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

TITLE (PROVISIONAL)	Cancer Treatment Decision-Making among Parents of Pediatric Oncology Patients in Guatemala: A Mixed-Methods Study
AUTHORS	Graetz, Dylan; Rivas, Silvia; Wang, Huiqi; Vedaraju, Yuvanesh; Ferrara, Gia; Fuentes, Lucia; Cáceres- Serrano, Ana; Antillon-Klussmann, Federico; Devidas, Meenakshi; Metzger, Monika; Rodriguez-Galindo, C; Mack, Jennifer

VERSION 1 – REVIEW

REVIEWER	Thornton, Hazel University of Leicester, Department of Health Sciences
REVIEW RETURNED	26-Nov-2021

GENERAL COMMENTS	It was a pleasure to read this study report which clearly and sensitively describes research undertaken to explore cancer treatment decision-making among parents of children with cancer in Guatemala. As the authors point out, although their study was conducted in a single cancer centre in one middle-income country, their knowledge and experience, combined with use of survey items previously validated in high income countries (thereby allowing for comparison to published literature from those settings) has produced findings that are surely of considerable importance and value more widely. Their attention to cultural sensitivity has produced evidence that could be of practical use, where healthcare in European and other countries worldwide is delivered to widening multi-cultural populations. Their conclusion that their study `reinforces the importance of the provider-patient relationship and encourages clinicians in all settings to ask about and honour each parent`s desired role in decision-making` is one that cannot be emphasised too strongly, whatever the setting. Such an approach encourages dialogue as well as demonstrating that a good outcome for the patient can be a shared endeavour, shown to be associated with better outcomes. This deep, evolving cultural shift from the paternalistic approach that was endemic just a few decades ago is one that needs recognition by all clinicians, even in locations where people come from similar cultural backgrounds. (An individual`s preferences can change/revert over time but the agreed choice remains important. The authors note, page 21, that there can be shifts in decision-making preferences over the cancer care continuum.) Quite often, people don`t even realise that there is a choice! Involvement of 23 parents in the iterative revision process for refining the survey questions demonstrates further their respect for the parents` input. Review by bilingual members of the research

	team in order to ensure adequate capture of original content further demonstrates the rigour of the process. The authors have appreciated the value of public involvement in the running of this study, involving the parents in the piloting of the survey, also planning to involve them further in the dissemination of results and consideration of interventional work. This collaborative ethos with the public is to be commended. Recognition by the parents of the authority and expertise of the healthcare providers is well illustrated in the two full paragraphs page 17, where the subtleties of language denoted the \`tone\` set out by psychologists and oncologists at the hospital. This, in return, was appreciated by the parents expressing trust and deference to the medical teams\` and their providers\` expertise. This work presents shared decision-making in a more nuanced way, an evolving way that is not wholly paternalistic nor favouring autonomy, but is sensitive to individual requirements. This may be similar to what has happened in Western cultures where, as patients began to realise the benefit of taking a more active role, they grew to like it and to see the benefit of sharing responsibility. But, until and unless they are invited by the clinician to choose which they prefer, they may not even realise that there is a choice. This would enable a shift in preference over the care continuum, and over time generally. It was interesting to note the comment, page 21, final sentences, that the authors were limited in their ability to analyse the small proportion of parents who did experience regret. Their suggestion that this is an opportunity for future research is important. A parallel is that people who decline an invitation are not necessarily approached to research the reason why, so that potentially valuable insights remain hidden. The final sentence of their paper should become a clarion call that goes out to all clinicians. In summary, I can make no adverse comment on this paper, only commend it.

REVIEWER	Olarte-Sierra, María Fernanda University of Amsterdam
REVIEW RETURNED	18-Jan-2022

GENERAL COMMENTS	This paper addresses the central theme of decision-making in the face of childhood cancer in a middle-income country. The use of mixed methods is promising as it is set to allow for in-depth analysis of the situations described as they happened in the Guatemalan context. The quantitative part is rich, and the findings support the discussion and conclusion. However, the qualitative component is not properly addressed, and its development (in comparison to the quantitative part) is asymmetrical and subordinated. By this, I mean that the arguments presented from the qualitative component are missing in-depth analysis and, in some cases, evidence. The data is, sometimes, presented as self-explanatory. The power of qualitative analysis is precisely the possibility to dig and go in-depth, which is missing in this paper. An example of this is that when quotations from respondents or data

