Author's response to reviews

Title: Motivational interview interactions and the primary health care challenges presented by smokers with low motivation to stop smoking: a conversation analysis

Authors:

Núria Codern-Bové (nuriacodern@euit.fdsll.cat)
Enriqueta Pujol-Ribera (epujo@idiapigol.org)
Margarida Pla (margarida.pla@uab.cat)
Javier González-Bonilla (idiap@idiapigol.org)
Silvia Granollers (sgranollers.cp.ics@gencat.cat)
José Luis JL Ballvé (ballvejl@gmail.com)
Gemma Fanlo (gfanlo@ambitcp.catsalut.net)
Carmen Cabezas Peña (carmen.cabezas@gencat.cat)
ISTAPS Study Group (idiap@idiapigol.org)

Version: 2
Date: 26 August 2014

Author's response to reviews:

POINT-BY-POINT REPLY TO DELWIN CATLEY

MAJOR COMPULSORY REVISIONS

This manuscript describes a qualitative analysis of conversations about smoking and the possibility of quitting smoking that occur between smokers low in motivation to quit and their health care providers. The stated purpose is to analyse the "structure of interactions" using conversation analysis (CA) methods and the authors present descriptions of common interaction patterns between patients and health professionals.

While some of these descriptions appear to illuminate strategies adopted by health professionals that may be more or less effective or represent responses to challenges in the encounter, the manuscript suffers from significant limitations that hamper its contribution.

The introduction does not make sufficiently clear what the contribution of the conversation analysis is intended to be because it is hard to discern the specific question or questions the authors are intending to answer in this paper. For example, are the authors trying to understand whether MI principles are supported (i.e., does adherence lead to positive within session outcomes) or determine the ways in which providers get off track from MI principles, or determine what typical patterns of interaction unfold when professionals try to encourage their patients to stop smoking?

The conclusions in this paper are also varied and it is unclear that they are specifically derived from the analysis of their data. Relatedly, the methods are described in insufficient detail to understand how the findings were objectively
and reliably attained. Overall it is difficult to discern the contribution of the work because of the lack of clarity. Specific comments are provided below:

INTRODUCTION

Comment #1:

# “Abandonment rates” should be “abstention”, “quit” or “cessation rates”.

We have made changes throughout the manuscript, e.g.,

There is solid evidence of low rates of cessation; assuming an unassisted quit rate of 2% to 3%, a brief counselling intervention can increase quitting by a further 1% to 3% [10, 11].

Comment #2:

# It is unclear throughout the manuscript if the authors, when referring to “motivational interview”, are referring to any conversation in which a professional is trying to motivate their patient to stop smoking or specifically to the method of Motivational Interviewing developed by Miller and Rollnick. This should be clarified.

In response to the reviewer’s suggestion, we have added the reference to Miller & Rollnick in paragraph 4 to improve clarity.

Another approach used in PHC to motivate individuals who are hesitant to make changes or ambivalent about smoking cessation is the Motivational Interview, based on the work of Miller and Rollnick [12].

Comment #3:

# The description of MI should use the specific terminology of Miller and Rollnick (e.g., acceptance rather than tolerance).

We have made the appropriate change:

This method is based on a style of interaction that focuses on the individual in an effort to promote change in a climate of empathy, acceptance, and mutual cooperation, ultimately respecting the individual’s decisions [12, 13].

Comment #4:

# As part of the rationale for the present study the authors refer to the limitations of prior Motivational Interviewing studies (such as variations in the quality of the study design, lack of evidence of fidelity to motivational interview principles) as the basis for further research, but the present study does not address any of these weaknesses.

We agree with the reviewer that the relationship between the limitations of motivational interview studies and the design of the present study requires clarification. We have expanded the paragraph as follows:

For these reasons, the present study aimed to use CA to analyse the structure of motivational interviews carried out by primary care doctors and nurses in conversations with patients who reported having low motivation to quit smoking.
In addition, we examined the actions of the health professionals during the motivational interview and assessed the consequences in the patient response. The study objectives arose from questions such as the following: “how is the motivational interview organized? What do people do to understand each other during the motivational interview? What patterns of interaction are in line with basic Motivational Interviewing principles?”

Comment #5:

# The authors refer to CA as potentially useful for assessing fidelity to Motivational Interviewing Principles but the authors do not spell out what the advantages might be over current approaches.

We have expanded the paragraph in order to clarify the advantages of conversation analysis in analysing the fidelity to Motivational Interviewing principles.

Therefore, CA allows the analysis of specific practices that may, in our case, make motivation more difficult and provide recommendations about the type of specific actions a health professional should carry out to introduce motivational elements into conversation and to improve patient satisfaction [26, 35].

Comment #6:

# The authors review some of the findings from CA on patient-provider communication but the relationship between these insights and the interest in using CA to evaluate and improve Motivational Interviewing is not made clear.

Following the reviewer’s recommendation, we have emphasized the benefits of CA in our study of motivational interviewing, and explained how this approach enabled us to arrive at our findings:

In recent years, several studies and reviews have been published that examine patient-health professional interactions using CA to deliver bad news [27] and offer advice on lifestyle changes [28], for example, with findings that may prove to be key to successful professional practice.

Articles by Maynard & Heritage and Pilnick, Hindarsh & Gill showed the collaborative nature of health care interactions. When individuals are paying attention to the conversation and to the behaviour of the other, one will initiate a sequence and this will become a point of reference for the other, generating the second part of the sequence. In addition, co-constructing the interaction involves the notions held by both participants about the subjects they are discussing, as well as the social context in which the interaction takes place [26, 29].

Another topic of interest in CA is the study of how the office visit is organized, the tasks that are completed, and the dilemmas that arise in the interaction. Mikesell reviewed interaction studies that utilized CA, and reported the major findings that could help to build relationships of support and trust, and substantially improve patient health. The findings suggest that a dynamic, collaborative interaction is key to a positive office intervention [30]. Among the studies reviewed was that of Barry et al. [31], which identified four types of health care interaction, defined by the shared or one-directional use of the Voice of the Lifeworld and the Voice of
Medicine (using Misheler’s terms) [32]: a) only the Voice of Medicine is used; b) the Voice of the patient (Lifeworld) is blocked by the Voice of Medicine; c) the Voice of the Lifeworld is ignored, and d) the point of departure is the Voice of the Lifeworld. When patients and health professionals work collaboratively, the outcomes improve; this can be measured by the presence or absence of misunderstandings, adherence to therapy, and each participant’s satisfaction with the interaction [22].

