Eliciting patient preferences in shared decision making (SDM): Comparing conversation analysis and SDM measurements

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Abstract

Objective
To explore how physicians bring up patient preferences, and how it aligns with assessments of shared decision-making.

Methods
Qualitative conversation analysis of physicians formulating hypotheses about the patient’s treatment preference was compared with quantitative SDM scores on ‘patient preferences’ using OPTION(5) and MAPPIN’S’DM.

Results
Physicians occasionally formulate hypotheses about patients’ preferences and then present a treatment option on the basis of that (“if you think X + we can do Y”). This practice may promote SDM in that the decisions are treated as contingent on patient preferences. However, the way these hypotheses are formulated, simultaneously constrains the patient’s freedom of choice and exerts a pressure to accept the physician’s recommendation. These opposing effects may in part explain cases where different assessment instruments yield large variations in SDM measures.

Conclusion
Eliciting patient preferences is a complex phenomenon that can be difficult to reduce into an accurate number. Detailed analysis can shed light on how patient preferences are elicited, and its consequences for patient involvement. Comparing CA and SDM measurements can contribute to specifying communicative actions that SDM scores are based on.

Practice Implications
Our findings have implications for SDM communication skills training and further development of SDM measurements.

Keywords
Shared decision-making; Patient preference; Measurement; Conversation Analysis; Physician-patient communication; Patient involvement; Hospital

Highlights
- Formulating hypotheses about patients’ stance can elicit patient preference
- The elicited patient preferences are made decision-implicative
- They may promote SDM by making decisions contingent on patient preferences
- Formulating hypothetical patient preferences may constrain patient choice
- The two SDM instruments differed on patient preference and/or overall SDM score
- Comparing CA and SDM instruments can specify and inform SDM scores
1. Introduction

Modern medicine is under increasing influence by the public and ethical imperative for shared decision-making (SDM) [1, 2]. In Norway, legislation mandates patients’ “right to participate in choosing between available and medically sound methods of examination and treatment” [3]. However, in practice, SDM has shown to be a complex concept to define, implement, and assess [4-6], and a recent review concludes that a “major gap in knowledge is whether and how shared decision making works” [7].

Recently, a small body of conversation analytic studies has started to empirically specify how patient involvement and SDM actually play out in authentic encounters; For instance, how patients are offered choice [8-10] and how patient preferences are dealt with [11, 12]. Our study develops this line of research further, by comparing conversation analysis (CA) with SDM measurements of the same data.

This study identifies and explores a conditional construction, a variant of ‘hypothetical questions’ [13], by which physicians formulate a hypothesis about the patient’s preference and then present a treatment option on the basis of that, taking the following basic form: “if you think X + we/you can do Y”. By preference we refer to patients’ view or stance on the desirability of some particular treatment or examination option. These hypothetical constructions make claims about the recipient’s epistemic domain, and such statements are shown to elicit (dis)confirmation from the recipient in response (so-called ‘statements about B-events’) [14-16]. Thus, making claims about others’ inner views and thoughts is a well-documented resource for eliciting this, which, as in this case, can be one way of eliciting patients’ treatment preferences.

The aim of this study is: (1) to describe how physicians formulate hypothetical patient preferences and the interactional consequences of this practice for patient involvement in decision-making, (2) compare qualitative analysis of this practice with quantitative assessments of the item ‘patient preferences’ and overall mean scores from two SDM measurements, and (3) discuss how this practice aligns with guidelines and objectives of the SDM component ‘patient preferences’.

2. Methods

2.1 Material and selection of data for the present study
147 video-recorded encounters from various non-psychiatric settings in a Norwegian Teaching Hospital, drawn from a larger dataset of 380 encounters [17], have been reviewed by the first two authors in relation with previous studies [18, 19]. The 147 encounters constitute a strategic, inductive sample aimed to include cases from disciplines in which patient participation seemed to be more prevalent. Decision-making sequences in 27 encounters, in which patients were actively involved, were identified and analyzed in detail [18]. The physicians in some of the encounters were trained in patient-centered communication skills, but not in SDM specifically. In a recent study [6], the same 27 encounters were part of a material coded with two validated SDM instruments, namely Option(5) [20] and MAPPIN’S DM [21].