	from the recordings are mobilized, there is no proper contextualization or comprehensive description of the situations, leaving the reader to interpret what happened in each case. Therefore, there is no clarity on how did parents made decisions. That is, we know what they thought about the decision-making processes and their perspective and experience. We do not know, however, how decisions were made. When the authors present examples of how parents are provided with little to no possibilities, they don't describe the specific situation in which health care staff presented the information as pressing and urgent: Are all childhood cancer diagnoses the same? Do all treatments have and can be performed at the same pace? Are there no instances of urgency? By providing the context of these situations, we could have more information about what happened when a diagnosis was delivered and what was the condition of the child. Also, this would imply a subtler and more profound analysis of why things happened in the way that they did. We can consider the difference, for instance, between an emergency room and a consultation room at a clinic. Additionally, it is not clear why the authors present tension between trust and honesty on the one hand and autonomy on the other. Do trust and honesty not play a central role when making an informed decision? Is autonomy opposed to or devoid of trust and honesty? Why trust and honesty are presented as one way of making decisions and autonomy another? Perhaps, one way of addressing these questions is by problematizing what the authors consider is autonomy, and why what they found is not it. Or consider the possibility that for these Guatemalan parents' autonomy is also composed or expressed by trust and honesty. Finally, In the discussion and the conclusions, the authors refer to how cultural differences inform health care decision making. This is well documented in medical anthropological literature. However, the authors do not provide how the Guatemalan cultural context shape these particular situations. This is, they mention that culture plays a role, but they fail to present how and which role it plays in the situations that they are analyzing. Culture is also not self-explanatory. Since all human groups have culture, it is necessary to address which and how cultural aspects play a role when and where.

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Mrs. Hazel Thornton, University of Leicester
Comments to the Author:

It was a pleasure to read this study report which clearly and sensitively describes research undertaken to explore cancer treatment decision-making among parents of children with cancer in Guatemala.

As the authors point out, although their study was conducted in a single cancer centre in one middle-income country, their knowledge and experience, combined with use of survey items previously validated in high income countries (thereby allowing for comparison to published literature from those settings) has produced findings that are surely of considerable importance and value more widely. Their attention to cultural sensitivity has produced evidence that could be of practical use, where healthcare in European and other countries worldwide is delivered to widening multi-cultural populations. Their conclusion that their study `reinforces the importance of the provider-patient relationship and encourages clinicians in all settings to ask about and honour each parent`s desired role in decision-making` is one that cannot be emphasised too strongly, whatever the setting. Such an approach encourages dialogue as well as demonstrating that a good outcome for the patient can be a shared endeavour, shown to be associated with better outcomes. This deep, evolving cultural shift from the paternalistic approach that was endemic just a few decades ago is one that needs recognition by all clinicians, even in locations where people come from similar cultural backgrounds. (An individual`s preferences can change/revert over time but the agreed choice remains important. The authors note, page 21, that there can be shifts in decision-making preferences over the cancer care continuum.) Quite often, people don`t even realise that there is a choice!

Involvement of 23 parents in the iterative revision process for refining the survey questions demonstrates further their respect for the parents` input. Review by bilingual members of the research team in order to ensure adequate capture of original content further demonstrates the rigour of the process.

The authors have appreciated the value of public involvement in the running of this study, involving the parents in the piloting of the survey, also planning to involve them further in the dissemination of results and consideration of interventional work. This collaborative ethos with the public is to be commended.

Recognition by the parents of the authority and expertise of the healthcare providers is well illustrated in the two full paragraphs page 17, where the subtleties of language denoted the `tone` set out by psychologists and oncologists at the hospital. This, in return, was appreciated by the parents expressing trust and deference to the medical teams` and their providers` expertise. This work presents shared decision-making in a more nuanced way, an evolving way that is not wholly paternalistic nor favouring autonomy, but is sensitive to individual requirements. This may be similar to what has happened in Western cultures where, as patients began to realise the benefit of taking a more active role, they grew to like it and to see the benefit of sharing responsibility. But, until and unless they are invited by the clinician to choose which they prefer, they may not even realise that there is a choice. This would enable a shift in preference over the care continuum, and over time generally.

It was interesting to note the comment, page 21, final sentences, that the authors were limited in their ability to analyse the small proportion of parents who did experience regret. Their suggestion that this is an opportunity for future research is important. A parallel is that people who decline an invitation are not necessarily approached to research the reason why, so that potentially valuable insights remain hidden.

The final sentence of their paper should become a clarion call that goes out to all clinicians.

In summary, I can make no adverse comment on this paper, only commend it.

Author response: We thank the reviewer for appreciating the rigor with which we conducted this mixed methods study, and in particular our attention to cultural sensitivity and public involvement. We agree that the findings from this study are applicable beyond the setting in which the study was conducted and are grateful for this reviewer’s understanding of the cultural shift from paternalistic to shared decision making. We plan to further explore decisional regret in future studies.

Reviewer: 2
Dr. María Fernanda Olarte-Sierra, University of Amsterdam
Comments to the Author:

This paper addresses the central theme of decision-making in the face of childhood cancer in a middle-income country. The use of mixed methods is promising as it is set to allow for in-depth analysis of the situations described as they happened in the Guatemalan context.

The quantitative part is rich, and the findings support the discussion and conclusion. However, the qualitative component is not properly addressed, and its development (in comparison to the quantitative part) is asymmetrical and subordinated. By this, I mean that the arguments presented from the qualitative component are missing in-depth analysis and, in some cases, evidence. The data is, sometimes, presented as self-explanatory. The power of qualitative analysis is precisely the possibility to dig and go in-depth, which is missing in this paper.

