

COMMUNICATION ABOUT SIDE EFFECTS: THE ROLE OF A CLINICIAN'S
LANGUAGE USE

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Abstract

In this study, the effects of language use on self-reported cognitive problems of analogue breast cancer patients were researched. It was examined whether negations or affirmations differently influenced cognitive problem reporting and whether the level of the patient's health anxiety influences these effects. A total of 57 healthy female participants watched a video of an acted consultation in which a breast cancer patient was informed by her clinician about cognitive side effects of chemotherapy. Participants watched either a video in which a clinician used more affirmations (e.g. 'some patients have cognitive problems during and after chemotherapy') or a video in which a clinician used more negations (e.g. 'some patients do not always maintain good cognitive ability during or after chemotherapy'). The main dependent variables were cognitive complaint reporting, general complaint reporting and mood. Participants also had to report their level of health anxiety. The results indicated that language use did partially have an effect on cognitive complaint reporting. Participants reported more concentration problems after watching a video with affirmations. Language use did not have an effect on general complaints and mood of the participants. Also, the results indicated that health anxiety did not influence the effects of language use on cognitive complaints. Because none or negative effects (more concentration problems) were found on language use, this may not be the solution to solve the problem of cognitive complaint reporting by patients. But some limitations such as the small amount of variables that measured cognitive complaint reporting and the use of analogue patients instead of real breast cancer patients may have influenced the results in this study. For future studies it is important to investigate also other factors, such as affective communication, that might influence and reduce patients' cognitive complaint reporting.

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USE

Introduction

An increasing number of people get diagnosed with breast cancer during their lifetime. In The Netherlands one in eight women deal with breast cancer, cancer type number one in this country, during their life (Bijlsma, Van der Wall & Witkamp, 2014). Although more women survive this disease because of early diagnosis and effective treatment, side effects can occur because of treatments like chemotherapy (Bijlsma et al., 2014). When following chemotherapy, cognitive changes may occur with cancer patients (Schagen, Das & Vermeulen, 2011). The causes of these cognitive changes are unknown. Cognitive changes, changes in thinking, may include changes in memory, concentration and memory performance (Das & Jacobs, n.d.). Much research is already done on the biological side of cognitive changes that occur after chemotherapy, but less is known about psychological variables (Schagen et al., 2011). Earlier research has pointed out that if someone is aware of potential side effects, this can increase the occurrence of side effects (Colloco & Miller, 2011; Schagen et al., 2011); a phenomenon also known as the nocebo effect. Schagen, Das & Van Dam (2009) found that when breast cancer patients are aware of the possibility of chemotherapy-associated cognitive complaints, this directly increases the reporting of these complaints. However, it has not been investigated frequently if the way in which a patient is made aware of the possibility of cognitive problems following chemotherapy has an effect on the occurrence of these cognitive problems.

Nocebo effect

Increased cognitive side effects after being informed about these side effects can be explained by the nocebo effect. Less research has been conducted on the nocebo effect than the placebo effect. The effects of medical treatment are called placebo if they are contributory, but nocebo when they are harmful. Nocebo effects are thus all new or worse symptoms that occur during the treatment (Häuser et al., 2012). Colloco and Miller (2011) describe the nocebo effect as the adverse effect produced by expectations. The nocebo effect can cause adverse health-related consequences. Unlike the placebo-controlled trials, the nocebo effect does not only occur as a negative response to vacuous intervention. The effects can also be produced in clinical

practice by negative expectations relating to disclosures of possible side effects from prescribed treatments (Colloco & Miller, 2011).

Communication and interactions between clinicians and patients have a great effect on the patients' medical condition, and can be the cause of nocebo effects (Verheul, Sanders & Bensing, 2010). On the one hand, clinicians are obliged to inform the patient truthfully and completely about the patients' treatment and its side effects. But on the other hand it is also the clinician's obligation to minimize the risk of a medical intervention for the patient. The way how the patient is made aware of the treatment and its side effects can induce nocebo responses. It is thus of great importance to find a way to inform patients about side effects without increasing these side effects.

Häuser et al. (2012) suggested three strategies in their article to reduce nocebo responses after the patient briefing. The first strategy mentioned was 'focus on tolerability'. This is a strategy to reduce adverse events when the information about the frequency of possible adverse events is formulated positively. Another strategy, 'permitted non-information', includes asking the patient whether he or she agrees to receive no information about possible side effects of the treatment. In this strategy the patient can choose to receive or not receive information about the side effects at all, or the patient can choose to receive information about specific categories of side effects. The last strategy to reduce the nocebo responses after patient briefing is 'patient education'. When this strategy is used, the patient is made aware of the occurrence of the nocebo effect when briefing them about possible side effects (Häuser et al., 2012). These three strategies are also mentioned in the research of Colloca and Miller (2011), but in this article two more strategies were added to the list. Promoting doctor-patient interactions and effective management of symptoms are the other two strategies to reduce the nocebo effect (Colloco & miller, 2011). The first strategy includes the verbal and non-verbal communication between clinician and patient. It is discussed that medical interventions should be accompanied by a reassuring, empathetic and supportive communication. The other strategy, effective management of symptoms, is more focused on the careful attention and effective management of pain during the radical painful procedure. The potential for long-lasting adverse effects of painful experience should be prevented by the effective management of symptoms (Colloca & Miller, 2011). Next to these strategies, an affective communication style may be important in minimizing nocebo effects.

