Author's response to reviews

Title: Qualitative insights into general practitioners views on polypharmacy.

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Author's response to reviews: see over
Dear editor,

We send you a revised manuscript for the BMC Family Practice with the title: “Qualitative insights into general practitioners views on polypharmacy.”

We would like to thank the editor and the reviewer for the interest shown in our research and the interesting comments on our article. We have taken these comments seriously and have taken time to revise the article accordingly. We have tried to formulate an answer to all the questions. The paragraphs written in italic are copied from the main article.

Comments reviewer 1: Ulrike Junius Walker:
On the whole: The reviewer states that in general the text flow should be more in a well-arranged sequence. We have tried to adapt the whole article in a more coherent way.

1 a) Introduction: The reviewer states that the importance of polypharmacy takes a too large amount of space compared to the GPs role and when introducing the GP she expects a new paragraph. We have adapted the introduction accordingly:

Introduction
polypharmacy
Prescribing medication is becoming more difficult and complex. The inherent risk of adverse reactions and interactions rises because of the pharmacological complexity of modern drugs, the ageing population, and the increasing polypharmacy [1]. Polypharmacy can be defined as the concomitant use of 3 or more drugs [2] or the use of more drugs than indicated. Polypharmacy is particularly common among elderly people - around 20% of people over 70 in the Western World is taking five or more drugs [3]. Although appropriate medication can reduce symptoms, morbidity and mortality in elderly patients, drugs also implicate a potential danger. It increases their chance of having adverse drug reactions and/or interactions, it also means that unnecessary drugs may be obscured by the large number of necessary ones [4-7]. The risk for reduced adherence to the prescribed regimen increases as the number of prescribed medications increases [8, 9]. In the elderly, between 10% and 20% of hospital admissions are drug related [5].
The role of the general practitioner
Even though the general practitioner (GP) is not always the prescriber, most patients have a longstanding relationship with their GP and he/she is ideally placed to have a global overview of the medication intake of his/her patient. Many quantitative studies have identified deficiencies in the use and prescribing of medication. Yet, there seems to be a lack of qualitative investigation into the view of general practitioners (GPs) on polypharmacy. Understanding processes and mechanisms of underlying behaviour is important when change in this behaviour is aimed at [10].
Purpose of the study
The purpose of the study is to describe GPs views and beliefs on polypharmacy in order to identify the role of the GP in relation to improving prescribing behaviour. The awareness of
these often established beliefs is one of the most important keys for change as they guide the action towards more rational prescribing.

1 b) Results: the reviewer states that for each of the 4 sub-sections it would be helpful to write a topic sentence to guide the reader. We had adjusted this in the result section:

Patient related factors influencing polypharmacy according to the GPs:
The role of GP related factors and its influence on polypharmacy & suggested solutions:
The role of evidence based medicine in polypharmacy according to the GPs:
The role of increased specialization in health care and its influence on polypharmacy:

We have taken GPs related problems and solution as one topic.

1 c) Discussion:
The reviewer suggest that it might be better to have the four problem areas clearly featured in discussed. We have adjusted the discussion section accordingly:

“This study highlights some of the GPs perceptions and beliefs on polypharmacy. The perceptions of this important group of prescribers on their main problem areas contributing to polypharmacy have not been investigated until now.
One of the main findings is that GPs perceive polypharmacy as a problem in their geriatric population but feel largely helpless to tackle it. GPs don’t have a ‘ready-made’ solution for polypharmacy. The GPs believed that patients have co-responsibility for becoming users of multiple medications due to self-medication and resistance to attempts to change medication. In their views the best option to achieve medication reduction is to reduce drugs that are used without a clear indication. Patients on the other hand are not always inclined to stop taking medication that they have been using chronically [16]. This is a well known problem as for example in regard to hypnotics [17].

