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Managing Placebo and Nocebo Effects during Patient-provider interactions: A Consensus Statement and Clinical Recommendations for Healthcare Professionals

Meeuwis, S.H., Evers, A.W.M., Bagnis A., K. Mattarozzi, K. ... on behalf of the PANACEA consortium

This document represents the final output of the PANACEA project, namely the clinical recommendations for healthcare professionals on how to manage placebo and nocebo effects in clinical practice; it also constitutes a pre–peer-reviewed version that will be submitted to a scientific journal for publication. The supplementary materials referred to in the text are provided at the end of the document.

Abstract

Importance. Contextual factors, including patient-provider interaction alongside the information that is provided during consultations, significantly influence patients' expectations toward treatment and subsequent health outcomes. These expectations are pivotal determinants of placebo and nocebo effects which in turn affect treatment success. Healthcare professionals often overlook the extent of their impact in this regard and report feeling unprepared to manage placebo and nocebo effects.

Objective. Structured best practice clinical guidance on managing placebo and nocebo effects, specifically on the use of and communication about these effects during patient-provider interactions, are lacking. For these reasons, on behalf of the European cooperation partnership PANACEA, formed by an interdisciplinary group of experts, we have developed recommendations that aim to provide guidance for leveraging communication to enhance placebo effects and mitigate nocebo effects.

Evidence review. The method that was used to formulate these recommendations is based on two streams of evidence: 1) expert consensus and existing guidance, including insights from prior narrative and systematic reviews, consensus papers, and an existing eLearning module that reviewed literature until 2021, and 2) a systematic review of the current empirical evidence, substantiating the recommendations with best practice evidence. The process involved iterative rounds and consensus-building efforts.

Findings. The recommendations specifically aim to increase knowledge on how to 1) optimize the patient-provider relationship; 2) ask about a patient's expectations for a treatment; 3) discuss the treatment rationale; 4) discuss a treatment's risks and side effects with a patient and 5) explain to a patient how placebo and nocebo effects work.

Conclusions and relevance. Taken together, the recommendations are generally well supported by existing evidence, although some strategies require further study. In the future, this knowledge should be translated to regular training and educational tools to normalize its application into daily educational and clinical practice.

KEYWORDS: placebo effects, nocebo effects, clinical recommendations, expectations, communication

Introduction

Placebo and nocebo effects influence the efficacy of many different treatments[1,2], ultimately impacting treatment success and overall health. Placebo effects are beneficial treatment effects, that arise from contextual factors and the patient's positive expectations concerning the treatment, rather than from its active components. Nocebo effects refer to phenomena where expectations of adverse effects or harm can lead to those negative outcomes[2]. Expectations can be shaped by learning processes[3] (Figure 1), many of which are relevant during patient-provider interaction and influenced by the dynamics within the patient-provider relationship[4]. Consequently, expectations can become a focal point of therapeutic intervention, for instance by integrating contextual factors within treatment, utilizing communication to target optimal outcome expectations[5,6], and informing about placebo and nocebo effects[2,5].

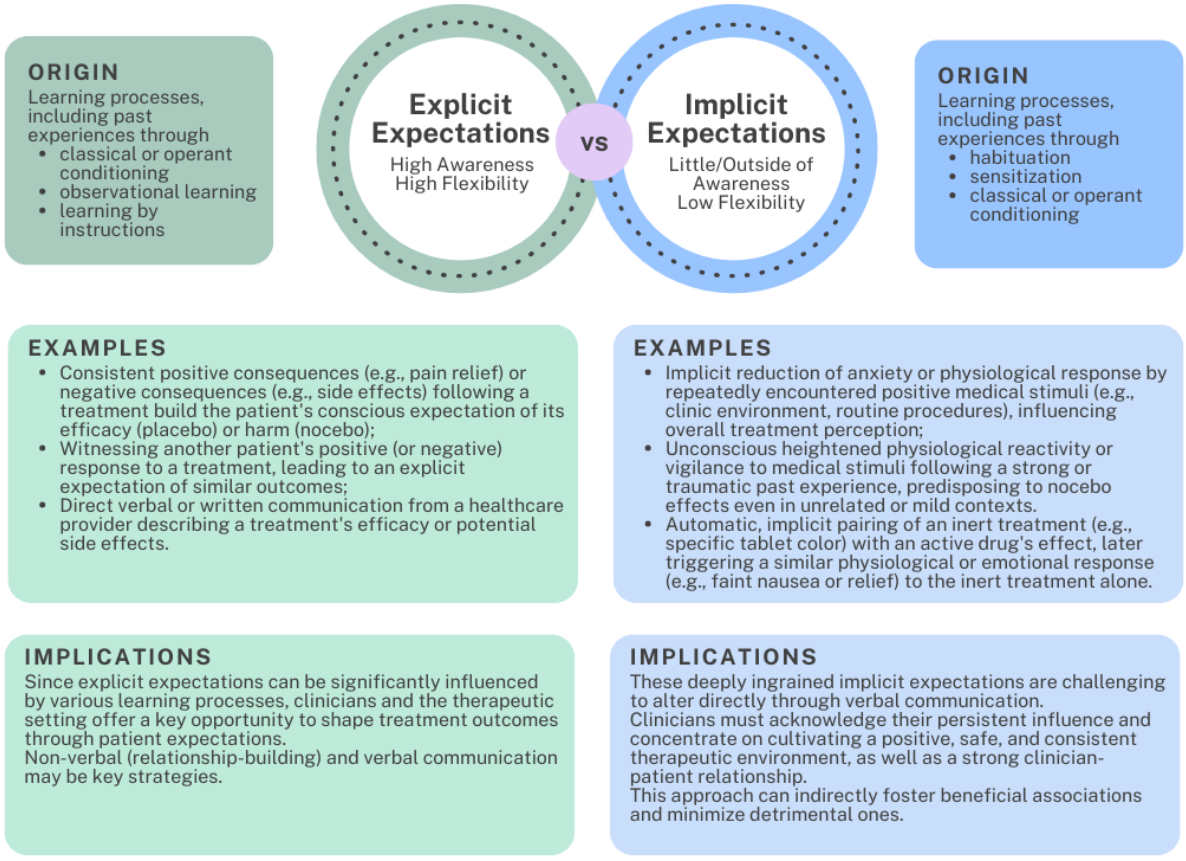


Figure 1. Understanding Expectations: Origins and Clinical Implications.

While existing work offers insights into the impact of placebo and nocebo effects in daily practice, a critical gap remains in the form of comprehensive, truly evidence-based recommendations. Such guidelines are needed to equip clinicians to amplify placebo effects and manage nocebo effects in routine care, ultimately aiming to improve patient

health. Healthcare professionals have highlighted the need for clearer training and support in this area[7]. From the necessity of an international and interdisciplinary collaboration to address this gap, the PANACEA Consortium emerges as one of the leading entities striving to bridge the gap between scientific findings on placebo/nocebo effects and their practical implementation in clinical settings.

The aim of this paper is to set forth best practice recommendations for healthcare professionals, that are rooted in existing evidence-based knowledge and can be easily implemented during patient-provider interactions.

Methods

The method that was used to formulate these recommendations is based on a comprehensive integration of two distinct yet complementary evidence streams. The first stream comprised foundational statements, derived from expert consensus and existing guidance, including insights from prior narrative reviews, consensus papers, a previous systematic review[1], and an existing eLearning module[8], which reviewed literature until 2021. The second stream involved a systematic substantiation and enrichment of these expert-informed statements with current empirical evidence. This evidence was identified through a dedicated systematic review of empirical studies in patient populations, covering literature until May 2024. This systematic review was registered on Prospero (CRD420250642824).

For each recommendation, information from both evidence streams was meticulously synthesized into a single, cohesive statement. The recommendations are formulated based on the clinical context in which treatments are applied, as well as the limits and applications of placebo and nocebo effects specific to that domain. The interdisciplinary nature of the PANACEA consortium—including psychologists, clinicians, nurses, pharmacologists, and experts in placebo, nocebo, and health communication—enhanced the depth of our approach. The iterative process of refining these recommendations involved collecting feedback from consortium members, ensuring alignment with regular consensus-building principles and methods[9]. Details on the methodology and the resulting evidence from each stream are provided in the Supplementary Materials.

Results

Rooted in the crucial role of expectations in modulating placebo and nocebo effects, as well as the clinician's potential for intervention, several domains of medical communication were identified from the two evidence streams that can optimise placebo effects and minimise nocebo effects: i) optimising the clinician-patient relationship, ii) asking about expectations, iii) discussing the treatment rationale, iv) discussing risks and

side effects, and v) explaining placebo and nocebo effects. The quality of evidence is described in Table 1.

Table 1. Quality of evidence for the clinical recommendations.

Domain	Clinical Recommendation	Recommendation classification*	
		Class	Level of evidence
Optimizing the clinician-patient relationship	Show interest in the patient	I	B-R, B-NR
	Give reassurance about ongoing care	IIa	B-R, B-NR
	Respond to negative emotions	IIa	B-R, B-NR
	Leverage eye contact and physical presence	IIa	B-R, B-NR
	Use patient-centered communication	IIa	B-R, B-NR
	Adapt communication style to the patient	IIa	B-R, B-NR
	Leverage other behaviours to foster trust	IIa	B-R, B-NR
	*Overall recommendation***	IIa	B-R
Asking about expectations	Ask about and identify general expectations towards treatment	IIa	C-EO
	Adjust unrealistic expectations	IIb	C-EO
	Address disappointment from previous treatments	IIb	C-EO
	*Overall recommendation***	IIa	B-R, B-NR
Discussing the treatment rationale	Provide correct information based on evidence-based knowledge	I	B-R
	Avoid exaggeration or underestimation of treatment results	IIa	B-R, B-NR
	Clearly state the treatment rationale and expected positive outcomes in concrete terms	IIa	B-R, B-NR
	Explain treatment mechanisms of action	IIa	B-R
	Align patient expectations and beliefs with evidence-based care	IIa	B-R, B-NR
	Emphasize the purpose and advantages of treatment procedures	IIa	B-R
	Check patient comprehension	IIa	B-R, B-NR
	Suggest reliable information sources	IIa	B-R
	*Overall recommendation**	IIa	B-R
Discussing risks and side effects	General structure of the consultation		
	Emphasize positive consequences of side effects	IIb	C-LD
	Balance side effect information with positive information	IIb	B-R, B-NR
	Investigate (sources of) nocebo effects	IIa	C-LD
	State all symptoms briefly to reduce nocebo effects	IIb	C-LD
	Information framing		
	Frame positive outcomes rather than negative outcomes	IIa	C-LD
	Discuss risks in statistical terms	IIa	B-R
	Use neutral terms when performing a procedure	IIa	C-LD
	*Overall recommendation**	IIa	B-R
Explain placebo and nocebo effects	Placebo effects		
	Careful explanation of placebo effects	IIa	B-R
	Mechanism of action of placebo effects	IIa	B-R, B-NR
	Appropriate presentation of information	IIb	B-R
	Prevent overly optimistic expectations	IIa	C-EO
	Nocebo effects		
	Attend to the purpose of explaining nocebo effects	IIa	C-EO

	Careful explanation of nocebo effects	IIa	B-R, B-NR
	Keep explanation simple	IIb	C-EO
	Avoid unintentional negative effects	IIb	C-EO
	Provide ways to manage nocebo effects	IIb	C-EO
	*Overall recommendation**	IIb	B-R, C-EO

Note. An extended version of this table, including references and do's and don'ts for each recommendation, is included in the Supplementary Materials.
** Legend: 1) Classes of Evidence:*
Class I: Evidence from well-designed randomized controlled trials (RCTs)
Class II: Evidence from well-designed clinical trials without randomization or cohort studies
Class III: Evidence from non-experimental studies or expert opinion
2) Levels of Evidence:
A: High-quality evidence from multiple RCTs or systematic reviews
B: Moderate-quality evidence from RCTs or clinical trials with limitations
C: Low-quality evidence from non-randomized studies or expert opinion
D: Expert opinion or anecdotal evidence
*** With 'overall recommendation', the quality of evidence for the overall domain (e.g., 'optimizing the clinician-patient relationship' or 'asking about expectations' is rated. Grading is adjusted from the American College of Cardiology and American Heart Association "Class of Recommendations and Level (Quality) of Evidence Ratings" system[10] (see Supplementary Materials).*

i) Optimizing the clinician-patient relationship

People who are confronted with illness not only need high-quality personalized information, but also a supportive healthcare provider. When clinicians are empathic and warm, this can lead to numerous benefits, including lower anxiety, better adherence and increased recall of medical information[11-13]. It is therefore strongly recommended to invest in the patient-provider relationship. As part of the NURSE framework[14-16] (Table 2), various empathic behaviours are recommended, as they can be powerful in fostering a good patient-provider relationship. It is important that a clinician shows interest, so that patients do not feel regarded as just a 'case'. Even minor behaviours, such as asking how things are going at home or noticing something new in their appearance, can help patients feel seen[11]. Patient satisfaction and trust are closely tied to the perceived level of listening and personal attention from healthcare providers[11,17]. The continuity of care should be emphasized to reduce fears of abandonment, for instance with brief reassuring statements[18]. Equally essential is the establishment of a cooperative clinician–patient relationship grounded in shared goals to foster trust, facilitate open communication, and enhance quality of care[19]. Emotional support and addressing emotional needs of patients are significant but often overlooked aspects of care[17]. On the long-term, the impact of emotional support on trust may surpass other supportive actions, such as information provision[20]. Nonverbal behaviours, including attentive listening, maintaining eye contact, and adopting a patient-centered posture are recommended as these can enhance trust[11,21,22]. Patients moreover value clinicians who appear to take time for them; when they sit rather than stand, consultations are perceived as 50% longer and more positive, despite equal duration[23]. Finally, it is essential to adapt the communication style to the

patient, depending on their values and expectations, as well as their understanding and informational needs[24,25]. Importantly, clinicians should consider whether it is always helpful to give advice, for instance when patients are highly distressed[26].

Table 2: NURSE framework for empathic behaviours, developed on the basis of the studies by Pollak et al.[15], Back et al.[14] and van Vliet & Epstein[16]. Note that the examples serve only as an inspiration[13,27].

NURSE	Explanation	Example
Naming	Name the emotion	*"You sound very anxious."*
Understanding	Show understanding of the emotion	*"I really understand that you're dreading it."* *"I can imagine that you're upset about it."*
Respecting	Show respect for the patient	*"I'm impressed with how well you're handling the situation."*
Supporting	Express support	*"Whatever happens, we'll take good care of you. You don't have to face this alone."*
Exploring	Explore the emotion	*"What are you thinking about now? You're suddenly having to face so much."*

ii) Asking about expectations

Patients can have beliefs about the causes of medical conditions that may contrast medical models[28]. Investigating their general attitude towards treatment, especially pharmacology, is crucial as it can provide valuable insights into patient expectations[29-31]. Open-ended questions can be integrated naturally in the consultation (Table 3). When timed correctly, such questions can encourage patients to articulate their expectations, facilitating a more comprehensive understanding of their perspective and meaningful discussion. Unrealistic expectations should be managed, for instance by clarifying treatment limitations, or by emphasizing positive long-term effects[29]. This aligns with the broader literature, suggesting that managing patient expectations is essential for treatment adherence and satisfaction[32,33]. Negative expectations shaped by previous treatment disappointments should be identified. Differences between the previous unhelpful treatment and the currently offered treatment could then be explained[29,34]. When possible, alternative treatment routes can be offered to enhance treatment satisfaction. Such a nuanced approach underscores the value of personalized care in effectively managing patient expectations and fostering a collaborative patient-provider partnership for improved healthcare outcomes.

Table 3. Example questions and phrases to incorporate expectation assessments into a consultation.

Aim of the question	Example	Possible Follow-up
Identifying general expectations towards treatment	" *Today I'm going to tell you more about treatment X, but first I would like to ask if you already know anything or have found information about this treatment…*"	Address anxiety or misinformation; adjust unrealistic information and align them with evidence-based care; address potential misunderstandings
	"Can you tell me whether you already know something about the treatment?"	
	"Have you ever read or heard anything about the treatment?"	
Check for presence of unrealistic (i.e., overly optimistic or pessimistic) expectations	*"What do you think is going to happen when you start with the treatment?"*	Challenge and adjust unrealistic expectation, e.g., offer evidence-based treatment information, using interpersonal communication, trust and emotional support
Check history with (similar) treatment(s)	*"Have you already had a similar treatment in the past?"*	(if relevant) emphasize difference with similar treatment; provide alternate route of administration
	"How would you describe your earlier experience with treatment X?	

iii) Discussing the treatment rationale

Clinicians often describe treatment outcomes as more optimistic than they themselves expect[35]. There are risks associated with this, as it could lead to disappointments[36,37]. On the other hand, describing treatment outcomes more negatively can reduce placebo effects. It is crucial that healthcare providers neither exaggerate nor underestimate treatment results[29,36]. Such a balanced approach is key to managing expectations and promoting realistic optimism about treatment outcomes. The importance of providing accurate and up-to-date information about the treatment and its expected effects, based on clinical guidelines, scientific literature and professional experience[6,38], cannot be understated. Providing a clear rationale for the treatment and linking this to the expected positive outcomes can help to enhance patient understanding[36,39]. Such a rationale ideally encompasses a clear reason for the treatment, and an explanation of its mechanisms of action. This can reduce anxiety and promote confidence in the treatment[29,38,40]. Positive and gain-framed messages could improve patients' willingness to receive a treatment and its perceived effectiveness[41]. Patients moreover value truthful but caring explanations that foster trust and optimism[42]. It is crucial to ensure that patients fully comprehend the

information to manage the expectations that the information inherently creates[43-45]. By proactively verifying that patients understand their condition, the treatment plan and any potential outcomes, biases and misunderstandings can be prevented[6,29,44]. Finally, clinicians should refer to reliable sources for further information, such as professional websites, as this can prevent patients from acquiring untrue information or misattributing adverse symptoms to treatment, potentially activating nocebo effects[46].

iv) Discussing risks and side effects

It is difficult to give patients the information they need to make informed decisions, without causing discomfort or increasing the risks of nocebo effects. People tend to process negative information more thoroughly, which can cause overestimation of risks, particularly when emotions are involved[47,48]. It is therefore crucial to balance informing about side effects with positive information, for instance about health benefits or future health improvement[46], to minimize nocebo effects[49,50]. It is crucial to investigate whether there is an increased risk of nocebo effects, for instance, due to past experiences, negative beliefs or misunderstandings. These factors should be discussed to manage nocebo effects[46].

Some studies suggest that changing patients' mindsets about side effects can reduce nocebo effects: for instance, by reinterpreting side effects of vaccines or immune desensitization as 'positive signals that the treatment is working'[51,52]. It may also be beneficial to list side effects briefly rather than focusing on one potential symptom[53], as long as these are low-risk side effects that do not pose serious risks[54]. Because humans tend to focus on negative information, it is recommended to use positive framing (e.g., "*9 out of 10 do not experience side effects*")[46,55]. Risks may also be communicated in statistical terms (e.g., "*0.1%" instead of "1 in 1,000 people*"), without using descriptors such as "(very) common", since this appeals to the imagination less[56,57]. Finally, medical procedures should preferably be explained omitting negative phrases (e.g., descriptors of pain or discomfort), focusing on the purpose and advantages of the procedure, to avoid inducing nocebo effects[29,58].

v) Explaining placebo and nocebo effects

Experts worldwide agree that placebo and nocebo effects should be explained to patients[5]. Placebo effects can still occur when they are explained, and placebos are prescribed openly[59]. Because placebo effects are part of all treatments[2], this principle can also be applied in regular treatment, where discussing the mechanisms of placebo effects can help empower patients to maximize these effects themselves. Conversely, explaining the mechanisms of nocebo effects could help patients to minimize these effects[5,60-62].

