Determinants of treatment decisions of patients with pancreatic cancer in shared decision-making: A qualitative study

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Rationale and aims Shared decision-making is an approach whereby clinicians and patients make decisions together using the best available evidence. The most common cancers studied in relation to shared decision-making are breast and prostate. However, little is known about shared decision-making in patients with pancreatic cancer. We aimed to identify the determinants that influence pancreatic cancer patients in making treatment decisions during shared decision-making. Methods This qualitative study was carried out at a pancreatic outpatient clinic in an University Medical Center in the Netherlands. We reviewed the literature, observed patients in their option and decision talks, and interviewed healthcare professionals and patients. We used directed content analysis for the literature review, interview and observational data. To categorise the data, we used Bandura’s Social Cognitive theory. Results Related to Bandura’s categories, we identified six subcategories: information provided by healthcare professionals, the patient’s participation role, emotions due to the diagnosis, the relationship between the healthcare professional and the patient, patient characteristics and social support. The important determinants that influenced patients’ treatment decisions were a poor recall of information due to the emotions associated with diagnosis (e.g., completely shaken, fear) and the patient’s participation role preference (mostly collaborative). Most patients preferred to discuss their treatment options and the potential consequences for their daily life with healthcare professionals. In addition, the determinants ‘a well-informed patient’, ‘a trusting relationship between the healthcare professional and the patient’ and ‘time out’ were preconditions for enabling patients to take part in shared decision-making. Patient characteristics and social support had less of an influence on patient’s treatment decisions. Conclusions Better information recall, a trusting relationship with healthcare professionals, and a time out period for the consideration of treatment options are important determinants that influence patients in their treatment decisions and their preferred participation role during shared decision-making.

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Abstract

**Rationale and aims**

Shared decision-making is an approach whereby clinicians and patients make decisions together using the best available evidence. The most common cancers studied in relation to shared decision-making are breast and prostate. However, little is known about shared decision-making in patients with pancreatic cancer. We aimed to identify the determinants that influence pancreatic cancer patients in making treatment decisions during shared decision-making.

**Methods**

This qualitative study was carried out at a pancreatic outpatient clinic in an University Medical Center in the Netherlands. We reviewed the literature, observed patients in their option and decision talks, and interviewed healthcare professionals and patients. We used directed content analysis for the literature review, interview and observational data. To categorise the data, we used Bandura’s Social Cognitive theory.

**Results**

Related to Bandura’s categories, we identified six subcategories: information provided by healthcare professionals, the patient’s participation role, emotions due to the diagnosis, the relationship between the healthcare professional and the patient, patient characteristics and social support. The important determinants that influenced patients’ treatment decisions were a poor recall of information due to the emotions associated with diagnosis (e.g., completely shaken, fear) and the patient’s participation role preference (mostly collaborative). Most patients preferred to discuss their treatment options and the potential consequences for their daily life with healthcare professionals. In addition, the determinants ‘a well-informed patient’, ‘a trusting relationship between the healthcare professional and the patient’ and ‘time out’ were preconditions for enabling patients to take part in shared decision-making. Patient characteristics and social support had less of an influence on patient’s treatment decisions.

**Conclusions**

Better information recall, a trusting relationship with healthcare professionals, and a time out period for the consideration of treatment options are important determinants that influence patients in their treatment decisions and their preferred participation role during shared decision-making.

**Keywords** : Shared decision-making, determinants, option talk, decision talk, pancreatic neoplasm

Introduction

Patients with pancreatic cancer need to make difficult decisions about intensive medical treatment weighed against their quality of life in a short period of time. Pancreatic cancer carries a poor prognosis with an overall survival rate of 2–7% and has a great impact on a patient’s life.1,2 Over the period 1990-2017, the incidence of patients with pancreatic cancer in the Netherlands increased by 2-3 times due to aging, overweight and diabetes.1 The only curative option is resection of (a part of) the pancreas, often combined with (neo)adjuvant chemotherapy. Resection of (a part of) the pancreas is a major operation with the risk of severe complications, such as sepsis, bleeding or wound infection.3 Long-term consequences such as diabetes and digestive problems can also occur.4 In addition, in almost 50% of patients the tumour relapses within 2 years after surgery.3 This information, together with the up-to-date short-term outcome results of these operations, should be shared with patients and considered in light of patients’ expectations regarding quality of life.

