

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Survey of the pattern of antibiotic dispensing in private pharmacies in Nepal
<b>AUTHORS</b>	Nepal, Anant; Hendrie, Delia; Robinson, Suzanne; Selvey, Linda

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Asa Auta University of Central Lancashire, UK
<b>REVIEW RETURNED</b>	14-Jul-2019

<b>GENERAL COMMENTS</b>	<p>This is an important manuscript that explored the pattern of antibiotics supply in private pharmacies. The manuscript is well written but would benefit from some revisions to make it better. In addition, this manuscript would require some editing to address language/spelling mistakes. You can find my comments on the attached document.</p> <p>The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.</p>
-------------------------	---

<b>REVIEWER</b>	Shazia Jamshed Pharmacy Practice Department, Kulliyah of Pharmacy, IIUM Malaysia
<b>REVIEW RETURNED</b>	19-Jul-2019

<b>GENERAL COMMENTS</b>	<p>The authors need to justify and change the following:</p> <ol style="list-style-type: none"> <li>1) Please justify the selecting site. Why you chose this site?</li> <li>2) What is the purpose of including the children attending the pharmacies with their parents?</li> <li>3) Why caregivers buying medicines for others are excluded?</li> </ol>
-------------------------	---

<b>REVIEWER</b>	Erika J Ernst University of Iowa, College of Pharmacy United States
<b>REVIEW RETURNED</b>	22-Jul-2019

<b>GENERAL COMMENTS</b>	<p>This is a study describing the dispensing of antibiotics from pharmacies in Nepal. The study provides a unique evaluation of dispensed antibiotics as reported by patients. The limitations of this approach are clearly described.</p> <p>Abstract: Overall well written and a good summary of the study methods and results.</p> <p>Abstract Design and setting: "Data collected...at 33 randomly selected," Suggest deleting "randomly" from the description. From the methods section, it does not appear as pharmacies were</p>
-------------------------	---

	<p>randomly selected but rather certain ones were targeted and then the rest filled in with no particular method for ensuring random selection. If they were indeed random then the method for random selection should be described. For example, all possible pharmacies were assigned a number and then pharmacies were selected for inclusion using a random number generator.</p> <p>Strengths and limitations: 4 rd bullet point. Suggest reword to delete 'more' and change 'so' to 'and'.</p> <p>Page 10 Line 17-26. The section addresses unlicensed pharmacies. The paper states, "This study found the level of dispensing of antibiotics was higher by unlicensed pharmacists." While this statement is true the number of unlicensed pharmacies and antibiotics dispensed by them is small. This information should be added and discussed. Only 39 antibiotics were actually dispensed by unlicensed pharmacists.</p> <p>Factors Associated with Antibiotic Prescribing: "Those patients who had a prescription from a doctor or health worker were also more likely to receive antibiotics than if patients had no prescription (<math>p &lt; 0.001</math>). Similarly, patients were more likely to receive antibiotics from drug retailers who did not have a diploma or bachelors in pharmacy (<math>p = 0.001</math>)." This section is confusing. It is not clear to me what is similar between these situations. I think it may make more sense to say, "Patients were also more likely ..." It seems getting an antibiotic from a doctor is different from getting antibiotics from retailers who do not have degrees." This section need better explanation of the interaction term and the implications of such. This section is also not discussed in the discussion section very well only presented in the results section.</p>
--	---

### VERSION 1 – AUTHOR RESPONSE

Comments	Revision made (page, para and line)
<p><b>Reviewer: 1 Asa Auta</b></p> <p>This is an important manuscript that explored the pattern of antibiotics supply in private pharmacies. The manuscript is well written but would benefit from some revisions to make it better. In addition, this manuscript would require some editing to address language/spelling mistakes. You can find my comments on the attached document (copied below)</p>	
<p><b>Title:</b></p> <p>Dispensing practice is a broad term that encompasses many things including the provision of information to patients while supplying medication. It would be important to use a much more specific term in your heading and when describing the aim of your study. The study you conducted only explored the pattern of antibiotic dispensing/supply in private pharmacies. I suggest you modify your</p>	<p>Done (p.1, para 1 (title section), line 1).</p>

