Persuasive communication in medical decision-making during consultations with patients with limited health literacy in hospital-based palliative care

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ABSTRACT

Objective: Both patients in the palliative phase of their disease and patients with limited health literacy (LHL) have an increased risk of being influenced by healthcare providers (HCPs) when making decisions. This study aims to explore to what extent persuasive communication occurs during shared decision-making (SDM) by (1) providing an overview of persuasive communication behaviours relevant for medical decision-making and (2) exemplifying these using real-life outpatient consultations.

Methods: An exploratory qualitative design was applied: (1) brief literature review; (2) analysis of verbatim extracts from outpatient consultations and stimulated recall sessions with HCPs; and (3) stakeholder meetings.

Results: 24 different persuasive communication behaviours were identified, which can be divided in seven categories: biased presentation of information, authoritative framing, probability framing, illusion of decisional control, normative framing, making assumptions and using emotions or feelings.

Conclusions: Persuasive communication is multi-faceted in outpatient consultations. Although undesirable, it may prove useful in specific situations making it necessary to study the phenomenon more in depth and deepen our understanding of its mechanisms and impact.

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Practice implications: Awareness among HCPs about the use of persuasive communication needs to be created through training and education. Also, HCPs need help in providing balanced information.

1 Introduction

Shared decision-making (SDM), defined as "an approach where clinicians and patients share the best available evidence when faced with the task of making decisions, and where patients are supported to consider options, to achieve informed preferences" (p.971) (1), is increasingly advocated as the preferred model for patient engagement in clinical practice. SDM is particularly relevant for patients in the palliative phase of their disease. Palliative decision-making is preference-sensitive; from a medical point of view, there is no obvious 'best' option (2-4). Decisions are seen as a "necessarily subjective trade-off between the benefits and side-effects of treatment alternatives" (p.56) (3). Hence, the driving force in the SDM process should be patients' preferences and goals (2-5).

Although SDM assumes that all patients possess knowledge and skills to actively participate in this process, this does not apply to patients with limited health literacy (LHL), who lack skills to obtain and understand information about health and healthcare as well as the ability to put this information into practice (6, 7). In the Netherlands, 28.8% of the population is considered to have LHL (8). However, among males, elderly and people with lower education or low economic status, the proportion of LHL is disproportionally high. Additionally, poor health and, consequently, higher demands for health services seem to be associated with LHL (6, 9).

LHL-patients and palliative patients are more likely to ask HCPs what they would do in their situation or even leave the decision entirely up to them (2, 5, 10, 11). While HCPs are allowed to make recommendations, they must provide a "balanced view of the options" and "must not put pressure on patients to accept … *their+ advice" (12). However, information provision is never neutral (13). Both LHL-patients and palliative patients are particularly vulnerable to being persuaded (14-16). Moreover, we assume that when combined, there is an even greater risk of being persuaded.

Persuasive communication (also called 'steering', 'framing' or 'nudging') is "a form of influence when one person intends to produce a change in the behaviour or opinions of another using words to convey information, feelings or reasoning or a combination thereof" (p.2) (17). People may be steered by what information is disclosed or withheld and by how information is framed. Patients may be persuaded when their HCP verbally recommends certain options; explicit persuasion. However, persuasion can also take more implicit forms, in which case "implicit" refers to "without intention" or "not on purpose", but also "not aware of" (3, 4, 17, 18). The way certain information is presented may suggest that their HCP favours a specific plan of action or knows the 'right' option (3, 4). This study uses a broad definition of persuasive communication combining explicit and implicit behaviours.

The potential influence of persuasive communication on medical decision-making during consultations has only been recognised recently (3, 18). To date, there is no extensive overview of persuasive communication behaviours relevant for medical decision-making. The few studies focusing on persuasive communication in medical decision-making tend to compare opposing frames. One exception is a study by Karnieli-Miller and Eisikovits (18), who identified eight implicitly persuasive behaviours, later supplemented by Engelhardt and colleagues (3). This study builds on these insights and encompasses all types of decisions discussed during consultations with LHLpatients in palliative care.

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This study aims to explore to what extent persuasive communication occurs during SDM by (1) providing an overview of persuasive communication behaviours relevant for medical decision-making and (2) exemplifying these by using observations of outpatient consultations between LHL-patients and their HCPs in hospital-based palliative care in the Netherlands.