Shared decision-making (SDM) is an approach whereby clinicians and patients make decisions together using the best available evidence. Patients are encouraged to think about the available treatment options and the likely benefits and harms of each, so that they can communicate their preferences and help select the best treatment for them.5

While the most common cancers studied in relation to SDM are breast and prostate, little is known about SDM in patients with pancreatic cancer.6 Since 2017, healthcare professionals working in an University Medical Center for pancreatic cancer in the Netherlands have used SDM according to the revised three-talk model of Elwyn et al..7 This SDM model is characterised by an option talk, a time out period, and a decision talk. In the option talk, the surgeon and case manager discuss the treatment options in terms of the potential harms and benefits of each treatment. After this, the patient is given a time out period of four days (reflection period). During the time out, the patient considers the treatment options together with their general practitioner (GP) or social network. In the decision talk, the surgeon and case manager guide the patient to make a preference-based treatment decision.

In the period of 2017–18, in the run up for the present study, a cohort of 30 patients, characterised by (borderline) resectable pancreatic cancer, an older age (over 75 years) and multiple comorbidities, was followed at the outpatient clinic at the Radboud University Medical Center. After starting with SDM as a communication model, almost 30% of these patients did not opt for surgery in their decision talks. Before 2017, treatment options and best supportive care were not discussed according to the SDM model.5

The observation that 30% of these patients did not opt for surgery after the implementation of the SDM model was the reason for initiating the present study. We aimed to identify the determinants that influence the treatment decisions of patients with pancreatic cancer during SDM.

Methods

Study design and setting

We performed a qualitative study consisting of a literature review on SDM determinants, followed by interviews and observations to substantiate the findings of the review with practical experiences. The study was carried out at the outpatient clinic of the pancreas center in the Department of Surgery at the Radboud University Medical Center in the Netherlands. Approximately 350 patients are discussed annually by the pancreatic tumour board (a multidisciplinary team of clinicians) at this institution. Of these patients, approximately 200 have their option and decision talks at the outpatient clinic.

The study was approved by the local medical ethical committee (registration number: 2021/7316). There was no pre-existing relationship between the researcher (LD) and the participants in the observations and interviews. LD is an experienced nurse and trained in conducting observations and interviews.

Literature review

We reviewed the literature on the determinants that influence patients with pancreatic cancer during SDM. Search terms were developed to capture three concepts: pancreatic neoplasms, patient participation and patient decision-making. Appendix 1 provides a detailed list of the search strings. Full-text studies published between 2000 and 2019 on PubMed (including MEDLINE), CINAHL and PsycINFO were included. The references of the included studies were manually checked, and the authors’ personal files and the bibliographies of previously published related reviews were searched to identify additional relevant studies (snowballing). Only English-language studies were considered for this review. The inclusion criteria for the studies were 1) the determinants affecting SDM were described, 2) the population consisted of patients with pancreatic cancer, and 3) the studied patients were over 18 years old. Studies were excluded if only medical treatments were reported. The titles and abstracts of the included studies were initially screened by one researcher (LD). Subsequently, the full text of the selected studies was screened by LD in consultation with a second researcher (MH-S).

Quality assessment of the selected literature

The methodological quality of the selected studies was assessed by LD in consultation with a second researcher (MH-S). For the selected qualitative studies, the Criteria for Reporting Qualitative Research guidelines (COREQ)8 were used for evaluation. For observational (cohort) studies, the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)8 was used. For systematic reviews, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) were used.8 For rating and standardising the methodological assessments of the studies, we developed a four-point scoring form, with studies rated from ‘Very good (++): *Fully met the standards of COREQ, STROBE, PRISMA’* to ‘Poor (- -): *Assessment was not possible, exclusion of the study* ’ (e.g., the study design does not match with the research data analysis).

Observations of patients

Patients who were referred for surgery at the outpatient clinic of the Radboud University Medical Center were purposive sampled to represent the patient population of this outpatient clinic in terms of the (no) present of comorbidities and chemotherapy treatments. The included patients had an option or decision talk.

Patients gave verbal informed consent to the researcher (LD) before their option or decision talk. They gave permission for the observations to be written up and published (including quotes). The researcher (LD) observed the conversation and used a standardised observation list based on the determinants found in the literature review (Appendix 2). LD made field notes about the patients’ context (e.g., social support, disease stage) during the observations for correct interpretation of the data. The observations took place in a regular consultation room in the period September–December 2019.