Comments	Revision made (page, para and line)
title and aim to reflect precisely the work that was carried out.	
<p><b>Abstract:</b></p> <p>This could be to investigate the pattern of antibiotic dispensing in private pharmacies....</p>	Done (p.1, para 2 (abstract section), line 3).
<p><b>Introduction:</b></p> <p>This statement implies that road side stall staffed people without formal health qualification are regarded as pharmacies. Kindly modify to use a term that would cover pharmacies and drug stores.</p>	Done (p.3, para 1, line 5-6).
<p><b>Introduction:</b></p> <p>There are recent papers that analysed the extent of of non-prescription supply of antibiotics in community pharmacies which you can utilise to strengthen your arguments. For example, the paper below global reviews found that about three in four antibiotic requests and three in five consultations in community pharmacies around the world result in the sale of antibiotics without a prescription. These and other related findings may be useful for your background and discussion.</p> <p>Auta, A., Hadi, M. A., Oga, E., Adewuyi, E. O., Abdu-Aguye, S. N., Adeloye, D., ... &amp; Morgan, D. J. (2019). Global access to antibiotics without prescription in community pharmacies: A systematic review and meta-analysis. <i>Journal of Infection</i>, 78(1), 8-18.</p>	Done (p.3, para 1, line 9-11).
<p><b>Methods:</b></p> <p>This information on the selection of pharmacies was a bit difficult to follow. Can you please simplify if possible? How many pharmacies were on Nepal Chemists and Druggists Association list?</p> <p>Will a flow chart of pharmacies selection process aid understanding of this section of the manuscript?</p>	<p>Done (p.4, para 1, line 1-7).</p> <p>Done (p.4, para 2, line 1-9).</p> <p>Description is clearer now so a flow chart has not been presented.</p>

Comments	Revision made (page, para and line)
<p><b>Data collection:</b></p> <p>Do you have a record of how many patients were invited to participate? Was the invitation to participate in this study based on convenience?</p>	<p>Done (p.4, para 3, line 4-7).</p>
<p>I don't think this term defines the item in the brackets. The terms in the brackets appear to me as the reasons for obtaining antibiotics. Please use an appropriate term to that would define the items in the brackets.</p>	<p>Done (p.4, para 4, line 2). Also replaced variable "Dispensing practice" by "Sources of antibiotic" in tables 1, 3 and 4.</p>
<p>State the number of research assistants that participated in the data collection</p>	<p>Done (p.4, para 5, line 2).</p>
<p><b>Data analysis:</b></p> <p>See comments on having an appropriate term that defines the items under this heading</p>	<p>Done (p.5, para 1, line 3-4).</p>
<p><b>Results: Table 1:</b></p> <p>What is the difference between this category and the first one under this sub-heading</p>	<p>Done (p.5, table 1, line 16).</p>
<p><b>Discussion:</b></p> <p>Given that this information is key to the conclusions of this paper, can you please reference the original WHO that recommends 20 -26.8% here? References 23 and 24 don't appear to be the source document.</p>	<p>Done (p.11, para 2, line 3).</p>
<p>What are the rates in these countries? It would be good to have them here so readers can see the similarities</p>	<p>Done (p.11, para 2, line 4).</p>
<p>I guess 'supplied' would be the appropriate word here as pharmacists are not allowed to prescribe medicines but they dispense or supply them. Prescribing has a legal implication which I would suggest you consider when reviewing this paper. Only use prescribing in relation to healthcare professionals who are legally authorized to prescribe medicines.</p>	<p>Done (p.11, para 4, line 3).</p>
<p><b>Policy implications:</b></p> <p>Who are these health workers? Are they nurses or community health workers? I think, it would be important for you to be specific here so we know which categories of healthcare</p>	<p>Done (p.12, para 2, line 1-5).</p>