It may not always be necessary to delve into the specifics of the placebo effect, however, if a healthcare provider deems it beneficial, first elucidating the treatment mechanisms of action can facilitate the patient's understanding of placebo effects and the intertwined roles of the mind and brain in treatment efficacy[40]. Placebo and nocebo effects need to be explained articulately[5], particularly when communicating with patients who face challenges understanding health-related information. It is crucial that the reason for explaining is emphasized, especially for nocebo effect. For instance, it could be mentioned that the knowledge can reduce the occurrence of side effects[5,46,63]. Any explanation should always be carefully tailored to the individual[64]. Depending on their health skills, alternative terms of phrasing could be more appropriate (Table 4).

Table 4. Example phrasing and explanations for placebo and nocebo effects.

Topic	Recommended practice	Examples
Prerequisites	Carefully consider the need for informing about placebo and nocebo effects; only do so when you think this will be beneficial for the patient	Examples include instances when explaining helps patients understand the intricate interplay between the treatment's mechanisms of action and its context, or when patients believe themselves to be generally sensitive towards medicines or have had bad experiences. An explanation could be "*When we use treatments, they can help trigger the release of natural substances in your body that support healing. These processes usually function well, but during a temporary illness or a longer-term condition, they can be disrupted. The medication you take works alongside these natural mechanisms to enhance their effectiveness. It's important to remember that medications work in conjunction with your body's natural processes, and your previous experiences with treatment, as well as your expectations about the outcome, can influence how these elements interact. Together, they can contribute to achieving the best possible results in your treatment.*"
	Consider graphical information to support the explanation of placebo and nocebo effects	Using drawings to disentangle individual components of the total treatment effect on the improvement of symptoms: specific drug effects, placebo responses and placebo effects
Terminology	Use 'placebo effect' judiciously, as alternative terms or phrasing may be more appropriate	Alternate phrasing for placebo effects include: '*expectation effects*', '*beliefs*', '*optimism*', '*positive mindset*', '*trust*'
	Use 'nocebo effect' only if the term is explained carefully. Alternative terms may be more appropriate, as may avoidance of the term itself altogether.	Alternate phrasing for nocebo effects include effects of anxiety, fear, or: *"Negative effects, such as side effects, that can arise or be strengthened if you pay close attention to whether they are occurring or not."*

Mechanisms of action	Explain that placebo effects arise due to positive expectations about a treatment and are responses of the body that can alleviate symptoms	Emphasize, for instance, the effects of learning on expectations: "*If one of your family members had this treatment once, and you heard or saw what it did for her, this will unconsciously influence your expectation for this treatment*", or "*If you have confidence in the treatment, this can strengthen its effects.*"
	Emphasize that placebo effects are still efficacious when patients are informed about these effects	For example: "*Studies show that when patients are informed about placebo effects, these effects still occur. This is because they are automatic responses to the treatment and the context in which treatment occurs".*
	Keep the explanations of placebo and especially nocebo effects simple	"*You could become more alert to symptoms if you have read the entire contents of an information leaflet, because I (the clinician) have put more attention on them*".
Considerations	Avoid placing responsibility for the treatment's success or failure on the patient. Avoid people being made to feel personally responsible for having side effects	"*A positive mindset may be helpful but is not necessary*"[65] or pointing out the automatic nature of conditioning. In case of nocebo effects: "*the body learns to react to a certain situation with a symptom, and this happens completely automatic. This is like rejecting a specific food taste when you have had food poisoning*"
	Prevent overly optimistic expectations of placebo effects	For example: "*in the treatment of serious illnesses, they can alleviate pain symptoms but cannot cure the illness*"[5].
	Emphasize that not all side effects are nocebo effects, and that these need to be discussed with the clinician irrespective of whether side effects could plausibly be nocebo effects.	Highlight, for instance, that if side effects do occur, you will decide together what the next follow-up steps will be, and which treatment options there are.
Managing effects	Provide the patient with strategies to manage nocebo effects. These could include ways of coping such as relaxation or finding distractions	For example: "*If you are afraid of having side effects and are very alert to them, then side effects can increase; these are nocebo effects. There are multiple methods that can help you to reduce nocebo effects and to be more relaxed; for example, by doing relaxation exercises, or finding a distraction to keep your attention away from the side effects.*"[29]

Discussion

In this paper, we present recommendations for healthcare professionals aimed at optimizing patient outcomes by strategically modulating patient expectations, which are recognized as robust determinants of both placebo and nocebo effects. This optimization is primarily achieved through contextual factors, specifically the relational and communicative aspects inherent to clinician-patient interactions. The recommendations

are intended for all healthcare professionals and aim to provide guidance for leveraging communication to enhance placebo effects and mitigate nocebo effects. They were developed by the PANACEA consortium and are grounded in previous existing materials and recommendations, supplemented by a systematic review of the empirical evidence in patient groups. Resultantly, several domains were identified to optimize communication behaviours during clinician-patient interactions. The results of the systematic review showed that, while most of these recommendations were backed by empirical evidence, others remain relatively under-studied. Here, we discuss the combined results of each of the identified domains.

The empirical evidence amply supports the recommendations for optimizing clinician-patient interactions and the clinician-patient relationship. These findings not only validate the importance of personal interest, reassurance, fostering trust, empathic communication, and non-verbal cues in patient care but also offer practical strategies for clinicians to improve the quality of their interactions with patients. Future research could further explore the long-term effects of these recommendations on patient outcomes and overall healthcare satisfaction.

A structured approach to identify and adjust patient expectations could significantly enhance patient satisfaction, treatment adherence, and overall treatment outcomes[6,29]. Note that while the evidence collected in the systematic review underlines the general importance of asking about expectations, the identified studies did not specifically investigate the recommended strategies, such as adjusting unrealistic expectations. Personalized and empathic communication adapted to the individual situation is key to establishing trust and maintaining a positive patient-physician relationship. Future research could focus on evaluating the long-term effects of such strategies on patient satisfaction, treatment adherence, and health outcomes to further refine and validate these recommendations.

The recommendations for discussing the treatment rationale and the expected positive outcomes are aligned with existing literature on effective patient-physician communication[6,16,39,40]. Providing accurate and balanced information, explaining treatment mechanisms, defining outcomes concretely, and recommending existing information sources are key strategies to enhance patient confidence, manage expectations, and improve treatment outcomes. The crucial role of providing balanced treatment information should be highlighted, that is, combining negative information with positive messages to mitigate its impact on expectancy and patients' welfare. Future research could evaluate the effectiveness of optimized treatment rationale communication on patient satisfaction, treatment adherence, and health outcomes to further refine and validate these recommendations.

The recommendations for structuring the consultation around and formulating precise information about to-be-expected side effects are empirically supported and aligned with existing literature on reducing nocebo side effects[2,6,46,55]. For emphasizing the positive consequences of side effects, caution is needed, as it may need to be limited to situations where side effects are a natural and to-be-expected consequence of the type of treatment (e.g., desensitization therapies[52]). Likewise, caution is needed when discussing possible advantages of side effects, as in some cases, they could be a sign of drug toxicity or intolerance, and changes to the treatment regimen are needed instead[66]. Healthcare professionals should always carefully weigh each strategy and its potential use for mitigating nocebo effects depending on the treatment, its context and the individual that is being treated. Moreover, investigating and managing nocebo effects, and using neutral terms when discussing risks and procedures are key strategies to manage expectations and reduce nocebo effects.

Carefully explaining the mechanisms and implications of placebo and nocebo effects, presenting this information in an appropriate manner, and providing ways to manage nocebo effects could be key strategies to enhance patient understanding and improve treatment outcomes[5,6,46]. Note that, while experts agree that placebo and nocebo effects should be explained[5], most empirical evidence is preliminary, or stemming from open-label placebo studies. Future research could focus on evaluating the effectiveness of these communication strategies in regular treatments. Moreover, the effects of education about nocebo effects are still under-studied but could prove a powerful tool to mitigate nocebo effects and increase treatment adherence in daily practice.

There are several strengths of this recommendation paper, including the diverse and international interdisciplinary team within the PANACEA consortium, and the first systematic review on this topic as a first step to develop formal clinical guidelines while simultaneously identifying existing knowledge gaps and research needs. The inclusion of both quantitative and qualitative studies allows for a comprehensive overview of the breadth and depth of knowledge across all available evidence levels. Overall, these recommendations follow the AGREE II criteria[67], including a clear description of the scope and purpose, and have considered stakeholders' involvement. We also strived into the rigor of development and clarity of presentation, while considered possible applicability and editorial independence.

Several limitations need to be addressed. The search strategy was centered around communication and placebo and nocebo effects specifically. As a result, other papers, for instance, in the field of communication but not focused on placebo or nocebo, were not included. These can also provide effective strategies to optimize patient-provider

relationships and other communication aspects[e.g.,68,69] but are beyond the scope of the current work. In addition, other strategies to leverage placebo effects or mitigate nocebo effects, including counterconditioning[70,71] or demonstrating the presence of nocebo effects by personalized N=1 trials[70-72], were not included.

Some of the strategies are expert-recommended but have only been studies preliminary in patient groups, such as the strategies to explain placebo and nocebo effects. The first studies in patient groups are promising[60,73-75], yet support mostly still stems from research with healthy volunteers (for review[62]). Similarly, other communication strategies are frequently studied in healthy participants, such as framing (for review[55]). Finally, the recommendations offer general advice and tools to communicate. It is crucial to carefully weigh the (dis)advantages of employing a strategy for each individual patient. Communication is always person- and context-dependent, and one strategy may not be equally beneficial for everyone.

CONCLUSIONS

In summary, this paper discusses multiple recommendations for optimizing placebo effects and managing nocebo effects to improve treatment efficacy in clinical practice. By leveraging effective communication strategies during patient-provider interactions, we aim to ensure that healthcare professionals are well-equipped to shape patient expectations and enhance therapeutic outcomes. As we move forward, these recommendations will be integrated into training programs designed to spread this knowledge as widely as possible within daily clinical practice

References

1. Bagnis A, Meeuwis SH, Haas JW, et al. A scoping review of placebo and nocebo responses and effects: insights for clinical trials and practice. *Health Psychol Rev*. Jun 2025;19(2):409-447. doi:10.1080/17437199.2025.2471792
2. Evers AWM, Colloca L, Blease C, et al. Implications of Placebo and Nocebo Effects for Clinical Practice: Expert Consensus. *Psychother Psychosom*. 2018;87(4):204-210. doi:10.1159/000490354
3. Colloca L, Miller FG. How placebo responses are formed: a learning perspective. *Philos Trans R Soc Lond B Biol Sci*. Jun 27 2011;366(1572):1859-69. doi:10.1098/rstb.2010.0398
4. Blasini M, Peiris N, Wright T, Colloca L. Chapter Nine - The Role of Patient–Practitioner Relationships in Placebo and Nocebo Phenomena. In: Colloca L, ed. *International Review of Neurobiology*. Academic Press; 2018:211-231.
5. Evers AWM, Colloca L, Blease C, et al. What Should Clinicians Tell Patients about Placebo and Nocebo Effects? Practical Considerations Based on Expert Consensus. *Psychother Psychosom*. 2021;90(1):49-56. doi:10.1159/000510738
6. Caliskan EB, Bingel U, Kunkel A. Translating knowledge on placebo and nocebo effects into clinical practice. *PAIN Reports*. 2024;9(2)
7. O'Keeffe M, Skidmore N, Bagnis A, et al. Placebo and Nocebo in Clinical Practice: An Online Cross-sectional Survey of European Healthcare Professionals Views, Practices and Training Needs. *PLoS One*. 2026;Accepted for publication
8. Westendorp J, van Vliet LM, Meeuwis SH, et al. Optimizing placebo and minimizing nocebo effects through communication: e-learning and virtual reality training development. *BMC Med Educ*. Jul 1 2024;24(1):707. doi:10.1186/s12909-024-05671-0
9. Kea B, Sun BC-A. Consensus development for healthcare professionals. *Internal and Emergency Medicine*. 2015/04/01 2015;10(3):373-383. doi:10.1007/s11739-014-1156-6
10. Kremer LCM, Mulder RL, Oeffinger KC, et al. A worldwide collaboration to harmonize guidelines for the long-term follow-up of childhood and young adult cancer survivors: A report from the international late effects of Childhood Cancer Guideline Harmonization Group. *Pediatric Blood & Cancer*. 2013/04/01 2013;60(4):543-549. doi:https://doi.org/10.1002/pbc.24445
11. Bensing JM, Deveugele M, Moretti F, et al. How to make the medical consultation more successful from a patient's perspective? Tips for doctors and patients from lay people in the United Kingdom, Italy, Belgium and the Netherlands. *Patient Educ Couns*. Sep 2011;84(3):287-93. doi:10.1016/j.pec.2011.06.008
12. van Vliet LM, Leeuwenburgh MLR, Westendorp J, van Dulmen S, de Jong PC, Stouthard JML. Good versus bad news consultations in advanced breast cancer: the role of empathy in information recall - an observational study. *BMJ Support Palliat Care*. Mar 27 2023;doi:10.1136/spcare-2022-003938
13. Westendorp J, Stouthard J, Meijers MC, et al. The power of clinician-expressed empathy to increase information recall in advanced breast cancer care: an observational study in clinical care, exploring the mediating role of anxiety. *Patient Educ Couns*. May 2021;104(5):1109-1115. doi:10.1016/j.pec.2020.10.025
14. Back AL, Arnold RM, Baile WF, Tulsky JA, Fryer-Edwards K. Approaching difficult communication tasks in oncology. *CA Cancer J Clin*. May-Jun 2005;55(3):164-77. doi:10.3322/canjclin.55.3.164

15. Pollak KI, Arnold RM, Jeffreys AS, et al. Oncologist communication about emotion during visits with patients with advanced cancer. *J Clin Oncol*. Dec 20 2007;25(36):5748-52. doi:10.1200/jco.2007.12.4180
16. van Vliet LM, Epstein AS. Current state of the art and science of patient-clinician communication in progressive disease: patients' need to know and need to feel known. *J Clin Oncol*. Nov 1 2014;32(31):3474-8. doi:10.1200/jco.2014.56.0425
17. Drossman DA, Chang L, Deutsch JK, et al. A review of the evidence and recommendations on communication skills and the patient–provider relationship: a Rome foundation working team report. *Gastroenterology*. 2021;161(5):1670-1688. e7.
18. Sep MS, van Osch M, van Vliet LM, Smets EM, Bensing JM. The power of clinicians' affective communication: how reassurance about non-abandonment can reduce patients' physiological arousal and increase information recall in bad news consultations. An experimental study using analogue patients. *Patient Educ Couns*. Apr 2014;95(1):45-52. doi:10.1016/j.pec.2013.12.022
19. Liu J, Yu C, Li C, Han J. Cooperation or Conflict in Doctor-Patient Relationship? An Analysis From the Perspective of Evolutionary Game. *IEEE Access*. 2020;8:42898-42908. doi:10.1109/ACCESS.2020.2977385
20. Arora NK, Gustafson DH. Perceived helpfulness of physicians' communication behavior and breast cancer patients' level of trust over time. *J Gen Intern Med*. Feb 2009;24(2):252-5. doi:10.1007/s11606-008-0880-x
21. Brugel S, Postma-Nilsenová M, Tates K. The link between perception of clinical empathy and nonverbal behavior: The effect of a doctor's gaze and body orientation. *Patient Educ Couns*. Oct 2015;98(10):1260-5. doi:10.1016/j.pec.2015.08.007
22. Hillen MA, de Haes HC, van Tienhoven G, et al. All eyes on the patient: the influence of oncologists' nonverbal communication on breast cancer patients' trust. *Breast Cancer Res Treat*. Aug 2015;153(1):161-71. doi:10.1007/s10549-015-3486-0
23. Swayden KJ, Anderson KK, Connelly LM, Moran JS, McMahon JK, Arnold PM. Effect of sitting vs. standing on perception of provider time at bedside: a pilot study. *Patient Educ Couns*. Feb 2012;86(2):166-71. doi:10.1016/j.pec.2011.05.024
24. Jiang S, Wu Z, Zhang X, et al. How does patient-centered communication influence patient trust?: The roles of patient participation and patient preference. *Patient Education and Counseling*. 2024/05/01/ 2024;122:108161. doi:https://doi.org/10.1016/j.pec.2024.108161
25. Martinez KA, Resnicow K, Williams GC, et al. Does physician communication style impact patient report of decision quality for breast cancer treatment? *Patient Educ Couns*. Dec 2016;99(12):1947-1954. doi:10.1016/j.pec.2016.06.025
26. Park J, Saha S, Han D, et al. Are clinicians' self-reported empathic concern and perspective-taking traits associated with their response to patient emotions?: Communication Studies. *Patient Educ Couns*. Sep 2020;103(9):1745-1751. doi:10.1016/j.pec.2020.04.016
27. Uitterhoeve R, Bensing J, Dilven E, Donders R, deMulder P, van Achterberg T. Nurse-patient communication in cancer care: does responding to patient's cues predict patient satisfaction with communication. *Psychooncology*. Oct 2009;18(10):1060-8. doi:10.1002/pon.1434