Interviews with professionals and patients

A purposive sampling strategy was used to ensure a representative sample of healthcare professionals in terms of positions (clinician, case manager and physician assistant) and characteristics, such as their role within SDM. LD approached patients with pancreatic cancer for an interview after their option talk at the pancreatic outpatient clinic. Patients were recruited based on their age (< 65 and ≥ 65 years old) and gender. The patients were informed about the study by e-mail and provided verbal informed consent at the beginning of the interview. Their verbal informed consent was audio recorded. The interviews with the healthcare professionals took place at the hospital. Patients were interviewed at their homes or at a hospital location with sufficient privacy, depending on their preference. LD conducted the semi-structured face-to-face interviews (45 min each) from September 2019 to January 2020. The interviews were guided by an interview topic guide (see Appendix 3), audio recorded and then transcribed ad verbatim by LD. The transcripts were returned to the interviewees for comment and correction.

Data analysis

The study characteristics and outcomes, such as study design, sample, population and methodology, were tabulated (see the data extraction form in Appendix 4). The data from the literature review, observations and interviews were analysed manually. We used Bandura’s Social Cognitive theory (SCT) to identify the determinants of SDM, since this theory has shown to be helpful in explaining behaviour in relation to health outcomes.9 Bandura emphasised that behaviour is the result of continuous interactions between aspects of the social environment, the person, and the person’s behaviour.9

The determinants of SDM in the included studies were identified and analysed by LD in consultation with two researchers (MH-S and AJ). The identified determinants of SDM were divided into the three categories related to behaviour, the physical and socio-cultural environment and the person9, and further classified into subcategories.

The interview transcripts and observation lists were systematically analysed according to directed content analysis.10Relevant data were identified and structured by initial codes based on Bandura’s SCT9, and open coding to create new codes (see Appendix 5). The coding took place under the supervision of MH-S and AJ. Issues that occurred during the analysis were resolved by consensus meetings.

The categories, subcategories and determinants from the literature review, interviews and observations were merged, restructured and tabulated. The determinants were substantiated with illustrative quotes. We used the COREQ guideline to report the qualitative data8 (see Appendix 6 for the completed checklist for this study).

Results

Literature search

Our initial search for studies on the determinants influencing SDM resulted in 141 studies (Figure 1). Additionally, 22 studies were identified manually (snowballing). After scanning the titles, abstracts and full texts, the methodologies were assessed. The final set consisted of 13 studies: 6 qualitative studies, 4 quantitative studies and 3 systematic reviews (Appendix 7).

*Insert Figure 1 PRISMA Flow chart of the study selection and review process about here*

Characteristics of the participants

Eight patients were observed at the outpatient clinic: four patients during their option talk and four patients during their decision talk (see Table 1). Of these patients, four had finished their chemotherapy treatment before surgery, two had no medical history and two also had another oncological disease. Eight healthcare professionals working in the pancreas center at the Radboud University Medical Center were interviewed: four clinicians (an oncologist, a physician assistant, a pancreas surgeon, and a geriatrician), three case managers and one GP (for more details see Table 1). At this outpatient clinic, the surgeon, case manager and GP had supporting roles at the pancreas center, and the oncologist and geriatrician had an advisory role in SDM. Two patients, one female of 53 years and one male of 67 years (with spouse), were interviewed (see Table 1).

*Insert Table 1 Interviewees characteristics about here*

Determinants of shared decision-making

The determinants influencing patients’ treatment decisions during SDM that were most often reported and mentioned by the interviewees were related to the following subcategories: information provided by healthcare professionals (n = 6), the patient’s participation role (n = 5), emotions due to diagnosis (n = 3), the relationship between the healthcare professional and the patient (n = 3), patient characteristics (n = 2) and social support (n = 1; see Table 2).

*Insert Table 2 Determinants that influence patient’s treatment decision according to the interviewees, classified in the three categories of Bandura’s Social Cognitive theory9 about here*

According to the literature, emotions, such as being completely shaken, a loss of concentration and fear induced by the diagnosis, make it more difficult for a patient to participate in a treatment decision.11-13 Many patients prefer a collaborative role, which means that the patient and the clinician jointly decide on the most appropriate treatment.14 For the determinant ‘a trusting relationship between the healthcare professional and the patient,’ good communication skills of the part of the healthcare professional, like empathy and mutual respect, are important.11,15,16 Information regarding potential impacts on daily life13,15,17 and a time out period to consider treatment options are needed for patients to participate in their treatment decisions.18,19 The patients’ need for information being met in a way that patients understand and that is tailored to them are also important conditions for patient participation.16,18,20 However, in general, patients’ recall of medical information is often low; 40% to 80% of the medical information presented at a clinical visit is forgotten by patients immediately.21

During the observations, it was noticed that there was an overall difference in the emotions associated with the diagnoses between the option and decision talks. During the option talks, patients were completely shaken, while during the decision talks, patients showed a greater urge to survive and/or more hope for survival.