Medication compliance is inversely correlated with number of drugs taken [8, 9]. According to the GPs opinion compliance and stimulation of compliance is one of the most important challenges.
GPs also mention that older people are particular vulnerable to adverse drug reactions. Adverse drug reactions are often preventable [18]. Our participants did not refer to specific strategies to reduce adverse drug effects. Nevertheless researchers designed screening tools to detect prescribing that is potentially inappropriate. Examples of such screening tools are the Beers’ criteria, the improving prescribing in the elderly and the screening tool to alert doctors to the right treatment (START) [18]. These consist of lists of medicines that should not be used in elderly patients, lists of doses or frequencies of administrations that should not be exceeded and lists of different drug/disease interactions. Unfortunate these tools are not very useful or practical for routine clinical screening. Further research is underway for new tools that are easier to use in primary care [18].

GPs also mention their own contribution in polypharmacy. They find that they are often not critical enough when starting a new treatment. They see an important role for themselves in controlling the type and quantity of medication used.

As the respondents in our study mentioned the primary care setting is also seen as ideal for addressing the problem of inappropriate prescribing, this is in concordance with the literature [19]. Primary care physicians are ideally placed to optimize drug regimens given their knowledge of patient-specific information and their ability to coordinate the patient’s overall medical care [19]. Many respondents mentioned EBM guidelines as inducers of polypharmacy. This is also described in the literature [17, 20, 21]. A combination of different drugs is often suggested as the ‘golden standard’ for treating a disease. There is more and more emphasis on giving medication as a way of preventing diseases. For older people preventive aims are often minimal considering their age and
polypathology which is in contrast with guidelines talking about one specific disease. The disadvantage sometimes does not outweigh the gain of taking medication.

The respondents in this study mentioned a lack of pharmacological knowledge. There is a lack of adequate training of doctors in geriatric pharmacotherapy [22]. In literature several strategies have been tested to optimize prescribing such as educational approaches, computer assisted approaches, medication review by clinical pharmacists, geriatric medicine services, multidisciplinary approaches and multifaceted approaches [23, 24]. Yet, despite the substantial resources devoted to developing and testing the effectiveness of interventions to improve prescribing, widespread diffusion of successful methods has not yet been achieved [24].

Many elderly patients are seen by more than one doctor which is also seen as an important contributing factor to multiple-medication use.

Most prescribing is done by the patient’s GP, but medication is often started or adjusted in secondary care. A recent study in the US found that the incidence of adverse drug reactions is directly related to the number of doctors prescribing [25]. The findings also showed the reluctance of GPs to interfere with treatment prescribed by a colleague as one of the reasons mentioned for polypharmacy this has also been found in previous research [22]. Therefore good communication between GP and hospital, GP and patient and GP and carers is crucial [7].

2. Innovation: the reviewer states correctly that the innovate aspect of this research may be that these areas that are known to be problematic are now being defined by the prescribers themselves. We have stated this comment in the introduction of the discussion section: “This study highlights some of the GPs perceptions and beliefs on polypharmacy. The perceptions of this important group of prescribers on their main problem areas contributing to polypharmacy have not been investigated until now.”

The reviewer also remarks that there is another publication that has looked into this issue using focus groups. We have searched for this publication but we have only found an English abstract and we have no access to this German journal in the different databases available in Belgium.

3. Solutions and the discussion of these: The reviewer states that in the result section some solutions which the GPs in this study mentioned are stated. She suggests that we should strengthen them in the discussion and kindly gives us some suggestions. This has been a very helpful suggestion and we have adjusted the discussion accordingly: “This study highlights some of the GPs perceptions and beliefs on polypharmacy. The perceptions of this important group of prescribers on their main problem areas contributing to polypharmacy have not been investigated until now.

One of the main findings is that GPs perceive polypharmacy as a problem in their geriatric population but feel largely helpless to tackle it. GPs don’t have a ‘ready-made’ solution for polypharmacy. The GPs believed that patients have co-responsibility for becoming users of multiple medications due to self-medication and resistance to attempts to change medication.