2 Methods

2.1 Design
This study uses an exploratory design in which (1) a brief literature review; (2) qualitative analysis of verbatim extracts from outpatient consultations and stimulated recall sessions with HCPs; and (3) stakeholder meetings were conducted.

2.2 Participants
Data were collected in an ongoing study called 'Towards a better understanding' (19, 20) and focused on four Dutch hospitals, targeting HCPs and their patients. Patients included were ≥ 18 years old and in the palliative phase of COPD and/or cancer. Additionally, their educational level was at or lower than vocational level and/or they had LHL according to their affirmative answer to at least one of three screening questions: "Many people experience difficulties reading hospital leaflets. How about you?", "Many people find forms and filling them in difficult. How about you?" and "Do you need help filling in forms or reading leaflets?" (21).

Patients were selected using inclusion criteria and convenience sampling and were informed by phone a week before the planned visit to the hospital. The patients received information explaining the background, goals and procedures of collecting video-recordings, and contact details of the researchers. Patients that had expressed interest were approached by a researcher in the waiting room. After deciding to participate, inclusion criteria were checked again and informed consent forms were signed before entering the consulting room where an unmanned video-camera had been installed. Patients were only audible on the recording, HCPs were both visible and audible (for a more detailed description of the procedures, see (19, 20)). Each patient received a gift card for participation.

2.3 Data collection
A brief literature review was conducted by the first author to identify known persuasive communication behaviours. Only studies related to persuasive communication in healthcare settings, specifically focusing on patient-provider communication, were included. Moreover, the included studies needed to focus on how information is framed. No specific timeframe was used. Studies were found using database searching (Scopus, Medline and Google Scholar) and snowballing between February and May 2020. This aided in clarifying the concept of persuasive communication as well as gaining insight into the existing body of literature. A variety of search terms were used, for instance 'persuasion', 'framing', 'steering', 'limited health literacy', 'palliative care', 'end-of-life care'. Moreover, for each included study, references and citations were checked for additional studies. Only studies written in English were included, resulting in identification of 21 peer-reviewed articles.

Data collection of the video-recordings took place between April and October 2018. Forty consultations were video-recorded and 39 stimulated recall sessions were held, in which HCPs recalled the consultation and discussed their thoughts, meanings and reactions (22, 23). Relevant extracts from the consultations were transcribed verbatim and subsequently discussed. These extracts had previously been selected by Nivel researchers based on their focus on decision-making.

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The current study uses data from 28 consultations and 24 stimulated recall sessions (i.e. only those extracts concerning decision-making).

As a final step, in June 2020, stakeholders were invited to share their perspectives on the preliminary analysis during two online feedback workshops and one separate interview (see Table 1). Participants were shown transcribed extracts to analyse and interpret. Subsequently, the researcher's interpretation was presented and similarities and differences were debated.

[Tabel 1]

2.4 Data analysis
This study used a three-step analysis design executed by the first author.

Step 1. From the 21 peer-reviewed articles included in the review, the following items were extracted: background of participants, types of persuasive communication behaviours, goal of behaviour, communication type, methods and recommendations.

Step 2. Verbatim extracts from outpatient consultations were coded and analysed through content analysis using Atlas.ti (version 8). The behaviours identified during the review formed the basis for the coding scheme used during the first coding round. In a second round, new behaviours were added and the definitions of some existing behaviours were broadened or specified. A number of quotes from the extracts were chosen to substantiate these behaviours.

Step 3. In three stakeholder meetings the data from step 2 were analysed again. Two feedback workshops were audio-recorded to supplement the researcher's notes; for the interview, only notes were made. The stakeholders' views and perspectives were included in the final analysis. The total number of behaviours was reduced because some newly added behaviours were merged into one.

2.5 Reliability
The transcribed extracts of the consultations (n=28) were coded three times by the main coder. A random selection of four consultations (14% of total sample) were coded by a second coder to ensure reliability. All double-coded observations were discussed between the coders to confirm that the items were based on the same concepts. The observations matched in 75% of the cases, indicating good agreement.

These extracts were supplemented by stimulated recall sessions with HCPs reflecting on the extract concerned and on the extent to which the decision-making process was shared, as a confirmation of the researchers' interpretation. Moreover, the final analysis was enriched by the stakeholders' perspectives.

2.6 Ethical considerations
To protect the privacy of the participants their records were anonymised and all data that might reveal the participants' identities were deleted from the transcripts. The recordings are stored in a locked room at Nivel, only accessible to researchers.

