Cancer patients' trust in their oncologist

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Appendix A
Development and content of video vignettes
RATIONALE FOR USING SCRIPTED VIDEO-VIGNETTES DESIGN

The purpose of this study was to investigate the effect of oncologist communication behaviors on patients’ trust in them. Using scripted video vignettes in an experimental design was deemed most appropriate for several reasons. First, using an experimental design allowed standardization of all elements (communication, oncologist, and visit characteristics) except for the intended manipulations. Second, manipulating oncologists’ behavior in real practice was considered unethical as it might expose patients to sub-optimal communication. Finally, not being dependent on patient flows enabled recruitment of a large patient sample in reasonable time.

CONSTRUCTION OF SCRIPTED VIDEO VIGNETTES

Developing a basic script

Three oncologic surgeons from different Dutch hospitals each audio-recorded two of their consultations with recently diagnosed patients concerning upcoming surgery for colorectal cancer. Patients were asked for informed consent to tape the consultation. All recordings were transcribed verbatim. These transcripts were used to create a basic script of a standard consultation by one of the authors (M.H.).

The recorded consultations lasted 20-30 minutes. The script was cut down to last only five minutes, to ensure that our relatively small manipulations would be noticeable. Care was invested to preserve all essential elements of the consultations in the abridged script. Eventually, the basic script encompassed approximately six written pages of text. Where possible, text segments of the audio-recordings were incorporated in the script verbatim to ensure realism. Some segments were slightly adapted, to enhance fluency of the script, and small text fragments were newly added.

The basic script involved a consultation between a middle-aged patient and a middle-aged male oncologic surgeon, two weeks after the patient had been diagnosed with colorectal cancer. A male instead of a female surgeon was chosen, as a middle-aged male is still the stereotypical image many patients hold of surgeons. Colorectal cancer was chosen as this is a gender neutral disease, relevant to both male and female observers. The script depicts a consultation in which colorectal surgery is discussed in detail, involving the following elements: 1) recapitulation of the diagnosis and test results, 2) explanation of
what the operation encompasses, 3) discussion of possible side-effects (in particular the possibility of a colostomy), and 4) time for the patient’s questions. In a previous consultation, the patient and oncologist had decided to opt for surgery instead of other possible treatments and the patient had subsequently undergone extra medical tests, to rule out the possibility of metastases.

Two oncologic surgeons commented upon the basic script to ensure realism and medical soundness. A professional script writer commented upon script fluidity and structure. Patients were not consulted in this phase, as they might have had difficulty extrapolating to a consultation that was different from their own exact experiences.

A voice-over neutrally introduced the situation, while muted images were shown of the oncologist and patient conversing (see Box 1 for the introductory text). This introduction was added to 1) explain the situation and setting to the analogue patients, and 2) allow analogue patients to become visually accustomed to the main characters and setting. The introduction was kept maximally neutral, to avoid invoking strong emotions among analogue patients before experiment onset.

Box 1. Introductory text read aloud by voice-over before video onset

You will now see a consultation between a surgeon and a patient. The patient was informed two weeks ago that he/she has colorectal cancer. After this diagnosis, he/she underwent a number of medical tests to determine whether the tumor has spread. The patient has been referred to a surgeon, with whom he/she has already had a first consultation about the possible treatment options. Together with the surgeon he/she has then decided to have colorectal surgery. You are about to see the second consultation between the patient and the surgeon, in which they discuss the specifics of the operation.

When you look at the consultation, please try to imagine that you are holding the conversation with the surgeon.

Designing manipulations

In a qualitative study of cancer patients’ trust in their oncologist, the following elements of patients’ trust were identified: perception of the oncologist’s competence, honesty, fidelity, and caring behavior [149]. In the subsequently constructed Trust in Oncologist Scale (TiOS), these elements were validated as dimensions of trust [175,220]. Our proposed research design allowed us to manipulate only three variables while maintaining a feasible sample size. Therefore, we manipulated the three most ‘tangible’ elements, i.e., which allowed for the most straightforward operationalization: 1) Competence, i.e., the
Appendix A: video-vignettes development

oncologist’s medical skills, 2) Honesty, i.e., telling the truth and avoiding intentional falsehoods, and 3) Caring, i.e., the oncologist’s involvement, sympathy and devotion of attention to the patient. Next, the qualitative data were re-examined to investigate from what communicative behaviors patients most often inferred oncologists’ competence, honesty, and caring. Based on these data, two or three small verbal additions were made to the basic script for each of the three elements of trust. Although any verbal addition to the script is by definition accompanied by non-verbal expression, the manipulations were intended to be essentially verbal. To that end, the oncologist’s non-verbal behavior was kept maximally constant in the added segments.