Affective communication

The communication between clinician and patient has an influence on the medical condition of the patient (Verheul et al., 2010). The clinician-patient communication must comply with several criteria in order to be successful. One of these criteria is the double need of the patient (Engel, 1988): the patient has to know and understand and has to feel known and understood. Furthermore, the emotional need is an important criterion. To fulfill this need, affective communication is important. Affective communication (which includes for example eye-contact, empathy and listening to the patient) creates a good therapeutic relationship between clinician and patient. It is also important to create a confidential relationship and it has an effect on reducing negative effects such as anxiety. A patient can feel more emotionally supported through affective communication (Verheul et al. 2010). The clinicians' communication behaviors can have an influence on patient satisfaction, patient compliance/adherence to treatment, patient recall and understanding of information, patient health outcomes/psychiatric morbidity (Ong, De Haes, Hoos & Lammes, 1995).

Some research has already been done on how the communication between a clinician and the patient can have an effect on the functioning of the patient. Affective clinician communication decreased physiological arousal and improved recall of provided information, compared to standard communication (Sep, Van Osch, Van Vliet, Smets & Bensing, 2014). Verheul et al. (2010) found out that the combination of a warm and empathic communication style and raising positive expectations induces less anxiety and more positive expectations of the patients. The combination of these two is very important. A clinician can have an empathic communication style, but when he communicates in a cold manner, patients' anxiety will not decrease and patients' expectations will be less positive (Verheul et al., 2010).

In a research of Ong, Visser, Lammes and De Haes (1999) a lot of different aspects on clinician-patient communication were researched. It was found that patients were more satisfied when the clinician gave more information and when the clinician showed more socio-emotional behavior and had an affective tone.

Negation and affirmation

Not only empathy and the way a clinician communicates to the patient have an effect on the patient, but also the words which the clinician uses can have an effect on the patients'

responses. Clinicians use negations more frequent than affirmations in bad news conversations, probably to soften the impact of the diagnoses (Fraenkel & Schul, 2008).

Burgers, Beukeboom and Sparks (2012) discussed the effects of negations and message framing on patients' responses to the message and the clinician. They found that if a clinician uses negations in bad news conversations in positively framed messages, it had negative effects on the patients' evaluation of the message, the doctor, expected quality of life and medical adherence intentions. If a clinician used for example 'not bad' in a sentence, this had a negative effect on the patient. This was probably due to the fact that using these words implies that the clinician may actually have an opposite negative expectancy (Burgers et al., 2012). However, negations in some cases have positive effects in negatively framed messages (e.g. 'not good'), probably because this makes the message more direct and clear (Burgers et al., 2012).

A research of Das and Jacobs (n.d.) investigated the use of negations and affirmation when informing breast cancer patients about cognitive side effects of chemotherapy. They found that using negations of cognitive performance ('no good memory performance') rather than affirmations of cognitive problems ('memory problems') in messages about side effects of chemotherapy increased recognition scores on a verbal learning test. It was found that this was only the case among women low on stereotype vulnerability. The use of negations might thus be an effective way to diminish adverse information effects, but more research is needed.

Riskfactors

Some people will be more at risk for nocebo effects than others. Certain psychological characteristics such as anxiety, depression and the tendency to somatize are factors associated with the nocebo effect (Barsky, Saintfort, Rogers & Borus, 2002). Incorrect information and misunderstandings for example may increase anxiety, suspicions and a sense of vulnerability. It was noted that side effects reported by anxious patients are often the somatic side effects of the anxiety itself (Barsky et al., 2002). Therefore it can be interesting to research if a clinician's language use has a bigger effect on the cognitive problems of people with a high level of health anxiety than on people with a low level of health anxiety. This is important to investigate because this may provide more information about whether or how to tailor information to characteristics of the individual patient.