28. Kronish IM, Leventhal H, Horowitz CR. Understanding minority patients' beliefs about hypertension to reduce gaps in communication between patients and clinicians. *J Clin Hypertens (Greenwich)*. Jan 2012;14(1):38-44. doi:10.1111/j.1751-7176.2011.00558.x
29. Bingel U. Placebo 2.0: the impact of expectations on analgesic treatment outcome. *Pain*. Sep 2020;161 Suppl 1:S48-s56. doi:10.1097/j.pain.0000000000001981
30. Bishop FL, Coghlan B, Geraghty AW, et al. What techniques might be used to harness placebo effects in non-malignant pain? A literature review and survey to develop a taxonomy. *BMJ open*. 2017;7(6):e015516.
31. Price DD, Finniss DG, Benedetti F. A comprehensive review of the placebo effect: recent advances and current thought. *Annu Rev Psychol*. 2008;59:565-90. doi:10.1146/annurev.psych.59.113006.095941
32. Hafkamp FJ, Gosens T, de Vries J, den Oudsten BL. Do dissatisfied patients have unrealistic expectations? A systematic review and best-evidence synthesis in knee and hip arthroplasty patients. *EFORT Open Rev*. Apr 2020;5(4):226-240. doi:10.1302/2058-5241.5.190015
33. Mannion AF, Impellizzeri FM, Naal FD, Leunig M. Fulfilment of patient-rated expectations predicts the outcome of surgery for femoroacetabular impingement. *Osteoarthritis Cartilage*. Jan 2013;21(1):44-50. doi:10.1016/j.joca.2012.09.013
34. Schemer L, Rief W, Glombiewski JA. Treatment Expectations Towards Different Pain Management Approaches: Two Perspectives. *Journal of Pain Research*. 2020/07/09 2020;13(null):1725-1736. doi:10.2147/JPR.S247177
35. Wolters F, Peerdeman K, Gussekloo J, et al. Prescriptions of Essentially Placebo Treatments Among General Practitioners in 21 Countries. *JAMA Netw Open*. Sep 2 2025;8(9):e2532672. doi:10.1001/jamanetworkopen.2025.32672
36. Peerdeman KJ, Geers AL, Della Porta D, Veldhuijzen DS, Kirsch I. Underpredicting pain: an experimental investigation into the benefits and risks. *Pain*. Jul 1 2021;162(7):2024-2035. doi:10.1097/j.pain.0000000000002199
37. Rosén A, Sachs L, Ekdahl A, et al. Surgeons' behaviors and beliefs regarding placebo effects in surgery. *Acta Orthop*. Oct 2021;92(5):507-512. doi:10.1080/17453674.2021.1941627
38. Kleinstäuber M, Colgan S, Petrie KJ. Changing understanding, perceptions, pain relief of and preference for generic medicines with patient education: An experimental intervention study. *Res Social Adm Pharm*. Jul 2021;17(7):1288-1299. doi:10.1016/j.sapharm.2020.09.014
39. Danaher TS, Berry LL, Howard C, Moore SG, Attai DJ. Improving How Clinicians Communicate With Patients: An Integrative Review and Framework. *Journal of Service Research*. 2023;26(4):493-510. doi:10.1177/10946705231190018
40. Enck P, Bingel U, Schedlowski M, Rief W. The placebo response in medicine: minimize, maximize or personalize? *Nature reviews Drug discovery*. 2013;12(3):191-204.
41. Gasteiger C, Jones ASK, Kleinstäuber M, et al. Effects of Message Framing on Patients' Perceptions and Willingness to Change to a Biosimilar in a Hypothetical Drug Switch. *Arthritis Care Res (Hoboken)*. Sep 2020;72(9):1323-1330. doi:10.1002/acr.24012
42. Blakely K, Karanicolas PJ, Wright FC, Gotlib Conn L. Optimistic honesty: understanding surgeon and patient perspectives on hopeful communication in pancreatic cancer care. *HPB (Oxford)*. Jul 2017;19(7):611-619. doi:10.1016/j.hpb.2017.04.001

43. Benedetti F, Pollo A, Lopiano L, Lanotte M, Vighetti S, Rainero I. Conscious expectation and unconscious conditioning in analgesic, motor, and hormonal placebo/nocebo responses. *J Neurosci*. May 15 2003;23(10):4315-23. doi:10.1523/jneurosci.23-10-04315.2003
44. Watermeyer J, Penn C. "Tell me so I know you understand": pharmacists' verification of patients' comprehension of antiretroviral dosage instructions in a cross-cultural context. *Patient Educ Couns*. May 2009;75(2):205-13. doi:10.1016/j.pec.2008.09.009
45. Robinson EJ, Whitfield MJ. Improving the efficiency of patients' comprehension monitoring: a way of increasing patients' participation in general practice consultations. *Soc Sci Med*. 1985;21(8):915-9. doi:10.1016/0277-9536(85)90148-0
46. Petrie KJ, Rief W. Psychobiological Mechanisms of Placebo and Nocebo Effects: Pathways to Improve Treatments and Reduce Side Effects. *Annual Review of Psychology*. 2019;70(Volume 70, 2019):599-625. doi:https://doi.org/10.1146/annurev-psych-010418-102907
47. Baumeister RF, Bratslavsky E, Finkenauer C, Vohs KD. Bad is Stronger than Good. *Review of General Psychology*. 2001/12/01 2001;5(4):323-370. doi:10.1037/1089-2680.5.4.323
48. Zinn JO. Heading into the unknown: Everyday strategies for managing risk and uncertainty. *Health, risk & society*. 2008;10(5):439-450.
49. Ren Y, Xu F. How patients should be counseled on adverse drug reactions: Avoiding the nocebo effect. *Research in Social and Administrative Pharmacy*. 2018/07/01/ 2018;14(7):705. doi:https://doi.org/10.1016/j.sapharm.2018.04.007
50. Zech N, Schrödinger M, Hansen E. Avoidance of nocebo effects by coincident naming of treatment benefits during the medical interview for informed consent-Evidence from dynamometry. *Front Psychol*. 2022;13:923044. doi:10.3389/fpsyg.2022.923044
51. Crum AJ, Heathcote LC, Morrison Z, et al. Changing Mindsets About Side Effects of the COVID-19 Vaccination: A Randomized Controlled Trial. *Ann Behav Med*. Oct 16 2023;57(11):901-909. doi:10.1093/abm/kaad020
52. Howe LC, Leibowitz KA, Perry MA, et al. Changing Patient Mindsets about Non-Life-Threatening Symptoms During Oral Immunotherapy: A Randomized Clinical Trial. *J Allergy Clin Immunol Pract*. May-Jun 2019;7(5):1550-1559. doi:10.1016/j.jaip.2019.01.022
53. Colagiuri B, McGuinness K, Boakes RA, Butow PN. Warning about side effects can increase their occurrence: an experimental model using placebo treatment for sleep difficulty. *J Psychopharmacol*. Dec 2012;26(12):1540-7. doi:10.1177/0269881112458730
54. Mahr A, Golmard C, Pham E, Iordache L, Deville L, Faure P. Types, frequencies, and burden of nonspecific adverse events of drugs: analysis of randomized placebo-controlled clinical trials. *Pharmacoepidemiol Drug Saf*. Jul 2017;26(7):731-741. doi:10.1002/pds.4169
55. Barnes K, Faasse K, Geers AL, et al. Can Positive Framing Reduce Nocebo Side Effects? Current Evidence and Recommendation for Future Research. Mini Review. *Frontiers in Pharmacology*. 2019;Volume 10 - 2019
56. Planès S, Villier C, Mallaret M. The nocebo effect of drugs. *Pharmacology Research & Perspectives*. 2016/04/01 2016;4(2):e00208. doi:https://doi.org/10.1002/prp2.208
57. Webster RK, Weinman J, Rubin GJ. How does the side-effect information in patient information leaflets influence peoples' side-effect expectations? A cross-sectional national survey of 18- to 65-year-olds in England. *Health Expect*. Dec 2017;20(6):1411-1420. doi:10.1111/hex.12584

58. Varelmann D, Pancaro C, Cappiello EC, Camann WR. Nocebo-induced hyperalgesia during local anesthetic injection. *Anesth Analg*. Mar 1 2010;110(3):868-70. doi:10.1213/ANE.0b013e3181cc5727
59. Charlesworth JEG, Petkovic G, Kelley JM, et al. Effects of placebos without deception compared with no treatment: A systematic review and meta-analysis. *J Evid Based Med*. May 2017;10(2):97-107. doi:10.1111/jebm.12251
60. Pan Y, Kinitz T, Stapic M, Nestoriuc Y. Minimizing Drug Adverse Events by Informing About the Nocebo Effect-An Experimental Study. *Front Psychiatry*. 2019;10:504. doi:10.3389/fpsyt.2019.00504
61. Görner KJ, Spotts EK, Geers AL. Identifying the psychological effects of nocebo education: results from two pre-registered experiments. *J Behav Med*. Dec 2024;47(6):1080-1093. doi:10.1007/s10865-024-00520-3
62. Spotts EK, Geers AL. Interventions that inform patients about nocebo effects: A systematic review of the current evidence. *Ann Behav Med*. Jan 4 2025;59(1)doi:10.1093/abm/kaaf067
63. Barsky AJ, Saintfort R, Rogers MP, Borus JF. Nonspecific medication side effects and the nocebo phenomenon. *Jama*. Feb 6 2002;287(5):622-7. doi:10.1001/jama.287.5.622
64. Smits RM, Veldhuijzen DS, Olde Hartman T, et al. Explaining placebo effects in an online survey study: Does 'Pavlov' ring a bell? *PLoS One*. 2021;16(3):e0247103. doi:10.1371/journal.pone.0247103
65. Kaptchuk TJ, Friedlander E, Kelley JM, et al. Placebos without deception: a randomized controlled trial in irritable bowel syndrome. *PLoS One*. Dec 22 2010;5(12):e15591. doi:10.1371/journal.pone.0015591
66. Lista AD, Sirimaturos M. Pharmacokinetic and Pharmacodynamic Principles for Toxicology. *Crit Care Clin*. Jul 2021;37(3):475-486. doi:10.1016/j.ccc.2021.03.001
67. Brouwers MC, Kho ME, Browman GP, et al. AGREE II: advancing guideline development, reporting and evaluation in health care. *Canadian Medical Association Journal*. 2010;182(18):E839. doi:10.1503/cmaj.090449
68. Gilligan T, Coyle N, Frankel RM, et al. Patient-Clinician Communication: American Society of Clinical Oncology Consensus Guideline. *J Clin Oncol*. Nov 1 2017;35(31):3618-3632. doi:10.1200/jco.2017.75.2311
69. Kuwana M, Saito A, Farrington S, Galetti I, Denton CP, Khanna D. Physician–patient communication in the treatment of systemic sclerosis–associated interstitial lung disease: A narrative review and recommendations. *Journal of Scleroderma and Related Disorders*. 2025:23971983251324803.
70. Quinn VF, Colagiuri B. Chapter Seventeen - Using Learning Strategies to Inhibit the Nocebo Effect. In: Colloca L, ed. *International Review of Neurobiology*. Academic Press; 2018:307-327.
71. Manaï M, van Middendorp H, Veldhuijzen DS, Huizinga TWJ, Evers AWM. How to prevent, minimize, or extinguish nocebo effects in pain: a narrative review on mechanisms, predictors, and interventions. *Pain Rep*. May-Jun 2019;4(3):e699. doi:10.1097/pr9.0000000000000699
72. Howard JP, Wood FA, Francis DP. Why Do I Get Side Effects? Personalized (N-of-1) Trials for Statin Intolerance and the Nocebo Effect. *Harv Data Sci Rev*. 2022;2022doi:10.1162/99608f92.abc57f1b

73. Meijers MC, Stouthard J, Evers AWM, et al. Possible alleviation of symptoms and side effects through clinicians' nocebo information and empathy in an experimental video vignette study. *Sci Rep*. Sep 27 2022;12(1):16112. doi:10.1038/s41598-022-19729-w
74. Michnevich T, Pan Y, Hendi A, Oechsle K, Stein A, Nestoriuc Y. Preventing adverse events of chemotherapy for gastrointestinal cancer by educating patients about the nocebo effect: a randomized-controlled trial. *BMC Cancer*. Sep 23 2022;22(1):1008. doi:10.1186/s12885-022-10089-2
75. Nestoriuc Y, Pan Y, Kinitz T, Weik E, Shedden-Mora MC. Informing About the Nocebo Effect Affects Patients' Need for Information About Antidepressants-An Experimental Online Study. *Front Psychiatry*. 2021;12:587122. doi:10.3389/fpsyt.2021.587122

SUPPLEMENTARY FILES.

Belonging to

"Managing Placebo and Nocebo Effects during Patient-provider interactions: A Consensus Statement and Clinical Recommendations for Healthcare Professionals"

Methods

First Stream (prior work synthesis & expert consensus)

Evidence for the first stream stems from expert consensus within the PANACEA Consortium, existing guidance and insights from prior narrative and systematic reviews[e.g.,1-12], consensus papers[13,14], and a previous review of the literature, that informed the development of an existing eLearning module that reviewed literature until 2021[15].

Second stream (systematic review of empirical evidence)

Eligibility criteria

Studies were included if they concerned placebo or nocebo effects in the context of medical communication and patient-provider interaction, were available full-text, and were published in peer-reviewed journals. To illustrate, studies assessing strategies to enhance placebo effects or minimize nocebo effects in patients during medical communication were included, whereas RCTs with placebo as comparator or experimental studies in healthy volunteers were excluded. Studies on open-label placebo were also included, as they concern communicating about placebo effects. The search was not limited to specific health conditions or methodologies.

Search strategy

The search strategy was developed based on the PRISMA guidelines[16] in collaboration with an information specialist. It was piloted to ensure its validity and to ensure that a set of core articles were included in the search results. We strategically searched the following five databases from January 1, 2000, until May 15, 2024: PubMed, Embase (Ovid version), Web of Science, Cochrane Library, and PsycINFO (ABSCO host). The search strategy comprised a combination of keywords and controlled vocabulary terms relevant to clinician-patient communication and placebo and nocebo effects in patient populations (Appendix A in this document). The search strings were tailored to each database's syntax and subject headings.

Selection of evidence

After extracting all records and removing duplicates, one reviewer screened the records' titles, abstracts, and keywords. Next, full texts were evaluated against the in- and exclusion criteria. Doubts about study eligibility were resolved in discussion with the research group. Data from the included articles were extracted by 2 reviewers using a piloted form. The Quality of evidence was assessed based on the American College of Cardiology and

American Heart Association "Class of Recommendations and Level (Quality) of Evidence Ratings" system[17] (Appendix B).

Results

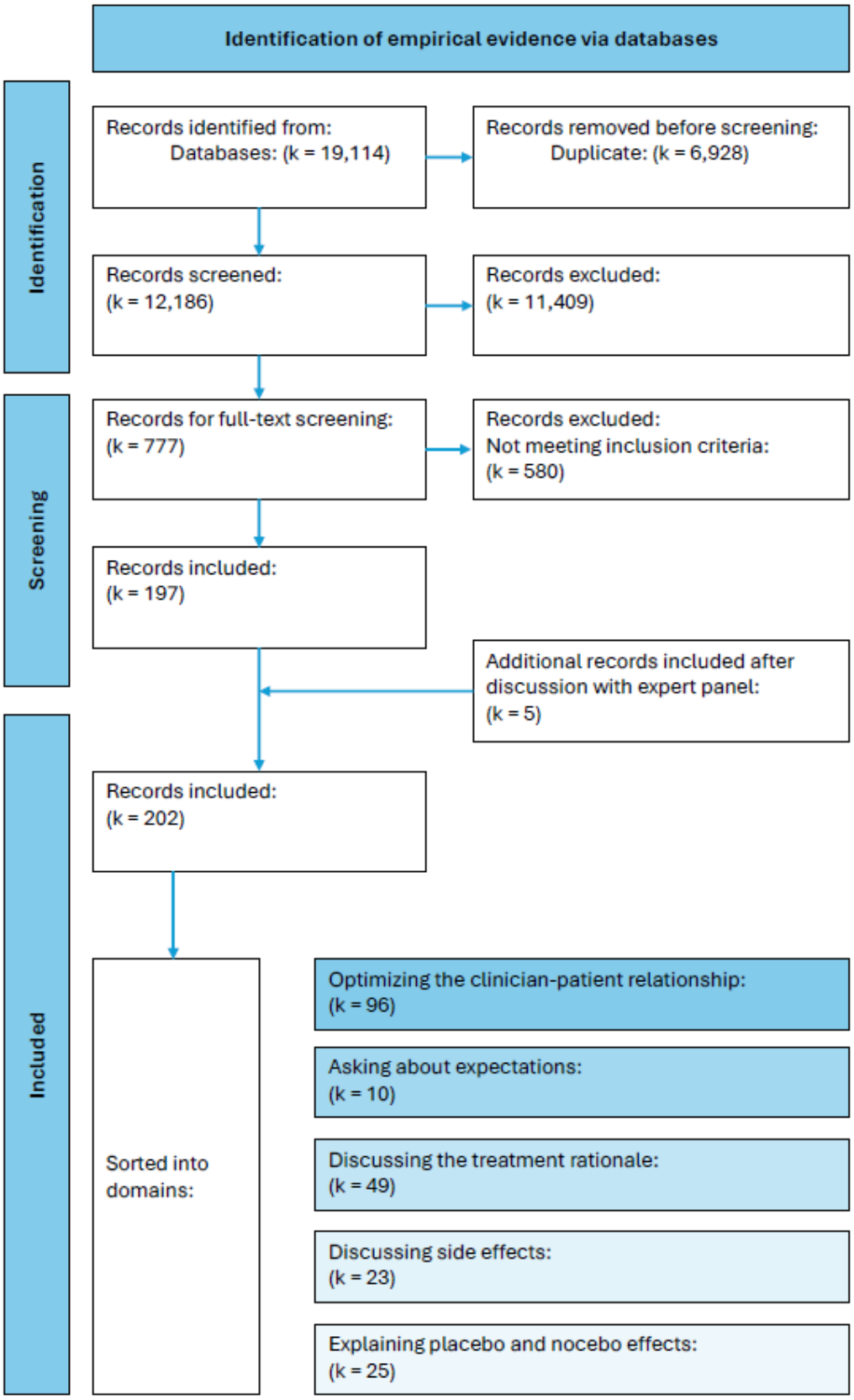
An overview of the literature backing each of the clinical recommendations from each information stream is provided in Supplementary Table S1 (Appendix C). For each domain, an information box is provided to outline the relevant theoretical background.

First stream (prior work synthesis & expert consensus)

Evidence for the first stream stems from expert consensus within the PANACEA Consortium, existing guidance and insights from prior narrative and systematic reviews[e.g.,1-12], consensus papers[13,14], and a previous review of the literature, that informed the development of an existing eLearning module that reviewed literature until 2021[15].

Systematic review (systematic review of empirical evidence)

We extracted 19,114 records from the databases. Duplicates were identified using Rayyan[18], resulting in 12,186 unique records. After screening the titles and abstracts, 197 articles were included in the guidelines. Five studies were additionally included after discussion with an expert panel. A flowchart is provided in Supplementary Figure S1. For an extensive summary of each individual study's findings and subsequently extracted recommendations for clinical practice, see Supplementary Table S2 (Appendix C).



***Supplementary Figure 1**. Flow chart for the inclusion of second-stream evidence*

i) Optimizing the clinician-patient relationship

Systematic search: evidence in patient groups

Ninety-six studies relating to the patient-provider relationship were included in the systematic review (total n = 133.608). Most studies concerned cross-sectional survey, observational or similar design types (k = 57), followed by (semi-structured) interview and focus group studies (k = 15). Eight randomized controlled trials/studies were included, as were four experiments. Other design types included vignette (k = 4), mixed methods (k = 2), prospective or observational cohort (k = 2), and other studies (k = 4).

Regarding sample descriptors, most did not disclose specific information or included patients with various diagnoses (k = 21). Some samples were described using general terms (i.e., inpatients k = 6, outpatients k = 5, patients seeking GP or family doctor care k = 10, scheduled for radiotherapy k = 2, elective knee surgery k = 1, other specialties k = 9). When specific diagnoses were described, these mostly concerned patients with cancer (k = 21), diabetes (k = 4), HIV (k = 4), (chronic) pain (k = 3) or other diagnoses, including irritable bowel syndrome, tuberculosis, hypertension and pulmonary conditions (k = 7).