Other significant contributions of the CA approach are found in studies by Pilnick & Coleman of office visits that include smoking cessation interventions. The advice to stop smoking is more effective when the health professional incorporates specific strategies to adjust the conversation to a patient’s needs (negotiation of needs and personalization of the message). The patient is then more likely to adopt an attitude of consent that advances the conversation towards the target [33].

Finally, Coleman et al. analysed interactions that occurred while quit-smoking advice was being given, using an adaptation of CA as their method of analysis. They observed that health professionals had a confrontational reaction when faced with rejection of their advice. They also suggest that smoking cessation counselling aimed at patients with low motivation would have better outcomes if health professionals had more advanced conversational skills [34].

All of these aspects, analysed using CA (collaborative nature of the interaction, use of open-ended questions, negotiation), must be identified as Motivational Interviewing because they form part of that interaction style. Therefore, CA allows the analysis of specific practices that may, in our case, make motivation more difficult and provide recommendations about the type of specific actions a health professional should carry out to introduce motivational elements into conversation and to improve patient satisfaction [26, 35].

Comment #7:
# The authors state in the introduction that maintaining principles of MI is a particular challenge when professionals work with low motivated smokers. No citation is provided for this statement and this point is also offered as one of the main study findings. This lack of clarity is an example of why it is difficult to discern what question or questions the study answers.

We appreciate the reviewer’s comment. As part of our manuscript revision, we have deleted this paragraph from the introduction.

METHOD
Comment #1:
# It is unclear how the present data relate to the parent study. Were these encounters part of the cluster-randomized-trial or conducted specifically for this study? The methods that applied to the parent study versus the present study should be clarified. (E.g., were the healthcare practitioners trained in motivational interviewing for this study or already trained as part of the larger study?)
We have rewritten the relevant paragraph in an effort to make it easier to understand how we collected data for this specific study and how health professionals were trained in motivational interviewing:

All participants, both patients and health professionals, were concurrently participating in the ISTAPS study.

Before beginning the ISTAPS study and during that study period, the health professionals in the intervention group attended 20 hours of workshop training on smoking cessation interventions. The workshops used techniques such as roleplaying and included a four-hour training session in the practical aspects of the Motivational Interview protocol. In addition, participants attended eight hours of reinforcement sessions [38].

In addressing the reviewer’s comment about the relevance of the data discussed, we also removed information related to the qualitative substudy conducted previously, which we had mentioned in the first paragraph of the methods section. The revised paragraph is the following:

The present work is a substudy of the Systematic Intervention on Smoking Habits in Primary Health Care Project (The ISTAPS study, Spanish acronym), a multicentre, cluster-randomized clinical trial in Spain [38, 39]. This substudy applied a CA approach [23, 40, 41] to analyse the health care interaction, assessing how the conversation between the health professional and patient was structured during the motivational interview. This research focused on individuals with low motivation to stop smoking. All participants, both patients and health professionals, were concurrently participating in the ISTAPS study.

Comment #2:

# Participants were recruited at the end of their office visits. Does this mean as they were leaving the clinic or does this mean the end of their visit with their provider in the exam room? Which providers were they visiting when they were recruited? Did this all take place at a single clinic? It is hard to understand how the study providers were available as needed for the 10-minute MI sessions unless these were extensions/continuations of their regular sessions with their own patients.

We have attempted to clarify participant recruitment and have expanded this paragraph to include a description of the intervention:

Patients were recruited to the ISTAPS study if they identified themselves as smokers in response to a question from the attending health professional when they came to the PHC office for any reason. Patients who provided informed consent were invited to make another appointment at the office, when the PHC professional collected personal and smoking habit data (selection interview). At the end of the selection interview, smokers identified as being at the precontemplation or contemplation stage of change were interviewed for about 10 minutes, using the brief Motivational Interview format of incorporating personalized motivating elements into the conversation, based on the Rollnick & Butler model [42]. They were also given a leaflet containing motivational
information and told about the help available to them if they changed their minds and decided to quit smoking [38].

Comment #3

# There seems to be some criterion other than the motivation scale and stages of change score that was used to decide which patients were low in motivation and could be included in analysis. This criterion needs to be explicit and the justification for having an additional criterion should be provided.

In response to this comment, we have improved the description of the criteria used to select the sample for the present study. We also expanded this paragraph because another reviewer asked us to clarify the number of smokers and of motivational interviews analysed.

The strategy used to select the smokers included in this study was maximum variation sampling [43]. Selection criteria were sex (male-female), age (young-adult-elderly), socioeconomic status [44], low motivation to quit smoking (<5 points according to the Richmond Test score) [45] being in the precontemplation or contemplation stage in the change process (precontemplation-contemplation-preparation-action) [46]. In addition, patients were selected if they agreed to their office visits being recorded for a period of six months. Nine ISTAPS participants met these inclusion criteria. Two of the nine participants came to the office for a second visit during the study period because of a health issue, and at the end of the visit the health professional took the opportunity to conduct a second Motivational Interview, for a total of 11 interviews conducted by the five participating health professionals. The characteristics of the nine smokers interviewed are presented in Table 1.

Comment #4

# The description of the analytic procedure is not sufficiently clear for readers unfamiliar with this process. Much more information is needed to document the objectivity and reliability of the CA.

We have expanded the paragraph about the procedure used to analyse conversations.

b) Conversation Analysis (CA) consisted of analysing in detail the semantic content, interactional effects, and consequences observed in the selected sequences corresponding to the study objectives [26]. In our study, nonverbal behaviours were not analysed. The procedure involved coding by topics—structure of the office visit and the actions taken (Table 2, point 4)—and identification of categories according to the different ways of conducting the MI (Table 2, point 5). The process of coding and analysis was recursive; the codes and categories were selected for coherence with the study objectives. (Table 2, points 6 and 8). A total of 106 conversation sequences were analysed.

Comment #5

# What is meant by “QCA” and “action protocol”? These need to be explained.

6) The authors state that the ISTAPS research team reached consensus on the
meaning of these actions and generated an analytical guide for the video recordings. This process needs to be described in some detail.