The research proposal of the study was evaluated by the Medical Ethical committee of the Radboudumc (reference 2017-3623), which exempted the study from formal ethical approval.

3 Results

3.1 General results
In this section the results of the extracts from outpatient consultations are presented. The overall results, including the brief review and the stakeholder meetings, are presented in Table 2.

A total of 17 HCPs participated, ten men and seven women. The HCPs were physicians (n=11), residents (n=3) or nurses (n=3). An average of 1.6 consultations per HCP was recorded (range: 1-3).

28 patients participated: 14 men and 14 women. The average age was 69 years (range: 45-88). 24 had a lower level of education, two a medium level, one a higher level, one was unknown. One patient was included based on their HCP's opinion of their health literacy level. 13 patients were diagnosed with COPD; 15 with cancer.

In total, 28 consultations and 24 stimulated recall sessions with HCPs were analysed. One consultation was new, 19 were control visits (i.e. a check-up focusing on monitoring potential disease progression and symptoms) and eight were composites (i.e. a follow-up consultation with patients presenting new problems or symptoms). HCPs and patients discussed and made decisions concerning treatment, diagnostic tests, support at home, specialist referrals and type of care.

3.2 Overview of persuasive communication behaviours used by HCPs
The literature review yielded 20 types of persuasive communication behaviours. Based on the analysis of the extracts from outpatient consultations, the definitions of five behaviours were broadened or specified and eight new behaviours were added. During the stakeholder meetings, the number of newly added behaviours was reduced, since some behaviours overlapped and were therefore merged.

These three stages of analysis led to an overview of 24 different types of persuasive communication behaviours divided into seven mutually exclusive categories: 1) biased presentation of information, 2) authoritative framing, 3) probability framing, 4) illusion of decisional control, 5) normative framing, 6) making assumptions, and 7) using emotions or feelings. 15 out of 24 (63%) persuasive communication behaviours were observed at least once in the analysis of the extracts. These nine behaviours were not observed: emphasising the ability to control side-effects, using others as examples, analogy, framing probabilities as gain or loss, framing probabilities in absolute or relative terms, from mild to serious options and dramatising the evil. Persuasive communication behaviours were observed in every consultation totalling 85 times (averaging three per consultation).

Table 2 shows a complete overview of persuasive communication behaviours concerned with how information is framed. The subsequent paragraphs describe the most relevant behaviours by providing examples.

[Table 2]

3.3 Biased presentation of information
This category focuses on unequal presentation of information and/or using value judgments. It consists of five different behaviours described in literature (3, 4, 17, 18, 24-27). Patients' decisions may be influenced when the importance of treatment is continuously stressed, while concurrently downplaying the side-effects or vice versa (4, 17, 24). Similarly, persuasion may occur when

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emphasising the ability to control the side-effects of treatment (18). Another persuasive behaviour is minimising the treatment's impact (3), illustrated by this quote:

*"You are already used to the *morphine+ patches. Of course, the body gets used to a small amount of morphine. Therefore, I would give you *another+ small dosage of morphine." (Z1L08)*

The HCP implies that as the patient is already used to taking morphine, the impact of providing yet another type of morphine will be minor. Although these utterances could be seen as an attempt to alleviate anxiety or correct misconceptions, they may also lead to decreased awareness of the negative impact on the patient (3, 4).

3.4 Authoritative framing
In literature, two types of authoritative framing have been identified: presenting treatment decisions as an authorised 'we' decision or based on 'the guideline' (3, 18). While analysing, it became apparent that these words were also used in other scenarios. It was often unclear who was meant by 'we' – the HCP and patient or we HCPs/experts. For example:

"Let's see whether we can get you a little better, so that we can go home [with supportive care]. Or if we say, we do not really have any hope, well, then we should start considering a nursing home." (Z1L05)

Similarly, referring to 'the guideline' also occurred during information provision and weighing pros and cons. For instance, after a patient asked about certain treatment, the HCP responded by providing more information, stating the necessity of an additional scan. The HCP reflects on this by saying:

*"This is what needs to be done, if [the patient] doesn't want it, it's okay too, but then we don't [start the treatment+. *…+ The patient started talking about *the treatment option+ herself, I picked up on that and started working on it. But it is not the case that we will now decide together what that protocol looks like, no, that is already fixed." (Z1L12)*

Although statements involving 'we' or 'the guideline' seem factual, this phrasing adds significant weight to the recommendations, potentially impeding patient participation in SDM (4).

