PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Parental knowledge, attitudes and beliefs on fever - a cross-sectional study in Ireland
AUTHORS	Kelly, Maria; Sahm, Laura; Shiely, Frances; O'Sullivan, Ronan; de Bont, Eefje; McGillicuddy, Aoife; Herlihy, Roisin; Dahly, Darren; McCarthy, Suzanne

VERSION 1 - REVIEW

REVIEWER	Sa'ed H Zyoud An-Najah National University, Palestine
REVIEW RETURNED	04-Feb-2017

GENERAL COMMENTS	Congratulations on an important study that is well designed and reported. This is a well conducted and presented article situated in contemporary international literature. Inclusion of some additional data relating to the drugs and normal doses in Ireland and identification of the study methods are needed to be clear. Minor Essential Revisions 1. Please omit this “opportunities for public health initiatives” from your title. The authors may revisit the title to make it consistent with the paper content and objective/s. Results: not focused on opportunities for public health. There is no clear result to answer the main aim of the study (title). Authors respond how this fits with answering the research question. 2. Table 2. Level of satisfaction with GP services provided, it’s difficult for me to see more information about this information in your methods and discussion 3. Supplemental Table 2.: I think that this presentation (Questions with no idea of its meaning) is unappealing and might especially irritate readers of a printed or electronic version. If the detailed information is relevant, use keywords / footnotes to give an impression of what was asked. 4. Size of information related to your data collection form appears to be very difficult for the reader and very distracting. Please add more information for knowledge items, score calculation. Please provide the achievable maximum score. I think your methods need more information about data collection form. 5. At the moment it is hard to get an impression what is meant by attitude. Please add more information about this in your methods and discussion. 6. Parents’ methods for managing childhood fever may be a clearer title Maximum frequency of antipyretic use does not give much information without the actual drugs used and their frequency of use – you report in the text that Paracetamol was administered too frequently – including this. Parents could be administering Paracetamol 6 times a day. Inclusion of the dosage for these drugs in Ireland is needed, e.g., Paracetamol 15 mg/kg/dose or 10

	mg/kg/dose with daily maximum does of xx mg/kg/day.

REVIEWER	Ruud Nijman Imperial College London, UK
REVIEW RETURNED	01-Mar-2017

GENERAL COMMENTS	Thank you for giving me the opportunity to review the paper: "Parental knowledge, attitudes and beliefs on fever; opportunities for public health initiatives – a questionnaire study" , by M. Kelly et al. The authors present survey data from a large cohort of parents looking at fever management, beliefs and attitudes. The authors undertook their study amongst parents in a non-acute setting, and included both parents from primary schools as well as parents from an internet based cohort. The authors address the limitations of this population quite extensively, and I agree with the authors that the results, mainly because of the large sample, are fairly generalisible. The authors should be complimented for undertaking this large cross sectional survey, and the data are an important source for future educational and health care delivery service interventions. It is clear the authors have explored the survey data in depth, highlighting fever attitudes and beliefs in their cohort. It would be great if this would have led to an intervention of some sort, or to have the results correlated to actual health seeking behaviour, which should be the topic of future projects. After reading the manuscript, the presented study failed to convince me of any new insights, and most results confirm the results of earlier studies using similar questionnaires and study designs. The survey contains 4 domains addressing many topics. The authors decided to focus on the two, in their view, most important points, namely knowledge of fever definition and alternating use of antipyretics as their most important findings. The authors have probably chosen these two outcomes as these results of the survey were most obviously different from currently available guideline recommendations. However, this somewhat distracts from some of the other findings, perhaps unrightfully so. Also, one could argue against using the definition of fever as one of the major outcomes to define parental knowledge. The authors use a temperature of 38 degrees Celsius as a cut off. Although this is probably right in many ways, I have always wondered about the clinical relevance of using this cut off. Height of temperature will be dependent on site of measurement, type of thermometer: hence, the definition of fever question becomes a little less relevant, and the authors could have used a range of 'acceptable' fever ranges, for example 37.8 – 38.3 degrees Celsius, and report only on those that are clearly not in the 'fever range' or at the extreme end. I just feel that the authors put a lot of emphasis on this strict definition of fever, where one can argue if this is truly relevant when assessing fever knowledge, attitudes and management. For example, I would rather focus on the right indications for antipyretics, visits to health care professionals etc. The authors state they want to close the gap in knowledge, attitudes, and management: would improving knowledge of the exact fever definition truly improve parental management of febrile illness and improve clinically relvant outcomes? In the introduction the authors describe: "Furthermore, the NICE Guideline Development Group has called for studies of: parental