Info box i. Background

When people are confronted with a potential illness, they need high-quality information that is understandable, personalized, and backed by scientific evidence and clinical expertise, coupled with emotional support[19,20]. Studies demonstrate that such an approach can result in placebo effects[20]. Investing in the patient-provider relationship can help achieve this – among other, it is important that clinicians are empathic and warm, as this has positive effects on health outcomes[19-21]. When a clinician is empathic, patients are less anxious and insecure, and more satisfied[19,20], they can recall more medical information[22,23], and clinical outcomes can be improved through better treatment adherence[20,24]. Additionally, empathy is important for physicians themselves: when physicians are more empathic, they experience greater job satisfaction[25]. Thus, empathy is important, not only because patients regard it as such, but also through improvements of clinical outcomes and healthcare professionals' job satisfaction. As part of the NURSE framework for empathic behaviours[12,26,27] (Supplementary Table S3, Appendix C), both verbal and non-verbal behaviours are recommended, as they can be powerful in fostering empathy, can contribute to a good clinician-patient relationship and can improve health outcomes.

Clinical recommendations

Interest in the Patient

Patients value a physician's interest in them as a person, preferring not to be regarded as merely a "body," "number," or "case." Even minor behaviours, such as inquiring about their

home life or noting changes in their appearance, can significantly contribute to patients feeling "seen" and valued[19]. This perspective, rooted in expert recommendations based on prior reviews and consensus papers, highlights that patient satisfaction and trust are closely tied to the perceived level of listening and personal attention from healthcare providers[19,28,29], and is further substantiated by systematic evidence from patient studies. These studies indicate that clinicians' attentiveness and engagement—through active listening and genuine interpersonal connection—are fundamental in enhancing the clinician-patient relationship[30-32]. While some research reports limited effects of patient-centered communication, suggesting nuances in its impact[33], it is clear that misjudging patients' unmet needs can reduce perceived empathy and satisfaction[34,35]. Overall, respectful and caring behaviours, including honesty, respect, and demonstrated competence, are consistently found to be central to building patient trust and fostering positive interactions[36-46].

Give Reassurance about Ongoing Care

Patients who are confronted with serious illness frequently experience fears, for instance about abandonment, the progression of their illness, or its incurability. Brief reassuring statements from clinicians, such as "we're going to take good care of you", can reduce insecurity and fear, while enhancing memory recall after consultation by up to 8%[47]. This finding underscores the therapeutic significance of empathy and reassurance in clinical encounters. Equally essential is the establishment of a cooperative clinician–patient relationship grounded in shared goals. Such collaboration fosters trust, facilitates open communication, and ultimately enhances the quality of care[48]. These practices, rooted in expert recommendations, are supported by empirical evidence in patient groups, as evidenced from the systematic review: patients list continuity of care as one of the key actions to take to improve trust in the clinician, and a priority, alongside with being treated as a partner and person[49-51]. One study finds that blending interpersonal and digital interventions could facilitate the availability of healthcare to patients and further reassure patients that continuous care will be provided[52].

Respond to Negative Emotions

Patients frequently express negative emotions, such as grief and anger. Clinicians don't always respond to these emotions well. When clinicians do respond to negative emotions, patients are more satisfied[53], while the consultation does not necessarily last longer[54]. Concrete examples of how to respond with empathy to patients' negative emotions are described using the NURSE model in Supplementary Table S3. Emotional support remains a significant but often overlooked aspect of patient care. These strategies, recommended by experts, are consistent with previous work[28] and offer practical guidance for clinicians to effectively address patients' emotional needs. From the systematic review, there is ample evidence that , among other, paying attention to emotional needs and support,

addressing and responding to emotions, and empathic and affective communication are central to fostering trust and building rapport with patients across disciplines[55-67]. On long-term outcomes, the impact of emotional support on trust may even surpass other supportive actions, such as information provision[58]. Nonverbal communication in response to emotions and clinician demeanours, such as kindness and approachability, were also found relevant to building trust[65].

Eye Contact and Physical Presence

Nonverbal behaviours can be used to optimize the clinician-patient relationship in a number of ways and experts agree that these should be leveraged in daily practice. For instance, increased eye contact enhances patient trust and information recall[21]. Patients value clinicians who appear to take time for them; when clinicians sit rather than stand, consultations are perceived as 50% longer and more positive, despite equal duration[68]. Such findings highlight the therapeutic importance of non-verbal cues and physical presence. Clinicians' facial expressions and their demeanour moreover influence perceived trustworthiness and competence, shaping satisfaction and modulating placebo effects, including pain reduction[69-71]. In addition, the presence of supportive individuals during invasive procedures can induce hypoalgesic effects and lower anxiety[72], underscoring the broader value of emotional support and trusted presence in promoting patient comfort and well-being.

This perspective on the critical role of certain nonverbal behaviours in fostering trust and strengthening the clinician-patient relationship is backed by evidence stemming from the systematic review. Behaviours such as attentive listening, maintaining eye contact, and adopting a patient-centered posture enhance trust[19,21,73]. However, excessive eye contact or expressions of uncertainty can also diminish trust[74,75], highlighting the need for natural body language and behaviours that are adapted to the situation at hand. Several studies confirmed that patients preferred clinicians who sit during consultations, especially when receiving bad news, and perceived these encounters as longer and more engaging[68,76,77]. Facial expressions contributed to trust and help address patients' emotional needs[78]. In contrast, clinician attire appeared to have little effect on trust or perceived empathy[79,80].

Adapt communication style to the patient

It is essential to adapt the communication style to the patient, depending on their values and expectations, as well as their understanding and information needs[81-87]. Importantly, clinicians should consider whether it is always helpful to give advice, for instance when patients are highly distressed[88]. These findings underline the need for personalized communication, and understanding of the patient as a person, to foster trust and optimize the clinician-patient relationship.

Patient-centered communication

Results from the systematic search highlight that patient-centered communication is highly valued by patients, and is regarded as a core component of empathy, enhancing decision making and the clinician–patient relationship[89-100]. It could also reduce information avoidance by fostering trust and improving health literacy of patients[101]. Enhanced clinician empathy is linked to greater care quality, treatment satisfaction, and stronger clinician–patient relations[102-105]. Overall, effective, patient-centered, and shared decision-making communication could improve self-management, adherence, and treatment outcomes[106-113].

Other behaviours

While not explicitly mentioned in earlier evidence (i.e., the first stream of evidence), our systematic review identified several studies that recommended other behaviours to leverage the clinician-patient relationship to foster placebo effects. Of note are: augmenting contextual factors[114], shared decision making and providing clear explanations[115,116]; addressing prior negative encounters[117]; optimizing affective[118], positive[119], effective or direct communication[120-126]; addressing language barriers[127]; fostering a sense of control and autonomy[128]; fostering trust in benevolence[129]; and improving cultural understanding[130,131].

ii) Asking about expectations

Systematic search: evidence in patient groups

Ten studies relating to the prior expectations of patients (total n = 1.478.350) were included. Study types comprised randomized controlled trials (k = 3), observational (cross-sectional) studies or surveys (k = 3), structured interviews (k = 2), focus groups (k = 1), and a prospective longitudinal survey-based study (k = 1). Patients with diverse diagnoses (k = 1), iron deficiency anaemia (k = 1), terminal diagnoses (k = 1), chronic pain (k = 1), cancer (k = 1), hypertension (k = 1), acute respiratory tract symptoms (k = 1), and those scheduled for surgery (k = 1), vaccination (k = 1), or registered with general practitioner offices (k = 1) were included.

Info box ii. Background

Patients naturally bring their own expectations to the consultation, shaped, for instance, by their treatment history, or by experiences of their family members. Such factors can contribute to patient beliefs about a treatment, irrespective of whether the treatment itself is identical or shares similar characteristics of administration. Pre-existing beliefs play a significant role in shaping patients' expectations regarding the treatment process and outcomes[132]. When patients expect a treatment to help them, it generally results in better outcomes[2,133,134]. On the contrary, when patients have little confidence in a treatment, this can result in the treatment being less effective[135].

Patients may have unrealistic expectations about a treatment, for example that symptoms will be cured immediately, or they may underestimate the length of the treatment. These beliefs could impede the treatment or result in nonadherence. If patients' expectations are not met, they may be disappointed and lose their motivation for a treatment, which increases the risk of treatment dropout[136,137]. Detecting unrealistically positive expectations and adjusting them can help to prevent such outcomes. It is therefore crucial to ask about a patient's expectations before the start of a certain treatment or medication[136,138].

Clinical recommendations

Ask About and Identify General Expectations Towards Treatment

Incorporating questions about expectations in the consultation with a patient is crucial. Investigating the general attitude towards treatment, especially drug treatments, based on previous experiences can provide valuable insights into patient expectations[2,3,139]. These questions can be integrated seamlessly just before a specific treatment part is explained. Several studies[140,141] highlight the importance of incorporating questions about patient expectations into consultations. Open-ended questions about patients' prior knowledge and experiences with a treatment can provide valuable insights into their expectations and concerns. Such questions encourage patients to articulate their expectations and can

facilitate a more comprehensive understanding of their perspective. Timing these questions just before introducing a specific treatment, as suggested, can enhance patient engagement and facilitate more meaningful discussions.

The value of understanding patient expectations prior to treatment is built upon the vast literature and expert consensus that highlights the importance of expectations to treatment over several years[e.g.,13,14]. Little empirical evidence exists for the immediate value of asking about expectations, however, the systematic review did underline the role of pre-existing beliefs in treatment. For instance, pre-vaccination expectations mediated the relation between different information sources (e.g., social media exposure) and vaccine side effects[142]. Observation of positive treatment effects in others affected disability reported in chronic pain, underlining the importance of these social processes and the potential to leverage them to enhance placebo effects[143]. Focusing on expectations and addressing them before treatment moreover improved clinical outcomes in several conditions[144-146]. In palliative care, using hypothetical scenarios to guide patients in aligning their care plans with realistic outcomes could help informed decisions, including considering of alternate options[147].

Adjust Unrealistic Expectations

Next to asking patients about their general treatment expectations, it is strongly recommended to manage overly optimistic or pessimistic expectations[2]. For instance, when patients express overly optimistic expectations, it is important to clarify the limitations of the treatment. Conversely, for those with overly negative expectations, focusing on potential positive long-term effects can help to recalibrate their outlook[2]. This aligns with the broader literature, suggesting that managing patient expectations is essential for treatment adherence and satisfaction[132,148]. Patients may also expect certain tests or treatment based on their complaints, that could or could not conflict with existing treatment protocols[141]. An open and honest attitude of healthcare professionals can help patients understand treatment suggestions and form realistic expectations[149].

From our systematic review, qualitative research highlights that patients can have varying beliefs about the causes of medical conditions, that may contrast medical models[150]. These beliefs need to be taken seriously. To illustrate, a survey study conducted in a large group of UK GP patients (n = 1.476.252) demonstrated that taking patient problems seriously was the strongest predictor of trust and confidence in clinicians[151]. Patients moreover appear value proactive involvement of clinicians to manage expectations and reassure them in the face of diagnostic uncertainty[152]. Expectations are continuously shaped[153], and addressing them during treatment has the potential to leverage placebo effects.

Address Disappointment from Previous Treatments

Bingel[2] and Schemer et al.[154] suggest identifying negative expectations that may be due to previous treatments and their outcomes, to then emphasize the differences and potential effectiveness of the current treatment. For patients who have experienced disappointing treatment results multiple times, offering alternative routes of administration that resonate with the patient's preferences can play a significant role in enhancing treatment satisfaction and adherence. This nuanced approach underscores the value of personalized care in effectively managing patient expectations and fostering a collaborative patient-provider partnership for improved healthcare outcomes.

iii) Discussing the treatment rationale

Systematic search: evidence from patient groups

Forty-nine studies were included that concerned discussing the treatment rationale. These comprised n = 10.032 patients, n = 14.549 individuals from the general population or diverse patient groups, and n = 1.230 HCPs and n = 95 healthy volunteers (who were included alongside patients in several instances). Studies included randomized controlled trials (k = 17), observational studies (k = 7), cross-sectional surveys (k = 8), semi-structured interviews (k = 5), experiments (k = 4), multicentre or longitudinal surveys (k = 2), and a prospective observational (k = 1), a quasi-experimental (k = 1), a feasibility (k = 1) and an experimental vignette study (k = 1). One study comprised two parts: a cross-sectional survey followed by an experimental study. One study combined a survey with structured interviews.

Studies were conducted in diverse patient groups or the general population (k = 8), in oncology (k = 8), primary care (k = 4), gynaecology (k = 3), Parkinson's disease (k = 3), chronic pain conditions (k = 3), MDD (k = 2), medically unexplained symptoms (k = 2), or other (isolated) medical conditions (k = 11). Some studies included children (k = 3) or adults visiting a medical centre (k = 2).

Info box iii. Background

While the placebo effect is best known as a positive reaction to non-active treatment, the power of expectations perhaps applies even more for recognized, active treatments[155]. In these instances, earlier experiences with a treatment can facilitate placebo effects based on conditioning[6,156]. When someone expects that a treatment will help, this can significantly increase the treatment's effectiveness[10] and alleviate fear and uncertainty[157]. Vastly contributing to such expectations is the rationale that a clinician provides: for instance, the reasons for the treatment, its working mechanisms, and the to-be-expected benefits. A recent study found that most general practitioners regularly describe the expected treatment outcomes as more positive than they themselves expect, possibly to increase their effectiveness. However, a considerable number of practitioners presents the envisaged treatment results sometimes as more negative, possibly to avoid disappointment[158]. There are risks associated with presenting treatments as more effective than they really are, because this can lead to disappointment and damage trust[159,160]. On the other hand, presenting the treatments as less effective can impair their effectiveness and may confront patients with unnecessary fears. It is therefore important to balance information to create positive, but realistic expectations, that are grounded in the patient's individual situation[159,161].

Clinical recommendations

Provide Correct Information Based on Evidence-Based Knowledge

The importance of providing accurate and up-to-date information about a treatment and its expected effects cannot be understated[161]. It is recommended that this information is grounded in the most recent medical knowledge in the clinical guidelines and scientific literature, but also the clinicians' professional experience[138,161]. This recommendation, derived from expert consensus and multiple resources in the placebo literature, aligns with the broader literature, suggesting that patient trust and confidence are closely tied to the credibility of the information provided by healthcare providers. It is also supported by evidence stemming from the systematic review. Multiple studies were identified that investigated the way information is provided during clinician-patient interaction, frequently focusing on the message's content and delivery method. Patients appear to prefer explanatory information and the discussion of biomedical issues over psychosocial issues or empathizing with their emotions[162-164], except for when psychosocial problems are present[164]. Sensitive topics are preferably approached indirectly[162]. Certain medical terms may also induce negative expectations: patients exposed to the term 'heart failure', for instance, believed the illness to have more serious consequences, and felt more anxious and depressed relative to those for whom a euphemism was used[165]. This underlines the need for a sensitive approach in communicating, among other, medical diagnoses. Effective communication could balance optimism with a clear discussion of pessimistic aspects and being emotionally sensitive[166], while providing clear and comprehensive explanations can improve shared decision making[167]. Taken together, these results underline the critical need for careful and credible explanations of treatments.

Avoid Exaggeration or Underestimation of Treatment Results

An accurate presentation of treatment outcomes is essential to maintain credibility and trust with patients. Clinicians should neither exaggerate nor underestimate treatment results[2,159]. Such a balanced approach is crucial for managing expectations and promoting realistic optimism about treatment outcomes. This recommendation for balance is underlined by the empirical evidence, where it was shown that positive phrasing and optimistic communication can be effective for optimizing outcomes[156,168-177], but also that in some instances, interventions to boost placebo effects were counterproductive (i.e., in weight loss)[178]. Such, at a first glance, contradictory study findings could be indicative of different approaches being necessary, depending on the specific medical condition and the treatment that is being recommended.

Empirical evidence further shows that, if the to-be-provided information is negative, indirect messages could be used to reduce anxiety[179]. In case of uncertainty (e.g., of illness trajectory), patients prefer transparent communication[180,181]. Implicit statements of

uncertainty (e.g., "*most likely diagnosis*") led to better outcomes compared with explicit statements of uncertainty, that negatively affected trust, perceived competence, and adherence[180]. These findings underline the need for open discussion of treatment results, without exaggeration or underestimation of potential outcomes. Finally, clear communication, for instance about placebo rates in clinical trials, can improve evaluation of drug accuracy by patients, according to a single study[182].

Clearly State Treatment Rationale and Expected Positive Outcomes in Concrete Terms

Providing a clear rationale for prescribing a treatment and explicitly stating the expected positive outcomes can enhance patient understanding and confidence in the treatment[159,183]. Example phrases are: "*We know that the treatment I'm now prescribing for you can significantly reduce the pain for many patients*" or "*Medical research has shown that most patients experience a strong improvement in the symptoms shortly after taking it.*"

Supplying tangible details about the predicted outcomes, grounded in evidence-based knowledge, helps to align patients' expectations with realistic treatment outcomes, and fosters understanding and confidence in the treatment. This perspective is supported by the systematic review: patients value truthful but caring explanations that foster trust and optimism[184]. Positive and gain-framed messages can improve the willingness to receive a treatment and elevate its perceived effectiveness[185,186], while positive affect-oriented speech can reduce anxiety and optimize self-efficacy[187]. The way that numerical information is presented affects illness experience[188]. Finally, discussion of biomedical information is highly valued, however, physicians usually do not meet expectations regarding biomedical details like symptom causes, severity, and test results[186]. This finding underlines the importance of clinical recommendations on and training in communication about the treatment rationale.

Explain Treatment Mechanisms of Action

Kleinstäuber et al.[161] suggest that explaining the mechanisms of action of the treatment (e.g. what it does in the patient's body) and explaining this clearly and vividly can increase patient confidence in its effectiveness. This recommendation is supported by the broader literature, suggesting that a better understanding of the treatment mechanism can optimize placebo effects and enhance treatment outcomes[2,8], and is backed by empirical evidence that shows that explaining procedural information can reduce anxiety[189], while explaining about the drug approval process can foster confidence in the safety and quality of generic medicines[161]. Lin et al.[190] show that considering a combination of the patient's (medical) history, physical examination, and prior research, in explaining the treatment is frequently indicated as important for patients. Taken together, these findings highlight the

importance of explaining the treatment mechanisms in detail to foster placebo effects in patients.

Aligning Patient Expectations and Beliefs with Evidence-Based Care

To create realistic optimistic expectations, that are grounded in the patient's individual situation, it is recommended to first ask what the patient personally expects from a treatment and try to align this with evidence-based care by addressing potential misunderstandings[161,191]. This can help reassure patients and reduce fears[10]. This can also be done when no treatment is being prescribed, by expressing positive expectations about the course of the symptoms, for instance, that the symptoms will usually fade by themselves within a few days. Potentially negative expectations, that could arise because patients are referred to another clinician, could be mitigated, for instance, by explicitly expressing confidence in the new clinician[160].

Empirical evidence underlines that prioritizing and meeting patient expectations can enhance satisfaction and improve outcomes[192,193]. Others found that, while raising positive and realistic expectations did not affect clinical outcomes, this practice did improve perceived care quality[194]. These findings suggest that even when there are limits to the strength of placebo effects, positive effects may be sought elsewhere. Identified strategies to handle unrealistic beliefs include balancing information with either acceptance or denial of these beliefs and using medical expertise to address challenges around unrealistic beliefs[195]. Negative beliefs, including beliefs about medication overuse and medication harm, can be addressed through interpersonal communication, emphasizing trust and emotional support[196]. Taken together, various strategies are possible to align expectations with realistic outcomes, and it is prudent that the clinician identifies the best possible option given the patient's individual situation.