3.5 Illusion of decisional control
This category, consisting of five items, focuses on behaviours implying the patient made the decision instead of the HCP. One such behaviour, described in literature, is called 'illusion of choice' (18), in which the HCP makes the decision and the patient can merely decide to terminate the option. Steering also occurs when one option implicitly tags along with another, resulting in a 'package deal' (3).

One newly identified behaviour occurs when an option is presented as having no other choice:

*"Let's see what the advice of the team is, maybe they also say, well, with *the tumour+ growing, we do not have any other alternative." (Z1L03)*

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3.6 Normative framing

This category consists of two opposing behaviours: unusual to undergo or forego a certain option (3). Although described in literature, more abstract versions were observed during analysis, resulting in broader definitions. In the following extract an option is framed as unusual to undergo:

*"Watchful waiting is also a choice. We discussed this last time, we had that discussion. But it can still be a very good choice. Because *…+ we all know we will not live forever. It all sounds very confrontational, but it is true. And as you get older, you look fine, but you are 80+ nonetheless, slowly [getting] to 85 and 90. Not yet, but it will happen. *…+ It is completely normal and nobody wants that, but it does happen and it is just nature doing its thing. And that could also be a choice, that you say, I accept what nature does." (Z3L05)*

Here continuing treatment is presented as not accepting the natural course of life.

Foregoing interventions is framed as unusual by HCPs who assume that patients want to act and intervene instead of presenting watchful waiting as a viable option.

3.7 Making assumptions

Previous studies observed that by making assumptions about the patient's personality and what they can or cannot handle, HCPs steer patients (3, 18). During analysis, it was observed that assumptions were also made about whether a patient could handle a certain situation and about their needs, leading to three behaviours. Distinguishing between these behaviours was challenging because multiple behaviours were often displayed concurrently. During the stakeholder meetings, it was therefore decided to combine the three into one. Consider the following conversation between a HCP and the patient's partner:

*HCP: "You are the one who always does everything. You cannot continue doing everything all the time. *…+ You should also be able to get out of the house." (Z1L07)*

3.8 Using emotions or feelings

During the same consultation, another steering behaviour –known as 'fear appeal' (3, 18, 32)– was used, indicating that HCPs stress what could go wrong if the patient/partner does not comply to the recommendation:

*HCP: "More will be added *to your workload+."*
Partner: "If I can't handle it physically anymore, then…"
*HCP: "Then we have to make sure that by then, it is not too late. *…+ If you can't cope any longer, she will have to be hospitalised, do you understand?" (Z1L07)*

Decision-making may also be influenced by emotional appeals intended to evoke empathy, called empathy-induced framing (33):

*"You are the one who is in your body, you have to deal with it, right? In that respect, I think, all the more reason to consider some kind of rehabilitation programme *…+, because they also particularly focus on the psychological side *…+. There are a lot of people, *who are chronically ill+ who sometimes feel sad or anxious. That is not strange at all." (Z1L08)*

This extract exemplifies how words and emotions may lead to steering a patient towards a decision, in this case starting a rehabilitation programme.

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4 Discussion and conclusion

4.1 Discussion

A wide variety of persuasive communication behaviours were identified by combining literature, extracts and stakeholder meetings.

This study shows that seemingly minor utterances or word combinations are potentially confusing or may steer a patient. Although these could be seen as attempts to alleviate anxiety or correct misconceptions, they may lead to decreased awareness of the potential negative impact or create unrealistic expectations (3, 4).

Secondly, one should be aware of power asymmetries. Since HCPs have more medical knowledge and expertise than patients, their recommendations are greatly valued and taken very seriously. Particularly LHL-patients may hesitate to share apprehension or doubts regarding the proposed treatment because of these inherent differences (4, 5). Moreover, it is difficult to share doubts or reconsider a decision, once it has been made (4).

Thirdly, persuasive communication behaviours may create an atmosphere prescribing what is acceptable in certain situations, subsequently limiting patients in their options. HCPs make assumptions about whether patients want to intervene as well as patients' personalities and what they can handle, which could hinder openly discussing patient preferences.