We have spelled out the QCA abbreviation, and clarified the action protocol and the analytical guide for the video recording:

a) Qualitative Content Analysis (QCA) of the intervention’s action protocol ISTAPS study identified the actions that needed to be taken during a visit (Table 2, point 1). The ISTAPS research team reached consensus on the meaning of these actions and generated an analytical guide for the video recordings. This analysis allowed us to develop a framework for coding the transcriptions (Table 2, point 2).

RESULTS AND DISCUSSION
Comment #1

The authors state that their first main finding is that, “despite a similar pattern in all of the motivational interviews analysed (assessment-reflection-summary), they illustrate different practices”. This does not appear to be the answer to a key question or gap in the literature and illustrates the challenge in understanding what the authors are intending to address with this manuscript.

We agree that there is a need to clarify this point. According to the reviewer’s fourth comment about the Introduction, we have described one of the questions underlying this study: What are the interaction patterns that are in agreement with the basic principles of motivational interviewing? This is related to the question, “Are there different communication practices that motivate a person, whether or not the health professional follows the basic principles of motivational interviewing?” We hope that better defining the study objective will also help to explain this aspect of the study:

Our study has three main findings. The first is that, despite a similar structure in all of the motivational interviews analysed (assessment-reflection-summary), we identified different professional practices used to motivate a patient to quit smoking. One of these resembles the Miller-Rollnick model [13, 42, 55], in which interaction is centred on the concerns and ambivalences of the patient. Our results also concur with other reports indicating that these strategies favour a patient-focused interaction [31, 36, 56, 57]. The second practice is a directive interaction, without negotiation and agreement on the existence of a problem, led by the professional and producing hostile or brief answers from the patient and silences from both participants.

Comment #2

The authors state that the second main finding is that “CA shows the complexity of constructing an interaction with a patient whose motivation to stop smoking is low”. This reiterates a statement in the introduction and offers little that is novel. Perhaps the authors intend to suggest what the complexity looks like or what the common challenges are but this needs to be made clear.

As we stated in response to the comment about this comment in the introduction,
we fully agree with the reviewer about the repetition, and have eliminated it. With respect to the new comment, we talk about complexity because the professional (in constructing the conversation) needs to adapt to the smoker’s declarations about not giving up smoking in order to avoid confrontation. Therefore, we consider it very appropriate to discuss the challenges and have incorporated this into the paragraph:

The second main finding is that CA shows the complexity of constructing an interaction with a patient whose motivation to stop smoking is low. In order to avoid a confrontation, in which the conversation would become a professional challenge, the health professional must adapt to the patient’s declarations of reasons not to quit smoking. Studies of CA acknowledge that the patient-health professional interaction is collaborative by nature, and also recognize the difficulty in constructing a personalized and negotiated process [29, 35, 58].

Comment #3
# The authors state that the results “complement and expand the results of the ISTAPS trial” however the results of that trial are not described or integrated with the present findings.

We have expanded this statement, adding in the ISTAPS results related to persons in the precontemplation phase:

These results complement and help to explain, in part, the results of the ISTAPS clinical trial, which found no significant differences between the intervention and control groups in patients who were in the precontemplation stage of change [39].

Comment #4
# The authors state that the study shows that “CA is a coherent approach to analysing the fidelity to motivational interview principles of the conversations studied”. It is not clear what is meant by a “coherent approach” (valid?) and whether this refers to the method of Motivational Interviewing of motivational conversations in general.

We have revised the paragraph in line with the reviewer’s comment, as follows:
Secondly, the study demonstrates that CA is a useful approach to analysing the fidelity to Motivational Interview principles [13, 64] observed in the conversations studied. This is an important strength because of the limited evidence available on this topic [19].

Comment #6
# The authors tout the “rigour and quality” of the study but this information would be better placed in the method section so that the way in which these procedures were implemented for this analysis are described.

We agree with the reviewer and have moved this paragraph to the methods section where, in response to another reviewer’s comments, we have added bullet points to assist the reader:
To ensure the rigour and quality of the study, we based it on the following criteria [48–52]:

- CA was selected as the research methodology because it is focussed on what “happens” in the interaction and “how”. (criterion: epistemological and methodological appropriateness)

- The context for each interview was described (place, interference or interruptions, climate), taking these elements into account in the analysis. Participant selection was done intentionally, with the goal of achieving maximum variation in the sample to ensure generalizability. Recordings were repeatedly played while the transcribed text was read and reread, in order to catch nuances of the interaction. The analysis was carried out independently. All members of the research team have extensive experience in smoking cessation interventions and reviewed the findings carefully, providing feedback to ensure that the results were consistent with the study objectives.

- The study findings were illustrated with specific, relevant sequences that support the interpretations of study results. (criterion: validity)

- The research team reflected on the entire process of the study, including their assumptions and the possible impact on study results, and discussed the role of the professional, various smoking cessation intervention models, and the difficulties patients face when they try to quit smoking (criterion: reflection)

Comment #7

# In the limitation section the authors mention that clear patterns were evident. It would be helpful to get a sense of the consistency of these patterns within the sample (i.e., of the 11 analysed how many fit each pattern).

In this paragraph we intended to highlight the fact that the interactions analysed showed that health professionals repeated actions that provoked the same consequences in the actions described by smokers. This is supported by the data provided in the results section (number of motivational interviews where professionals engaged in non-behaviours). We have expanded the paragraph slightly to emphasize that seven conversations contained non-motivating pattern, as follows:

Nonetheless, non-motivating patterns of interaction predominated at different points in the conversation during seven of the motivational interviews involving three health professionals.

Comment #8

# Some of the recommendations for practice do not appear to go beyond the findings of the study (e.g., no evidence is provided that if professionals reflect on their beliefs before the encounter that this will lead to better outcomes).

We agree with the reviewer that we cannot contribute evidence on this point from the results of our study. Nonetheless, various authors have shown that reflective practice helps to improve professional practices (for instance, Educating the Reflective Practitioner by Donald A. Schön). In our opinion, this recommendation
can be put into practice in motivational interviews intended to help professionals approach individuals in the precontemplation stage to raise concerns about tobacco use.