Emphasize the Purpose and Advantages of Treatment Procedures

For some treatment procedures, focusing on the purpose and advantages of the procedure rather than explicitly mentioning potential pain or discomfort can help to alleviate patient anxiety and enhance cooperation[2]. For example: "*I'm going to numb the area with this, so that you will be comfortable during the procedure.*"[197]. This recommendation is consistent with the broader literature, suggesting that framing information in a positive and reassuring manner can improve patient satisfaction and experience[5,198]. Empirical evidence supports focusing on the potential benefits when explaining procedures, including case descriptions, storytelling, reassurance, clear explanations and favourable prognoses[199,200]. Patients could moreover be more receptive to tailored communication strategies, that account for individual characteristics and emotional states[200,201]. To improve satisfaction, informal talk may be best restricted to history-taking and not be done, for instance, during physical examinations[202].

Check Patient Comprehension

Ensuring that patients fully comprehend the information provided during medical consultations is essential for managing the expectation effects that this information inherently creates[156,203,204]. By verifying that patients have a solid understanding of the information that is being provided, clinicians can address any misconceptions, elucidate complex concepts, and confirm the patient's grasp of their condition, treatment plan, and potential outcomes[2,138,203]. Such a proactive approach allows for prompt corrections and adjustments, and ensures that patients are well-informed and actively engaged in decisions regarding their health[203]. While such practices are well supported through consensus and existing literature, the systematic review only identified three studies, whose findings suggest that checking patient comprehension and taking individual preferences into account may have beneficial effects[205-207]. Moreover, even when patients tend to prefer a specific communication type (i.e., qualitative probability expressions), there is a wide variability in information interpretation[205], underlining the need for checking patient comprehension.

Suggest Reliable Information Sources

Providing patients with additional resources, including leaflets or reliable websites, could address patients' need for additional information and alleviate doubts, ultimately enhancing their understanding of the treatment and its expected outcomes. This recommendation is supported by the broader literature, suggesting that patient education and access to reliable information can improve treatment adherence and outcomes. For instance, studies on health literacy find that increasing patients' knowledge and understanding of treatments can improve treatment engagement, facilitate communication and shared decision making, and improve quality of life[208,209]. Suggesting reliable sources could moreover prevent patients from acquiring untrue information or misattributing adverse symptoms to their treatment, potentially activating nocebo effects[210]. Findings from the systematic review elucidate an interaction between patients' health information seeking behaviours and improvements in communication and the clinician-patient relationship[211-215]. Taken together, these findings underline that clinicians should encourage patients to seek credible health information and provide them with reliable resources.

iv) Discussing risks and side effects

Systematic search: evidence in patient groups

Twenty-two studies were included. Fourteen were conducted in patient groups (n = 3.435), one in patients + healthy controls (n = 69), and three in the general population, including patients (n = 2.598). Study types included (pilot) randomized controlled or comparative trials (k = 12), cross-sectional or randomized surveys (k = 3), (semi-structured) interviews (k = 1), randomized prospective (longitudinal) studies (k = 2), experiments (k = 2), and case reports (k = 1). Studies were conducted in the general population or diverse patient groups (k = 5), oncology (k = 3), depressive or sleeping disorder (k = 3), cardiology (k = 2), or other singular conditions (k = 9).

Info box iv. Background

Research show that mentioning risks and side effects can elicit nocebo effects[210]. Clinicians routinely explain risks and possible side effects of a treatment to their patients, but major restrictions to do this adequately include limited time[216]. Only briefly mentioning certain serious side effects or complications can make a patient apprehensive or anxious and can result in the patient experiencing those symptoms more strongly[7]. People tend to focus on and process negative information more thoroughly, which makes it likely that they will overestimate risks[217]. Nonexperts' perception of risk for an event hinges even more on irrational and emotional factors than evidence-based information[218]. It is difficult to give patients the information to which they are entitled, and that they need for informed decisions, without causing unnecessary discomfort or increasing risks of experiencing nocebo effects. It is additionally important to realize that, if the patient experiences side effects or complications without being properly warned about them, this in turn could negatively reflect on the clinician-patient relationship.

Clinical recommendations

General structure of the consultation

Emphasize Positive Consequences of Side Effects

In some situations, changing patients' mindsets about side effects may reduce nocebo effects. By reinterpreting minor, non-harmful side effects are positive signals that the treatment may be working, patients may be able to deal with side effects better, reducing anxiety and the risk of nocebo effects[219]. Evidence shows that such a strategy could be relevant when side effects are inherent to the treatment being given, as for vaccinations[220] or allergy desensitization therapies[221].

Balance Side Effect Information with Positive Information

Petrie & Rief[210] recommend that information about side effects can be balanced by other, positive information, for instance about future health changes or treatment benefits: "*the*

side effects may be experienced as unpleasant, but the treatment can help you to feel better later". This approach aligns with the broader literature on information framing, suggesting that framing information positively can enhance patient confidence and treatment adherence. Other forms of balance may be sought in addressing anxiety before providing the information on side effects, or by improving support for patients should any effects occur[210]. This perspective is also supported by empirical evidence, that shows that informing about side effects, while beneficial, can also lead to nocebo effects and misattribution[222,223], the risk of which can be minimized by balancing information about side effects with positive information[224-226]. Balanced information could moreover promote informed decision making[227]. Qualitative studies further highlight the need for balanced and transparent information on risks and benefits among patients[228], although other evidence suggests limited effects[229,230]. This could reflect that patients may have different information needs that the clinician should address. Finally, balancing negative information with other positive interventions, such as self-affirmation, may be helpful to mitigate nocebo effects[231,232].

Investigate Nocebo Effects

It is advisable to investigate whether a patient has a greater risk to develop nocebo effects, for instance due to past negative experiences, or the belief that they are generally highly susceptible to side effects[210]. Leading questions or words should be avoided (e.g. "*Do you think the treatment will be difficult*?" or "*Do you think the side effects will be unpleasant*?") and instead an open formulation should be used (e.g. "*What do you expect about the side effects of this treatment*?"). It is crucial that the patient knows and feels that there are no wrong answers to establish an open and trusting clinician-patient relationship. Understanding the patient's perspective on side effects is crucial to manage nocebo effects[210]. This notion is underlined by evidence stemming from the systematic review: patients can have difficulties with interpreting numerical information[233], underscoring the need to investigate nocebo effects that could be caused by patients' understanding of medical information. Health anxiety and negative beliefs about medicines can further increased negative expectations about side effects[234]. Finally, delayed responses to negative information were found in patients[235], suggesting that nocebo effects may also occur at different timeframes.

State All Symptoms Briefly to Reduce Nocebo Effects

Research has shown that people may remember a smaller number of symptoms better and more vividly, which could increase the risk that they will experience those symptoms via nocebo effects[236]. Based on these findings, it may be beneficial to name all symptoms briefly rather than focus on a few. However, this obviously applies primarily to low-risk side effects; it is essential to clearly communicate side effects that pose serious risks[237]. Empirical evidence shows that most patients prefer brief, targeted explanations of

adverse drug reactions, with details only being provided by the clinician upon request[238]. Other work shows no effects of detailed side effect briefings on number of side effects reported[229]. This underlines the need for further study of this topic.

Framing of Information

Frame Positive Outcomes Rather Than Negative Outcomes

Since humans are more prone to negative than positive information[217], it is recommended to frame information about side effects positively and focus on those who do not experience side effects, such as stating that 90% of patients do not experience complications, rather than saying that 10% do. This strategy aligns with recommendations provided in prior literature[198,210] and is supported by our systematic review, in which several studies demonstrated effects of positive framing on negative expectations and side effects[239,240].

Discuss Risks in Statistical Terms

Planès et al.[241] suggest discussing risks in statistical terms (i.e., 0.1%), rather than referring to "1 in 1,000 people" (or 100, or 10,000), as this approach appeals more to the imagination and reduces the likelihood of anxiety. The second way of risk phrasing appeals more to the imagination, therefore potentially enhancing anxiety. Similar evidence was identified through the systematic review: Simplified and risk-neutral information may reduce nocebo side effects and anxiety[242]. In serious illnesses, such as cancer, absolute mortality risk framing may be preferred over relative mortality risk framing, to reduce bias and ensure better informed decision making[243]. Using descriptors such as "very common" and "common" can also result in negative expectations for side effects, even when probabilities of these effects are low[234]. Taken together, there are various ways to phrase risks, and discussing them in statistical terms could be most helpful to mitigate nocebo effects.

Use Neutral Terms When Performing a Procedure

Varelmann et al.[197] show that the phrasing used to described medical procedures (i.e., either positively, "*we will give you a local anaesthetic that will make you comfortable*", or negatively, "*you will feel a sting, this will be the worst part of the procedure*"[197]) can affect pain experience following a local anaesthetic injection. Avoiding negative phrasing is therefore recommended to prevent inadvertently evoking nocebo effects.

v) Explain placebo and nocebo effects to patients

Systematic search results: evidence from studies in patient groups

Twenty-five studies were included. Most were randomized controlled (clinical) trials (k = 16) or online or laboratory-based experiments (k = 4). Five employed other study designs (e.g., interviews, mixed methods). Most studies (k = 18) were focused on open-label placebo effects, where placebo interventions were provided along with a rationale explaining their potentially beneficial effects. Five studies focused on education about nocebo effects, and two on education about placebo effects.

All studies included patients (n = 2.171). Specific medical conditions were pain (k = 5), allergic rhinitis (k = 4), oncology (k = 4), gastroenterology (k = 3), surgery (k = 2), ADHD (k = 3), (risk for) depressive disorders (k = 3), or primary insomnia (k = 1).

Info box v. Background

Recent evidence shows that placebo effects can occur when patients know about them[244,245], contradicting the traditional view that these effects only occur under unaware conditions. With "open-label placebos", patients are clearly and openly informed about how and why placebo effects work[14]. This principle can also be applied in regular treatment, because – as we saw earlier – placebo effects are part of all treatments[13]. Discussing the mechanisms of placebo effects could provide patients a feeling of control, or "empowerment": when they know how placebo effects work, they can take steps themselves to increase them. Importantly, feeling in control over a situation has health benefits[246].

In contrast, explaining the mechanisms of nocebo effects could help to mitigate them[11,14,247-249]. To illustrate, demonstrating that some side effects are attributable to nocebo effects has helped patients successfully restart statins treatment, that they had discontinued[250]. It is important to make careful judgements about whether explaining nocebo effects can help the patient. For instance, 1 in 5 people say that they are "very sensitive to medicines" or are afraid of side effects [251], which increases risks of side effects[210]. In such a case, it could be useful to explain the mechanisms of nocebo effects.

Clinical recommendations

Careful Explanation of Placebo Effects

While it may not always be necessary to delve into the specifics of the placebo effect, if a healthcare provider deems it beneficial to explain this phenomenon for the patient's benefit, first elucidating the treatment mechanisms of action can facilitate the patient's understanding of placebo effects and the intertwined roles of the mind and brain in treatment efficacy[8]. It is essential to also communicate that treatments can still be efficacious even when patients are informed about placebo responses[244].

An example of an explanation that highlights the symbiosis between the treatment's mechanisms of action and placebo effects could be as follows: "*When we use treatments, they can help trigger the release of natural substances in your body that support healing. These processes usually function well, but during a temporary illness or a longer-term condition, they can be disrupted. The medication you take works alongside these natural mechanisms to enhance their effectiveness. It's important to remember that medications work in conjunction with your body's natural processes, and your previous experiences with treatment, as well as your expectations about the outcome, can influence how these elements interact. Together, they can contribute to achieving the best possible results in your treatment.*"

Charlesworth et al.[244] and Evers et al.[14] emphasize the importance of articulately explaining the concept of "placebo effects", stressing the need to use the term "placebo effects" judiciously, particularly when communicating with patients with limited health literacy skills. This perspective is underlined by the systematic review, wherein ample studies show that providing a placebo with a rationale on placebo effects is beneficial in multiple health conditions [e.g.,252-260], even though others report no or limited effects[261-263]. In hallmark studies, the rationale often concerns four topics: 1) the powerful placebo effect; 2) explaining classical conditioning; 3) positive attitudes can help but are not necessary, and 4) adherence is necessary[253]. Such explanations highlight potentially beneficial effects and simultaneously avoid placing disproportionate accountability for the outcomes with the patient (i.e., by emphasizing that "*a positive attitude helps but is not necessary*").

Mechanism of Action of Placebo Effects

It is recommended to emphasize that placebo effects arise due to positive expectations about a treatment and that they are real responses of the body that can alleviate symptoms[14]. Providing examples of how learning affects expectations, can help patients understand the mechanisms of placebo effects[264]. For example: "*If one of your family members had this treatment once, and you heard or saw what it did for her, this will unconsciously influence your expectation for this treatment.*" Several studies were identified that demonstrate that such an explanation could be helpful[265-268].

Appropriate Presentation of Information

Any explanation given should always be carefully tailored to the individual[264]. It is possible to use additional terminology or euphemisms to explain the mechanisms of placebo effects, such as the effect of confidence and the clinician-patient relationship, as recommended by experts in a Delphi study[14]. For example: "*If you have confidence in the treatment, this can strengthen the effects of the treatment.*" It is not necessary to use the

terms 'placebo effects' or 'nocebo effects' since patient providers and patients might prefer other terminology or phrasing[14].

There is little empirical evidence yet for how information about placebo effects can be appropriately presented, but some evidence suggests that patients who already have more favourable attitudes towards placebo are more receptive to such information[269]. Other studies find that using standardized educational tools on placebo effects could be helpful to increase understanding of these effects, although one of these trials found that the information mitigated placebo effects[270,271]. This indicates that the direction of the effects could depend on the type of information that is provided as well as the medium (i.e., via a website instead of personally by healthcare provider, who is able to adjust the appropriateness of the information).

Prevent Overly Optimistic Expectations

While not explicitly backed by empirical evidence yet, it is crucial to prevent *overly* optimistic expectations of placebo effects. Experts emphasize the importance of preventing overly optimistic expectations by clarifying that placebo effects can alleviate symptoms but cannot cure them, particularly in the treatment of serious illnesses. For example: in the treatment of serious illnesses, they can alleviate pain symptoms but cannot cure the illness[14].

Attending to the Purpose of Explaining Nocebo Effects

When explaining the nocebo effect, it can be important to emphasize to the patient that this is explained because the knowledge can reduce the occurrence of side effects[14,210,272]. For example: if the patient had negative experiences with a treatment in the past, then knowledge about nocebo effects can help to mitigate these earlier experiences. Experts on placebo effects have placed stipulations on informing about particularly nocebo effects; they caution that the need for informing about nocebo effects should be carefully considered[14].

Careful Explanation of Nocebo Effects

Evers et al.[14] recommend that if the term "nocebo effects" is used, it should be explained carefully. For instance, these effects can be described as negative effects, such as side effects, that can arise or be strengthened if you pay close attention to whether they are occurring or not. Petrie and Rief[210] also recommend providing a lay definition of the concept. Depending on the specific patient and their health literacy skills, using alternative or related terms may be more appropriate, including anxiety or fear. This perspective is backed by empirical evidence examining the effects of educating patients about nocebo effects[247,273-275], finding that this could have beneficial effects, for instance on side effects and adverse event reporting[247,274]. Some studies demonstrated limited effects[247,274], again highlighting the need for an individualized approach, in which the benefits of informing

about nocebo effects are carefully weighed against potential adverse effects. Identified beneficial effects included improved side-effect expectations and coping expectations[273], and in one study, patients who had received it preferred general information over information about all potential side effects[275].

Keep Explanation Simple

The explanation of nocebo effects should preferably be kept short and simple[14]; for example, that the patient can become "*more alert to symptoms if they have read the entire contents of an information leaflet, because the clinician has put more attention on them*".

Avoid Unintentional Negative Effects

When explaining the mechanisms of nocebo effects, it is important to do this in such a way that no iatrogenic or unintentional negative effects are generated, for example the feeling of being personally responsible for treatment success or side effects[14]. It is crucial that the healthcare provider ensures that the patient understands that not all side effects are nocebo effects: sometimes they are real side effects, and it is important to report them to the clinician. In case side effects are experienced, it is important that the healthcare provider and the patient together discuss and decide about the best possible follow-up steps and possible treatments options, irrespective of whether side effects could plausibly be nocebo effects.

Provide Ways to Manage Nocebo Effects

Additional suggestions to deal with nocebo effects could be offered, for instance, asking a family member to read the information leaflet instead of the patients themselves. If the patient then has any symptoms, the family member can be asked whether these are included in the side effects. Bingel[2] highlights that strategies, such as relaxation or finding distractions to keep the attention away from side effects, could be combined with explaining nocebo effects (mechanisms). For example: "*If you are afraid of having side effects and are very alert to them, then side effects can increase; these are nocebo effects. There are multiple methods that can help you to reduce nocebo effects; for example, by doing relaxation exercises, or finding a distraction to keep your attention away from the side effects*". In the systematic review, one study was identified that underlines this recommendation: Von Blanckenburg et al.[276] describe two cases where psychoeducation on nocebo effects is provided and patients are taught strategies to deal with side effects of cancer treatment. These cases provide preliminary evidence that this approach could reduce harmful side effect expectations and empower patients.