Demonstration of Competence was manipulated by two segments in which the oncologist 1) demonstrated to be up-to-date on the recent research literature, and 2) emphasized his specialization in, and extensive experience with, this particular operation. Demonstration of Honesty was manipulated by the oncologist 1) emphasizing his wish to exhaustively inform the patient, 2) indicating his wish to honestly inform the patient about all possible complications, and 3) stressing his inability to rule out metastases with 100% certainty. Finally, demonstration of Caring behavior was manipulated by the oncologist 1) exploring a patient cue regarding worry about possible metastases, 2) exploring the patient’s concern about a possible colostomy, and 3) indicating his availability to the patient in case of further questions. See Box 2 for a verbatim overview of the manipulations, and Box 3 for two excerpts from the standard compared to the enhanced scripts.

Including the three additions in the script resulted in ‘enhanced’ script versions for all three characteristics, in addition to the ‘standard’ version. Next, the standard and enhanced versions of the script were combined in every possible way, following a 2 x 2 x 2 factorial design, resulting in eight scripts (see Figure 1). To ensure internal validity, we asked an expert group to comment upon the scripts regarding effectiveness of the manipulations. The expert group consisted of two researchers of physician-patient communication, an oncologic surgeon, and a coach in medical communication. Small adjustments were made to the scripts according to their comments.

The scripts differed in length; for all three manipulated characteristics, the enhanced version of the script was longer than the standard condition. As a result, the ‘basic script’ was shortest (5 minutes and 25 seconds) whereas the script in which all three characteristics were manipulated was the longest (7 minutes and 26 seconds). Mean duration was 6 minutes and 25 seconds. Duration differences were not compensated for, because compensating elements (e.g., using ‘filler segments’ or altering dialogue pace) could produce their own effects.
Box 2. Overview of script additions for manipulations for three elements

Competence:
3. The scientific literature clearly demonstrates that [this operation] offers the best chance at survival. I recently attended a scientific conference, where it was confirmed once more that this operation is the best possible treatment.
4. We perform [this surgery] very often. In our center we all have our specialization, so that we perform certain procedures much more often to become even more skilled in them. So I perform this operation a lot.

Honesty:
4. [The risk of a colostomy] is something I really want to discuss with you, even though the chances of it are slight. Because I believe that you as a patient have the right to be informed about such small risks, to avoid that you will be taken unaware by this afterwards.
5. All these [complications] will not necessarily occur, but I do want to discuss them with you. Because, even though we do our very best, it remains hard to predict: we can never rule out that you will experience complications. This way at least you are well informed.
6. I should add that we can never be 100% sure [that the cancer will be completely removed]. So I can never give you an absolute guarantee. There is always a slight chance that we run into an abnormality during surgery. But for now all signs suggest that you will be cancer-free after the operation.

Caring:
4. Oncologist: Were you very worried about it [the result of the scan]?
   Patient: Yes, in a way… After all, it is your biggest fear in such a moment. But it seems to have turned out well, hasn’t it?
   Oncologist: Yes, it seems so. So that is good, and at least one thing we don’t have to worry about anymore.
5. Oncologist: Do you particularly dread the thought of a colostomy?
   Patient: Yes, it seems horrible, this bag attached to your stomach which may open at any moment, with all that filth… And you aren’t fit to be seen anymore…
   Oncologist: Yes, I understand what you mean.
6. But I will talk to you before the operation in any case. And it is important to know that I am always available for you in case of questions. This is our phone number. I may not always answer the phone myself, but if necessary I will return your call when I do have the time.

CONVERTING THE SCRIPTED CONSULTATION TO VIDEO

For all eight video versions, a variant with a male and one with a female patient were created to maximize participants’ identification with the video character. Three actors were recruited to play the roles of oncologist, male patient, and female patient, respectively. Actors were chosen over real patients and oncologist because of their experience adhering to a script. Moreover, the actors would be required to repeatedly play multiple nearly identical versions of the same script, which might be problematic to a real healthcare professional, who might lapse into his or her personal consultation style. A casting was organized to select the best actor from at least two candidates for each role.
Because of budget restraints, pilot-testing was performed on audio-recordings of the actors (oncologist and male patient) acting out the scripts and not on video-recordings. Audio-recordings were made of the basic vignette, and the vignettes with only manipulated Competence, manipulated Honesty, and manipulated Caring. A pilot group consisting of 20 researchers of medical communication, and seven lay people judged all four audio recordings on manipulation success and realism. Participants were randomly assigned to listening orders. For each vignette version we asked: ‘How competent / honest / caring did you perceive the oncologist to be?’, to be answered on a ten-point Likert scale ranging from very competent/honest/caring = 1 to not at all competent/honest/caring = 10. Additionally, participants were asked which of the four doctors they perceived as most competent/honest/caring. To test realism, participants were asked as how realistic they perceived the conversations overall (six-point Likert scale, range very unrealistic = 1 to very realistic = 6). Moreover, they were asked for suggestions to increase realism.