An important distinction could be made between LHL as a trait and LHL as a state (34). LHL-patients are by default susceptible to persuasion when engaging in decision-making (i.e. trait LHL). However, health literacy also depends on context, meaning that patients from all health literacy levels are at risk of being temporarily debilitated when in vulnerable settings or situations, such as palliative care (i.e. state LHL). Patients with LHL and in palliative care could be confronted with both trait and state LHL, resulting in being extra vulnerable to persuasive communication.

Different types of communication behaviours have varying persuasive effects. However, little is known about these effects. The field would greatly benefit from research on assigning weights to different persuasive behaviours, since it would help HCPs with avoiding behaviours with the highest effects. Another option would be to assign expected weights to persuasive behaviours based on persuasion theory. The cognitive approach seems most relevant, since it is concerned with cognitive processes that inhibit or promote persuasion. When patients are able to understand and elaborate and concurrently are motivated to do so, they will carefully process and evaluate the message. However, although motivation may be high, the ability of LHL-patients and/or patients in the palliative phase may be low (35).

At first glance, avoiding persuasive communication while promoting patient-centered care may seem unattainable, since some behaviours described as persuasive, for example being empathetic or making recommendations, are in fact core components of patient-centered care, which is defined as "providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions (36). However, one does not necessarily exclude the other. The essence of patient-centered care should be inviting the patient to participate and tailoring the consultation to the patient's needs. HCPs who explore patients' wishes do not automatically nudge them in a certain direction (37). Using evidence or empathy may have varying effects on different patients and therefore it is essential to know what a patient needs to make a decision.

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To our knowledge, this is not only the first study which used a broad definition of persuasive communication, it also went beyond treatment decisions by incorporating all types of decisions discussed during consultations. Combining literature, extracts and stakeholder perspectives allowed for triangulation and led to an extensive overview of persuasive communication behaviours. The stakeholder meetings were a valuable addition to this study, since they provided new views and nuances. Participants are less biased and share their views and opinions, ultimately leading to verification of the researchers' analysis and thus increased reliability and validity.

Some limitations are worth mentioning. Firstly, as the aim of this study was to explore the variety of persuasive communication behaviours, these have not been validated. Nevertheless, the behaviours provided a relevant analysis and were coded reliably. This study can therefore be seen as a first step in providing a validated protocol for studying persuasive communication. Secondly, it is unknown whether patients were vulnerable to persuasive communication due to LHL, the palliative care context or a combination thereof. Thirdly, nine out of 24 identified persuasive communication behaviours were not observed in the extracts. None of the behaviours categorised as probability framing were observed. An explanation might be that in palliative care, focus shifts from probabilities to quality of life. Moreover, statistics may confuse LHL-patients (6). Both explanations underline the redundancy of probability framing for this population. Future research should study whether the unobserved behaviours are relevant in other healthcare settings. Fourthly, HCPs were aware that the study focused on communication with LHL-patients, potentially altering their behaviour. They were, however, unaware of the specific focus on persuasive communication. Fifthly, only transcribed extracts of the consultations were accessible, which meant that the first author had no influence on how the extracts had been selected and also made it difficult to assess to what extent potential biases had been minimised. However, the extracts were independently selected by two researchers and subsequently discussed. Lastly, observer bias may have occurred due to the first author's prior knowledge, meaning that when searching for persuasive communication, it will be found. This type of bias was minimised by having a second coder, who independently coded 14%, as well as organising stakeholder meetings, which were incorporated into the final analysis.

4.2 Conclusion

Persuasive communication can be observed in almost all consultations between LHL-patients and their HCPs in hospital-based palliative care in the Netherlands. However, we do not know whether HCPs use persuasive communication more in consultations with LHL-patients than in general. Although persuasive communication is in essence undesirable, there are situations in which persuasive communication can be of use. Before deciding which role persuasive communication plays in medical decision-making, it is necessary to study the phenomenon more in depth and deepen our understanding of its mechanisms and impact.

4.3 Practice implications

This study underlines that it is important that HCPs become aware of using persuasive communication. Awareness could be created by improving training and education for HCPs, for instance by incorporating a module on persuasive communication in existing courses about SDM. Also, HCPs should receive help in providing balanced and unbiased information, for example with basic pictures and decision aids. These materials should be accessible as well as easy to use and understand for patients of all health literacy levels (38).