Appendix A. Search strings for the systematic review

Automatic search string translation:

https://sr-accelerator.com/#/polyglot

Databases:

PubMed
http://www.ncbi.nlm.nih.gov/pubmed?otool=leiden

11-part strategy (excluding animal only studies, time limit: 2000-..): 4751 references, including 22 of the 22 known items

((("Placebo Effect"[majr] OR "Placebo Effect"[tiab] OR "Placebo Effects"[tiab] OR "Placebo Effect*"[tiab] OR "Placebo Response"[tiab] OR "Placebo Responses"[tiab] OR "Placebo Respon*"[tiab] OR "Nocebo Effect"[majr] OR "Nocebo Effect"[tiab] OR "Nocebo Effects"[tiab] OR "Nocebo Effect*"[tiab] OR "Nocebo Response"[tiab] OR "Nocebo Responses"[tiab] OR "Nocebo Respon*"[tiab] OR "nocebo"[tiab] OR "nocebo*"[tiab] OR "placebo induced"[tiab] OR "bogus"[tiab] OR "null treatment"[tiab] OR "inactive treatment"[tiab] OR "Placebos/adverse effects"[majr]) AND (("Communication"[majr] AND "Physician-Patient Relations"[majr]) OR ("Communication"[majr] AND "Physicians"[majr] AND "Patients"[majr]) OR "Communicate Patient"[title/abstract:~5] OR "Communicate Patients"[title/abstract:~5] OR "Communicated Patient"[title/abstract:~5] OR "Communicated Patients"[title/abstract:~5] OR "Communicating Patient"[title/abstract:~5] OR "Communicating Patients"[title/abstract:~5] OR "Communication Patient"[title/abstract:~5] OR "Communication Patients"[title/abstract:~5] OR "Inform Patient"[title/abstract:~5] OR "Inform Patients"[title/abstract:~5] OR "Informed Patient"[title/abstract:~5] OR "Informed Patients"[title/abstract:~5] OR "Information Patient"[title/abstract:~5] OR "Information Patients"[title/abstract:~5] OR "Informing Patient"[title/abstract:~5] OR "Informing Patients"[title/abstract:~5] OR "Communicate Individual"[title/abstract:~5] OR "Communicate Individuals"[title/abstract:~5] OR "Communicated Individual"[title/abstract:~5] OR "Communicated Individuals"[title/abstract:~5] OR "Communicating Individual"[title/abstract:~5] OR "Communicating Individuals"[title/abstract:~5] OR "Communication Individual"[title/abstract:~5] OR "Communication Individuals"[title/abstract:~5] OR "Inform Individual"[title/abstract:~5] OR "Inform Individuals"[title/abstract:~5] OR "Informed Individual"[title/abstract:~5] OR "Informed Individuals"[title/abstract:~5] OR "Information Individual"[title/abstract:~5] OR "Information Individuals"[title/abstract:~5] OR "Informing Individual"[title/abstract:~5] OR "Informing Individuals"[title/abstract:~5] OR "Explain Patient"[title/abstract:~5] OR "Explain Patients"[title/abstract:~5] OR "Explaining Patient"[title/abstract:~5] OR "Explaining Patients"[title/abstract:~5] OR "Explanation Patient"[title/abstract:~5] OR "Explanation Patients"[title/abstract:~5] OR "Explanations Patient"[title/abstract:~5] OR "Explanations Patients"[title/abstract:~5] OR "Explain Individual"[title/abstract:~5] OR "Explain Individuals"[title/abstract:~5] OR "Explaining Individual"[title/abstract:~5] OR "Explaining Individuals"[title/abstract:~5] OR "Explanation Individual"[title/abstract:~5] OR "Explanation Individuals"[title/abstract:~5] OR "Explanations Individual"[title/abstract:~5] OR "Explanations Individuals"[title/abstract:~5] OR "Language"[Mesh] OR "Communications Media"[Mesh])) OR (("Anticipation, Psychological"[majr] OR "beliefs about medicines"[ti] OR "expectation*"[ti] OR "improvement expect*"[ti] OR "Medicine-related belief*"[ti] OR "Medicine-related beliefs"[ti] OR "mindset"[ti] OR "negative belief*"[ti] OR "negative beliefs"[ti] OR "negative expectat*"[ti] OR

" patient belief*" [ti] OR " patient beliefs" [ti] OR " patient expectation*" [ti] OR " patient perspective" [ti] OR " patients' belief*" [ti] OR " patients' beliefs" [ti] OR " patients expectation*" [ti] OR " patients' expectation*" [ti] OR " patients perspective" [ti] OR " patients' perspective" [ti] OR " patient's perspective" [ti] OR " patients trust" [ti] OR " patients' trust" [ti] OR " patient's trust" [ti] OR " perceived effectiveness" [ti] OR " perceived efficacy" [ti] OR " positive belief" [ti] OR " positive belief*" [ti] OR " positive expectat*" [ti] OR " respondent expectation*" [ti] OR " respondents expectation*" [ti] OR " respondents' expectation*" [ti] OR " suggestibility" [ti] OR " treatment expect*" [ti] OR " beliefs about medicines" [title:~3] OR " improvement expectation" [title:~3] OR " improvement expectations" [title:~3] OR " Medicine-related belief" [title:~3] OR " Medicine-related beliefs" [title:~3] OR " negative belief" [title:~3] OR " negative beliefs" [title:~3] OR " negative expectation" [title:~3] OR " negative expectations" [title:~3] OR " patient belief" [title:~3] OR " patient beliefs" [title:~3] OR " patient expectation" [title:~3] OR " patient expectations" [title:~3] OR " patient perspective" [title:~3] OR " patient perspectives" [title:~3] OR " patients belief" [title:~3] OR " patients beliefs" [title:~3] OR " patients expectation" [title:~3] OR " patients expectations" [title:~3] OR " patients perspective" [title:~3] OR " patients perspectives" [title:~3] OR " patients trust" [title:~3] OR " patient trust" [title:~3] OR " perceived effectiveness" [title:~3] OR " perceived efficacy" [title:~3] OR " positive belief" [title:~3] OR " positive beliefs" [title:~3] OR " positive expectation" [title:~3] OR " positive expectations" [title:~3] OR " respondent expectations" [title:~3] OR " respondent expectation" [title:~3] OR " respondents expectations" [title:~3] OR " respondents expectation" [title:~3] OR " positive expectations" [title:~3] OR " respondent expectations" [title:~3] OR " respondents expectations" [title:~3] OR " treatment expectation" [title:~3] OR " treatment expectations" [title:~3] OR suggestion*[tiab] OR (("expectancy" [ti] OR " expectancies" [ti]) NOT (" Life Expectancy" [Mesh] OR " Life Expectancy" [tiab] OR " Life Expectan*" [tiab])))) AND (("Communication"[majr] AND "Physician-Patient Relations"[majr]) OR ("Communication"[majr] AND "Physicians"[majr] AND "Patients"[majr]) OR "Communicate Patient"[title:~5] OR "Communicate Patients"[title:~5] OR "Communicated Patient"[title:~5] OR "Communicated Patients"[title:~5] OR "Communicating Patient"[title:~5] OR "Communicating Patients"[title:~5] OR "Communication Patient"[title:~5] OR "Communication Patients"[title:~5] OR "Inform Patient"[title:~5] OR "Inform Patients"[title:~5] OR "Informed Patient"[title:~5] OR "Informed Patients"[title:~5] OR "Information Patient"[title:~5] OR "Information Patients"[title:~5] OR "Informing Patient"[title:~5] OR "Informing Patients"[title:~5] OR "Communicate Individual"[title:~5] OR "Communicate Individuals"[title:~5] OR "Communicated Individual"[title:~5] OR "Communicated Individuals"[title:~5] OR "Communicating Individual"[title:~5] OR "Communicating Individuals"[title:~5] OR "Communication Individual"[title:~5] OR "Communication Individuals"[title:~5] OR "Inform Individual"[title:~5] OR "Inform Individuals"[title:~5] OR "Informed Individual"[title:~5] OR "Informed Individuals"[title:~5] OR "Information Individual"[title:~5] OR "Information Individuals"[title:~5] OR "Informing Individual"[title:~5] OR "Informing Individuals"[title:~5] OR "Explain Patient"[title:~5] OR "Explain Patients"[title:~5] OR "Explaining Patient"[title:~5] OR "Explaining Patients"[title:~5] OR "Explanation Patient"[title:~5] OR "Explanation Patients"[title:~5] OR "Explanations Patient"[title:~5] OR "Explanations Patients"[title:~5] OR "Explain Individual"[title:~5] OR "Explain Individuals"[title:~5] OR "Explaining Individual"[title:~5] OR "Explaining Individuals"[title:~5] OR "Explanation Individual"[title:~5] OR "Explanation Individuals"[title:~5] OR "Explanations Individual"[title:~5] OR "Explanations Individuals"[title:~5] OR "treatment dropout"[tiab] OR "treatment dropouts"[tiab] OR "therapy dropout"[tiab] OR "therapy dropouts"[tiab] OR "nonverbal communication"[mesh] OR "health communication"[mesh])) OR (("Placebo Effect"[majr] OR "Placebo Effect"[tiab] OR "Placebo Effects"[tiab] OR "Placebo Effect*"[tiab] OR "Placebo Response"[tiab] OR "Placebo Responses"[tiab] OR "Placebo Respon*"[tiab] OR "Nocebo Effect"[majr] OR "Nocebo Effect"[tiab] OR "Nocebo Effects"[tiab] OR "Nocebo Effect*"[tiab] OR "Nocebo Response"[tiab] OR "Nocebo Responses"[tiab] OR "Nocebo Respon*"[tiab] OR "nocebo"[tiab] OR "nocebo*"[tiab] OR "placebo induced"[tiab] OR "bogus"[tiab] OR "null treatment"[tiab] OR "inactive treatment"[tiab] OR "Placebos/adverse effects"[majr] OR " positive expectat*" [tiab] OR " negative expectat*" [tiab] OR " treatment

expect*"[tiab] OR "patients' expectation*"[tiab] OR "patients expectation*"[tiab] OR "patient expectation*"[tiab] OR "respondents' expectation*"[tiab] OR "respondents expectation*"[tiab] OR "respondent expectation*"[tiab] OR "improvement expect*"[tiab] OR "mindset"[tiab] OR "patient's trust"[tiab] OR "patients trust"[tiab] OR "patients' trust"[tiab] OR "perceived efficacy"[tiab] OR "perceived effectiveness"[tiab] OR "suggestibility"[tiab] OR "patient beliefs"[tiab] OR "patient belief*"[tiab] OR "patients' beliefs"[tiab] OR "patients' belief*"[tiab] OR "negative beliefs"[tiab] OR "negative belief*"[tiab] OR "positive belief"[tiab] OR "positive belief*"[tiab] OR "beliefs about medicines"[tiab] OR "Medicine-related beliefs"[tiab] OR "Medicine-related belief*"[tiab] OR "patient's perspective"[tiab] OR "patients perspective"[tiab] OR "patient perspective"[tiab] OR "patients' perspective"[tiab] OR "Anticipation, Psychological"[majr] OR "expectation*"[ti] OR (("expectancy"[tiab] OR "expectancies"[tiab]) NOT ("Life Expectancy"[Mesh] OR "Life Expectancy"[tiab] OR "Life Expectan*"[tiab])))) AND ("information frame"[tiab] OR "information frames"[tiab] OR "information framing"[tiab] OR "information fram*"[tiab] OR "message frame"[tiab] OR "message frames"[tiab] OR "message framing"[tiab] OR "message fram*"[tiab] OR "frame effect"[tiab] OR "frame effects"[tiab] OR "positive frame"[tiab] OR "positive frames"[tiab] OR "positive framing"[tiab] OR "positive fram*"[tiab] OR "negative frame"[tiab] OR "negative frames"[tiab] OR "negative framing"[tiab] OR "negative fram*"[tiab] OR "positively framed"[tiab] OR "positively fram*"[tiab] OR "negatively framed"[tiab] OR "negatively fram*"[tiab] OR "information frame"[title/abstract:~6] OR "information frames"[title/abstract:~6] OR "information framing"[title/abstract:~6] OR "message frame"[title/abstract:~6] OR "message frames"[title/abstract:~6] OR "message framing"[title/abstract:~6] OR "frame effect"[title/abstract:~6] OR "frame effects"[title/abstract:~6] OR "positive frame"[title/abstract:~6] OR "positive frames"[title/abstract:~6] OR "positive framing"[title/abstract:~6] OR "negative frame"[title/abstract:~6] OR "negative frames"[title/abstract:~6] OR "negative framing"[title/abstract:~6] OR "positively framed"[title/abstract:~6] OR "negatively framed"[title/abstract:~6])) OR (("Placebo Effect"[majr] OR "Placebo Effect"[tiab] OR "Placebo Effects"[tiab] OR "Placebo Effect*"[tiab] OR "Placebo Response"[tiab] OR "Placebo Responses"[tiab] OR "Placebo Respon*"[tiab] OR "Nocebo Effect"[majr] OR "Nocebo Effect"[tiab] OR "Nocebo Effects"[tiab] OR "Nocebo Effect*"[tiab] OR "Nocebo Response"[tiab] OR "Nocebo Responses"[tiab] OR "Nocebo Respon*"[tiab] OR "nocebo"[tiab] OR "nocebo*"[tiab] OR "placebo induced"[tiab] OR "bogus"[tiab] OR "null treatment"[tiab] OR "inactive treatment"[tiab] OR "Placebos/adverse effects"[majr] OR "expectation interventions"[tiab] OR "expectation intervention"[tiab] OR "positive expectat*"[tiab] OR "negative expectat*"[tiab] OR "treatment expect*"[tiab] OR "patients' expectation*"[tiab] OR "patients expectation*"[tiab] OR "patient expectation*"[tiab] OR "respondents' expectation*"[tiab] OR "respondents expectation*"[tiab] OR "respondent expectation*"[tiab] OR "improvement expect*"[tiab] OR "mindset"[tiab] OR "patient's trust"[tiab] OR "patients trust"[tiab] OR "patients' trust"[tiab] OR "perceived efficacy"[tiab] OR "perceived effectiveness"[tiab] OR "suggestibility"[tiab] OR "patient beliefs"[tiab] OR "patient belief*"[tiab] OR "patients' beliefs"[tiab] OR "patients' belief*"[tiab] OR "negative beliefs"[tiab] OR "negative belief*"[tiab] OR "positive belief"[tiab] OR "positive belief*"[tiab] OR "beliefs about medicines"[tiab] OR "Medicine-related beliefs"[tiab] OR "Medicine-related belief*"[tiab] OR "patient's perspective"[tiab] OR "patients perspective"[tiab] OR "patient perspective"[tiab] OR "patients' perspective"[tiab] OR "Anticipation, Psychological"[majr] OR "expectation*"[ti] OR (("expectancy"[tiab] OR "expectancies"[tiab]) NOT ("Life Expectancy"[Mesh] OR "Life Expectancy"[tiab] OR "Life Expectan*"[tiab])))) AND ("Deception"[mesh] OR "deception"[tiab] OR "deceptive"[tiab] OR "nondeceptive"[tiab] OR "nondecept*"[tiab])) OR (("Placebo Effect"[majr] OR "Placebo Effect"[tiab] OR "Placebo Effects"[tiab] OR "Placebo Effect*"[tiab] OR "Placebo Response"[tiab] OR "Placebo Responses"[tiab] OR "Placebo Respon*"[tiab] OR "Nocebo Effect"[majr] OR "Nocebo Effect"[tiab] OR "Nocebo Effects"[tiab] OR "Nocebo Effect*"[tiab] OR "Nocebo Response"[tiab] OR "Nocebo Responses"[tiab] OR "Nocebo Respon*"[tiab] OR "nocebo"[tiab] OR "nocebo*"[tiab] OR "placebo induced"[tiab] OR "bogus"[tiab] OR "null treatment"[tiab] OR "inactive

treatment"[tiab] OR "Placebos/adverse effects"[majr]) AND "Attitude to Health"[majr]) OR (("Placebo Effect"[majr] OR "Placebo Effect"[tiab] OR "Placebo Effects"[tiab] OR "Placebo Effect*"[tiab] OR "Placebo Response"[tiab] OR "Placebo Responses"[tiab] OR "Placebo Respon*"[tiab] OR "Nocebo Effect"[majr] OR "Nocebo Effect"[tiab] OR "Nocebo Effects"[tiab] OR "Nocebo Effect*"[tiab] OR "Nocebo Response"[tiab] OR "Nocebo Responses"[tiab] OR "Nocebo Respon*"[tiab] OR "nocebo"[tiab] OR "nocebo*"[tiab] OR "placebo induced"[tiab] OR "bogus"[tiab] OR "null treatment"[tiab] OR "inactive treatment"[tiab] OR "Placebos/adverse effects"[majr]) AND ("expectation interventions"[tiab] OR "expectation intervention"[tiab] OR "positive expectat*"[tiab] OR "negative expectat*"[tiab] OR "treatment expect*"[tiab] OR "patients' expectation*"[tiab] OR "patients expectation*"[tiab] OR "patient expectation*"[tiab] OR "respondents' expectation*"[tiab] OR "respondents expectation*"[tiab] OR "respondent expectation*"[tiab] OR "improvement expect*"[tiab] OR "mindset"[tiab] OR "patient's trust"[tiab] OR "patients trust"[tiab] OR "patients' trust"[tiab] OR "perceived efficacy"[tiab] OR "perceived effectiveness"[tiab] OR "suggestibility"[tiab] OR "patient beliefs"[tiab] OR "patient belief*"[tiab] OR "patients' beliefs"[tiab] OR "patients' belief*"[tiab] OR "negative beliefs"[tiab] OR "negative belief*"[tiab] OR "positive belief"[tiab] OR "positive belief*"[tiab] OR "beliefs about medicines"[tiab] OR "Medicine-related beliefs"[tiab] OR "Medicine-related belief*"[tiab] OR "patient's perspective"[tiab] OR "patients perspective"[tiab] OR "patient perspective"[tiab] OR "patients' perspective"[tiab] OR "Anticipation, Psychological"[majr] OR "expectation*"[ti] OR (("expectancy"[tiab] OR "expectancies"[tiab]) NOT ("Life Expectancy"[Mesh] OR "Life Expectancy"[tiab] OR "Life Expectan*"[tiab])))) OR ("Placebo Effect belief"[title/abstract:~6] OR "Placebo Effects belief"[title/abstract:~6] OR "Placebo Response belief"[title/abstract:~6] OR "Placebo Responses belief"[title/abstract:~6] OR "nocebo belief"[title/abstract:~6] OR "placebo induced belief"[title/abstract:~6] OR "bogus belief"[title/abstract:~6] OR "null treatment belief"[title/abstract:~6] OR "inactive treatment belief"[title/abstract:~6] OR "Placebo Effect beliefs"[title/abstract:~6] OR "Placebo Effects beliefs"[title/abstract:~6] OR "Placebo Response beliefs"[title/abstract:~6] OR "Placebo Responses beliefs"[title/abstract:~6] OR "nocebo beliefs"[title/abstract:~6] OR "placebo induced beliefs"[title/abstract:~6] OR "bogus beliefs"[title/abstract:~6] OR "null treatment beliefs"[title/abstract:~6] OR "inactive treatment beliefs"[title/abstract:~6]) OR ("Communication"[mesh] AND "Physician-Patient Relations"[mesh] AND "Physicians"[majr]) OR ("patient mindset"[tiab] OR "patients mindset"[tiab] OR "patient's mindset"[tiab] OR "patient mindsets"[tiab]) OR "Nocebo Effect"[majr] OR (("Placebo Effect"[majr] OR "Placebo"[ti] OR "nocebo"[ti]) AND ("side effect"[ti] OR "side effects"[ti] OR "analges*"[ti] OR "hyperalges*"[ti])) OR ("Pain Perception"[mesh] AND "Patient Education as Topic"[mesh])) NOT ("Animals"[mesh] NOT "Humans"[mesh])

Embase
http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=main&MODE=ovid&D=oemezd

(((exp *"Placebo Effect"/ OR "Placebo Effect".tw. OR "Placebo Effects".tw. OR "Placebo Effect*".tw. OR "Placebo Response".tw. OR "Placebo Responses".tw. OR "Placebo Respon*".tw. OR exp *"Nocebo Effect"/ OR "Nocebo Effect".tw. OR "Nocebo Effects".tw. OR "Nocebo Effect*".tw. OR "Nocebo Response".tw. OR "Nocebo Responses".tw. OR "Nocebo Respon*".tw. OR nocebo.tw. OR nocebo*.tw. OR "placebo induced".tw. OR bogus.tw. OR "null treatment".tw. OR "inactive treatment".tw. OR exp *"Placebos/adverse effects"/) AND ((exp *Communication/ AND exp *"Physician-Patient Relations"/) OR (exp *Communication/ AND exp *Physicians/ AND exp *Patients/) OR "Communicate Patient".tw. OR "Communicate Patients".tw. OR "Communicated Patient".tw. OR "Communicated Patients".tw. OR "Communicating Patient".tw. OR "Communicating Patients".tw. OR "Communication Patient".tw. OR "Communication Patients".tw. OR "Inform Patient".tw. OR "Inform Patients".tw. OR "Informed Patient".tw. OR "Informed Patients".tw. OR "Information Patient".tw. OR "Information Patients".tw. OR "Informing