POINT-BY-POINT REPLY TO ELINE SMIT

We wish to thank the reviewer for her attention to our manuscript and for her comments, which have undoubtedly helped to improve the quality of the article. Our comments are in italics and changes in the manuscript are shown in yellow.

Reviewer’s report:

I have read this manuscript with interest. The qualitative study presented in this manuscript analysed 11 interviews with smokers with low motivation to stop smoking, to investigate how interaction is constructed during the motivational interview with this type of smokers in primary health care settings in Barcelona, Spain. Overall, it is an interesting study, though the rather small number of interviews (N=11) limits the generalizability of the study's implications. Moreover, the manuscript is rather poorly written in terms of structure. Especially the background section remains rather superficial and would benefit from some more in-depth information and a clearer focus, but the methods section would benefit from some structure (e.g. the use of subheadings) as well.

Besides, the methods are described rather confusingly, leaving the reader with many questions – this could definitely be improved. Moreover, the results and discussion section is rather long and I would also advise to present results and discussion separately and to use subheadings (e.g. strengths and limitations could be described in a separate section, this helps to guide the reader to sections that are of particular relevance to him) to provide a clear structure – currently, the discussion is not very readable due to a lack of such a structure.

In my opinion, the manuscript needs major revision before it can be considered for publication.

Major compulsory revisions

Background

1. Overall, the background section – especially the second page of the background – appears to lack a clear focus. This makes the reader wonder what the objective of the present manuscript will be, while this should become clearer (instead of more unclear) while reading more of the background section. The authors currently do a rather poor job in setting the stage for the present study’s objectives; the relevance of the present study should be more clearly described, i.e. why is a conversation analysis especially relevant to conduct based on conversations with smokers with a low motivation to quit? While they try to answer this question at the end of the 7th and in the 8th paragraph, this explanation should definitely be made clearer.

Results and discussion

1. Throughout the results section, I get the feeling that the authors are not objectively presenting the results found, but are rather comparing these results to
the ideal conversation as constructed by the authors. I would suggest keeping
the results rather objective and saving a discussion and evaluation –
accompanied by relevant literature references – of these results for the
discussion section.

We are grateful for the constructive reviewer feedback and, together with
comments from other reviewers, have made an effort to provide a clearer focus
in the background and results sections, and to ensure that our commentaries are
limited to the discussion section.

Minor essential revisions

Abstract

Comment #1

# The Richmond test deserves some explanation, at least a description should
be included that this instrument measures motivation.

As the reviewer suggests, we have added a brief description of the Richmond
Test:

Methods: Motivational interviews with a subset of nine participants in the ISTAPS
study who were current smokers and scored fewer than 5 points on the
Richmond test that measures motivation to quit smoking were videotaped and
transcribed.

Comment #2

# '.. organizations and actions that were most effective'; effective in terms of
what?

We have reviewed and refined this paragraph to clarify our use of Qualitative
Content Analysis in this study.

Qualitative Content Analysis was used to develop an analytical guide for coding
transcriptions.

Comment #3

# 'Conversational ... to stop smoking' (first sentence of the conclusion) cannot be
deducted from the results; either the results should be extended or this
conclusion should be reformulated.

As the reviewer suggests, we have rewritten the conclusions to be better aligned
with our objective and study results.

Conclusions: Conversational analysis showed that the complexity of the
intervention increases when a health professional encounters individuals with low
motivation for change, and interactional dilemmas may occur that make it difficult
to follow Motivational Interview principles.

Background

Comment #1

# 2nd paragraph: the authors claim that low abandonment rates are prevalent in
the primary health care setting. This statement needs support from more than only one reference and should also be put in perspective; what are the abandonment rates in other (care) settings?

We have expanded this paragraph to include an additional reference that supports the low success rates of smoking cessation efforts in the primary care setting. As indicated by another reviewer, “abandonment rates” is no longer used in the manuscript, replaced in this instance by “cessation rates”:

However, they also provide solid evidence of low rates of cessation; assuming an unassisted quit rate of 2% to 3%, a brief advice can increase quitting by a further 1% to 3% [10, 11].

Comment #2
# 3rd paragraph: the authors state that motivational interviewing is more effective than brief counselling or usual care; please explain usual care.

We have briefly clarified this in the third paragraph:

The Motivational Interview has attracted considerable interest because of evidence that it produces better results than brief advice [17], which constitutes usual care in our PHC context [18].

Comment #3
# 4th paragraph: it is described that in recent years, several studies and reviews have been published that examined patient-health professional interactions using conversation analysis, with findings that may prove to be key to successful professional practice – such statements need to be supported by scientific references. Moreover, the findings of such studies (like Mikesell’s study described in the 5th paragraph) need to be described for these statements to be of any value in a background section, e.g. what types of interaction help to build relationships of trust and support?

We agree with the reviewer that these findings should be further detailed. In what is now the fifth paragraph, we have added two citations in support of our statements:

In recent years, several studies and reviews have been published that examine patient-health professional interactions using CA to deliver bad news [25] and offer advice on lifestyle changes [26], for example, with findings that may prove to be key to successful professional practice.

Similarly, a reference has been added in the seventh paragraph to clarify the contributions highlighted by Mikesell in a review article:

Another topic of interest in CA is the study of how the office visit is organized, the tasks that are completed, and the dilemmas that arise in the interaction. Mikesell reviewed interaction studies that utilized CA, and reported the major findings that could help to build relationships of support and trust, and substantially improve patient health. The findings suggest that a dynamic, collaborative interaction is key to a positive office intervention [29]. Among the studies reviewed was that of
Barry et al. [30], which identified four types of health care interaction, defined by the shared or one-directional use of the Voice of the Lifeworld and the Voice of Medicine (using Misheler’s terms) [31]: a) only the Voice of Medicine is used; b) the Voice of the patient (Lifeworld) is blocked by the Voice of Medicine; c) the Voice of the Lifeworld is ignored, and d) the point of departure is the Voice of the Lifeworld. When patients and health professionals work collaboratively, the outcomes improve; this can be measured by the presence or absence of misunderstandings, adherence to therapy, and each participant’s satisfaction with the interaction [22].

In addition, as suggested by another reviewer, we have expanded the paragraph describing the study objectives to clarify the relationship between our study design and the limitations observed in studies of the effectiveness of motivational interviewing.