	help-seeking behaviour; triggers for presentation to a healthcare professional; triggers for the decision to give an antipyretic; and triggers for the decision to change from one antipyretic to another" as their main objectives for this study. However, I feel that the survey results do not specifically address these gaps in knowledge, and I fear the design and the data available will not be able to specifically answer these questions. The authors might want to carefully review their objectives in the light of their design, and their subsequent conclusions. My impression is that the survey confirms previous findings, but has not attempted to acquire in depth data to answer the NICE topics of interest. After reading the manuscript I don't feel the 'why do parents present to health care professionals', the 'why to specific health care professionals', or the 'what triggers parents to give antipyretics or to change antipyretic treatment' have truly been answered. To me, it is not clear how many parents had actually visited health care professionals for a febrile episode, and which health care professionals they visited. A number of 'hypothetical questions' were asked, and some data on GP visits are presented, but no in depth information on visits to health care professionals seem to be available? It would be greatly interesting to relate the findings of the survey to actual health seeking behaviour. This is where surveys in the acute situation, or in a cohort of parents who visited acute health care facilities would be a useful comparator. Especially if this would be related to the 'necessity' of the visit, eg. the presence of warning signs etc. A number of other issues the authors might consider to address: - Firstly, for a manuscript describing the findings of a survey, all sections of the manuscript can be shortened significantly. In particular, many of the results could be presented within tables. - Abstract: o 'Fever is mostly benign' This still implies fever as causative rather than as a symptom of an underlying (mostly benign) illness. Parental education should target explaining exactly this. o Design: I would be more interested in which analyses performed rather than which software used, this can be explained in the manuscript itself. o Conclusion: After reading the manuscript, I feel that parental knowledge on several topics was actually very good, so the statement in the conclusion 'parental experience and other socio-demographic .. in identifying knowledgeable parents' is perhaps somewhat misleading. For example, I am impressed by the high rate of knowledge for indication of antibiotics. - Methods: o The authors should describe the period in which the survey was performed. Were there any major public health care interventions during the study period, such as the publication of new guidelines or local health care initiatives etc that could have a temporal influence in answers? o The websites and pages used for internet data collection should be highlighted in for example a supplemental file? - Results: o Table 1 should include all demographics available, including the ones described in the text. I would suggest including descriptives of the demographics for the two samples used as well (schools vs internet) o One of the results I found interesting was that parents correctly stated why and when antibiotics were needed. Yet, a large number of parents still visited health care professionals. Could the authors

	expand on this a bit more: do we know if this was due to parental concerns, presence of warning signs, lack of accessibility to information. And did this differ for the various health care providers they visited. This is crucial in understanding potential interventions (educational, health care delivery), and would provide insight in backing 'resources for more effective care', as stated in the abstract's conclusion. The authors provide some insight in the results section: 'A large proportion of parents (69.8% n=709) would visit the GP because of fever in their child. Amongst the most common reasons to visit a GP when a child had fever were; fever lasting more than three days and, fever accompanied by a skin rash.' Alas, this is only for GP visits, and it appears that these are hypothetical question rather than actual data? o In the results section on health seeking behaviour the authors write: 'Of these parents, 31.3% (n=111) indicated that they had received different information from these doctors regarding fever in their child e.g. "Some say treat others say if not high let it run its course", "Some say 37.5OC is fever and some say 38OC is a fever". In their conclusions, the authors make a strong statement on misinformation being provided: this statement appears to be backed up by these results only? If the authors think this important, they should expand on these results and position it to match their statement in the conclusions. o In addition, the authors describe level of satisfaction of GP services: I realise this was probably part of the questionnaire, but I struggle to position these data within the aims of this study, as no specific interventions for altering heath care delivery systems are proposed. Similarly, providing data on preferred methods on receiving information does not quite fit the description of the objectives, focusing on attitudes and beliefs around childhood fever and childhood illness - Discussion: o The authors address educational background of their respondents in the manuscript elaborately. Other factors for differentiating fever management and attitudes are parental experience/no of children. However, one of the major drivers of diversity is ethnic background. The authors could address their (lack of) ethnic diversity in their cohort in the discussion. - Conclusion: The statements in the conclusion are very broad and general and do not reflect the results and direct implications of this study. - Supplemental tables: please explain the questions more explicitly. Which questions were asked and are presented in the tables?