Patients (both in observations and interviews) indicated that they are particularly interested in information about the impact of the treatment options on their daily life long-term, more so than, for example, the type of surgery. Interviewed patients mentioned that a trusting relationship with the healthcare professional is essential for SDM. They added that the reliability, dedication and professional attitude of the healthcare professionals strengthens this relationship. The interviewed healthcare professionals mentioned that asking questions related to the patient’s quality of life and life goals in the option and decision talks facilitates the patient’s participation in SDM and their ability to make an informed decision. It also helps them to get a better view of the patient’s context. The interviewed healthcare professionals also emphasised that when patients are confronted with the diagnosis of pancreatic cancer, emotions, such as loss of concentration, fear and feeling completely shaken, could lead to a poor recall of information and can make it more difficult for patients to participate in their treatment decisions. The healthcare professionals suggested that information recall can be improved during SDM by audio recording these talks, which is not yet common practice. They also mentioned that a reasonable time out period to consider the treatment options is needed for patient participation in treatment decisions.

Discussion

Statement of principal findings

In this study, we found that the most prominent determinants that influence a patient’s treatment decision during SDM are related to ‘emotions due to diagnosis’, ‘the patient’s participation role’, ‘a trusting relationship between the healthcare professional and the patient’ and ‘information provided by healthcare professionals’. Patient characteristics and social support contribute less to a patient’s treatment decisions. In addition, most patients prefer a collaborative role in SDM. A collaborative role can be improved by supporting information recall during the option talks, allowing for an adequate time out period, and developing a trusting relationship between the healthcare professional and the patient. Improved patient participation leads to better SDM.

Interpretation within the context of the wider literature

Previous research has shown that SDM is supported by the knowledge gained by patients and leads to more confidence in treatment decisions and more active patient involvement. Moreover, in many situations, informed patients opt for more conservative treatment options.5 This may explain why 30% of the elderly pancreatic cancer patients with comorbidities (see above) at the Radboud University Medical Center did not opt for surgery in their decision talks. These patients realised that, although they were indicated and referred for curative surgery, the 5-year survival is still low and the chances of complications with a significant impact on the quality of life are high. In addition, the trustworthiness of the healthcare professionals, and an open and honest discussion about the multiple treatment options and their potential impacts on the patient’s daily life, could have contributed to patients’ decision to not opt for surgery. A trusting relationship between healthcare professionals and patients, and communication tailored to the patient’s perspective, are well-known facilitators of SDM.6

In our study, the observed and interviewed patients seemed to prefer collaborative participation. However, patients’ participation roles can vary between active, collaborative and passive.13,16,18 Therefore, the clinicians’ knowledge of the patients’ preferred role is important5,6 and was mentioned as a determinant in our study. We also found that a time out period is important for patients to consider treatment options and should be an essential part of SDM. Patients need time to deliberate with others (i.e., the family, a GP) after receiving the information about treatment options to explore their preferences regarding these options.5,11 A patient’s personal skills, such as the ability to process information and to make decisions19, demographic characteristics (i.e., age, gender, educational level)13,14,20 and the severity of the disease, especially in case of pancreatic cancer, influence the participation role preferred by the patient.14 We found an ambivalence on the part of interviewees regarding the influence of demographic characteristics; in this study, some interviewees mentioned that personality is a more important determinant for patient participation than demographic characteristics. Although the subcategory ‘social support’ was less prominent in our study, this determinant has been shown to influence the treatment decisions of patients with cancer.18,20,22

Strengths and limitations

A strength of this study is that the literature review has been supplemented by interviews and observations. The literature review enabled us to get an overview of the subject area and the interviews and observational studies gave us in-depth information from the involved healthcare professionals and patients. To ensure a broad range of perspectives, different types of healthcare professionals were included. The focus of our study was on patients with pancreatic cancer, but most of the included studies also provided information about other types of life-threatening cancers (e.g., lung, breast and colorectal cancers). A generalisation of the determinants of SDM could be valuable for other oncological practices.

A limitation is that only eight patients were observed and only two patients were interviewed for reasons of feasibility. Patients can only reflect on their own experiences and, to get a broader picture of patients’ perspectives, more patients will need to be included in future studies. Another limitation is that the evidence obtained from the literature review depends upon the quality of the included studies. The developed four-point score tool used here for the methodological assessment of the quality of the studies was not validated.