For these reasons, the present study aimed to use CA to analyse the structure of motivational interviews carried out by primary care doctors and nurses in conversations with patients having low motivation to quit smoking. In addition, we examined the actions of the health professionals during the motivational interview and assessed the consequences in the patient response. These objectives arose from questions such as, “how is the motivational interview organized? What do people do to understand each other during the motivational interview? What patterns of interaction are in line with the basic Motivational Interview principles?

Methods
Comment #1
# Unclear what the acronym ISTAPS stands for; please explain.

We have spelled out the ISTAPS acronym in English translation.

The present work is a substudy of the Systematic Intervention on Smoking Habits in Primary Health Care Project (The ISTAPS study, Spanish acronym), a multicentre, cluster-randomized clinical trial in Spain [37, 38].

Comment #2
# If a second substudy is described, please also briefly describe its findings. However, in this case I would rather advise to limit the methods section to the methods used for the present study and remove information on the second substudy as it is irrelevant for the present manuscript.

We agree with the reviewer that the second substudy is irrelevant to the present study and we have deleted the information to streamline the methods section:

The present work is a substudy of the Systematic Intervention on Smoking Habits in Primary Health Care Project (The ISTAPS study, Spanish acronym), a multicentre, cluster-randomized clinical trial in Spain [37, 38].

Comment #3
# The authors describe a ‘preliminary analysis’ that showed considerable differences between conversations with highly motivated and conversations with
less motivated smokers. Please explain these differences, as these are the argumentation for choosing this particular target group.

We have removed this statement because of the confusion it generated. In response to the reviewer’s question, patients with high motivation to quit smoking are considered to be in the preparation stage of the change process. They accepted the intervention and the motivational interview included different elements oriented toward specific quit strategies (nicotine substitutes, preparing for D-day, etc.). This allows us to simply state the focus of the present study:

This research focused on individuals with low motivation to stop smoking

Comment #4

# 3rd paragraph: ‘… reflect on tobacco use’; I don’t believe this is what the authors try to do in their study, rather I think they aim to reflect on communication about tobacco use.

We fully agree with the reviewer and have revised the sentence to clearly state what CA can contribute to the use of motivational interviewing:

This substudy applied a CA approach [23, 39, 40] to analyse the health care interaction, assessing how the conversation between the health professional and patient was structured during the motivational interview.

Comment #5

# 5th paragraph: combining 12 hours of MI training, 4 of initial training and 8 of reinforcement sessions, results in 24 hours of training. The authors mention that 28 hours of training were received; what were the other 4 hours concerned with?

The 4-hour “practical implementation” session was included in the 20 hours of workshop sessions; eight hours of reinforcement sessions were also provided. We have rewritten the paragraph as follows:

Before beginning the ISTAPS study and during that study period, the health professionals in the intervention group attended 20 hours of workshop training on smoking cessation interventions. The workshops used techniques such as roleplaying and included a four-hour training session in the practical aspects of the Motivational Interview protocol. In addition, participants attended eight hours of reinforcement sessions [37].

Comment #6

# The recruitment procedure remains unclear. First, the authors describe that 8 professionals and 21 smokers were included, but later on they mention only 4 doctors and 1 nurse agreed to participate. Please clarify.

We agree with the reviewer that there was a lack of clarity in this description. We have made several changes to focus only on the details of this specific analysis. To answer the reviewer’s question, however, we initially included 8 professionals and 21 smokers who agreed to being recorded during their office visit dealing with smoking cessation. The attitude toward change identified in these 21 smokers included precontemplation-contemplation and the preparation stage.
This study, as indicated in the sample selection criteria, was limited to the nine participants who were in the precontemplation and contemplation stages (one health professional conducted a second interview with two patients, resulting in a total of 11 recorded interviews in this sample).

We have revised the paragraphs that describe recruitment for this specific study as follows:

All participants, both patients and health professionals, were concurrently participating in the ISTAPS study.

Four doctors (2 males, 2 females) and one female nurse (all with more than 10 years of professional experience), agreed to record their office motivational interviewing and to recruit smokers.

Patients were recruited to the ISTAPS study if they identified themselves as smokers in response to a question from the attending health professional when they came to the PHC office for any reason. Patients who provided informed consent were invited to make another appointment at the office, when the PHC professional collected personal and smoking habit data (selection interview).

The strategy used to select the smokers included in this study was maximum variation sampling [42]. Selection criteria were sex (male-female), age (young-adult-elderly), socioeconomic status [43], low motivation to quit smoking (<5 points according to the Richmond Test score) [44] being in the precontemplation or contemplation stage in the change process (precontemplation-contemplation-preparation-action) [45]. In addition, patients were selected if they agreed to their office visits being recorded for a period of six months. Nine ISTAPS participants met these inclusion criteria. Two of the nine participants came to the office for a second visit during the study period because of a health issue, and at the end of the visit the health professional took the opportunity to conduct a second Motivational Interview, for a total of 11 interviews conducted by the five participating health professionals. The characteristics of the nine smokers interviewed are presented in Table 1.

Comment #7

# 9th paragraph: this paragraph is rather unclear as many numbers are given. It is unclear whether 21 interviews were included, or 9 (as low motivation), or 11. If it concerns 11 interviews taken from 9 smokers, the authors should provide argumentation for choosing to include 2 additional interviews (rather than convenience reasons) that were derived from smokers that were already included in the study.

The repeated motivational interviews of two patients (both conducted by the same health professional) were included in the analysis because a previously published study recommends addressing tobacco use at every patient visit (Fiore et al., 2011). In these two cases, the health professional opted to took the opportunity to discuss the patient’s cigarette smoking using the Motivational Interview. The purpose of the study was to analyse the discourse and interaction, rather than to assess the impact of the intervention (in which case a repeated interview would have been a confounding factor). Therefore, the recording was
simply considered another effort by a health professional to apply the protocol and therefore as appropriate material for analysis. We have revised the paragraph as follows:

Two of the nine participants came to the office for a second visit during the study period because of a health issue, and at the end of the visit the health professional took the opportunity to conduct a second Motivational Interview, for a total of 11 interviews conducted by the five participating health professionals. The characteristics of the nine smokers interviewed are presented in Table 1.