In their views the best option to achieve medication reduction is to reduce drugs that are used without a clear indication. Patients on the other hand are not always inclined to stop taking medication that they have been using chronically [16]. This is a well known problem as for example in regard to hypnotics [17].

Medication compliance is inversely correlated with number of drugs taken [8, 9]. According to the GPs opinion compliance and stimulation of compliance is one of the most important challenges. GPs also mention that older people are particular vulnerable to adverse drug reactions. Adverse drug reactions are often preventable [18]. Our participants did not refer to specific strategies to reduce adverse drug effects. Nevertheless researchers designed screening tools to detect prescribing that is potentially inappropriate. Examples of such screening tools are the Beers’ criteria, the improving prescribing in the elderly and the screening tool to alert doctors to the right treatment (START) [18]. These consist of lists of medicines that should not be used in elderly patients, lists of doses or
frequencies of administrations that should not be exceeded and lists of different drug/disease interactions. Unfortunate these tools are not very useful or practical for routine clinical screening. Further research is underway for new tools that are easier to use in primary care [18]. GPs also mention their own contribution in polypharmacy. They find that they are often not critical enough when starting a new treatment. They see an important role for themselves in controlling the type and quantity of medication used.

As the respondents in our study mentioned the primary care setting is also seen as ideal for addressing the problem of inappropriate prescribing, this is in concordance with the literature [19]. Primary care physicians are ideally placed to optimize drug regimens given their knowledge of patient-specific information and their ability to coordinate the patient’s overall medical care [19]. Many respondents mentioned EBM guidelines as inducers of polypharmacy. This is also described in the literature [17, 20, 21]. A combination of different drugs is often suggested as the ‘golden standard’ for treating a disease. There is more and more emphasis on giving medication as a way of preventing diseases. For older people preventive aims are often minimal considering their age and polypathology which is in contrast with guidelines talking about one specific disease. The disadvantage sometimes does not outweigh the gain of taking medication.

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Minor essential concerns:

4. Methods: The reviewer would like to know which topics were included. As both reviewers asked the same questions we have elaborated this section in the article:

The research team developed a semi-structured interview guide after a preliminary review of the literature. The interview guide consisted of the following broad topic sections: reflections on polypharmacy in general practice; factors contributing to polypharmacy in general practice; reflections on GPs specific role and their attitudes about interventions to optimize prescribing. Within each broad section in the interview topic guide they were more detailed questions and specific probes to allow the discussion to develop. After each interview, the interviewers completed a debriefing to discuss relevant contextual information, general impressions of the interview, and possible changes to the interview guide.

We have used open coding and this was done by two independent coders. A third coder was involved to examine all interviews collectively.

Discretionary revisions:

5. Both reviewers stated that the English needed to be revised. This has been done by a native speaking person.
Comments reviewer 2: David Lewis

1. The reviewer states that the method section does not clearly explain what we did. We should elaborate more on the semi-structured interviews. We have added this in the Method section:

   The research team developed a semi-structured interview guide after a preliminary review of the literature. The interview guide consisted of the following broad topic sections: reflections on polypharmacy in general practice; factors contributing to polypharmacy in general practice; reflections on GPs' specific role and their attitudes about interventions to optimize prescribing. Within each broad section in the interview topic guide they were more detailed questions and specific probes to allow the discussion to develop. After each interview, the interviewers completed a debriefing to discuss relevant contextual information, general impressions of the interview, and possible changes to the interview guide.

2. We have also elaborated a bit more on the selection of the participants:

   The study was conducted in the district of Aalst (a city of 80,000 inhabitants with two hospitals; poor central population, rich residential quarters and a countryside). All 102 GPs from a list of GPs from Aalst were contacted by letter and invited to participate in the study. After a week they were contacted by telephone and 65 GPs agreed to be interviewed at their practice. The purposeful maximum variation sample [13] of 65 general practitioners (40 men and 25 women) with an average age of 50 years old reflected a wide variety in terms of position, experience and between practice setting (city and rural).

