Reviewer's report

Title: Variation of polypharmacy in older primary care attenders occurs at prescriber level

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Reviewer: Robert Vanderstichele

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This is a cross-sectional analysis in a cohort of older adults in primary care in Maleisia, aiming to analyse associations between polypharmacy (defined in a numerical way as 5 or more medicines prescribed during the encounter) on the one hand, and patients, practice, and prescriber characteristics on the other hand.

The observed differences between public and private sector could well be caused by difference in case-mix, with differences in precisely the patient variables relevant to polypharmacy (gender, educational level, multimorbity) between the two sectors.

I would have liked to see some more discussion about the possible bias in data capturing the medication use, either because of reimbursement issues, or software issues. Are all prescriptions electronically recorded during encounters? Was only looked at the prescriptions during the encounter and not at the full list of chronic medication? Are some medications not recorded because not reimbursed (e.g. benzodiazepines)?

If only the prescriptions issued during an cross-sectional encounter were recorded, it is not sure that this is a good indicator of the full medication list of the patients, with additional chronic medications for which in that encounter no refills were needed.

It seemed odd to me that so little use of psychotropic use was recorded in the public health sector. The distribution over drug classes is not the pattern that is expected and comparable to other studies. Could the authors elaborate on that? I am afraid this impacts heavily on the comparability of the results of the study, and its validity.
Some mention could be made of recent studies linking polypharmacy to outcomes such as hospitalisations and mortality. Some mention could be made of the attempts not only to quantify polypharmacy but also to appraise the quality of prescribing by using explicit criteria of (in)appropriate prescribing, and quantifying "misuse" and "underuse".

A small remark: in the introduction It would be good to focus on demographical data of 65+ (not 60+) only and to give some examples of much greyer populations in Western Europe (e.g. with 17% of 65+ in 2016 in Belgium).

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.
No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.
No

**Are the conclusions drawn adequately supported by the data shown?**
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