Comment #8
# The two steps of the analytical process require additional explanation. First, the abbreviation QCA has not been introduced before, so unclear what this means. Second, it is unclear what data were used for further analysis; the data collected under b (what happened during the visit), or the data that could be derived from both a and b (the discrepancy between what happened and what should have happened during the visit). This should be made clearer.

We have spelled out QCA and clarified our use of the action protocol guide that was constructed from this content analysis:

a) Qualitative Content Analysis (QCA) of the intervention’s action protocol ISTAPS study identified the actions that needed to be taken during a visit (Table 2, point 1). The ISTAPS research team reached consensus on the meaning of these actions and generated an analytical guide for the video recordings. This analysis allowed us to develop a framework for coding the transcriptions (Table 2, point 2).

Results and discussion
Comment #1
# The results described under ‘Organization of the motivational interview’ appear to rather be a description of the ISTAPS protocol, than a description of the results from qualitative analysis. It should be made clearer that actual results are described here.

This study was carried out within the ISTAPS framework. We have attempted to clarify the actions taken by the health professional and patient during the motivational interview in order to make themselves understood and to construct an interactive communication during the office visit:

Assessment: The professional begins the motivational interview according to the intervention protocol of the ISTAPS study, summarizing the data collected in the selection interview (tobacco use, motivation and stage of change). The summary establishes a rapport based on shared understanding and verifies the patient’s readiness to change and to initiate the conversation. This phase of the protocol lasts about three minutes.

Reflection: This phase is central to the motivational interview and requires the most time. In all of the conversations analysed, this phase was initiated by the health professional with a question, such as “why do you think that it is not
important for you to quit smoking?" or “can you tell me why you don’t think you could quit smoking?” In each case, the smoker had a chance to express his or her concerns and the health professional noted the individual’s current consumption, statement of positive and negative aspects, and level of intent to change. The conversation was built around these data provided by the smoker. The health professional asked questions, offered information, and affirmed the doubts expressed by the smoker (e.g., “I see, there is a lot of smoking going on in your surroundings and that makes it more difficult for you to quit”). All patients showed some ambivalence about their smoking, with no difference between those in the precontemplative and contemplative stage of change. This phase lasts about five minutes.

Summary: The professional ends the conversation by reviewing the topics covered (e.g., “you told me that you don’t feel prepared to make a quit attempt”) and offering help in the event that the patient wants to quit smoking. The end of the motivational interview is always initiated by the health professional and the smoker responds. This phase lasts about two minutes, for a total average interview length of 10 minutes.

Comment #2

# 1st paragraph of ‘Motivational interview practices and action’: (i.e. the professional … # no closing bracket.

Thank you. We have corrected the typographical error.

(i.e., the professional uses resources oriented toward resolving the problem, a familiar clinical interaction for the person with a health concern).

Comment #3

# 1st paragraph of ‘Actions that do not facilitate reflection on readiness to change’ : ‘… that arise in a conversation with smokers with low motivation to stop smoking’.

Our intention was to explain that during the office visit interactional dilemmas arose that the professional resolved without following the principles of motivational interviewing: he or she talked about risks, relied on premature emphasis, or “read the protocol” instead of engaging the patient in conversation).

We have revised the paragraph as follows:

Even when professionals take actions to help a patient reflect on smoking, they also use other interaction styles to resolve interactional dilemmas that do not follow Motivational Interview principles.

Comment #4

# When describing the final strength of the study, i.e. the rigour and quality of the study design, more explanation is needed. The authors mention several recommendations based on earlier research that were implemented in the present study, but this description would benefit from a more elaborate discussion of why these recommendations should have been followed. That is, why exactly is the implementation of these recommendations considered a
As suggested by reviewer 1, we have moved the discussion of rigour and quality to the methods section, because these are requirements for the conduct of the study. Their implementation appears in several parts of the section (subjects, data collection and analysis techniques, etc.). We have revised the paragraph as follows:

To ensure the rigour and quality of the study, we based it on the following criteria [48–52]:

• CA was selected as the research methodology because it is focussed on what “happens” in the interaction and “how”. (criterion: epistemological and methodological appropriateness)

• The context for each interview was described (place, interference or interruptions, climate), taking these elements into account in the analysis. Participant selection was done intentionally, with the goal of achieving maximum variation in the sample to ensure generalizability. Recordings were repeatedly played while the transcribed text was read and reread, in order to catch nuances of the interaction. The analysis was carried out independently. All members of the research team have extensive experience in smoking cessation interventions and reviewed the findings carefully, providing feedback to ensure that the results were consistent with the study objectives.

• The study findings were illustrated with specific, relevant sequences that support the interpretations of study results. (criterion: validity)

• The research team reflected on the entire process of the study, including their assumptions and the possible impact on study results, and discussed the role of the professional, various smoking cessation intervention models, and the difficulties patients face when they try to quit smoking (criterion: reflection)

Comment #5
# Conclusion, 1st paragraph: ‘… may result in several interactional dilemmas that may occur …’

We have revised the sentence as follows:

Our analysis suggests that when a health professional encounters individuals with low motivation for change, this increases the complexity of the intervention and several interactional dilemmas may occur that make it difficult to follow basic Motivational Interview principles.

Discretionary revisions
Results and discussion
Comment #1
# The recommendations for clinical practice would benefit from being written in full sentences, instead of in bullet points – this would, in my opinion, improve this section’s readability.
We have compromised by leaving the bullet points to make this section easier to read but have written full sentences in response to this review comment.

Comment #2

# I would suggest to limit the conclusions to content-related questions and to not include conclusions regarding the methodology (i.e. CA) used in this section –this distracts from the main message the authors want to get across and is described in the discussion in sufficient detail.

In this case, we respectfully choose to leave this statement as the final paragraph in the article because there are so few studies using CA in the context of motivational interviews or similar interventions. We believe this conclusion could be of interest to other researchers.

The study shows that CA is a useful approach to analysing the fidelity to motivational interview principles. Therefore, it is important to incorporate the findings of CA studies into professional preparation and practice.

POINT-BY-POINT REPLY TO AGURTZANE MUJIKA

We wish to thank the reviewer for her attention to our manuscript and for her comments, which have undoubtedly helped to improve the quality of the article. Our comments are in italics and changes in the manuscript are shown in yellow.