Research question and hypotheses

As seen in earlier research, the words a clinician chooses in a conversation with a patient can have an influence on the patients' evaluation of the message and the doctor and recognition scores on a memory test. In the research from Das and Jacobs (n.d.) the effects of language use on patients' cognitive performances was already investigated through texts. It is unknown if the same effects will be found if participants see a conversation between a clinician and patient instead of reading a text. In the current study, it will be investigated if language use also has an effect on analogue patients watching a video of conversations between a clinician and patient. Research has shown that analogue patients can replace clinical patients in studies on communication because analogue patients' evaluations of communication are equal to clinical patients' evaluations (Vliet, Van der Wall, Albada, Spreeuwenberg, Verheul & Bensing, 2012). Therefore, in this study healthy participants will watch a conversation between two people acting as a clinician and a patient. The participants will be asked to empathize with the patient in the video.

The research questions will be the following:

RQ 1: What are the effects of language use on cognitive complaints of analogue breast cancer patients?

RQ 2: Does the level of the patient's health anxiety influence these effects?

With regards to the results of previous studies, the following hypotheses can be drawn:

H 1: Participants will indicate more cognitive problems when the clinician uses more affirmations ('memory problems') instead of negations ('no optimal memory performance')

H 2: Especially participants with a higher level of health anxiety will be more vulnerable for the clinicians' use of affirmations. So, especially patients high in health anxiety will indicate more cognitive problems when the clinician uses affirmations instead of negations. This effect will be less prominent in patients with a lower level of health anxiety.

Method

Materials

In this research, two versions of an online questionnaire were distributed randomly over 57 female participants. In both questionnaires a video of a conversation between a female clinician and a female breast cancer patient was shown. In both videos, a medicine student acted as the clinician and a Faculty of Arts' employee of the Radboud University Nijmegen acted as the patient. In the video the clinician gave information to the patient about cognitive side effects after chemotherapy. The first version of the online questionnaire was conducted by 27 participants and contained the video in which the clinician used more affirmations ('some patients have cognitive problems during and after chemotherapy') during the conversation with the breast cancer patient. The second version of the online questionnaire was conducted by 30 participants and contained a video in which the clinician used more negations ('some patients do not always maintain good cognitive ability during or after chemotherapy') during the conversation with the breast cancer patient. The conversations are based on texts used in the studies of Burgers et al. (2012) and Das & Jacobs (n.d.). See appendix A and B for the scripts.

Participants

A total of 57 female participants filled out the questionnaire (age: $M = 38.88$, $SD = 15.86$; range 19 – 64). The majority of the participants (64.9%) had prior knowledge of cognitive changes after chemotherapy. The education level of the participants varied from university education (42.1%), higher education (33.3%), intermediate vocational education (15.8%), higher general education (3.5%) to intermediate general education (5.3%).

Among the participants 37 women were employed, 17 women were unemployed and the remaining three women were temporarily unemployed.

Most participants that filled out the questionnaire were married (57.9%) or single (26.3%). Furthermore, 10.5% of the participants had a relationship but did not live together with their partner, 3.5% of the participants were widows (single) and 1.8% of the participants were divorced (single).

A Chi-square test showed no significant relation between version and age ($\chi^2 (27) = 27.42$, $p = .441$), between version and level of education ($\chi^2 (4) = 0.34$, $p = .987$), between version and employment ($\chi^2 (2) = 0.26$, $p = .877$) and between version and marital status ($\chi^2 (4) = 5.86$, $p =$

.210). Thus, age, level of education, employment and marital status were equally distributed over the two versions.

Research design

The hypotheses of this study were tested in an experiment with a between subject design with two levels (affirmations vs. negations). Health anxiety (low/high) was examined as a moderator and the dependent variable was cognitive complaints. Demographic variables age, education level, employment and marital status were measured as well. Additional measures in this study were prior knowledge of cognitive problems after chemo-therapy, general complaints, mood, relationship between the clinician and the patient, authenticity of the conversation and identification with the patient. Cognitive complaints, general complaints and mood were measured with a pre- and posttest.

Instrumentation

The dependent variable in this study was level of cognitive complaints. This was measured with two of ten different items of the Physical Complaints Questionnaire (“Lichamelijke Klachten Vragenlijst”) (Van Hemert, 2003) (forgetfulness or memory problems and concentration problems). The items were anchored by a five-point Likert scale (Not at all – Absolutely) in which higher scores represented higher cognitive complaints. No significant correlation was found between the question measuring forgetfulness or memory problems before watching the video and the question measuring concentration problems before watching the video ($r(57) = .197, p = .142$). A significant correlation was found between the question measuring forgetfulness or memory problems after watching the video and the question measuring concentration problems after watching the video ($r(57) = .333, p = .011$).

Health anxiety, the moderator in this study, was measured with fourteen different items of the Whitely Index (Pilowsky, 1967) (e.g. ‘Do you often worry about the possibility of having a serious disease?’) The items were anchored by a five-point Likert scale (Not at all - Absolutely). The higher the score, the higher was the health anxiety. The reliability of ‘health anxiety’ comprising fourteen items was good: $\alpha = .82$.