2.2 Methods

The qualitative analysis adopts a conversation analytic (CA) methodology [22], whereby instances of recurring interactional practices are collected and analyzed in depth in order to uncover the participants’ underlying norms and conventions for accomplishing the practice in question.

All instances where physicians elicited patients’ stances towards treatment have been identified. Only a few instances involved open inquiries into what the patients preferred. In the majority of cases, the physicians instead presented claims about the patients’ preferences for the patients to confirm or reject [12, 15]. One type of these claims is the formulation of a hypothesis about the patients’ preference. More than 20 instances have been identified in 13 of the 27 encounters. In this article, four typical examples from three encounters will be presented.

Aiming to compare the CA with quantitative measures of SDM and patient preference elicitation, we assessed MAPPIN’S DM and OPTION(5) codings of our material from a prior study [6]. Both measures aim to quantify the level of shared decision-making from an observer’s perspective, but as Table 1 indicates, the differences between the measures are substantial [6]. While OPTION(5) consist of five items assessing observed physician behavior, MAPPIN’S DM consist of nine items assessing SDM from three perspectives: observed physician and patient behavior and the patient-physician dyad. Both MAPPIN’S DM and OPTION(5) grade items from 0 (“no effort is made”) to ‘4’ (“exemplary effort”), which are calculated into percentage scores (4=100%, 3=75%, 2=50%, 1=25%). Both instruments have items assessing patient preferences: OPTION-item4 (eliciting preferences) corresponds
with MAPPIN-item₄ (exploring expectations and worries) and in the validation study of MAPPIN’SDM both the correlation between the two preference-items and the measures’ total mean scores were low to moderate [6]. For our study we chose six scores for each encounter; the two item₄-scores, the mean OPTION-score and the three mean MAPPIN-scores (MAPPINdoctor, MAPPINpatient and MAPPINdyad).

Table 1: OPTION-5 and MAPPIN’SDM item by item (items shaded with grey corresponds to such an extent that comparison is meaningful)

<table>
<thead>
<tr>
<th>OPTION(5)</th>
<th>MAPPIN’SDM</th>
</tr>
</thead>
<tbody>
<tr>
<td>No equivalent</td>
<td>Item 1: defining the problem</td>
</tr>
<tr>
<td>No equivalent</td>
<td>Item 2: key message</td>
</tr>
<tr>
<td><strong>Item 1</strong>: Stating that options exist</td>
<td>No equivalent</td>
</tr>
<tr>
<td>Item 2: promising support to patient</td>
<td>No equivalent</td>
</tr>
<tr>
<td>No equivalent</td>
<td>Item 3a: Options (structure)</td>
</tr>
<tr>
<td><strong>Item 3</strong>: Information about options</td>
<td>Item 3b: Options (content)</td>
</tr>
<tr>
<td>Item 4: Eliciting preferences</td>
<td>Item 8: Evaluating of patient’s understanding</td>
</tr>
<tr>
<td>No equivalent</td>
<td>Item 3c: Options (information quality)</td>
</tr>
<tr>
<td>Item 5: Integrating preferences</td>
<td>Item 4: Expectations &amp; worries</td>
</tr>
<tr>
<td>No equivalent</td>
<td>Item 5: Indicate decision</td>
</tr>
<tr>
<td>No equivalent</td>
<td>Item 6: Follow up arrangements</td>
</tr>
<tr>
<td><strong>Item 7</strong>: Negotiating communication approach</td>
<td>No equivalent</td>
</tr>
<tr>
<td>No equivalent</td>
<td>Item 9: Evaluating doctor’s understanding</td>
</tr>
<tr>
<td><strong>Option(5) mean score</strong></td>
<td>MAPPIN’SDM$_{dyad}$ mean score</td>
</tr>
</tbody>
</table>

3. Results

3.1 Conversation analysis of hypothetical formulations about patient preferences

By formulating hypotheses about patients’ preferences, physicians seek to uncover or clarify the recipient’s stance towards a treatment option or some other clinically relevant action. In our data, such hypotheses appear in cases where (1) the physician has presented a treatment recommendation, and (2) the patient has not yet accepted it, the delay in acceptance being potentially interpretable as passive resistance to the recommendation [23]. Below we analyze three types of formulations: negatively framed, positively framed and neutral.