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Reviewer Name: Sa'ed H Zyoud
Institution and Country: An-Najah National University, Palestine
Please state any competing interests: None declared

Please leave your comments for the authors below

Dear Authors
Congratulations on an important study that is well designed and reported. This is a well conducted and presented article situated in contemporary international literature. Inclusion of some additional data relating to the drugs and normal doses in Ireland and identification of the study methods are

needed to be clear.
Response
Thank you for taking the time to review this study and for your helpful feedback.

Minor Essential Revisions

1. Please omit this “opportunities for public health initiatives” from your title. The authors may revisit the title to make it consistent with the paper content and objective/s. Results: not focused on opportunities for public health. There is no clear result to answer the main aim of the study (title). Authors respond how this fits with answering the research question.

Response
Thank you for your suggestion. In line with your suggestion and the suggestion from the editors the title has been amended.
““Parental knowledge, attitudes and beliefs on fever– a cross-sectional study in Ireland”

2. Table 2. Level of satisfaction with GP services provided, it’s difficult for me to see more information about this information in your methods and discussion

Response
Thank you for this comment. Following careful consideration of your comments and the comments of the other reviewer, we have decided to remove this section from the paper.

3. Supplemental Table 2.: I think that this presentation (Questions with no idea of its meaning) is unappealing and might especially irritate readers of a printed or electronic version. If the detailed information is relevant, use keywords / footnotes to give an impression of what was asked.

Response
Thank you for this comment. In view of this comment and a comment from the other reviewer we have updated the tables. Please see supplementary material.

4. Size of information related to your data collection form appears to be very difficult for the reader and very distracting. Please add more information for knowledge items, score calculation. Please provide the achievable maximum score. I think your methods need more information about data collection form.

Response
Thank you for this comment. We have included response to each question so that the reader can understand how many participants answered each question. Every participant did not complete the questionnaire; therefore, we feel it is important to report response to each question. No maximum score was achievable. Parents were asked questions and their answers compared with international guidelines. Some questions used Likert type scales to provide answers, while others used yes/no scales or agree/disagree scales. This is detailed in the methods section. Unfortunately, we cannot include the questionnaire.
“It consisted of 38 questions with sub-themes. Response options, including yes/no, agree/disagree, and Likert scales were used.”

5. At the moment it is hard to get an impression what is meant by attitude. Please add more

information about this in your methods and discussion.

Response
Thank you for this comment. We have amended the methods section to include a definition of attitude. We feel that this ties in with the corresponding discussion section.
Methods
“The questionnaire assessed parental knowledge, help-seeking behaviours and expectations, needs for additional resources, fever management practices, use of pharmaceutical products, and concerns, attitudes (feelings about) and beliefs.”
Discussion
“Similar to previous research, the majority of parents were worried about the consequences of fever.”

6. Parents’ methods for managing childhood fever may be a clearer title Maximum frequency of antipyretic use does not give much information without the actual drugs used and their frequency of use – you report in the text that Paracetamol was administered too frequently – including this. Parents could be administering Paracetamol 6 times a day. Inclusion of the dosage for these drugs in Ireland is needed, e.g., Paracetamol 15 mg/kg/dose or 10 mg/kg/dose with daily maximum does of xx mg/kg/day.

Response
Thank you for this comment. We have amended the title of the paragraph to reflect your suggestion.
“Parents’ methods for managing childhood fever”
In our study, we did not ask parents specifically about what doses they administer or their knowledge regarding maximum doses. In Ireland, the dosing schedule for antipyretics is complex, depending on child age, weight and formulation selected. We feel that dosing instructions are readily available online and have not included this information in the paper.