General complaints and mood were included as additional measures. To measure ‘general complaints’ eight of ten different items of the Physical Complaints Questionnaire (“Lichamelijke

Klachten Vragenlijst”) (Van Hemert, 2003) were used (general fatigue or lethargy, dizziness or lightheadedness, insomnia, muscle pain or sore muscles, nausea, bellyache, headache, pain in the arms or legs). The items were anchored by a five-point Likert scale (Not at all – Absolutely) in which higher scores represented higher complaints. The reliability of the pre-test of ‘general complaints’ was good: $\alpha = .71$. The reliability of the posttest of ‘general complaints’ was also good: $\alpha = .73$.

Mood was measured with six different items of the PANAS questionnaire (Watson, Clark & Tellegen, 1988) (good, tense, strong, cheerful, dreary and offended). These items were anchored by a five-point Likert scale (Not at all - Absolutely). After recoding, higher scores represented a better mood. The reliability of the pre-test of ‘mood’ was good: $\alpha = .81$. The reliability of the posttest of ‘mood’ was also good: $\alpha = .83$.

As additional measures the variables ‘relationship between clinician and patient’, ‘authenticity of the conversation’ and ‘identification with the patient’ were measured in this study.

The relationship between the clinician and the patient was measured with three different items anchored by a five-point Likert scale (Totally disagree – Totally agree). Higher scores represented a better relationship. The reliability of ‘relationship between clinician and patient’ was good: $\alpha = .86$.

The authenticity of the conversation was measured with three different items anchored by a five-point Likert scale (Totally disagree – Totally agree). Higher scores represented a more authentic conversation. The reliability of the ‘authenticity of the conversation’ was good: $\alpha = .83$.

To measure identification with the patient, four different items anchored by a five-point Likert scale (Totally disagree – Totally agree) were used. Higher scores represented a better identification. The reliability of the ‘identification with the patient’ was good: $\alpha = .71$.

Furthermore, several demographic variables such as age, education level, employment, and marital status were measured.

Procedure

In the period of the 14th of April 2015 until the 27th of April 2015 participants were recruited to take part in the experiment. A link of the questionnaire was posted on Facebook and sent via e-mail. All participants conducted the experiment individually. The online

questionnaire, which was made using Qualtrics, started with a short introduction after which the participants had to fill in some questions regarding their mood, general complaints, cognitive complaints and their prior knowledge about cognitive changes after chemotherapy. These questions were followed by the video of the clinician and the breast cancer patient. Participants were randomly assigned to one of the two videos. After seeing the video, the participants had to fill in some questions about their mood, general complaints, cognitive complaints, the relation between clinician and patient, the authenticity of the conversation, their identification with the patient and health anxiety. At the end of the questionnaire, a number of questions were asked regarding the background of the participant. Participants were briefed and thanked after conducting the questionnaire.

Statistical analysis

Statistical analyses were done using SPSS Statistics 21. The reliability was measured by measuring the items' Cronbach's Alpha. Moderation was measured through paired and independent T-tests and a two-way Anova was performed.

Results

Cognitive complaint reporting differences between affirmations and negations

A paired-samples t-test showed a significant difference between the reported concentration problems before watching the video with affirmations and the reported concentration problems after watching the video with affirmations ($t(26) = 2.73, p = .011$). Participants were shown to report more concentration problems after watching the video with affirmations ($M = 1.93, SD = .83$) than before watching the video with affirmations ($M = 1.70, SD = .78$).

A paired-samples t-test showed no significant difference between the reported concentration problems before watching the video with negations and the reported concentration problems after watching the video with negations ($t(29) = .239, p = .813$).

A paired-samples t-test showed no significant difference between the reported forgetfulness or memory problems before watching the video with affirmations and the reported forgetfulness or memory problems after watching the video with affirmations ($t(26) = 1.28, p = .212$).

A paired-samples t-test also showed no significant difference between the reported forgetfulness or memory problems before watching the video with negations and the reported forgetfulness or memory problems after watching the video with negations ($t(29) = .254, p = .801$).

Cognitive complaint reporting before and after seeing the video

An independent samples t-test showed no significant difference between the reported forgetfulness or memory problems of the two groups of people before they watched one of the video's of the conversation between the clinician and patient ($t(50.55) = .822, p = .415$).

An independent samples t-test showed no significant difference between the reported concentration problems of the two groups of people before they watched one of the video's ($t(55) = .614, p = .542$).

An independent-samples t-test also showed no significant difference between the reported forgetfulness or memory problems of people after they watched one of the video's ($t(55) = .110, p = .913$).

An independent-samples t-test showed no significant difference between the reported concentration problems of the two groups of people after they watched one of the video's ($t(55) = .390, p = .698$).