Comments	Revision made (page, para and line)
workers in Nepal are legally allowed to prescribe.	
Can authors add to this discussion by explaining why they are making this recommendation?	Done (p.12, para 2, line 11: deleted).
<b>Strength and limitations:</b>  dispensing?	Done (p.13, para 1, line 1).
Limitation: do you think the number of private pharmacies covered by your study was sufficient?  Were participant invited to take part in the exit interviews based on convenience? Could this have affected the generalization of your findings. Can you please incorporate this discussion in this section of the manuscript?	Done (p.12, para 6, line 1-5).
<b>Conclusion:</b>  overuse?	Done (p.13, para 2, line 2).
Remove this citation from the conclusion	Done (p.13, para 2, line 3).
<b>Reviewer: 2 Shazia Jamshed</b>	
1) Please justify the selecting site. Why you chose this site?	Done (p.3, para 4, line 1-5).
2) What is the purpose of including the children attending the pharmacies with their parents?	Done (p.4, para 3, line 7-10).
3) Why caregivers buying medicines for others are excluded?	Done (p.4, para 3, line 7-10).
<b>Reviewer: 3 Erika J Ernst</b>	
Design and setting: "Data collected...at 33 randomly selected," Suggest deleting "randomly" from the description. From the methods section, it does not appear as pharmacies were randomly selected but rather certain ones were targeted and then the rest filled in with no particular method for ensuring random selection. If they were indeed random then the method for random selection should be described. For example, all possible pharmacies were assigned a number and then	Done (p.4, para 2, line 1-9).

Comments	Revision made (page, para and line)
pharmacies were selected for inclusion using a random number generator.	
Strengths and limitations: 4th bullet point. Suggest reword to delete 'more' and change 'so' to 'and'.	Done -revised (p.2, para 1, line 1-11) – linked editor’s comments
Page 10 Line 17-26. The section addresses unlicensed pharmacies. The paper states, "This study found the level of dispensing of antibiotics was higher by unlicensed pharmacists." While this statement is true the number of unlicensed pharmacies and antibiotics dispensed by them is small. This information should be added and discussed. Only 39 antibiotics were actually dispensed by unlicensed pharmacists.	Done (p.11, para 3, line 5-6).
Factors Associated with Antibiotic Prescribing: "Those patients who had a prescription from a doctor or health worker were also more likely to receive antibiotics than if patients had no prescription (p=<0.001). Similarly, patients were more likely to receive antibiotics from drug retailers who did not have a diploma or bachelors in pharmacy (p=0.001)." This section is confusing. It is not clear to me what is similar between these situations. I think it may make more sense to say, "Patients were also more likely ..." It seems getting an antibiotic from a doctor is different from getting antibiotics from retailers who do not have degrees." This section need better explanation of the interaction term and the implications of such. This section is also not discussed in the discussion section very well only presented in the results section.	The interaction term has been better explained (p.10 para 1, line 2-5).  And  (p.11, para 3, line 5-8).

**VERSION 2 – REVIEW**

<b>REVIEWER</b>	Asa Auta University of Central Lancashire, Preston, UK
<b>REVIEW RETURNED</b>	08-Sep-2019

<b>GENERAL COMMENTS</b>	<p>Thank you for revising the manuscript and for addressing the concerns raised in my initial review. Kindly proofread the entire document to identify any error or language editing necessary. For example, the statement below, found in the discussion section of your manuscript, seems incomplete and would need to be revised.</p> <p>"However, such guidelines are barely in practice or monitored."</p>
-------------------------	---

<b>REVIEWER</b>	Erika J Ernst University of Iowa, College of Pharmacy
<b>REVIEW RETURNED</b>	05-Sep-2019
<b>GENERAL COMMENTS</b>	changes made are acceptable