Implications for clinical practice and research

In this study, we identified several determinants that influence SDM in patients with pancreatic cancer during their option and decision talks. Insight into these determinants might be valuable for clinical practice, as it provides suggestions for a more adequate SDM process. For example, the current results show that it is important to establish a trusting relationship with mutual respect to facilitate the preferred participation role of a patient. In addition, tailor-made and understandable information on treatments should be provided to patients, with a focus on the potential consequences for their quality of life. A time out period for patients is also needed for the consideration of treatment options. Moreover, healthcare professionals must be aware, especially during option talks, that patients may subsequently experience a poor recall of the information discussed. To improve information recall, further research on tools to aid in this process is recommended. In this study, audio recording was mentioned as a potential improvement tool for SDM. A future (qualitative) study might provide insight into the appropriate tools to improve SDM, the facilitators and barriers for their implementations, and the experiences of patients and healthcare professionals with these tools.

Conclusions

Based on the determinants found in this study, better information recall, tailor-made understandable information about treatment options and the potential consequences for daily life, and the development of a trusting relationship between patients and healthcare professionals, are needed to support pancreatic cancer patients in their treatment decisions. These determinants enable patients to take a collaborative role in their care, which is typically the preferred role for patient participation in SDM during option and decision talks.

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Conflict of interest

The authors declare that they have no competing interests.

Contributorship

MvdK, LD and AJ conceived the design of the study. LD and MH-S led the writing of the first draft and revised this manuscript. LD collected the data. LD, MH-S and AJ analysed and interpreted the data. MvdK, AJ, KvL, PvW and IA contributed to the critical revision of the manuscript. All authors approved the final version of the manuscript for publication.

Ethics and other permissions

The study design has been presented to the Medical Ethical Committee of

the Radboud University Medical Center (registration number: 2021/7316). They declared ethical approval was not required under the Dutch national law.

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Tables

*Table 1 Interviewees characteristics*

|  |  |
| --- | --- |
| Interviewee | Role in SDM † within the pancreatic care chain for patients who are indicated for surgery. |
| Surgeon | Conducts the option and decision talk with the patient at the outpatient department. Discusses the treatment options during the option talk. Operates on the patient. Participant of the multidisciplinary team: discussion about treatment options. |
| Oncologist | Indicate and treatment chemotherapy. Participant of the multidisciplinary team. |
| Geriatrician | Due to the age and co-morbidities of the patient, the geriatrician can advise in patient’s treatment options. Sometimes they have a consultation with the patient, sometimes they are asked in multidisciplinary discussion. |
| Physician Assistant | Perform adjuvant diagnostic invasive treatment. Participant of the multidisciplinary team. |
| Case manager Department of surgery | Guiding and support the patient during the whole surgical process. Participant of the multidisciplinary team. |
| Two case managers Department of oncology | Guiding and support the patient during the whole chemotherapy process. Participant of the multidisciplinary team. |
| General Practitioner | Referrer the patient to the hospital. Guiding and supporting the patient in the home situation. |
| Two patients; Female 53 years old; Male 76 years old with spouse | Participation and discuss the treatment options in the option and decision talks (SDM). |

*† SDM = shared decision-making*

*Table 2 Determinants that influence patient’s treatment decision according to the interviewees, classified in the three categories of Bandura’s Social Cognitive theory9*