Health anxiety

A two way analysis of variance with health anxiety and version of video as factors showed no significant main effect of health anxiety on reported forgetfulness or memory problems after watching the video ($F(1, 53) < 1, p = .910$). Version of video was also found not to have a significant main effect on reported forgetfulness or memory problems after watching the video ($F(1, 53) < 1, p = .088$). The interaction effect between health anxiety and version of video was also not statistically significant ($F(1, 53) = 4.03, p = .050$).

A two way analysis of variance with health anxiety and version of video as factors showed no significant main effect of health anxiety on reported concentration problems after watching the video ($F(1, 53) = 2.83, p = .099$). Version of video was also found not to have a significant main effect on reported concentration problems after watching the video ($F(1, 53) <$

1, $p = .344$). The interaction effect between health anxiety and version of video was not statistically significant ($F(1, 53) < 1, p = .752$).

An independent-samples t-test showed a significant difference between health anxiety of people that listened to the clinician who used more affirmations and people who listened to the clinician who used more negations ($t(46.28) = 2.61, p = .012$). As can be seen in Table 1, people that saw the video with negations ($M = 2.25, SD = .64$) were shown to have more health anxiety than people that saw the video with affirmations ($M = 1.90, SD = .36$).

Table 1

Mean scores and standard deviations of health anxiety in function of version of video (n = 92) (1 = low; 5 = high)

Version of video	Health anxiety		
	<i>M</i>	<i>SD</i>	<i>n</i>
Video 1 (affirmations)	1.90	.36	27
Video 2 (negations)	2.25	.64	30

Additional measures

Mood and general complaint reporting

An independent samples t-test showed no significant difference between mood of the two groups of people before they watched the video of the conversation between the clinician and patient ($t(55) = .14, p = .888$). An independent samples t-test showed no significant difference between mood of people after they watched the video ($t(55) = .313, p = .755$).

An independent samples t-test showed no significant difference between general complaints of the two groups of people before seeing the video with affirmations or the video

with negations ($t(55) = 1.12, p = .267$). The same test also showed no significant relation between general complaints of the two groups of people after they watched the video with affirmations or the video with negations ($t(55) = 2.01, p = .050$).

Relationship between clinician and patient

The majority of the participants thought there was a good relationship between the clinician and the patient ($M = 3.37, SD = .69$). An independent samples t-test showed no significant difference between the two different groups of people and how they thought about the relationship between the clinician and patient ($t(55) = .743, p = .460$).

Authenticity of the conversation

The majority of the participants believed the conversation between the clinician and the patient was authentic ($M = 3.14, SD = .89$). An independent samples t-test showed no significant difference between the two different groups of people and their believe of authenticity of the conversation they watched ($t(55) = .134, p = .894$).

Identification with the patient

The majority of the participants could identify themselves with the patient in the video ($M = 2.74, SD = .71$). An independent samples t-test showed no significant difference between the two different groups of people and their identification with the patient ($t(50.938) = .322, p = .749$).

Discussion and conclusion

The research questions investigated the effects of language use on cognitive complaints of breast cancer patients. Also, it was investigated whether the level of the patient's health anxiety influences these effects.

Cognitive complaint reporting

A significant difference was found between the reported concentration problems before watching the video in which the clinician used more affirmations and the reported concentrations problems after watching the video in which the clinician used more affirmations. After watching

the video in which the clinician used more affirmations, participants reported more concentration problems than before watching the video. This is partially in line with the hypotheses that patients would report more cognitive problems when the clinician uses affirmations. The participants just reported more concentration problems, and no forgetfulness or memory problems, when the clinician used affirmations.

As can be seen in the results, no significant effects were found between the two groups of people and the reported cognitive complaints (forgetfulness or memory problems and concentration problems) before and after watching the conversation of the clinician and patient. Therefore, no effects were found between a clinician using more affirmations or negations and reporting cognitive complaints. These results concur with the results of Burgers et al. (2012) who found that the use of negations in positively framed messages has negative effects on the patients' evaluation of the message, the doctor, expected quality of life and medical adherence intentions. Das and Jacobs (n.d.) also found that the use of negations might be an effective way to diminish adverse information effects, which is again not in line with the current results. Following the results of this study, it can be concluded that a clinician's language use may not be the solution to solve patients' cognitive complaint reporting.

Health anxiety

A significant difference between the reported health anxiety and version of video was found. People that watched the video in which the clinician used more negations were shown to have a higher health anxiety than people that watched the video in which the clinician used more affirmations. Because the patients health anxiety was measured after they watched the video, the video may have been an influence on the patients level of health anxiety. If the video did influence the patient's level of health anxiety, it is important for clinicians to use affirmations instead of negations, which is in contrast with Fraenkel & Schul (2008) who mentioned in their study that more clinician's use negations instead of affirmations to soften the message for the patients.