Author response: We appreciate this reviewer's acknowledgement of our rich quantitative findings and encouragement to further detail our qualitative results. We have expanded and contextualized our qualitative analysis as recommended by this reviewer and detailed below.

Reviewer 2: An example of this is that when quotations from respondents or data from the recordings are mobilized, there is no proper contextualization or comprehensive description of the situations, leaving the reader to interpret what happened in each case. Therefore, there is no clarity on how did parents made decisions. That is, we know what they thought about the decision-making processes and their perspective and experience. We do not know, however, how decisions were made. When the authors present examples of how parents are provided with little to no possibilities, they don't describe the specific situation in which health care staff presented the information as pressing and urgent: Are all childhood cancer diagnoses the same? Do all treatments have and can be performed at the same pace? Are there no instances of urgency? By providing the context of these situations, we could have more information about what happened when a diagnosis was delivered and what was the condition of the child. Also, this would imply a subtler and more profound analysis of why things happened in the way that they did. We can consider the difference, for instance, between an emergency room and a consultation room at a clinic.

Author response: The reviewer makes a good point regarding urgency and situational decision making. All pediatric cancer diagnoses are at least somewhat urgent, however there are some particularly emergent settings. For this study, both the quantitative and qualitative component were conducted in the outpatient consultation clinic rather than in an emergency room, hospital ward, or intensive care setting. Thus, the level of medical urgency around decisions was relatively similar across participants. We have added a sentence to our methods to clarify this in the hopes that it aids in contextualizing our results: *"Both components of the study were conducted in the outpatient psychology and oncology clinics at UNOP."* Additionally, all children were offered treatment available at UNOP, which provides a full range of pediatric cancer treatment options.

We have also added specific information including the child's age and diagnosis to each quotation presented in our results section as well as in the qualitative table (Table 2). We hope this provides additional clarity and contextualization.

Reviewer 2: Additionally, it is not clear why the authors present tension between trust and honesty on the one hand and autonomy on the other. Do trust and honesty not play a central role when making an informed decision? Is autonomy opposed to or devoid of trust and honesty? Why trust and honesty are presented as one way of making decisions and autonomy another? Perhaps, one way of addressing these questions is by problematizing what the authors consider is autonomy, and why what they found is not it. Or consider the possibility that for these Guatemalan parents' autonomy is also composed or expressed by trust and honesty.

Author response: We agree with the reviewer that trust, honesty, and autonomy are all components of shared decision-making. We did not intend to present these elements as mutually exclusive, but rather explore how certain components might be more heavily emphasized than others depending on the cultural context. We have revised last sentence of the abstract as well as the first few sentences of our discussion and removed the phrase *"over autonomy"* as we believe this phrasing was confusing. The end of the second paragraph of our discussion more clearly explains our intention: *"The model of decision-making at UNOP prioritizes trust, honesty, and information-exchange but maintains a predominately unidirectional flow of information (provider to parent) and does not include many choices. This model diverges from expectations for shared decision-making set forth by literature from high-income countries but is consistent with literature from other LMICs which describes an evolution in medical decision-making*[25] *with increasing prioritization of information-exchange*[26] *and autonomy over time.*[27] *These findings suggest there may be differences in cultural perceptions around shared decision-making, and shared decision-making may have different manifestations in different contexts."*

Reviewer 2: Finally, In the discussion and the conclusions, the authors refer to how cultural differences inform health care decision making. This is well documented in medical anthropological literature. However, the authors do not provide how the Guatemalan cultural context shape these particular situations. This is, they mention that culture plays a role, but they fail to present how and which role it plays in the situations that they are analyzing. Culture is also not self-explanatory. Since all human groups have culture, it is necessary to address which and how cultural aspects play a role when and where.

Author response: We thank the reviewer for emphasizing the importance of the Guatemalan cultural context to our work. We believe our findings can be applied beyond the specific setting in which our study was conducted, and thus at times throughout the introduction, discussion, and conclusion intentionally refer to "culture" broadly, in the hopes that it will inspire all readers to consider cultural context when conducting research and providing clinical care. That said, we have also tried to highlight specific aspects of the Guatemalan cultural context and how they relate to our findings. We have added a sentence to our introduction highlighting the cultural diversity within Guatemala: *"Guatemala is a small but culturally diverse country; with 40% of the population comprised of 24 distinct ethnic groups who speak >20 different languages."* In our discussion, we specifically describe the cultural importance of religious or spiritual advisors as well as how gender may affect decision-making roles in Guatemala, including encouraging shared decision-making between partners and influencing the desire for a more passive decision-making role. We have more explicitly described the *"sociocultural expectations, including patriarchal pressure"* that may influence decision-making in Guatemala. We have also changed the last sentence in our discussion paragraph regarding decisional regret to state that parental preferences *"may or may not be influenced by culture"* as these findings refer to the small proportion of parents who experienced regret and this warrants further exploration in future studies. We have intentionally left the reference to culture in our conclusion broad as we believe the statement that *"culture may influence priorities for communication and care"* is supported by our findings and the literature, and is not specific to the Guatemalan context.