacturers. What is the proportion of manufacturers surveyed? Can hospitals order their medicines from manufacturers outside the region?

Discussion

The discussion jumped a bit quickly to an ideological discussion of the current Chinese industry policies (e.g. pricing policy) that do not seem completely relevant to the results of the survey. More attention should be paid to the results themselves. E.g. the most frequent reasons for not purchasing the selected essential medicines was lack of clinical use or availability of clinical alternatives. Is it possible to explore these results further? Did the random list include medicines that were rarely of use? It would be useful to give the list of the medicines you surveyed! Should the NEML be reviewed in light of these comments? What were the preferred alternatives? It is difficult to see the relevance of a discussion about the pricing policies of generic versus originator products if you have no idea of what were the preferred alternatives?

Overprescribing of antibiotics and injections: the conclusions are a bit too quick given that there is no information on the quality of information included in the clinical records. What were the reasons given for prescribing antibiotics? Injections? I think that this part of the study is so few detailed that I wondered whether it should be left out of the article altogether.

Then, when you read the last part of the conclusion, you may think that, yes, the selection of “essential” drugs used in the survey may not be so “essential” as the 2009 revised list only includes now 205 western medicines instead of 773. It would be interesting to know what % of this new list was produced, prescribed and available in pharmacies in the survey.

I believe that the discussion should be reviewed to focus on the results of the survey itself, the limitations that may have influenced the results and shorten the
section on Chinese industry policies that are no directly relevant to the results.

Abstract
Second line in results: should be “they were licensed to produce” instead of “they licensed.
Most semi-colons should be replaced by full stops.
Conclusions: too strong, I don’t think that you can conclude from your study that prescribing of essential medicines did not coincide with appropriate use if we have no details on which medicines, which indications etc. Especially knowing now that the NEML list has been completely revised therafter!

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.