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Subcategory | Determinants references | Illustrative quotes |
| *Person’s behaviour* | Emotions due to diagnosis | Poor information recall caused by: Loss of concentration, completely shaken11,15, 20 Fear18,19,21 | Physician assistant: “Once you drop the word cancer, imagine that people will remember about 10% of your conversation”. Case manager A: “Fear of treatment and what is to come”. |
|  |  | Hope11,12 | Patient A: “I have always been positive about it, that it would work out”. |
|  |  | Urge to survive11,12 | Observation field note: “During option talks people were completely shaken, in contrast to the decision consultations where people showed fighting spirit”. |
|  | Patient’s participation role | Patient’s preference of participation14,16,19,20 | Geriatrician: “To know the role preference of a patient you have to get to know the patient, you have to take the time for that”. Case manager C: “Which involvement role a patient takes has not so much to do with education, background or intelligence or whatever. It’s more, well, of course your perspectives definitely play a role in that. But also character and a bit of guts”. |
|  |  | Impact of the disease itself13,14,16,19 | Case manager B: “In contrast to other oncological chains, this patient group is often really ill”. |
|  |  | Impact of treatment on the patient11,13,15,17 | Patient B: “I want to know the long-term consequences on my quality of life when I make a treatment decision”. Patient C (observed): ”I am not involved in the medical decision, who am I to say something about it? They have studied for years. It is important to me that I know how things will turn out, when I can do certain things again after the operation”. |
|  |  | Need for time out18,19 | Oncologist: “People don’t hear everything in a conversation. They don’t need to make a decision in one conversation and they need time to think”. |
| *Physical/socio-cultural environment* | Relationship between healthcare professional and patient | Trustworthiness and mutual respect11,15,17,19 | Geriatrician: “In any case, it is known that there must be a relationship of trust between the doctor and the patient. It is important to test this as well, to see whether there is enough. How do you do that? That’s a good one. That is implicit, you notice it”. Patient A: ”And it has to get along well, it has to feel good”. |
|  |  | Open and honest communication11,13 | Patient A: “When to trust a doctor? First of all honesty, directness. Don’t beat around the bush or make it more beautiful than it is. Just say it like it is, honesty”. |
|  |  | Values, standards and communication skills of the physician16 | Geriatrician: “The attitude or communication skills of doctors often vary. More training on the job should take place here or through intervision training of competences in shared decision-making”. |
|  | Information provided by healthcare professional | Repeat and spread information across multiple talks11,15,17,19 | Case manager B: ”Often you have to repeat the information again; you often mention the entire conversation again”. |
|  |  | Audio recording of information11,20 | Case manager C: “Patients come with questions, and especially when the conversation has not been recorded, people have questions about what was actually said because one has heard this and the other that”. Surgeon: “It doesn’t happen by default. Sometimes I offer it, but not always, while I certainly see added value in it”. Patient B: “I wasn’t aware of the possibility, but it could help me for information recall and sharing information with my husband”. |
|  |  | Impact on patient’s daily life11,13,15,17 | Patient B: “It helps when there’s information given about the impact of the treatment in my daily life, also in the long term”. |
|  |  | Tailored made information11,15,17 | Patient D (observed): “Yes I have looked on the internet, but that didn’t make me happy. There is also so much and it gets so complicated. I stopped doing that”. |
|  |  | Discuss multiple options19,20 | Case manager A: ”I think by providing information about what is and what is not possible so that they know what they can choose and what not to choose”. |
|  |  | Role of case manager11 | Case manager C: ”A case manager provides a bit of clarification and subtitles: what has all been said and what is the impact of the treatment proposal and to what extent does this match your wishes and expectations”. |
|  | Social support | Support11,12,17,18,20 | Case manager A: “The social support system is extremely important regarding how you get through a certain treatment. It is impressive what comes your way. And then you need someone”. |
| *Person* | Patient’s characteristics | Demographic characteristics14,15,20,22,24 | General practitioner: ”If someone has a low socioeconomic status, there is not always shared decision-making. Then you are more likely to take a paternalistic role”. Geriatrician: “Non-Western migrants often have family decisions. It is customary for the eldest son to consult with others. You notice that it is very common that people listen to or decide according to this person”. |
|  |  | Patient’s skills for shared decision-making19 | Patient A: ”If I make my decision, I will be completely behind it. I support that. If you look back at your treatment process, you have had to make various decisions. Have they been decisions that you still support? Yes, I still support that. And the fact that you influenced it? Happy that you are being listened to and that you can possibly participate in decisions? That is positive. On the other hand, I think: clinician, you should have told me what you think ”. Case manager C: “Sometimes people find it very scary or difficult to make such a choice and then you often see I call it ping pong. The doctor wants or tries to make as little of the decision as possible and to place the decision with the patient. Some patients cannot make that decision at all and then they go back again: what would you do doctor?” |

Figure legends

*Figure 1 PRISMA Flow chart of the study selection and review process*

Supplementary material

Seven appendices are supplied separately:

Appendix 1: Search strings databases

Appendix 2: Observation list

Appendix 3: Topic guide interviewees

Appendix 4: Data extraction form

Appendix 5: Coding tree

Appendix 6: COREQ Checklist

Appendix 7: Study characteristics and methodological quality assessment

**Hosted file**

PRISMA flow chart.docx available at <https://authorea.com/users/740161/articles/713265-determinants-of-treatment-decisions-of-patients-with-pancreatic-cancer-in-shared-decision-making-a-qualitative-study>