Reviewer:
Reviewer Name: Ruud Nijman
Institution and Country: Imperial College London, UK
Please state any competing interests: No competing interests

Please leave your comments for the authors below

Review: BMJ Open

Dear editor,

Thank you for giving me the opportunity to review the paper:

“Parental knowledge, attitudes and beliefs on fever; opportunities for public health initiatives – a questionnaire study” , by M. Kelly et al.

The authors present survey data from a large cohort of parents looking at fever management, beliefs and attitudes. The authors undertook their study amongst parents in a non-acute setting, and included both parents from primary schools as well as parents from an internet based cohort. The authors address the limitations of this population quite extensively, and I agree with the authors that the results, mainly because of the large sample, are fairly generalisible. The authors should be complimented for undertaking this large cross sectional survey, and the data are an important source

for future educational and health care delivery service interventions.

It is clear the authors have explored the survey data in depth, highlighting fever attitudes and beliefs in their cohort. It would be great if this would have led to an intervention of some sort, or to have the results correlated to actual health seeking behaviour, which should be the topic of future projects. After reading the manuscript, the presented study failed to convince me of any new insights, and most results confirm the results of earlier studies using similar questionnaires and study designs.

The survey contains 4 domains addressing many topics. The authors decided to focus on the two, in their view, most important points, namely knowledge of fever definition and alternating use of antipyretics as their most important findings. The authors have probably chosen these two outcomes as these results of the survey were most obviously different from currently available guideline recommendations. However, this somewhat distracts from some of the other findings, perhaps unrightfully so.

Response
Thank you for this comment. The questionnaire assessed parental knowledge, help-seeking behaviours and expectations, needs for additional resources, fever management practices, use of pharmaceutical products, and concerns, attitudes (feelings about) and beliefs. Results relating to: knowledge; help seeking and expectations (including needs for additional resources); parents' methods for managing childhood fever (incorporating pharmaceutical products); and concerns attitudes and beliefs are presented in the results section of the manuscript. The focus of the discussion is on the two topics listed previously. We have only focussed on two so that the manuscript length is not excessively long. In order to comply with your other comment relating to manuscript length, we have not included extra paragraphs to discuss other domains.

Also, one could argue against using the definition of fever as one of the major outcomes to define parental knowledge. The authors use a temperature of 38 degrees Celsius as a cut off. Although this is probably right in many ways, I have always wondered about the clinical relevance of using this cut off. Height of temperature will be dependent on site of measurement, type of thermometer: hence, the definition of fever question becomes a little less relevant, and the authors could have used a range of 'acceptable' fever ranges, for example 37.8 – 38.3 degrees Celsius, and report only on those that are clearly not in the 'fever range' or at the extreme end. I just feel that the authors put a lot of emphasis on this strict definition of fever, where one can argue if this is truly relevant when assessing fever knowledge, attitudes and management. For example, I would rather focus on the right indications for antipyretics, visits to health care professionals etc. The authors state they want to close the gap in knowledge, attitudes, and management: would improving knowledge of the exact fever definition truly improve parental management of febrile illness and improve clinically relvant outcomes?

Response
Thank you for this comment. We decided on a strict cut-off of 38OC following consultation with experts in the field. Furthermore, the International Classification of Diseases use this definition. For these two reasons, we decided that a strict definition was appropriate.
We feel that improving parental knowledge of fever definition would improve subsequent management practices. We feel that if parents are not aware of the definition of fever, then any management strategies cannot be informed.
As far back as the 1980's studies have shown that educational interventions can decrease fever-related anxiety and fever-related clinic visits (1,2,3) . Although improving parental knowledge of fever may not improve clinically relevant outcomes significantly, it may improve management practices (e.g. administration or alternating between antipyretics or consultations with GPs). As the resources of most healthcare systems are already stretched, any decrease in unnecessary consultations with GPs

should be encouraged.