**Figure 1:** Graphic display of the creation of eight versions of the video vignettes, based on three manipulated dimensions with two levels each.
Box 3. Excerpts from the standard compared with the enhanced scripts

<table>
<thead>
<tr>
<th>Standard competence</th>
<th>Enhanced competence</th>
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<tbody>
<tr>
<td><strong>Patient</strong>&lt;br&gt;But is this operation performed often?</td>
<td><strong>Patient</strong>&lt;br&gt;But is this operation performed often?</td>
</tr>
<tr>
<td><strong>Oncologist</strong>&lt;br&gt;Yeah, it is pretty much a standard operation</td>
<td><strong>Oncologist</strong>&lt;br&gt;Yeah, it is pretty much a standard operation&lt;br&gt;&lt;br&gt;We perform it very often. In our center we all have our specialization, so that we perform certain procedures more often, to become even more skilled at them. So I do this operation all the time.</td>
</tr>
<tr>
<td><strong>Patient</strong>&lt;br&gt;Yeah, okay</td>
<td><strong>Patient</strong>&lt;br&gt;Yeah, okay</td>
</tr>
<tr>
<td><strong>Oncologist</strong>&lt;br&gt;Okay, em..., let me see (...)</td>
<td><strong>Oncologist</strong>&lt;br&gt;Okay, em..., let me see (...)</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Standard Caring</th>
<th>Enhanced Caring</th>
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<tr>
<td><strong>Oncologist</strong>&lt;br&gt;Very good. Then this is how we will arrange everything with the nurses. They are the ones who will attend to you in preparation of the operation. You will mostly be in contact with the nurses in the coming weeks.</td>
<td><strong>Oncologist</strong>&lt;br&gt;Very good. Then this is how we will arrange everything with the nurses. They are the ones who will attend to you in preparation of the operation. You will mostly be in contact with the nurses in the coming weeks. But I will talk to you before the operation in any case. And it is important to know that I am always available for you in case of questions.</td>
</tr>
<tr>
<td>Alright, could you walk along with me to the reception then?</td>
<td><strong>Patient</strong>&lt;br&gt;Mmm..&lt;br&gt;&lt;br&gt;<strong>Oncologist</strong>&lt;br&gt;This is our phone number. I may not always answer the phone myself, but if necessary I will return your call when I do have the time.</td>
</tr>
<tr>
<td><strong>Patient</strong>&lt;br&gt;Okay</td>
<td><strong>Oncologist</strong>&lt;br&gt;Alright, could you walk along with me to the reception then?</td>
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Pilot participants accurately identified the enhanced Honesty (M = 8.33 vs. 7.54 for the other versions) and enhanced Caring versions (M = 8.35 vs. 5.65 for the other versions). However, the oncologist in the enhanced Competence condition was not judged as more competent compared to the other versions (M = 7.90 vs. 7.87 for the other versions). Results regarding which oncologist was perceived as most competent/honest/caring did confirm all three intended manipulations, i.e., the enhanced competent/honest/caring...
oncologist was perceived as most competent/honest/caring by more than half of all pilot participants. Participants judged the consultations as realistic (M = 4.65 (possible range: 1–6)). Suggestions were used to make slight adaptations to the script, particularly to intensify the enhanced Competence manipulation.

Videos were recorded in a studio simulating a simple outpatient consultation room. The oncologist, wearing a white coat, sat behind a desk. The patient’s ‘Point of View (POV)’ was employed throughout all video versions, i.e., the camera was directed at the oncologist, and the patient was visible vaguely over the shoulder (see Figure 2). Two cameras were used: one with a ‘medium wide’ shot, the other with a ‘zoom’ shot. In the wide shot, the contours of the patient’s shoulder were visible in the left corner of the screen (see Figure 2A). The zoom shot showed only the oncologist’s head and neck in close-up (see Figure 2B). The oncologist gazed slightly left of the camera, directly at the patient.

Figure 2. Graphic display of the patient ‘Point of View’ (POV) angle used in the recording of the video vignettes

A: ‘Medium wide’ shot, with the contours of the patient’s shoulder visible in the left corner of the screen.

B: ‘Zoom’ shot, showing only the oncologist’s head and neck in close-up.