3. Findings

   The reviewer finds it difficult to know whether the four categories produced came from the researchers or from the interviewees. The themes that influence polypharmacy came from the data. We have also adjusted this in the article to make it more specific:

   The data shows that the respondents identify 4 themes that influence polypharmacy, namely patient related, GP related, evidence based medicine (EBM) and specialist related factors.

4. Discussion

   The reviewer finds the discussion very long and states that it not really discuss the findings of the study. As the first reviewer also states it might be more clear if we follow the structure of the findings in the discussion sections and we have done this accordingly:

   “This study highlights some of the GPs perceptions and beliefs on polypharmacy. The perceptions of this important group of prescribers on their main problem areas contributing to polypharmacy have not been investigated until now.

   One of the main findings is that GPs perceive polypharmacy as a problem in their geriatric population but feel largely helpless to tackle it. GPs don’t have a ‘ready-made’ solution for polypharmacy. The GPs believed that patients have co-responsibility for becoming users of multiple medications due to self-medication and resistance to attempts to change medication. In their views the best option to achieve medication reduction is to reduce drugs that are used without a clear indication. Patients on the other hand are not always inclined to stop taking medication that they have been using chronically [16]. This is a well known problem as for example in regard to hypnotics [17].

   Medication compliance is inversely correlated with number of drugs taken [8, 9]. According to the GPs opinion compliance and stimulation of compliance is one of the most important challenges. GPs also mention that older people are particular vulnerable to adverse drug reactions. Adverse drug reactions are often preventable [18]. Our participants did not refer to specific strategies to reduce adverse drug effects. Nevertheless researchers designed screening tools to detect prescribing that is potentially inappropriate. Examples of such screening tools are the Beers’ criteria, the improving prescribing in the elderly and the screening tool to alert doctors to the right treatment (START) [18]. These consist of lists of medicines that should not be used in elderly patients, lists of doses or frequencies of administrations that should not be exceeded and lists of different drug/disease
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5. conclusion
The reviewer finds the conclusion difficult to understand and not in connection to the findings. We have adjusted the conclusion to make it more relevant and to make it clear for the readers why this research is important:

Conclusion
GPs acknowledge that polypharmacy is an important problem in their geriatric population. They see an important role for themselves to optimize drug regimens for their patients. They highlight some problems and some possible solutions but on the whole, they do not have a readymade solution for polypharmacy. Future research in this area and interventions seeking to improve prescribing for the elderly will have to take into account the views of the GPs of feeling helpless. Interventions aimed at optimizing prescribing will have to look for facilitators to overcome these perceptions or they might become a barrier for reducing polypharmacy.

6. language:
Both reviewers state that the English needs to be revised. This has been done by a native speaker and we have taken into account all the remarks made by both reviewers and edited the article accordingly.

Asaflow is indeed a name of the drug we have adjusted this in the quote:
“They take a blood-diluting drug. Then they take another aspirin with another brand name because their neighbour told them that they should take one daily. They have no idea what they are taking...” (31)

EBM related problems. The reviewer finds the first sentence very unclear and we have adjusted the sentence as following:

_GPs feel under pressure from guidelines to prescribe preventive drugs, even though the harms of polypharmacy may outweigh the possible benefits from individual drugs._

The term reviewer finds that the term ‘compliance’ should be replaced by concordance or adherence. We have opted for the term concordance.

7. Study Design

_The reviewer does not know what we mean by ‘A qualitative descriptive methodology [11] was used to explore the views of GPs on polypharmacy in order to have a comprehensive summary of events in every day terms with the aim of developing a description of the views of GPs towards polypharmacy. Qualitative descriptive methodology explores the meanings, variations and perceptual experiences of a certain phenomena: here polypharmacy viewed by the GPs._

We thank you again for all the useful comments and suggestions made and we are looking forward to your decisions.

Yours sincerely,

Sibyl Anthierens (corresponding author)