In the introduction the authors describe: “Furthermore, the NICE Guideline Development Group has called for studies of: parental help-seeking behaviour; triggers for presentation to a healthcare professional; triggers for the decision to give an antipyretic; and triggers for the decision to change from one antipyretic to another” as their main objectives for this study. However, I feel that the survey results do not specifically address these gaps in knowledge, and I fear the design and the data available will not be able to specifically answer these questions. The authors might want to carefully review their objectives in the light of their design, and their subsequent conclusions. My impression is that the survey confirms previous findings, but has not attempted to acquire in depth data to answer the NICE topics of interest. After reading the manuscript I don’t feel the ‘why do parents present to health care professionals’, the ‘why to specific health care professionals’, or the ‘what triggers parents to give antipyretics or to change antipyretic treatment’ have truly been answered.

Response
Thank you for this comment. In view of your comment we have adjusted the manuscript to reflect the objectives of the study.
“Consequently, the National Institute of Health and Care Excellence (NICE), together with their guideline development group haves suggested that studies examining home antipyretic use and parental help-seeking behaviour be completed. [6] To help address these gaps, we surveyed parental knowledge, attitudes and beliefs around childhood fever and febrile illness.”

To me, it is not clear how many parents had actually visited health care professionals for a febrile episode, and which health care professionals they visited. A number of ‘hypothetical questions’ were asked, and some data on GP visits are presented, but no in depth information on visits to health care professionals seem to be available? It would be greatly interesting to relate the findings of the survey to actual health seeking behaviour. This is where surveys in the acute situation, or in a cohort of parents who visited acute health care facilities would be a useful comparator. Especially if this would be related to the ‘necessity’ of the visit, eg. the presence of warning signs etc.

Response
Thank you for this comment. We mistakenly portrayed hypothetical information in the previous manuscript. After reviewing the questionnaire, it is clear that our question asked; had parents visited the GP because of fever in their child. The manuscript has been updated to reflect this. Unfortunately, we did not ask parents if they had visited other healthcare professionals when their child had a fever or on how many occasions they had visited the GP because of fever and/or if they visited the GP multiple times during the same fever episode. We acknowledge that it would be very interesting to compare the information gathered as part of this survey with actual health seeking behaviour, however, considering the data gathered, this is outside the scope of this study. If we were to ever attempt a similar study, we would gather data which may allow for this comparison.
“A large proportion of parents (69.8% n=709) would visit had visited the GP because of fever in their child. Amongst the most common reasons selected to visit a GP when a child had fever were; fever lasting more than three days and, fever accompanied by a skin rash.”

A number of other issues the authors might consider to address:
- Firstly, for a manuscript describing the findings of a survey, all sections of the manuscript can be shortened significantly. In particular, many of the results could be presented within tables.

Response
Thank you for this comment. We have endeavoured to shorten the manuscript with a focus on

readability.

- Abstract:
o ‘Fever is mostly benign’ This still implies fever as causative rather than as a symptom of an underlying (mostly benign) illness. Parental education should target explaining exactly this.

Response
Thank you for this comment. We have amended the abstract to incorporate your suggestion.
“Fever is both a common symptom of and mostly benign illness in young children, yet concerning for parents.”

o Design: I would be more interested in which analyses performed rather than which software used, this can be explained in the manuscript itself.

Response
Thank you for this comment. The text has been amended to exclude data on the software used and to include information regarding analysis. The section now reads
“Design
A cross-sectional study using a previously validated questionnaire. Results were analysed using descriptive statistics and multivariable logistic regression.”

o Conclusion: After reading the manuscript, I feel that parental knowledge on several topics was actually very good, so the statement in the conclusion ‘parental experience and other socio-demographic .. in identifying knowledgeable parents’ is perhaps somewhat misleading. For example, I am impressed by the high rate of knowledge for indication of antibiotics.

Response
Thank you for this comment. The text has been amended; the section now reads
“Parental knowledge of fever and fever management was found to be deficient which concurs with existing literature. Parental experience and other socio-demographic factors were generally not helpful in identifying parents with high or low levels of knowledge. Resources to help parents when managing a febrile illness need to be introduced to help all parents provide effective care.”