3.1.1 Negatively framed hypotheses

When physicians make hypotheses about patient stances that are in opposition to their treatment recommendation, these are typically negatively framed.
The physician in extract (1) has repeatedly recommended a liver biopsy for a patient presenting with a liver inflammation with unresolved etiology. So far, the patient has only responded minimally to the recommendation (see [24] for a detailed analysis of this case, and the Appendix for transcription symbols).

In the extract, the physician presents a choice between two treatment options (lines 150-154). However, the patient does not respond with the expected selection of one of them (line 156). Neither does he respond to the physician’s repeated recommendation in lines 157-158. At this point, the physician formulates what we here call a hypothesis about patient preferences, and this one is clearly negatively framed (lines 162-165). The conditional construction (if...) invokes a hypothetical situation in which the patient is extremely negative to the physician’s recommendation. The extreme character of this position is achieved by the hyperbolic description “completely awful” and further emphasized by the emphatic stress on “completely” (“hE:::lt”) and an accompanying animated facial expression. In terms of SDM, this formulation of the patient’s potentially negative stance in principle gives heed to his right to oppose the physician’s treatment recommendation. However, by portraying the position as extreme, it simultaneously delegitimizes it and thereby restrains the patient’s opportunity to choose the alternative treatment option.
The patient seems to orient to the extreme character of the formulation in that he responds with a short laughter (line 164). Furthermore, he does not align with the physician’s pursuit of a response to the treatment proposal. After a long silence he produces yet another non-committing response, namely a narrative about how he once had tried South East Asian nature medicine and that had made him feel better (line 167). This narrative may be interpreted as more passive resistance towards the proposal for taking a biopsy [24], and thus we may conclude that the physician’s formulation of a hypothetical negative stance does not succeed in making the patient express his preference explicitly and directly.

Extract (2) is drawn from a follow-up encounter with an HIV patient wishing to become pregnant. A nurse (N), is also present. The physician has recommended delaying pregnancy until her viral counts have stabilized on a low level (see [25] for an analysis of the whole sequence).

Also in this hypothesis the physician portrays the patient’s preference as potentially illegitimate by choosing an adjective that is a negation of a virtue (not patient) rather than a more positive one, such as “eager”. The position is furthermore exaggerated by an intensifying adverb (“very”), which is reinforced by being stressed. Also the proposal part of the construction delegitimizes the alternative option by framing it negatively as something he cannot stop her from doing rather than as an option she is free to choose.

After the physician has presented the alternative option of not waiting to become pregnant, the patient only responds with a minimal acknowledgement (line 3), thus letting pass the opportunity to accept the alternative option.

In sum, these hypothetical formulations of the patients’ preference present the patient with an alternative option, but at the same time discourage the choice of it. By framing the
option in negative terms and delegitimizing the grounds for choosing it, they make it more difficult for the patient to express such a contrasting preference.

3.1.2 Positively framed hypotheses

When physicians make hypotheses about patient preferences that are in line with their treatment recommendation, these are typically framed positively.

The talk in extract (3) follows immediately after extract (2).

<table>
<thead>
<tr>
<th>Extract (3), after (2) HIV follow-up (pregnancy) (0:04:37)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
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<tr>
<td>7</td>
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<td></td>
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<td>8</td>
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<td>10</td>
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<td></td>
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<td>11</td>
</tr>
<tr>
<td>12</td>
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<td></td>
</tr>
</tbody>
</table>

Whereas in the previous extract the patience of the patient was negatively framed and exaggerated (“very impatient”), here it is positively framed and downgraded to an insignificant requirement (“a bit of patience”). The subsequent proposal is formulated as a negative interrogative (“can’t we”), a format that expresses a preference for acceptance and thereby increases the sensitivity of rejecting the proposal [26]. The patient responds with a non-committing reply (“I don’t know”), followed by two accounts that are rejection-implicative. Thus, the response is not a clear formulation of a preference, but rather passive resistance to the physician’s favoured option.