Future research could focus on following patients throughout their care in order to study the impact of persuasive communication on their attitudes, intentions and actual behaviour concerning medical decision-making. More research is needed comparing health literate and LHL-patients and how they

are affected by persuasive communication. Moreover, research should concentrate on differentiating between trait and state LHL, e.g. for how long has a patient been in a state of LHL, what are potential consequences and how do these compare in patients with trait LHL? Research could also focus on those behaviours that are theoretically expected to have the highest weight. Lastly, validating this protocol for studying the use of persuasive communication in medical decision-making could result in a useful tool to systematically analyse persuasion in patient-provider consultations.

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Statement: "I confirm all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story."

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Tables and figures

Table 1: Overview of stakeholder meetings

	Feedback workshop 1	Feedback workshop 2	Interview 1*
Participants	1. Senior researcher specialised in communication in healthcare (author JN) 2. Nurse, senior researcher and lector specialised in quality of care and palliative care 3. Strategic project leader and advisor specialised in limited health literacy (author GB) 4. PhD candidate focusing on palliative care 5. Research intern focusing on SDM and patient-provider communication	1. General practitioner and senior researcher specialised in primary and community care 2. Senior researcher specialised in patient-provider communication, persuasion and SDM 3. Senior researcher and trainer specialised in palliative care	1. Language and literacy ambassador
Mode of communication (duration)	Online meeting (1 hour)	Online meeting (1 hour)	Phone call (45 minutes)

* The interview with the language and literacy ambassador, who is part of the project group, was conducted separately to allow for sufficient space to reflect and discuss. This was done because of differences in (health) literacy and subsequent power asymmetries.

Table 2: Overview of persuasive communication behaviours in medical decision-making

* These behaviours were added by the researcher based on the analysis of verbatim extracts from outpatient consultations and the stakeholder meetings.

** The definitions of these behaviours (previously found in literature) were broadened based on the analysis and the stakeholder meetings.

Category	Persuasive communication behaviour	Definition	Examples	n = 85 (# observed in extracts)
1 Biased presentation of information	Emphasising side-effects, downplaying benefits, or vice versa (3, 4, 17, 18, 24)	The magnitude of the benefits of a certain option are emphasised and the side-effects are minimised or not mentioned at all, or vice versa.	"The probability of developing a recurrence without treatment is quite substantial. You may experience side-effects, but most patients get through treatment without too many problems." (4)	2
	Minimising the option's impact (3)	The impact of the option is downplayed.	"It's just a pill." (3) "Your body is already used to morphine, so I could give you another small dosage" (Z1L08)	2
	Emphasising the ability to control side-effects (3, 18)	The HCP emphasises that he/she and/or the patient is able to control and oversee the side-effects of an option.	"We can fight some of that nausea with another medication." (3)	0
	Using others as examples (3, 18)	Other patients' frightening or hopeful stories are used as examples to convince patients to choose the	"In my experience most patients get through the chemotherapy quite well	0

		course of action favoured by the HCP.	nowadays." (3)	
	Analogy (17, 25-27)	Analogies are often used when describing a proposed course of treatment and its potential effects. Analogies could be used as a strong persuasive tool in medical decision-making.	"Chances of this operation succeeding are like winning the lottery. But who knows, maybe it's your lucky day." (17)	0
2 Authoritative framing	Giving recommendation*	The HCP gives a recommendation or comes up with a proposal stating what the best option for the patient is according to the HCP. The recommendation may be solely based on the HCP's own (medical) perspective or it could be a combination of both the HCP's and the patient's perspectives.	"My proposal is to continue the chemotherapy." (Z3O04)	16
	Advice from team*	Before coming up with a recommendation, the HCP wants to receive advice from 'the team' or other professionals.	"I would first like to discuss it with the team and see what they say." (Z1L03)	4
	'We' framing** (3, 18)	1 The HCP presents the option as an authorised decision based on consensus amongst experts, 'We are in favour of...' (3, 18). 2 Using 'we' during the provision of information and options. Often it is unclear who is meant with 'we': the patient and the HCP or we as experts.	"We want to go for an option which also fights the malignant tumour and that is radiation." (Z2R06)	22
	Based on guideline** (3, 18)	1 The HCP presents the option as an authorised decision based on guideline recommendations for patients with his/her personal and/or disease characteristics (3, 18). 2 Before an option can be started or continued, it is seemingly mandatory that the patient also needs to undergo another option according to the guideline.	"Before we continue with the next round of chemotherapy, we first have to make an additional scan." (Z1L12)	3
3 Probability framing	Framing probabilities as gain (17, 24, 28)	Probabilities of outcomes are framed positively.	"85 out of 100 patients live an extra two years after this procedure." (28)	0
	Framing probabilities as loss (17, 24, 28)	Probabilities of outcomes are framed negatively.	"1 in 10 patients die within six months after undergoing surgery." (28)	0
	Framing probabilities in absolute terms (29-31)	Probabilities of outcomes are framed as fractions/in absolute terms. People tend to focus on those who die rather than the majority who do not, resulting in overestimation of risk.	"Seven out of 100 patients die from this procedure." (29)	0
	Framing probabilities in relative terms (29-31)	Probabilities of outcomes are framed as percentages/in relative terms. Small percentages (up to 10%), which are in line with many of the risks of serious complications or death, are frequently ignored, leading to underestimation of small risks.	"In 15% of the cases, this procedure is successful." (29)	0
4 Illusion of decisional control	Illusory power to decide (3, 18)	The HCP makes the main decision, but the patient is told that he/she could always decide to terminate the option if the side-effects become too much to bear. Hence, the actual decision to start an option or not is made by the HCP. By leaving the decision on whether or not to terminate the option in the patients' hands, the illusion is created that the	"Let's just get you started on this medication, you can always quit." (Z4A05)	6