Reviewer's report:

Major Compulsory Revisions

Comment

Explain in more depth and justify the use of conversation analysis as a method to assess fidelity to motivational interviewing (MI) in the context of available established methods such as MISC. In general terms much more clarity is needed in terms of what is analysed and how it is analysed. Initially, the MI interactions seem to be the objective of analysis. However, later on the authors propose the use of MI approach to analyse conversations.

First of all, at the suggestion of another reviewer, we have expanded and clarified the findings from conversation analysis (CA) in the analysis of the recorded health care interactions.

In the sociological discipline, CA has been used to study the health care interaction as a moment-by-moment production space for “human social life” [22]. This approach emerged from Garfinkel’s ethnomethodology [23] and the ethnomethodological CA approach described by Sacks [24], both of which acknowledge talk-in-interaction as a social reality that occurs as turn-taking.

In recent years, several studies and reviews have been published that examine patient-health professional interactions using CA to deliver bad news [25] and offer advice on lifestyle changes [26], for example, with findings that may prove to be key to successful professional practice.

Articles by Maynard & Heritage and Pilnick, Hindarsh & Gill showed the
collaborative nature of health care interactions. When individuals are paying attention to the conversation and to the behaviour of the other, one will initiate a sequence and this will become a point of reference for the other, generating the second part of the sequence. In addition, co-constructing the interaction involves the notions held by both participants about the subjects they are discussing, as well as the social context in which the interaction takes place [27, 28].

Another topic of interest in CA is the study of how the office visit is organized, the tasks that are completed, and the dilemmas that arise in the interaction. Mikesell reviewed interaction studies that utilized CA, and reported the major findings that could help to build relationships of support and trust, and substantially improve patient health. The findings suggest that a dynamic, collaborative interaction is key to a positive office intervention [29]. Among the studies reviewed was that of Barry et al. [30], which identified four types of health care interaction, defined by the shared or one-directional use of the Voice of the Lifeworld and the Voice of Medicine (using Misheler’s terms) [31]: a) only the Voice of Medicine is used; b) the Voice of the patient (Lifeworld) is blocked by the Voice of Medicine; c) the Voice of the Lifeworld is ignored, and d) the point of departure is the Voice of the Lifeworld. When patients and health professionals work collaboratively, the outcomes improve; this can be measured by the presence or absence of misunderstandings, adherence to therapy, and each participant’s satisfaction with the interaction [22].

Other significant contributions of the CA approach are found in studies by Pilnick & Coleman of office visits that include smoking cessation interventions. The advice to stop smoking is more effective when the health professional incorporates specific strategies to adjust the conversation to a patient’s needs (negotiation of needs and personalization of the message). The patient is then more likely to adopt an attitude of consent that advances the conversation towards the target [32].

Finally, Coleman et al. analysed interactions that occurred while quit-smoking advice was being given, using an adaptation of CA as their method of analysis. They observed that health professionals had a confrontational reaction when faced with rejection of their advice. They also suggest that smoking cessation counselling aimed at patients with low motivation would have better outcomes if health professionals had more advanced conversational skills [33].

All of these aspects, analysed using CA (collaborative nature of the interaction, use of open-ended questions, negotiation), must be identified as Motivational Interviewing because they form part of that interaction style. All of these aspects (collaborative nature of the interaction, use of open-ended questions, negotiation) should be identifiable by applying CA to motivational interview content, as they form part of this interaction style.

We also revised the following sentence to clarify the advantages of CA in analysing fidelity to Motivational Interviewing principles:

Therefore, CA allows the analysis of specific practices that may, in our case, make motivation more difficult and provide recommendations about the type of specific actions a health professional should carry out to introduce motivational
elements into conversation and to improve patient satisfaction [27, 34].

Comment

The aim stated seemed to be of interest "to identify and analyse the structure of interactions between the smoker with low motivation to stop smoking and the PHC doctor or nurse during a motivational interview in a standard office visit".

However, given that not all interviews analysed might have been conducted in keeping with the MI approach, it can't be ensured that what is identified and analysed is the structure of proper MI conversations. Because of this, and the reflections of the authors included in the results and discussion section regarding the interviews analysed ("in seven interviews (out of 11) all of them dominated by problem-centred professional practice.... "the conversation goes forward but does not necessarily follow the principles of the motivational interview" ) this work might be more helpful in reinforcing the MI skills of the professionals involved in the sessions with the patients rather than as a scientifically sound contribution to the available knowledge.

The justification for this study is related to the limitations identified by meta-analyses that compared the effectiveness of motivational interviews to brief counselling. Although motivational interviews showed a modest but significant advantage over brief counselling in smoking cessation, the authors recommended caution in interpreting their results because of the limitations of the studies included in the review. One of these limitations is the low adherence to basic motivational interviewing principles. This explains the contribution of our study, which shows how the interaction is constructed during the office visit and whether the actions of the health professional follow the motivational principles.

To clarify this in the manuscript, we have revised the statement of the study objective and the underlying research questions:

For these reasons, the present study aimed to use CA to analyse the structure of motivational interviews carried out by primary care doctors and nurses in conversations with patients having low motivation to quit smoking. In addition, we examined the actions of the health professionals during the motivational interview and assessed the consequences in the patient response. These objectives arose from questions such as, "how is the motivational interview organized? What do people do to understand each other during the motivational interview? What patterns of interaction are in line with the basic Motivational Interview principles?"

Based on our results (in 7 of the 11 interviews, health professionals acted predominantly in ways that did not follow motivational style and make it difficult to construct a collaborative interaction), we believe that our findings are of interest to researchers. Our study shows the presence of non-motivational patterns of interaction, which allow the health professional to understand that these actions make it difficult to reach an understanding with the other person. As suggested by another reviewer, we have clarified the contributions of our study, as follows:

Our study has three main findings. The first is that, despite a similar structure in all of the motivational interviews analysed (assessment-reflection-summary), we identified different professional practices used to motivate a patient to quit smoking. One of these resembles the Miller-Rollnick model [12, 41, 54], in which
interaction is centred on the concerns and ambivalences of the patient. Our results also concur with other reports indicating that these strategies favour a patient-focused interaction [30, 35, 55, 56]. The second practice is a directive interaction, without negotiation and agreement on the existence of a problem, led by the professional and producing hostile or brief answers from the patient and silences from both participants.