In this case we see a positively framed hypothesis being used to promote the physician’s recommendation. So in sum, both the negatively and the positively framed hypotheses contribute to restraining the patient’s opportunities to express alternative preferences.

3.1.3 Neutral hypotheses

There are also more neutrally formulated hypotheses, which seem to give patients a more genuine choice of options. An example of this can be seen in example (4) below. Prior to this
extract, the physician has recommended doing an upper endoscopy with another duodenal biopsy of the 14-year-old patient, to which the mother (M) has shown some reluctance.

In the first part (lines 1-5), the physician bolsters the rationale for his recommendation by presenting it as a joint decision of the whole medical team, based on “strong suspicion”. This clearly tilts the response preference towards acceptance [8]. However, at this point he initiates a conditional clause conceding that the mother and the son may “think a bit differently” (lines 8-9). This does not frame such a stance as more or less legitimate, and thus rather neutrally provides for the possibility of an alternative preference. And with this contingency he presents the alternative option (not doing the biopsy) as “quite okay”, which also contributes to giving it legitimacy. When the interlocutor does not respond immediately (line 10), however, the physician continues with a statement of opinion that reverts to a position of clearly favoring his suggested option (lines 11-12). This utterance is formulated as a contrastive personal opinion (“but I think”), and uses medical terminology (“indication”), which infuses it with professional authority.

This hypothetical formulation of a negative stance to the treatment recommendation thus seems more in line with the ideals of SDM by exploring patient preferences in a non-biased way and giving room for expression of an alternative position. However, it is embedded in a
complex turn, and seen as a whole, the turn clearly tilts the response preference towards acceptance.

3.2 SDM measurements

Table 2. Characteristics of patient, physician and context and item4-scores, mean OPTION(5)-score and the three mean MAPPIN-scores (MAPPIN\textsubscript{doctor}, MAPPIN\textsubscript{patient} and MAPPIN\textsubscript{dyad}) for each encounter.

<table>
<thead>
<tr>
<th>Patient</th>
<th>Medical context</th>
<th>Physician</th>
<th>MAPPIN\textsubscript{item4}</th>
<th>OPTION\textsubscript{item4}</th>
<th>MAPPIN\textsubscript{doctor}</th>
<th>MAPPIN\textsubscript{patient}</th>
<th>MAPPIN\textsubscript{dyad}</th>
<th>OPTION(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male, aged 60</td>
<td>Patient has liver inflammation of unknown cause</td>
<td>Male internist, aged 40</td>
<td>75</td>
<td>25</td>
<td>43</td>
<td>20</td>
<td>43</td>
<td>50</td>
</tr>
<tr>
<td>Female, aged 36</td>
<td>Patient has HIV under treatment, wants to get pregnant</td>
<td>Male internist, aged 45</td>
<td>50</td>
<td>50</td>
<td>35</td>
<td>15</td>
<td>35</td>
<td>81</td>
</tr>
<tr>
<td>Boy, aged 14 with his mother</td>
<td>Patient possibly has celiac disease/gluten intolerance</td>
<td>Male pediatrician, aged 41</td>
<td>75</td>
<td>25</td>
<td>11</td>
<td>23</td>
<td>27</td>
<td>35</td>
</tr>
</tbody>
</table>

As shown by table 2, the two patient perspective item scores ranged from “minimal attempt” (25%) to “good standard” (75%) in the three encounters. However, the two SDM instruments differed substantially with regards to the assessment of patient preference elicitation in two of the three encounters presented (75 v 25%), but in both encounters overall SDM scores aligned (43 vs 50% and 27 vs 35%). In the encounter exemplifying the positively framed and the second negatively framed hypothesis, the item-scores agreed, but OPTION(5) awarded the encounter an overall score of 81%, while MAPPIN-scores were well below the lower half with MAPPIN\textsubscript{patient} at 15%.