- Methods:
o The authors should describe the period in which the survey was performed. Were there any major public health care interventions during the study period, such as the publication of new guidelines or local health care initiatives etc that could have a temporal influence in answers?

Response
Thank you for this suggestion. The section now reads
“Cross-sectional data for this study were collected from parents with at least one child aged five years of age or younger, and were recruited from one of two sources: purposively selected primary schools (n=8) in Cork, Ireland and via the internet (websites and webpages n=10 (Supplemental Table 1)) during December 2015 and January 2016. No major public health initiatives were initiated during that time.”

o The websites and pages used for internet data collection should be highlighted in for example a supplemental file?
Response

Thank you for this suggestion. A table has now been included in the supplementary material (please see supplementary material).

- Results:
o Table 1 should include all demographics available, including the ones described in the text. I would suggest including descriptives of the demographics for the two samples used as well (schools vs internet)
Response
Thank you for this suggestion. Table 1. Demographic information has been amended, please see updated manuscript.

o One of the results I found interesting was that parents correctly stated why and when antibiotics were needed. Yet, a large number of parents still visited health care professionals. Could the authors expand on this a bit more: do we know if this was due to parental concerns, presence of warning signs, lack of accessibility to information. And did this differ for the various health care providers they visited. This is crucial in understanding potential interventions (educational, health care delivery), and would provide insight in backing 'resources for more effective care', as stated in the abstract's conclusion.

Response
Thank you for this comment. The reason that the questions regarding antibiotics were included is that in Ireland and Europe, over the last few years we have had an extensive antibiotic awareness campaign. We wanted to assess if knowledge had improved regarding this topic, as perhaps a similar awareness campaign could be used to increase fever knowledge and knowledge of correct management practices. Unfortunately, we did not link the questions relating knowledge of antibiotics with the questions around parental concerns and subsequent consulting behaviours. Therefore, we are unable to draw conclusions regarding parental concerns, warning symptoms and information accessibility in relation to antibiotic awareness. However, we have included information on parents' reasons for consulting.
"A large proportion of parents (69.8% n=709) would visit the GP because of fever in their child. Amongst the most common reasons to visit a GP when a child had fever were; fever lasting more than three days and, fever accompanied by a skin rash."
We are unable to correlate if parents visited different healthcare professionals based on presenting signs as we did not ask a specific question regarding this issue. However, we did elucidate that when a child is sick, most parents would prefer to receive information regarding fever from a GP. When a child is not sick, parents would be happy to receive general fever information from other sources.
"The data indicate that the majority of parents (79.5% n=660) would prefer to receive information about fever before their child gets sick. When their child is sick, almost three-quarters of parents (74.2% n=617) would prefer to receive information about fever from a GP. A further 12.3% (n=102) would be happy to receive information from a pharmacist. When their child is not sick, parents indicated that they prefer to receive information by searching for the information on the internet (28.1% n=233). A further 27% (n=224) would prefer to receive information from a nurse, 25.5% (n=211) from a pharmacist and 19.4% (n=161) from a GP."
With regard to providing an understanding of potential interventions, this study shows that parents would like to receive information in a number of ways. Therefore, a multifaced approach to interventions will be required in order to provide parents with the information they require.
"The data indicates that parents (39.1%) would like to receive information about fever in a number of ways (verbally, on paper and through an internet site). A further 34.5% would prefer to receive information verbally and on paper."
The authors provide some insight in the results section: 'A large proportion of parents (69.8% n=709) would visit the GP because of fever in their child. Amongst the most common reasons to visit a GP

when a child had fever were; fever lasting more than three days and, fever accompanied by a skin rash.' Alas, this is only for GP visits, and it appears that these are hypothetical question rather than actual data?
Response
Thank you for this comment. It appears that we had incorrectly worded this statement as question 13 of our questionnaire asked "Did you ever visit your General Practitioner (GP) with your child because of fever?". The manuscript has been updated as follows;
"A large proportion of parents (69.8% n=709) had visited the GP because of fever in their child. Amongst the most common reasons selected to visit a GP when a child had fever were; fever lasting more than three days and, fever accompanied by a skin rash."
Therefore, the data is actual data and not merely hypothetical data.

o In the results section on health seeking behaviour the authors write: 'Of these parents, 31.3% (n=111) indicated that they had received different information from these doctors regarding fever in their child e.g. "Some say treat others say if not high let it run its course", "Some say 37.5OC is fever and some say 38OC is a fever". In their conclusions, the authors make a strong statement on misinformation being provided: this statement appears to be backed up by these results only? If the authors think this important, they should expand on these results and position it to match their statement in the conclusions.