The second main finding is that CA shows the complexity of constructing an interaction with a patient whose motivation to stop smoking is low. In order to avoid a confrontation, in which the conversation would become a professional challenge, the health professional must adapt to the patient’s declarations of reasons not to quit smoking. Studies of CA acknowledge that the patient-health professional interaction is collaborative by nature, and also recognize the difficulty in constructing a personalized and negotiated process [28, 34, 57].

Although all participating health professionals attended four-hour training sessions, differences were seen in implementation of the motivational interview. These could be related to the appearance of new interactional dilemmas due to low patient motivation and an accompanying lack of interest in the motivational interview. Some actions taken to resolve these dilemmas -such as confronting non-negotiated problems, clinging to the protocol, or prematurely emphasizing willingness to change- shift the motivational interview towards the professional. This often triggers a defensive patient response and/or results in lost opportunities to help the patient reflect on the smoking habit itself. Francis et al. affirmed that professionals tend to enhance confrontational behaviours when the patient has a high resistance to change, making the interaction difficult [55]. Coleman et al reported that when a patient presented smoking-related health problems, the doctor took a more directive approach. The conversation was focused on the health problem without considering the patient’s point of view, producing confrontational interactions that made it difficult to advance the conversation [33].

As demonstrated by the different results reported in CA studies, agreement on the existence of a problem is necessary at the beginning of the interaction to avoid hostile responses. Equally important is the way in which health professionals follow up on concerns expressed by the patient; this follow-up facilitates supportive, patient-centred relationships [28, 33, 58, 59]. According to Parry, these CA findings have been achieved in the academic sphere [60] and must now be incorporated into training in patient communication offered to all health professionals.

The third main finding is that CA reveals various types of interaction that show how the “Voice of the Lifeworld” and “Voice of Medicine” are used during the motivational interview [30, 61, 62]. The interactional dilemmas with which health professionals are confronted are often resolved using biomedical logic, or the “fix the disease” model. The professional and the patient speak exclusively in “the Voice of Medicine”; “the Voice of the Lifeworld” is ignored or blocked out by the professional. Although health professionals take an interest in having a motivational conversation, the “fix the disease” model persists. This might be explained by adherence to the institutional roles of patient and health
professional during the office visit and their interactions are constructed around a health problem to be resolved (diagnosis, treatment, follow-up). It would be interesting to conduct further study of the impact on a normal office visit that could be achieved if both the health professional and patient spoke in “the Voice of the Lifeworld.”

Comment

More details would be necessary on the following: how the participant professionals were recruited, why some patients were provided with 2 MI sessions; the rationale for using video recordings when only the verbal content of the meetings was to be analysed; more details on the analytical guide generated for the analysis (why this was done and how this links with the generating of analytical categories described in the results and discussion. In addition, providing the analytical guide as an appendix or additional file would be helpful).

In response to the reviewer’s comments, together with suggestions from another reviewer, we have provided additional information in the methods section to clarify the recruitment of participants and our procedures for content analysis:

All participants, both patients and health professionals, were concurrently participating in the ISTAPS study.

Patients were recruited to the ISTAPS study if they identified themselves as smokers in response to a question from the attending health professional when they came to the PHC office for any reason. Patients who provided informed consent were invited to make another appointment at the office, when the PHC professional collected personal and smoking habit data (selection interview). At the end of the selection interview, smokers identified as being at the precontemplation or contemplation stage of change were interviewed for about 10 minutes, using the brief Motivational Interview format of incorporating personalized motivating elements into the conversation, based on the Rollnick & Butler model [41]. They were also given a leaflet containing motivational information and told about the help available to them if they changed their minds and decided to quit smoking [37].

The strategy used to select the smokers included in this study was maximum variation sampling [42]. Selection criteria were sex (male-female), age (young-adult-elderly), socioeconomic status [43], low motivation to quit smoking (<5 points according to the Richmond Test score) [44] being in the precontemplation or contemplation stage in the change process (precontemplation-contemplation-preparation-action) [45]. In addition, patients were selected if they agreed to their office visits being recorded for a period of six months. Nine ISTAPS participants met these inclusion criteria. Two of the nine participants came to the office for a second visit during the study period because of a health issue, and at the end of the visit the health professional took the opportunity to conduct a second Motivational Interview, for a total of 11 interviews conducted by the five participating health professionals. The characteristics of the nine smokers interviewed are presented in Table 1.

The process of analysis (Table 2) was two-fold:

b) Qualitative Content Analysis (QCA) of the intervention’s action protocol
ISTAPS study identified the actions that needed to be taken during a visit (Table 2, point 1). The ISTAPS research team reached consensus on the meaning of these actions and generated an analytical guide for the video recordings. This analysis allowed us to develop a framework for coding the transcriptions (Table 2, point 2).

c) Conversation Analysis (CA) consisted of analysing in detail the semantic content, interactional effects, and consequences observed in the selected sequences corresponding to the study objectives [27]. In our study, nonverbal behaviours were not analysed. The procedure involved coding by topics—structure of the office visit and the actions taken (Table 2, point 4)—and identification of categories according to the different ways of conducting the MI (Table 2, point 5). The process of coding and analysis was recursive; the codes and categories were selected for coherence with the study objectives. (Table 2, points 6 and 8). A total of 106 conversation sequences were analysed.

Minor Essential Revisions

Specifying he OR she in the findings section when this information is available in Table1.

We have provided this information for the patients but not for the participating health professionals in order to help protect confidentiality.

In the second example, a woman is not motivated to quit smoking because she smokes only a few cigarettes a day.

Or

In this example, the professional diligently follows the Motivational Interview protocol with a male smoker, but when confronted with a dynamic and complex situation he resolves it rather mechanically by using the ISTAPS study protocol form as a guide.

Or

The selected example shows a man who is motivated to change, but not immediately because of anxiety that is sufficiently severe to require treatment with tranquilizers. In the conversation, the patient explains that the major obstacle to smoking cessation is tobacco dependence in the morning. The selected example shows a man who is motivated to change, but not immediately because of anxiety that is sufficiently severe to require treatment with tranquilizers. In the conversation, the patient explains that the major obstacle to smoking cessation is tobacco dependence in the morning.