4. Discussion and conclusion

4.1 Discussion

This study has explored one way in which physicians elicit patients’ preferences or views towards some treatment: by formulating hypothetical patient stances (“if you think X”), followed by a decision-implicative component (“then Y”). Unfavorable stances are used for giving the patient a choice/possibility to reject the physician’s recommendation, while
favorable stances are used as a device for pursuing acceptance to the physician’s recommended option.

In the investigated cases, the treatment decisions are presented as being contingent on patient preferences. In that sense, this practice may seem to be in accordance with SDM principles. However, when inspected in their sequential context, it is evident that the practices simultaneously constrain the patient’s freedom of choice and exert a pressure to accept the physician’s recommendation. First, the formulation of a hypothesis about the patients’ stance presents a predefined scenario for the patients to accept or reject, rather than inviting them to express their stance in their own words. Second, the way the hypotheses are framed, they often delegitimize patient stances that are in opposition to the physician’s recommendation. In this sense, the effect is a communicative ‘double bind’ – a turn that involves two opposing response preferences. On the one hand, the physicians design their turn as an ‘offer’ to choose, thereby encouraging the expression of the patients’ stance. On the other hand, however, they simultaneously discourage the expression of such a stance by portraying it as not fully legitimate or acceptable. And as we can see in the examples analyzed, the practice of formulating hypothetical patient preferences only to a limited extent lead to patients expressing alternative views. Instead, they seem to orient to the double bind by producing non-committing responses and holding back expressions of their stance.

No previous studies have compared quantitative measures of SDM with qualitative, sequential analysis of interaction. The analyzed encounters show explicit physician efforts of involving patients in decisions, and all score high on either patient perspective items or overall levels of SDM. However, when comparing the CA and the scores, it does not become apparent what the two quantitative measures capture in their coding of patient preference elicitation. The measured differences in the three encounters may be explained by the structural differences between the instruments. But the divergence between the instruments on both the fourth item and on overall SDM-scores [6] may also be related to the ‘double bind’ character of these encounters, in which physicians’ expressions of their recommendations interferes with the SDM process [11]. Thus, our findings support previous calls [4-7] for a discussion of the essential ingredients of shared decision-making and of how to measure and assess patient involvement in medical decisions.

4.2 Conclusion
As our analyses show, eliciting patient preferences can be a complex phenomenon that is difficult to reduce into an accurate number. The ‘double bind’ character in eliciting preferences and the diverging SDM scores suggest that there is a lack of detailed, empirical knowledge about how patient preferences are elicited in actual encounters, and, not least, what consequences this may have for the patient's opportunity to participate in the decision-making, which is the ultimate goal in SDM. Analyzing the same material using a combination of CA and SDM instruments allows for a specification of communicative actions that SDM scores are based on. Future studies on SDM should consider the combination of qualitative and quantitative approaches [27].

4.3 Practice implications

Close sequential analysis of patient-physician interaction provides empirical detail and precision to the description of key SDM components, such as ways of eliciting patient preferences. Such findings may have important implications for SDM communication skills training and further development of SDM measurements.

Acknowledgements

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Appendix: Transcription symbols

(1.5) Time gap in tenths of a second
(.) Pause in the talk of less than two-tenths of a second (micro pause)
[ ] Marks the point of onset and end of overlapping talk
= 'Latching’ between utterances, either by different speakers or between units produced by the same speaker
? Rising intonation, not necessarily a question
. Falling or final intonation, not necessarily the end of a sentence
, 'Continuing’ intonation, not necessarily a clause boundary
:: Stretching of the sound just preceding them.
↑↓ Marked shift into higher or lower pitch
word Stress or emphasis of underlined item, the more underlining, the greater emphasis
WORD Markedly louder volume than surrounding talk
° ° Talk between the degree signs is markedly softer or quieter than surrounding talk
<word> Slower speech rate than surrounding talk
>word< Faster speech rate than surrounding talk
- Cut-off or self-interruption of the prior word or sound, often done with a glottal or dental stop
.hh In-breath. The more h’s the longer the in-breath
hh Out-breath. The more h’s the longer the out-breath
(h) Aspiration within speech, usually laughter
(( )) Transcriber’s comments on proceeding talk, e.g. description of gestures
(word) Transcriber’s best guess of an unclear fragment
( ) Inaudible talk
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