Response
Thank you for this comment. We have amended our conclusion in line with your suggestion. The manuscript conclusion now reads as follows;
"Lack of knowledge and presence of conflicting information regarding fever and febrile illness continues to be one of the most prevalent public health issues encountered by parents of young children."

o In addition, the authors describe level of satisfaction of GP services: I realise this was probably part of the questionnaire, but I struggle to position these data within the aims of this study, as no specific interventions for altering heath care delivery systems are proposed. Similarly, providing data on preferred methods on receiving information does not quite fit the description of the objectives, focusing on attitudes and beliefs around childhood fever and childhood illness

Response
Thank you for this comment. In line with your suggestion to shorten the manuscript we have removed the section on level of satisfaction with GP services. However, we feel that the inclusion of results specific to methods of receiving information is useful as it provides information regarding the potential intervention strategies which may be useful for the readers of the BMJ Open.

- Discussion:
o The authors address educational background of their respondents in the manuscript elaborately. Other factors for differentiating fever management and attitudes are parental experience/no of children. However, one of the major drivers of diversity is ethnic background. The authors could address their (lack of) ethnic diversity in their cohort in the discussion.

Response
Thank you for this comment, we have included a line in our discussion section to address the lack of ethnic diversity in our sample. As logistic regression analysis did not show associations between key results and other socio-demographic factors (e.g. number of children, education level) we have not

provided a discussion of these facts.
“Similarly, the included sample did not reflect diverse ethnic backgrounds.”

- Conclusion: The statements in the conclusion are very broad and general and do not reflect the results and direct implications of this study.

Response
Thank you for this comment. We have amended the conclusion slightly, however we feel it is a fair representation of the study. This study shows that evidence based practice continues to be misunderstood by a section of the study population. Furthermore, levels of misinformation are a concern to health services. Similarly, we feel that this study does provide a snapshot of current parental knowledge, attitudes and beliefs.
“Lack of knowledge and presence of misinformation conflicting information regarding fever and febrile illness continues to be one of the most prevalent public health issues encountered by parents of young children. Despite increased efforts by guideline writers and national organisations, evidence-based fever management practices continue to be misunderstood or misinterpreted by a section of the population. These levels of misinformation and inappropriate management remain a primary concern to those attempting to improve child health and well-being and decrease unnecessary burden on healthcare services. The current research provides public policy makers with an up-to-date snapshot of current knowledge, attitudes and beliefs of parents concerning fever and febrile illness in children aged five years of age and younger. As nations aim to decrease pressure on healthcare services, a spotlight on parental concerns showcases the need for initiatives and interventions to empower parents to take informed responsibility for the care and management of their child when they have a fever or febrile illness.”

- Supplemental tables: please explain the questions more explicitly. Which questions were asked and are presented in the tables?
Response
Thank you for this comment. The tables have been updated after considering the suggestions of both reviewers. Please see supplementary material.

References
Casey R., McMahon F., McCormick M., Pasquariello P., Zavod W. & King F. (1984) Fever therapy: an educational intervention for parents. Pediatrics 73, 600–605.
Robinson J., Schwartz M., Magwene K., Kreugel S. & Tamburello D. (1989) The impact of fever education on clinic utilization. American Journal of Diseases in Children 143, 698–704.
Sarrell M. & Kahan E. (2003) Impact of a single-session education program on parental knowledge of and approach to childhood fever. Patient Education and Counselling 51, 59–63.

VERSION 2 – REVIEW

REVIEWER	Sa'ed H Zyoud An-Najah National University, Palestine
REVIEW RETURNED	08-Apr-2017

GENERAL COMMENTS	The authors improved significantly the paper following and commenting all the suggestions and corrections. I recommend the paper to be accepted for publication.