Patient".tw. OR "Informing Patients".tw. OR "Communicate Individual".tw. OR "Communicate Individuals".tw. OR "Communicated Individual".tw. OR "Communicated Individuals".tw. OR "Communicating Individual".tw. OR "Communicating Individuals".tw. OR "Communication Individual".tw. OR "Communication Individuals".tw. OR "Inform Individual".tw. OR "Inform Individuals".tw. OR "Informed Individual".tw. OR "Informed Individuals".tw. OR "Information Individual".tw. OR "Information Individuals".tw. OR "Informing Individual".tw. OR "Informing Individuals".tw. OR "Explain Patient".tw. OR "Explain Patients".tw. OR "Explaining Patient".tw. OR "Explaining Patients".tw. OR "Explanation Patient".tw. OR "Explanation Patients".tw. OR "Explanations Patient".tw. OR "Explanations Patients".tw. OR "Explain Individual".tw. OR "Explain Individuals".tw. OR "Explaining Individual".tw. OR "Explaining Individuals".tw. OR "Explanation Individual".tw. OR "Explanation Individuals".tw. OR "Explanations Individual".tw. OR "Explanations Individuals".tw. OR exp "Communications Media"/)) OR ((exp *"Anticipation, Psychological"/ OR "beliefs about medicines".ti. OR expectation*.ti. OR "improvement expect*".ti. OR "Medicine-related belief*".ti. OR "Medicine-related beliefs".ti. OR mindset.ti. OR "negative belief*".ti. OR "negative beliefs".ti. OR "negative expectat*".ti. OR "patient belief*".ti. OR "patient beliefs".ti. OR "patient expectation*".ti. OR "patient perspective".ti. OR "patients' belief*".ti. OR "patients' beliefs".ti. OR "patients expectation*".ti. OR "patients' expectation*".ti. OR "patients perspective".ti. OR "patients' perspective".ti. OR "patient's perspective".ti. OR "patients trust".ti. OR "patients' trust".ti. OR "patient's trust".ti. OR "perceived effectiveness".ti. OR "perceived efficacy".ti. OR "positive belief".ti. OR "positive belief*".ti. OR "positive expectat*".ti. OR "respondent expectation*".ti. OR "respondents expectation*".ti. OR "respondents' expectation*".ti. OR suggestibility.ti. OR "treatment expect*".ti. OR "beliefs about medicines".ti. OR "improvement expectation".ti. OR "improvement expectations".ti. OR "Medicine-related belief".ti. OR "Medicine-related beliefs".ti. OR "negative belief".ti. OR "negative beliefs".ti. OR "negative expectation".ti. OR "negative expectations".ti. OR "patient belief".ti. OR "patient beliefs".ti. OR "patient expectation".ti. OR "patient expectations".ti. OR "patient perspective".ti. OR "patient perspectives".ti. OR "patients belief".ti. OR "patients beliefs".ti. OR "patients expectation".ti. OR "patients expectations".ti. OR "patients perspective".ti. OR "patients perspectives".ti. OR "patients trust".ti. OR "patient trust".ti. OR "perceived effectiveness".ti. OR "perceived efficacy".ti. OR "positive belief".ti. OR "positive beliefs".ti. OR "positive expectation".ti. OR "positive expectations".ti. OR "respondent expectations".ti. OR "respondent expectation".ti. OR "respondents expectations".ti. OR "respondents expectation".ti. OR "positive expectations".ti. OR "respondent expectations".ti. OR "respondents expectations".ti. OR "treatment expectation".ti. OR "treatment expectations".ti. OR suggestion*.ti. OR ((expectancy.ti. OR expectancies.ti.) NOT (exp "Life Expectancy"/ OR "Life Expectancy".tw. OR "Life Expectan*".tw.))) AND ((exp *Communication/ AND exp *"Physician-Patient Relations"/) OR (exp *Communication/ AND exp *Physicians/ AND exp *Patients/) OR "Communicate Patient".ti. OR "Communicate Patients".ti. OR "Communicated Patient".ti. OR "Communicated Patients".ti. OR "Communicating Patient".ti. OR "Communicating Patients".ti. OR "Communication Patient".ti. OR "Communication Patients".ti. OR "Inform Patient".ti. OR "Inform Patients".ti. OR "Informed Patient".ti. OR "Informed Patients".ti. OR "Information Patient".ti. OR "Information Patients".ti. OR "Informing Patient".ti. OR "Informing Patients".ti. OR "Communicate Individual".ti. OR "Communicate Individuals".ti. OR "Communicated Individual".ti. OR "Communicated Individuals".ti. OR "Communicating Individual".ti. OR "Communicating Individuals".ti. OR "Communication Individual".ti. OR "Communication Individuals".ti. OR "Inform Individual".ti. OR "Inform Individuals".ti. OR "Informed Individual".ti. OR "Informed Individuals".ti. OR "Information Individual".ti. OR "Information Individuals".ti. OR "Informing Individual".ti. OR "Informing Individuals".ti. OR "Explain Patient".ti. OR "Explain Patients".ti. OR "Explaining Patient".ti. OR "Explaining Patients".ti. OR "Explanation Patient".ti. OR "Explanation Patients".ti. OR "Explanations Patient".ti. OR "Explanations Patients".ti. OR "Explain Individual".ti. OR "Explain Individuals".ti. OR "Explaining Individual".ti. OR "Explaining Individuals".ti. OR "Explanation Individual".ti. OR "Explanation Individuals".ti. OR "Explanations Individual".ti. OR "Explanations Individuals".ti. OR "treatment dropout".tw. OR "treatment dropouts".tw. OR "therapy dropout".tw. OR "therapy dropouts".tw. OR "nonverbal communication".tw. OR "health communication".tw. OR exp *"nonverbal communication"/ OR exp *"health communication"/)) OR ((exp *"Placebo Effect"/ OR "Placebo Effect".tw. OR "Placebo Effects".tw. OR "Placebo Effect*".tw. OR "Placebo Response".tw. OR "Placebo Responses".tw. OR "Placebo Respon*".tw. OR exp *"Nocebo Effect"/ OR "Nocebo Effect".tw. OR "Nocebo Effects".tw. OR "Nocebo Effect*".tw. OR "Nocebo Response".tw. OR "Nocebo Responses".tw. OR "Nocebo Respon*".tw. OR nocebo.tw. OR nocebo*.tw. OR "placebo induced".tw. OR bogus.tw. OR "null treatment".tw. OR "inactive treatment".tw. OR exp *"Placebos/adverse effects"/ OR "positive expectat*".tw. OR "negative expectat*".tw. OR "treatment expect*".tw. OR "patients' expectation*".tw. OR "patients expectation*".tw. OR "patient expectation*".tw. OR "respondents' expectation*".tw. OR "respondents expectation*".tw. OR "respondent expectation*".tw. OR "improvement expect*".tw. OR mindset.tw. OR "patient's trust".tw. OR "patients trust".tw. OR "patients' trust".tw. OR "perceived efficacy".tw. OR "perceived effectiveness".tw. OR suggestibility.tw. OR "patient beliefs".tw. OR "patient belief*".tw. OR "patients' beliefs".tw. OR "patients' belief*".tw. OR "negative beliefs".tw. OR "negative belief*".tw. OR "positive belief".tw. OR "positive belief*".tw. OR "beliefs about medicines".tw. OR "Medicine-related beliefs".tw. OR "Medicine-related belief*".tw. OR "patient's perspective".tw. OR "patients perspective".tw. OR "patient perspective".tw. OR "patients' perspective".tw. OR exp *"Anticipation, Psychological"/ OR expectation*.ti. OR ((expectancy.tw. OR expectancies.tw.) NOT (exp "Life Expectancy"/ OR "Life Expectancy".tw. OR "Life Expectan*".tw.))) AND ("information frame".tw. OR "information frames".tw. OR "information framing".tw. OR "information fram*".tw. OR "message frame".tw. OR "message frames".tw. OR "message framing".tw. OR "message fram*".tw. OR "frame effect".tw. OR "frame effects".tw. OR "positive frame".tw. OR "positive

frames".tw. OR "positive framing".tw. OR "positive fram*".tw. OR "negative frame".tw. OR "negative frames".tw. OR "negative framing".tw. OR "negative fram*".tw. OR "positively framed".tw. OR "positively fram*".tw. OR "negatively framed".tw. OR "negatively fram*".tw. OR "information frame".tw. OR "information frames".tw. OR "information framing".tw. OR "message frame".tw. OR "message frames".tw. OR "message framing".tw. OR "frame effect".tw. OR "frame effects".tw. OR "positive frame".tw. OR "positive frames".tw. OR "positive framing".tw. OR "negative frame".tw. OR "negative frames".tw. OR "negative framing".tw. OR "positively framed".tw. OR "negatively framed".tw.)) OR ((exp *"Placebo Effect"/ OR "Placebo Effect".tw. OR "Placebo Effects".tw. OR "Placebo Effect*".tw. OR "Placebo Response".tw. OR "Placebo Responses".tw. OR "Placebo Respon*".tw. OR exp *"Nocebo Effect"/ OR "Nocebo Effect".tw. OR "Nocebo Effects".tw. OR "Nocebo Effect*".tw. OR "Nocebo Response".tw. OR "Nocebo Responses".tw. OR "Nocebo Respon*".tw. OR nocebo.tw. OR nocebo*.tw. OR "placebo induced".tw. OR bogus.tw. OR "null treatment".tw. OR "inactive treatment".tw. OR exp *"Placebos/adverse effects"/ OR "expectation interventions".tw. OR "expectation intervention".tw. OR "positive expectat*".tw. OR "negative expectat*".tw. OR "treatment expect*".tw. OR "patients' expectation*".tw. OR "patients expectation*".tw. OR "patient expectation*".tw. OR "respondents' expectation*".tw. OR "respondents expectation*".tw. OR "respondent expectation*".tw. OR "improvement expect*".tw. OR mindset.tw. OR "patient's trust".tw. OR "patients trust".tw. OR "patients' trust".tw. OR "perceived efficacy".tw. OR "perceived effectiveness".tw. OR suggestibility.tw. OR "patient beliefs".tw. OR "patient belief*".tw. OR "patients' beliefs".tw. OR "patients' belief*".tw. OR "negative beliefs".tw. OR "negative belief*".tw. OR "positive belief".tw. OR "positive belief*".tw. OR "beliefs about medicines".tw. 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(((TS="Placebo Effect" OR (TI="Placebo Effect" OR AB="Placebo Effect") OR (TI="Placebo Effects" OR AB="Placebo Effects") OR (TI="Placebo Effect*" OR AB="Placebo Effect*") OR (TI="Placebo Response" OR AB="Placebo

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Individuals" OR TI="Communicated Individual" OR TI="Communicated Individuals" OR TI="Communicating Individual" OR TI="Communicating Individuals" OR TI="Communication Individual" OR TI="Communication Individuals" OR TI="Inform Individual" OR TI="Inform Individuals" OR TI="Informed Individual" OR TI="Informed Individuals" OR TI="Information Individual" OR TI="Information Individuals" OR TI="Informing Individual" OR TI="Informing Individuals" OR TI="Explain Patient" OR TI="Explain Patients" OR TI="Explaining Patient" OR TI="Explaining Patients" OR TI="Explanation Patient" OR TI="Explanation Patients" OR TI="Explanations Patient" OR TI="Explanations Patients" OR TI="Explain Individual" OR TI="Explain Individuals" OR TI="Explaining Individual" OR TI="Explaining Individuals" OR TI="Explanation Individual" OR TI="Explanation Individuals" OR TI="Explanations Individual" OR TI="Explanations Individuals" OR (TI="treatment dropout" OR AB="treatment dropout") OR (TI="treatment dropouts" OR AB="treatment dropouts") OR (TI="therapy dropout" OR AB="therapy dropout") OR (TI="therapy dropouts" OR AB="therapy dropouts" OR AB="nonverbal communication" OR AB= "health communication" OR TS="nonverbal communication" OR TS = "health communication"))) OR ((TS="Placebo Effect" OR (TI="Placebo Effect" OR AB="Placebo Effect") OR (TI="Placebo Effects" OR AB="Placebo Effects") OR (TI="Placebo Effect*" OR AB="Placebo Effect*") OR (TI="Placebo Response" OR AB="Placebo Response") OR (TI="Placebo Responses" OR AB="Placebo Responses") OR (TI="Placebo Respon*" OR AB="Placebo Respon*") OR TS="Nocebo Effect" OR (TI="Nocebo Effect" OR AB="Nocebo Effect") OR (TI="Nocebo Effects" OR AB="Nocebo Effects") OR (TI="Nocebo Effect*" OR AB="Nocebo Effect*") OR (TI="Nocebo Response" OR AB="Nocebo Response") OR (TI="Nocebo Responses" OR AB="Nocebo Responses") OR (TI="Nocebo Respon*" OR AB="Nocebo Respon*") OR (TI=nocebo OR AB=nocebo) OR (TI=nocebo* OR AB=nocebo*) OR (TI="placebo induced" OR AB="placebo induced") OR (TI=bogus OR AB=bogus) OR (TI="null treatment" OR AB="null treatment") OR (TI="inactive treatment" OR AB="inactive treatment") OR TS="Placebos/adverse effects" OR (TI="positive expectat*" OR AB="positive expectat*") OR (TI="negative expectat*" OR AB="negative expectat*") OR (TI="treatment expect*" OR AB="treatment expect*") OR (TI="patients' expectation*" OR AB="patients' expectation*") OR (TI="patients expectation*" OR AB="patients expectation*") OR (TI="patient expectation*" OR AB="patient expectation*") OR (TI="respondents' expectation*" OR AB="respondents' expectation*") OR (TI="respondents expectation*" OR AB="respondents expectation*") OR (TI="respondent expectation*" OR AB="respondent expectation*") OR (TI="improvement expect*" OR AB="improvement expect*") OR (TI=mindset OR AB=mindset) OR (TI="patient's trust" OR AB="patient's trust") OR (TI="patients trust" OR AB="patients trust") OR (TI="patients' trust" OR AB="patients' trust") OR (TI="perceived efficacy" OR AB="perceived efficacy") OR (TI="perceived effectiveness" OR AB="perceived effectiveness") OR (TI=suggestibility OR AB=suggestibility) OR (TI="patient beliefs" OR AB="patient beliefs") OR (TI="patient belief*" OR AB="patient belief*") OR (TI="patients' beliefs" OR AB="patients' beliefs") OR (TI="patients' belief*" OR AB="patients' belief*") OR (TI="negative beliefs" OR AB="negative beliefs") OR (TI="negative belief*" OR AB="negative belief*") OR (TI="positive belief" OR AB="positive belief") OR (TI="positive belief*" OR AB="positive belief*") OR (TI="beliefs about medicines" OR AB="beliefs about medicines") OR (TI="Medicine-related beliefs" OR AB="Medicine-related beliefs") OR (TI="Medicine-related belief*" OR AB="Medicine-related belief*") OR (TI="patient's perspective" OR AB="patient's perspective") OR (TI="patients perspective" OR AB="patients perspective") OR (TI="patient perspective" OR AB="patient perspective") OR (TI="patients' perspective" OR AB="patients' perspective") OR TS="Anticipation. 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((("Placebo Effect" OR ("Placebo Effect" OR "Placebo Effect") OR ("Placebo Effects" OR "Placebo Effects") OR ("Placebo Effect*" OR "Placebo Effect*") OR ("Placebo Response" OR "Placebo Response") OR ("Placebo Responses" OR "Placebo Responses") OR ("Placebo Respon*" OR "Placebo Respon*") OR "Nocebo Effect" OR ("Nocebo Effect" OR "Nocebo Effect") OR ("Nocebo Effects" OR "Nocebo Effects") OR ("Nocebo Effect*" OR "Nocebo Effect*") OR ("Nocebo Response" OR "Nocebo Response") OR ("Nocebo Responses" OR "Nocebo Responses") OR ("Nocebo Respon*" OR "Nocebo Respon*") OR (nocebo OR nocebo) OR (nocebo* OR nocebo*) OR ("placebo induced" OR "placebo induced") OR (bogus OR bogus) OR ("null treatment" OR "null treatment") OR ("inactive treatment" OR "inactive treatment") OR "Placebos/adverse effects") AND ((Communication AND "Physician-Patient Relations") OR (Communication AND Physicians AND Patients) OR ("Communicate Patient" OR "Communicate Patient") OR ("Communicate Patients" OR "Communicate Patients") OR ("Communicated Patient" OR "Communicated Patient") OR ("Communicated Patients" OR "Communicated Patients") OR ("Communicating Patient" OR "Communicating Patient") OR ("Communicating Patients" OR "Communicating Patients") OR ("Communication Patient" OR "Communication Patient") OR ("Communication Patients" OR "Communication Patients") OR ("Inform Patient" OR "Inform Patient") OR ("Inform Patients" OR "Inform Patients") OR ("Informed Patient" OR "Informed Patient") OR ("Informed Patients" OR "Informed Patients") OR ("Information Patient" OR "Information Patient") OR ("Information Patients" OR "Information Patients") OR ("Informing Patient" OR "Informing Patient") OR ("Informing Patients" OR "Informing Patients") OR ("Communicate Individual" OR "Communicate Individual") OR ("Communicate Individuals" OR "Communicate Individuals") OR ("Communicated Individual" OR "Communicated Individual") OR ("Communicated Individuals" OR "Communicated Individuals") OR ("Communicating Individual" OR "Communicating Individual") OR ("Communicating Individuals" OR "Communicating Individuals") OR ("Communication Individual" OR "Communication Individual") OR ("Communication Individuals" OR "Communication Individuals") OR ("Inform Individual" OR "Inform Individual") OR ("Inform Individuals" OR "Inform Individuals") OR ("Informed Individual" OR "Informed Individual") OR ("Informed Individuals" OR "Informed Individuals") OR ("Information Individual" OR "Information Individual") OR ("Information Individuals" OR "Information Individuals") OR ("Informing Individual" OR "Informing Individual") OR ("Informing Individuals" OR "Informing Individuals") OR ("Explain Patient" OR "Explain Patient") OR ("Explain Patients" OR "Explain Patients") OR ("Explaining Patient" OR "Explaining Patient") OR ("Explaining Patients" OR "Explaining Patients") OR ("Explanation Patient" OR "Explanation Patient") OR ("Explanation Patients" OR "Explanation Patients") OR ("Explanations Patient" OR "Explanations Patient") OR ("Explanations Patients" OR "Explanations Patients") OR ("Explain Individual" OR "Explain Individual") OR ("Explain Individuals" OR "Explain Individuals") OR ("Explaining Individual" OR "Explaining Individual") OR ("Explaining Individuals" OR "Explaining Individuals") OR ("Explanation Individual" OR "Explanation Individual") OR ("Explanation Individuals" OR "Explanation Individuals") OR ("Explanations Individual" OR "Explanations Individual") OR ("Explanations Individuals" OR "Explanations Individuals"))) OR (("Anticipation, Psychological" OR "beliefs about medicines" OR expectation* OR "improvement expect*" OR "Medicine-related belief*" OR "Medicine-related beliefs" OR mindset OR "negative belief*" OR "negative beliefs" OR "negative expectat*" OR "patient belief*" OR "patient beliefs" OR "patient expectation*" OR "patient perspective" OR "patients' belief*" OR "patients' beliefs" OR "patients expectation*" OR "patients' expectation*" OR "patients perspective" OR "patients'