Health anxiety was shown to have no significant effect on reported cognitive complaints of the participants. Therefore, patients' level of health anxiety did not influence their cognitive complaint reporting. This result seems inconsistent with the hypothesis that patients will indicate more cognitive problems when the clinician uses more affirmations instead of negations.

Additional measures

Mood and general complaint reporting

There were no differences in mood and general complaints of people that watched the video in which the clinician used more affirmations and people that watched the video in which the clinician used more negations. The result that language use did not have an effect on the patients' mood can be explained by the fact that the clinician in both videos was emphatic towards the patient.

Relationship, authenticity of conversation & identification patient

The majority of the participants, both the participants that watched the clinician who used more affirmations and the participants that watched the clinician who used more negations, thought there was a good relationship between the clinician and patient, believed the conversation between the clinician and patient was authentic and could identify themselves with the patient in the video. Therefore it can be concluded that these factors probably did not influence the patients' cognitive complaint reporting. But the outcome of the factor 'relationship between the clinician and patient' may be another reason why language use did not have an effect on the patient's mood.

Limitations and future research

A limitation of this study is that there were only two variables measuring the reported cognitive complaints of the participants. Two variables to measure cognitive complaints may have been too little since cognitive complaints is the most important variable in this study. Future studies should measure the reported cognitive complaints with more variables. Also, the questionnaire which the participants had to fill out was very long. The questionnaire included questions which were used for a number of different studies. Therefore, the participants may have filled out this questionnaire less attentively than when the questionnaire would have been shorter. Because the questionnaire was conducted online and individually by the participants, there was little control on who filled out the questionnaire. Another limitation in this study is that the amount of participants was possibly too small. The results of this study may therefore be not a good representation for a larger group of people.

Future studies could test the clinician's language use on the patient's cognitive complaint reporting with real breast cancer patients instead of analogue patients, for more reliable results. In the current study, only women were used as participants. In future studies it could be interesting to see whether men and women respond differently on the clinician's language use. As can be seen in the results of this study, the clinician's language use did just partially have an effect the patient's cognitive complaints. This can be due to the fact that the participants may not have recognized the differences in language use of the clinician (the use of affirmations or negations). Therefore in future studies affirmations and negations should be used probably less subtle in the scripts.

Thus, because no effects of the clinician's language use were found on reducing the participants' cognitive complaints, language use may not be the solution to solve the problem of cognitive complaint reporting by breast cancer patients. Therefore, it is important to investigate other factors, such as affective communication, that might influence and reduce patients' cognitive complaint reporting.

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Appendix A

Script video 1: affectief + / bevestigingen in een negatief frame ('problemen') +

Het gehele gesprek: affectief = oogcontact, vriendelijke toon, houding

A: Goedemiddag

P: Hallo

A. Gaat u zitten; ik ben dr. Van de Pol. Ik pak even mijn spullen erbij....U heeft mijn collega al eens eerder gesproken over de chemotherapie.

P: Ja, dat klopt, dat was dr. Jaspers.

A: Ja. En nu bent u dus hier om nog wat meer informatie te krijgen over de bijwerkingen van chemotherapie. Maar eerst ben ik benieuwd, hoe gaat het met u?

P: Het gaat op zich wel OK. Ja, ik weet niet zo goed wat ik verwachten moet. Dat kan ik niet zo goed inschatten. Maar ik heb de eerste kuur volgende week al, en ik begin het nu wel heel spannend te vinden moet ik zeggen.

A: Ja, hm m .

P: Maar verder gaat het goed nu hoor. Ik sport en ik ben nu ook nog aan het werk, maar ik weet niet of ik dat straks ook nog gewoon kan doen? Mijn baas denkt wel heel goed mee, dus dat is heel fijn. Ik mag nu komen werken als ik me goed voel en blijf thuis als het even minder gaat.

A: Dat is prettig inderdaad, dat is goed om te horen. Wat voor werk doet u?

P: Ik ben administratief medewerkster. Al tien jaar bij dezelfde baas. Ik heb het er erg naar mijn zin. Leuke collega's ook.

A: En u sport ook zegt u?

P: Ja, ik wandel veel en ik loop hard.

A: Prima. Dat lijkt me goed om zoveel mogelijk te blijven doen.

P: Ok.

A: Maar u wilde het met mij hebben over de chemotherapie, want u had nog een aantal vragen voor komende week. Waar kan ik u nu mee helpen?

P: Ik heb kort geleden gehoord dat ik volgende week al start met de eerste chemotherapie kuur en ik heb de informatiefolder doorgelezen. Ik had nog een vraag over de bijwerkingen. En

dan met name over één van de bijwerkingen van de chemotherapie. Ik las namelijk dat mensen na chemotherapie **geheugenproblemen kunnen krijgen.**

A: Ja, dat wordt inderdaad genoemd als één van de bijwerkingen in de folder.

P: Kunt u me daar iets meer over vertellen?