		initial decision was shared or even patient-driven.		
	Package deal, having one option implicitly tag along with another (3)	The combination of options is presented as a 'package deal'. The focus is on one option during the consultation and it is implicitly assumed that by agreeing to start that option, the patient is agreeing to undergo the whole package, although the second option was not discussed.	"If your body tolerates this medication, we can start with chemotherapy." (Z3O02)	3
	Asking permission/consent after decision has been made*	The HCP states what the plan of action is going to be, thus already makes a decision and only afterwards asks the patient's permission/consent.	"I'm going to substitute this medication with another one. Is that OK?" (Z1L05)	3
	Presenting an option as having no other choice*	The HCP describes the option as having no other choice, there is no decision to be made.	"If the tumour continues to grow, we really do not have any another option, do we?" (Z1L03)	3
	From mild to serious options (3, 18)	The HCP presents various options in such a way that the proposed course of action seems to be the least aggressive or invasive and consequently more appealing.	"Given that you are older, we would not go for the toughest regimen, the six courses. We would give you four courses [of chemotherapy] instead." (3)	0
5 Normative framing	Unusual to forego an option** (3)	1 The HCP emphasises that it is very unusual for patients like yourself to forego a certain option (3). 2 The HCP assumes that the patient wants to act and intervene, without considering that doing nothing is also an option. It is expected that because a patient came to the HCP, the patient wants to act, making it very unusual to forego (biomedical) procedures.	"It's unheard for patients with these disease characteristics to forego treatment." (3)	8
	Unusual to undergo an option** (3)	1 The HCP emphasises that it is very unusual for patients like yourself to undergo a certain option (3). 2 More abstract: the HCP emphasises that whatever condition the patient is in, is very normal and natural and essentially part of life. Therefore, an intervention is not necessary.	"Everyone grows older, it is very normal to become ill at your age." (Z3L05)	4
6 Making assumptions	Making assumptions about the patient** (3, 18)	1 The HCP makes assumptions about what the patient can or cannot handle, their ability to persevere and priorities in life, to steer them towards undergoing or foregoing an option (3, 18). 2 Assumptions can also be made about whether a patient can handle a certain situation (or not) and about what a patient needs, in order to steer them towards undergoing or foregoing an option.	"You also have to be able to go outside." (Z1L07) "It's important to also be husband and wife, and not just caregiver and patient." (Z1L07)	5
7 Using emotions or feelings	Dramatising the evil (3, 18)	The seriousness of the disease and its negative implications are emphasised, before presenting the options.	"We will fight this enemy until we become victorious." (3)	0
	Fear appeal (3, 18, 32)	The HCP stresses what could go wrong if the patient does not comply with the recommended course of action, i.e., foregoes treatment against medical advice or does not take the treatment in the dosage and intervals prescribed.	"If you can't cope any longer, she will have to be hospitalised." (Z1L07)	3
	Empathy-induced framing	This involves emotional appeals	"It is perfectly normal to	1

(33)	intended to evoke empathy and influence decision-making. It includes being able to take the patient's perspective, empathic understanding of their context and appeals of concern for the patient.	occasionally feel anxious or depressed. That is why it may be a good idea to start a rehabilitation programme." (Z1L08)