A: Ja, natuurlijk. **Voor veel kankerpatiënten is chemotherapie een belangrijk onderdeel van de behandeling. Chemotherapie kan verschillende bijwerkingen hebben. Eén van die bijwerkingen zijn cognitieve problemen. Dat wil zeggen: denkproblemen.** We weten uit ervaring dat sommige patiënten tijdens of na chemotherapie **cognitieve problemen hebben.** Uit onderzoek blijkt dat chemotherapie kan zorgen voor veranderingen in de hersenen. Deze veranderingen kunnen leiden tot **concentratie- en geheugenproblemen en een langzamere informatieverwerking.**

P: En cognitief wil dan zeggen: het denkvermogen?

A: Ja, het gaat om het onthouden, leren, concentreren, nadenken etc.

P: **Ok. Dus als ik het goed begrijp dan kun je tijdens en na chemotherapie last krijgen van vergeetachtigheid, concentratieproblemen en denkproblemen**

A: Ja, dat klopt.

P: En waar moet ik dan precies aan denken, kunt u misschien een voorbeeld geven?

A: **U moet dan denken aan het vergeten van afspraken of verjaardagen bijvoorbeeld. Of in de supermarkt vergeten wat u wilde kopen. Sommige mensen hebben bijvoorbeeld moeite met multitasken, dus meerdere dingen tegelijk doen.**

P: En hoe lang duurt dat dan meestal? Of gaat het weer over?

A: Soms zijn de bijwerkingen van korte duur, maar soms ook van langere duur. Dat is echt verschillend per persoon. Er wordt momenteel veel onderzoek gedaan naar de oorzaken en ook naar de risicofactoren. Dus waarschijnlijk wordt er de komende jaren wel steeds meer bekend op dit gebied.

P: Gelukkig. Dat is fijn om te horen. En wat kan ik zelf direct al doen als ik merk dat ik er **last van begin te krijgen?**

A: Rust nemen. Lichaamsbeweging is ook belangrijk. Verder is het belangrijk om zo ontspannen mogelijk aan de slag te gaan. Probeer omstandigheden zo gunstig mogelijk te maken, zoals een goede voorbereiding, orde (spullen op de zelfde plaats bewaren) en regelmaat. Zorg voor zo min mogelijk afleiding, zoals achtergrondmuziek.

P: Hm m.

A: Wat ook belangrijk is om mensen in uw omgeving erover te vertellen. Dat kan ook prettig zijn.

P: Ja precies, dat zij ervan weten ja.

A: Hm m. Ja, en er dus ook rekening mee kunnen houden.

P: Ja, inderdaad ja.

A: Is dit een antwoord op uw vraag? Of kan ik nog meer voor u betekenen?

P: Ja dank u wel, voor nu weet ik denk ik wel even voldoende. Ik vind het gewoon heel spannend allemaal. En voor nu zit er niets anders op dan gewoon maar afwachten dus. Ik weet gewoon niet goed wat ik kan verwachten...

A: Nee inderdaad, kan het me goed voorstellen. Die onzekerheid is inderdaad vervelend.

A: Maar als er iets is, of u merkt verandering, dan kunt u altijd bij ons terecht voor advies. Soms kan een neuropsychologische behandeling zinvol zijn. Hier in ons ziekenhuis werkt ook een neuropsycholoog en mocht u daar behoefte aan hebben dan kunnen wij u t.z.t. naar hem verwijzen.

P: Ah, fijn dank u wel. Ja, als dat dan nodig is dan zou ik dat wel willen. Maar goed zo ver is het natuurlijk nu nog niet. Maar fijn te weten dat die optie er is.

A: Ik wens u veel succes de komende tijd en als er iets is dan zullen we voor u klaarstaan en u helpen. Aarzel niet om te bellen hoor. Ik kan me goed voorstellen dat het een onzeker tijd is nu, dus waar we u kunnen ondersteunen zullen we dat natuurlijk doen. U staat er niet alleen voor.

P: Ok, dank u wel. Heel fijn. En dank nog voor de extra uitleg.

A: Prima hoor, graag gedaan. Dag, tot ziens.

P: Tot ziens.

Appendix B

Script video 2: affectief + / ontkenningen in een negatief frame +

Het gehele gesprek: affectief = oogcontact, vriendelijke toon, houding

A: Goedemiddag

P: Hallo

A. Gaat u zitten; ik ben dr. Van de Pol. Ik pak even mijn spullen erbij....U heeft mijn collega al eens eerder gesproken over de chemotherapie.

P: Ja, dat klopt, dat was dr. Jaspers.

A: Ja. En nu bent u dus hier om nog wat meer informatie te krijgen over de bijwerkingen van chemotherapie. Maar eerst ben ik benieuwd, hoe gaat het met u?

P: Het gaat op zich wel OK. Ja, ik weet niet zo goed wat ik verwachten moet. Dat kan ik niet zo goed inschatten. Maar ik heb de eerste kuur volgende week al, en ik begin het nu wel heel spannend te vinden moet ik zeggen.

A: Ja, hm m .

P: Maar verder gaat het goed nu hoor. Ik sport en ik ben nu ook nog aan het werk, maar ik weet niet of ik dat straks ook nog gewoon kan doen? Mijn baas denkt wel heel goed mee, dus dat is heel fijn. Ik mag nu komen werken als ik me goed voel en blijf thuis als het even minder gaat.

A: Dat is prettig inderdaad, dat is goed om te horen. Wat voor werk doet u?

P: Ik ben administratief medewerkster. Al tien jaar bij dezelfde baas. Ik heb het er erg naar mijn zin. Leuke collega's ook.

A: En u sport ook zegt u?

P: Ja, ik wandel veel en ik loop hard.

A: Prima. Dat lijkt me goed om zoveel mogelijk te blijven doen.

P: Ok.

A: Maar u wilde het met mij hebben over de chemotherapie, want u had nog een aantal vragen voor komende week. Waar kan ik u nu mee helpen?

P: Ik heb kort geleden gehoord dat ik volgende week al start met de eerste chemotherapie kuur en ik heb de informatiefolder doorgelezen. Ik had nog een vraag over de bijwerkingen. En

dan met name over één van de bijwerkingen van de chemotherapie. Ik las namelijk dat mensen na chemotherapie **niet altijd een goed geheugen behouden**.

A: Ja, dat wordt inderdaad genoemd als één van de bijwerkingen in de folder.

P: Kunt u me daar iets meer over vertellen?

A: Ja, natuurlijk. **Voor veel kankerpatiënten is chemotherapie een belangrijk onderdeel van de behandeling. Chemotherapie kan verschillende bijwerkingen hebben. Eén van die bijwerkingen is cognitieve verandering. Dat wil zeggen: verandering in denkvaardigheid). We weten uit ervaring dat sommige patiënten tijdens of na chemotherapie niet altijd een goed cognitief vermogen behouden. Uit onderzoek blijkt dat chemotherapie kan zorgen voor veranderingen in de hersenen. Deze veranderingen kunnen leiden tot veranderingen in de concentratie en het geheugen en in de snelheid van informatieverwerking.**

P: En cognitief wil dan zeggen: het denkvermogen?

A: Ja, het gaat om het onthouden, leren, concentreren, nadenken etc.

P: **Ok. Dus als ik het goed begrijp dan kun je tijdens en na de chemotherapie niet altijd meer goed onthouden, concentreren en denken.**

A: Ja, dat klopt.

P: En waar moet ik dan precies aan denken, kunt u misschien een voorbeeld geven?

A: **U moet dan denken aan het niet goed onthouden van afspraken of verjaardagen bijvoorbeeld. Of in de supermarkt het niet goed onthouden hebben wat u wilde kopen. Sommige mensen kunnen niet meer goed multitasken, dus meerdere dingen tegelijk doen.**

P: En hoe lang duurt dat dan meestal? Of gaat het weer over?

A: Soms zijn de bijwerkingen van korte duur, maar soms ook van langere duur. Dat is echt verschillend per persoon. Er wordt momenteel veel onderzoek gedaan naar de oorzaken en ook naar de risicofactoren. Dus waarschijnlijk wordt er de komende jaren wel steeds meer bekend op dit gebied.

P: Gelukkig. Dat is fijn om te horen. En wat kan ik zelf direct al doen als ik **verandering merk?**

A: Rust nemen. Lichaamsbeweging is ook belangrijk. Verder is het belangrijk om zo ontspannen mogelijk aan de slag te gaan. Probeer omstandigheden zo gunstig mogelijk te maken, zoals een goede voorbereiding, orde (spullen op de zelfde plaats bewaren) en regelmaat. Zorg voor zo min mogelijk afleiding, zoals achtergrondmuziek.

P: Hm m.

A: Wat ook belangrijk is om mensen in uw omgeving erover te vertellen. Dat kan ook prettig zijn.

P: Ja precies, dat zij ervan weten ja.

A: Hm m. Ja, en er dus ook rekening mee kunnen houden.

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A: **Is dit een antwoord op uw vraag? Of kan ik nog meer voor u betekenen?** P: Ja dank u wel, voor nu weet ik denk ik wel even voldoende. Ik vind het gewoon heel spannend allemaal. En voor nu zit er niets anders op dan gewoon maar afwachten dus. Ik weet gewoon niet goed wat ik kan verwachten...

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P: **Ok, dank u wel. Heel fijn. En dank nog voor de extra uitleg.**

A: **Prima hoor, graag gedaan. Dag, tot ziens.**

P: **Tot ziens.**