perspective" OR "patient's perspective" OR "patients trust" OR "patients' trust" OR "patient's trust" OR "perceived effectiveness" OR "perceived efficacy" OR "positive belief" OR "positive belief*" OR "positive expectat*" OR "respondent expectation*" OR "respondents expectation*" OR "respondents' expectation*" OR suggestibility OR "treatment expect*" OR "beliefs about medicines" OR "improvement expectation" OR "improvement expectations" OR "Medicine-related belief" OR "Medicine-related beliefs" OR "negative belief" OR "negative beliefs" OR "negative expectation" OR "negative expectations" OR "patient belief" OR "patient beliefs" OR "patient expectation" OR "patient expectations" OR "patient perspective" OR "patient perspectives" OR "patients belief" OR "patients beliefs" OR "patients expectation" OR "patients expectations" OR "patients perspective" OR "patients perspectives" OR "patients trust" OR "patient trust" OR "perceived effectiveness" OR "perceived efficacy" OR "positive belief" OR "positive beliefs" OR "positive expectation" OR "positive expectations" OR "respondent expectations" OR "respondent expectation" OR "respondents expectations" OR "respondents expectation" OR "positive expectations" OR "respondent expectations" OR "respondents expectations" OR "treatment expectation" OR "treatment expectations" OR "suggestion" OR "suggestions" OR ((expectancy OR expectancies) NOT ("Life Expectancy" OR ("Life Expectancy" OR "Life Expectancy") OR ("Life Expectan*" OR "Life Expectan*")))) AND ((Communication AND "Physician-Patient Relations") OR (Communication AND Physicians AND Patients) OR "Communicate Patient" OR "Communicate Patients" OR "Communicated Patient" OR "Communicated Patients" OR "Communicating Patient" OR "Communicating Patients" OR "Communication Patient" OR "Communication Patients" OR "Inform Patient" OR "Inform Patients" OR "Informed Patient" OR "Informed Patients" OR "Information Patient" OR "Information Patients" OR "Informing Patient" OR "Informing Patients" OR "Communicate Individual" OR "Communicate Individuals" OR "Communicated Individual" OR "Communicated Individuals" OR "Communicating Individual" OR "Communicating Individuals" OR "Communication Individual" OR "Communication Individuals" OR "Inform Individual" OR "Inform Individuals" OR "Informed Individual" OR "Informed Individuals" OR "Information Individual" OR "Information Individuals" OR "Informing Individual" OR "Informing Individuals" OR "Explain Patient" OR "Explain Patients" OR "Explaining Patient" OR "Explaining Patients" OR "Explanation Patient" OR "Explanation Patients" OR "Explanations Patient" OR "Explanations Patients" OR "Explain Individual" OR "Explain Individuals" OR "Explaining Individual" OR "Explaining Individuals" OR "Explanation Individual" OR "Explanation Individuals" OR "Explanations Individual" OR "Explanations Individuals" OR ("treatment dropout" OR "treatment dropout") OR ("treatment dropouts" OR "treatment dropouts") OR ("therapy dropout" OR "therapy dropout") OR ("therapy dropouts" OR "therapy dropouts" OR "nonverbal communication" OR "health communication"))) OR (("Placebo Effect" OR ("Placebo Effect" OR "Placebo Effect") OR ("Placebo Effects" OR "Placebo Effects") OR ("Placebo Effect*" OR "Placebo Effect*") OR ("Placebo Response" OR "Placebo Response") OR ("Placebo Responses" OR "Placebo Responses") OR ("Placebo Respon*" OR "Placebo Respon*") OR "Nocebo Effect" OR ("Nocebo Effect" OR "Nocebo Effect") OR ("Nocebo Effects" OR "Nocebo Effects") OR ("Nocebo Effect*" OR "Nocebo Effect*") OR ("Nocebo Response" OR "Nocebo Response") OR ("Nocebo Responses" OR "Nocebo Responses") OR ("Nocebo Respon*" OR "Nocebo Respon*") OR (nocebo OR nocebo) OR (nocebo* OR nocebo*) OR ("placebo induced" OR "placebo induced") OR (bogus OR bogus) OR ("null treatment" OR "null treatment") OR ("inactive treatment" OR "inactive treatment") OR "Placebos/adverse effects" OR ("positive expectat*" OR "positive expectat*") OR ("negative expectat*" OR "negative expectat*") OR ("treatment expect*" OR "treatment expect*") OR ("patients' expectation*" OR "patients' expectation*") OR ("patients expectation*" OR "patients expectation*") OR ("patient expectation*" OR "patient expectation*") OR ("respondents' expectation*" OR "respondents' expectation*") OR ("respondents expectation*" OR "respondents expectation*") OR ("respondent expectation*" OR "respondent expectation*") OR ("improvement expect*" OR "improvement expect*") OR (mindset OR mindset) OR ("patient's trust" OR "patient's trust") OR ("patients trust" OR "patients trust") OR ("patients' trust" OR "patients' trust") OR ("perceived efficacy" OR "perceived efficacy") OR ("perceived effectiveness" OR "perceived effectiveness") OR (suggestibility OR suggestibility) OR ("patient beliefs" OR "patient beliefs") OR ("patient belief*" OR "patient belief*") OR ("patients' beliefs" OR "patients' beliefs") OR ("patients' belief*" OR "patients' belief*") OR ("negative beliefs" OR "negative beliefs") OR ("negative belief*" OR "negative belief*") OR ("positive belief" OR "positive belief") OR ("positive belief*" OR "positive belief*") OR ("beliefs about medicines" OR "beliefs about medicines") OR ("Medicine-related beliefs" OR "Medicine-related beliefs") OR ("Medicine-related belief*" OR "Medicine-related belief*") OR ("patient's perspective" OR "patient's perspective") OR ("patients perspective" OR "patients perspective") OR ("patient perspective" OR "patient perspective") OR ("patients' perspective" OR "patients' perspective") OR "Anticipation, Psychological" OR expectation* OR (((expectancy OR expectancy) OR (expectancies OR expectancies)) NOT ("Life Expectancy" OR ("Life Expectancy" OR "Life Expectancy") OR ("Life Expectan*" OR "Life Expectan*")))) AND (("information frame" OR "information frame") OR ("information frames" OR "information frames") OR ("information framing" OR "information framing") OR ("information fram*" OR "information fram*") OR ("message frame" OR "message frame") OR ("message frames" OR "message frames") OR ("message framing" OR "message framing") OR ("message fram*" OR "message fram*") OR ("frame effect" OR "frame effect") OR ("frame effects" OR "frame effects") OR ("positive frame" OR "positive frame") OR ("positive frames" OR "positive frames") OR ("positive framing" OR "positive framing") OR ("positive fram*" OR "positive fram*") OR ("negative frame" OR "negative frame") OR ("negative frames" OR "negative frames") OR ("negative framing" OR "negative framing") OR ("negative fram*" OR "negative fram*") OR ("positively framed" OR "positively framed") OR ("positively fram*" OR "positively fram*") OR ("negatively framed" OR "negatively framed") OR ("negatively fram*" OR "negatively fram*") OR ("information frame" OR "information

frame") OR ("information frames" OR "information frames") OR ("information framing" OR "information framing") OR ("message frame" OR "message frame") OR ("message frames" OR "message frames") OR ("message framing" OR "message framing") OR ("frame effect" OR "frame effect") OR ("frame effects" OR "frame effects") OR ("positive frame" OR "positive frame") OR ("positive frames" OR "positive frames") OR ("positive framing" OR "positive framing") OR ("negative frame" OR "negative frame") OR ("negative frames" OR "negative frames") OR ("negative framing" OR "negative framing") OR ("positively framed" OR "positively framed") OR ("negatively framed" OR "negatively framed"))) OR (("Placebo Effect" OR ("Placebo Effect" OR "Placebo Effect") OR ("Placebo Effects" OR "Placebo Effects") OR ("Placebo Effect*" OR "Placebo Effect*") OR ("Placebo Response" OR "Placebo Response") OR ("Placebo Responses" OR "Placebo Responses") OR ("Placebo Respon*" OR "Placebo Respon*") OR "Nocebo Effect" OR ("Nocebo Effect" OR "Nocebo Effect") OR ("Nocebo Effects" OR "Nocebo Effects") OR ("Nocebo Effect*" OR "Nocebo Effect*") OR ("Nocebo Response" OR "Nocebo Response") OR ("Nocebo Responses" OR "Nocebo Responses") OR ("Nocebo Respon*" OR "Nocebo Respon*") OR (nocebo OR nocebo) OR (nocebo* OR nocebo*) OR ("placebo induced" OR "placebo induced") OR (bogus OR bogus) OR ("null treatment" OR "null treatment") OR ("inactive treatment" OR "inactive treatment") OR "Placebos/adverse effects" OR ("expectation interventions" OR "expectation interventions") OR ("expectation intervention" OR "expectation intervention") OR ("positive expectat*" OR "positive expectat*") OR ("negative expectat*" OR "negative expectat*") OR ("treatment expect*" OR "treatment expect*") OR ("patients' expectation*" OR "patients' expectation*") OR ("patients expectation*" OR "patients expectation*") OR ("patient expectation*" OR "patient expectation*") OR ("respondents' expectation*" OR "respondents' expectation*") OR ("respondents expectation*" OR "respondents expectation*") OR ("respondent expectation*" OR "respondent expectation*") OR ("improvement expect*" OR "improvement expect*") OR (mindset OR mindset) OR ("patient's trust" OR "patient's trust") OR ("patients trust" OR "patients trust") OR ("patients' trust" OR "patients' trust") OR ("perceived efficacy" OR "perceived efficacy") OR ("perceived effectiveness" OR "perceived effectiveness") OR (suggestibility OR suggestibility) OR ("patient beliefs" OR "patient beliefs") OR ("patient belief*" OR "patient belief*") OR ("patients' beliefs" OR "patients' beliefs") OR ("patients' belief*" OR "patients' belief*") OR ("negative beliefs" OR "negative beliefs") OR ("negative belief*" OR "negative belief*") OR ("positive belief" OR "positive belief") OR ("positive belief*" OR "positive belief*") OR ("beliefs about medicines" OR "beliefs about medicines") OR ("Medicine-related beliefs" OR "Medicine-related beliefs") OR ("Medicine-related belief*" OR "Medicine-related belief*") OR ("patient's perspective" OR "patient's perspective") OR ("patients perspective" OR "patients perspective") OR ("patient perspective" OR "patient perspective") OR ("patients' perspective" OR "patients' perspective") OR "Anticipation, Psychological" OR expectation* OR (((expectancy OR expectancy) OR (expectancies OR expectancies)) NOT ("Life Expectancy" OR ("Life Expectancy" OR "Life Expectancy") OR ("Life Expectan*" OR "Life Expectan*")))) AND (Deception OR (deception OR deception) OR (deceptive OR deceptive) OR (nondeceptive OR nondeceptive) OR (nondecept* OR nondecept*))) OR (("Placebo Effect" OR ("Placebo Effect" OR "Placebo Effect") OR ("Placebo Effects" OR "Placebo Effects") OR ("Placebo Effect*" OR "Placebo Effect*") OR ("Placebo Response" OR "Placebo Response") OR ("Placebo Responses" OR "Placebo Responses") OR ("Placebo Respon*" OR "Placebo Respon*") OR "Nocebo Effect" OR ("Nocebo Effect" OR "Nocebo Effect") OR ("Nocebo Effects" OR "Nocebo Effects") OR ("Nocebo Effect*" OR "Nocebo Effect*") OR ("Nocebo Response" OR "Nocebo Response") OR ("Nocebo Responses" OR "Nocebo Responses") OR ("Nocebo Respon*" OR "Nocebo Respon*") OR (nocebo OR nocebo) OR (nocebo* OR nocebo*) OR ("placebo induced" OR "placebo induced") OR (bogus OR bogus) OR ("null treatment" OR "null treatment") OR ("inactive treatment" OR "inactive treatment") OR "Placebos/adverse effects") AND "Attitude to Health") OR (("Placebo Effect" OR ("Placebo Effect" OR "Placebo Effect") OR ("Placebo Effects" OR "Placebo Effects") OR ("Placebo Effect*" OR "Placebo Effect*") OR ("Placebo Response" OR "Placebo Response") OR ("Placebo Responses" OR "Placebo Responses") OR ("Placebo Respon*" OR "Placebo Respon*") OR "Nocebo Effect" OR ("Nocebo Effect" OR "Nocebo Effect") OR ("Nocebo Effects" OR "Nocebo Effects") OR ("Nocebo Effect*" OR "Nocebo Effect*") OR ("Nocebo Response" OR "Nocebo Response") OR ("Nocebo Responses" OR "Nocebo Responses") OR ("Nocebo Respon*" OR "Nocebo Respon*") OR (nocebo OR nocebo) OR (nocebo* OR nocebo*) OR ("placebo induced" OR "placebo induced") OR (bogus OR bogus) OR ("null treatment" OR "null treatment") OR ("inactive treatment" OR "inactive treatment") OR "Placebos/adverse effects") AND (("expectation interventions" OR "expectation interventions") OR ("expectation intervention" OR "expectation intervention") OR ("positive expectat*" OR "positive expectat*") OR ("negative expectat*" OR "negative expectat*") OR ("treatment expect*" OR "treatment expect*") OR ("patients' expectation*" OR "patients' expectation*") OR ("patients expectation*" OR "patients expectation*") OR ("patient expectation*" OR "patient expectation*") OR ("respondents' expectation*" OR "respondents' expectation*") OR ("respondents expectation*" OR "respondents expectation*") OR ("respondent expectation*" OR "respondent expectation*") OR ("improvement expect*" OR "improvement expect*") OR (mindset OR mindset) OR ("patient's trust" OR "patient's trust") OR ("patients trust" OR "patients trust") OR ("patients' trust" OR "patients' trust") OR ("perceived efficacy" OR "perceived efficacy") OR ("perceived effectiveness" OR "perceived effectiveness") OR (suggestibility OR suggestibility) OR ("patient beliefs" OR "patient beliefs") OR ("patient belief*" OR "patient belief*") OR ("patients' beliefs" OR "patients' beliefs") OR ("patients' belief*" OR "patients' belief*") OR ("negative beliefs" OR "negative beliefs") OR ("negative belief*" OR "negative belief*") OR ("positive belief" OR "positive belief") OR ("positive belief*" OR "positive belief*") OR ("beliefs about medicines" OR "beliefs about medicines") OR ("Medicine-related beliefs" OR "Medicine-related beliefs") OR ("Medicine-related belief*" OR "Medicine-related belief*") OR ("patient's perspective" OR "patient's perspective") OR ("patients perspective" OR "patients perspective") OR ("patient perspective" OR "patient perspective") OR ("patients' perspective" OR "patients'

perspective") OR "Anticipation, Psychological" OR expectation* OR (((expectancy OR expectancy) OR (expectancies OR expectancies)) NOT ("Life Expectancy" OR ("Life Expectancy" OR "Life Expectancy") OR ("Life Expectan*" OR "Life Expectan*"))))) OR (("Placebo Effect belief" OR "Placebo Effect belief") OR ("Placebo Effects belief" OR "Placebo Effects belief") OR ("Placebo Response belief" OR "Placebo Response belief") OR ("Placebo Responses belief" OR "Placebo Responses belief") OR ("nocebo belief" OR "nocebo belief") OR ("placebo induced belief" OR "placebo induced belief") OR ("bogus belief" OR "bogus belief") OR ("null treatment belief" OR "null treatment belief") OR ("inactive treatment belief" OR "inactive treatment belief") OR ("Placebo Effect beliefs" OR "Placebo Effect beliefs") OR ("Placebo Effects beliefs" OR "Placebo Effects beliefs") OR ("Placebo Response beliefs" OR "Placebo Response beliefs") OR ("Placebo Responses beliefs" OR "Placebo Responses beliefs") OR ("nocebo beliefs" OR "nocebo beliefs") OR ("placebo induced beliefs" OR "placebo induced beliefs") OR ("bogus beliefs" OR "bogus beliefs") OR ("null treatment beliefs" OR "null treatment beliefs") OR ("inactive treatment beliefs" OR "inactive treatment beliefs")) OR (Communication AND "Physician-Patient Relations" AND Physicians) OR (("patient mindset" OR "patient mindset") OR ("patients mindset" OR "patients mindset") OR ("patient's mindset" OR "patient's mindset") OR ("patient mindsets" OR "patient mindsets")) OR "Nocebo Effect" OR (("Placebo Effect" OR Placebo OR nocebo) AND ("side effect" OR "side effects" OR analges* OR hyperalges*)) OR ("Pain Perception" AND "Patient Education as Topic")):ti

(conference abstract OR meeting abstract OR conference proceeding OR conference proceedings):pt

PsycINFO
http://search.ebscohost.com/login.aspx?authtype=ip,uid&profile=lumc&defaultdb=psyh

(((DE"Placebo Effect" OR (TI"Placebo Effect" OR DE"Placebo Effect") OR (TI"Placebo Effects" OR DE"Placebo Effects") OR (TI"Placebo Effect*" OR DE"Placebo Effect*") OR (TI"Placebo Response" OR DE"Placebo Response") OR (TI"Placebo Responses" OR DE"Placebo Responses") OR (TI"Placebo Respon*" OR DE"Placebo Respon*") OR DE"Nocebo Effect" OR (TI"Nocebo Effect" OR DE"Nocebo Effect") OR (TI"Nocebo Effects" OR DE"Nocebo Effects") OR (TI"Nocebo Effect*" OR DE"Nocebo Effect*") OR (TI"Nocebo Response" OR DE"Nocebo Response") OR (TI"Nocebo Responses" OR DE"Nocebo Responses") OR (TI"Nocebo Respon*" OR DE"Nocebo Respon*") OR (TInocebo OR ABnocebo) OR (TInocebo* OR ABnocebo*) OR (TI"placebo induced" OR DE"placebo induced") OR (TIbogus OR ABbogus) OR (TI"null treatment" OR DE"null treatment") OR (TI"inactive treatment" OR DE"inactive treatment")) AND ((DE(Communication) AND DE"Physician-Patient Relations") OR (DE(Communication) AND DE(Physicians) AND DE(Patients)) OR (TI"Communicate Patient" OR DE"Communicate Patient") OR (TI"Communicate Patients" OR DE"Communicate Patients") OR (TI"Communicated Patient" OR DE"Communicated Patient") OR (TI"Communicated Patients" OR DE"Communicated Patients") OR (TI"Communicating Patient" OR DE"Communicating Patient") OR (TI"Communicating Patients" OR DE"Communicating Patients") OR (TI"Communication Patient" OR DE"Communication Patient") OR (TI"Communication Patients" OR DE"Communication Patients") OR (TI"Inform Patient" OR DE"Inform Patient") OR (TI"Inform Patients" OR DE"Inform Patients") OR (TI"Informed Patient" OR DE"Informed Patient") OR (TI"Informed Patients" OR DE"Informed Patients") OR (TI"Information Patient" OR DE"Information Patient") OR (TI"Information Patients" OR DE"Information Patients") OR (TI"Informing Patient" OR DE"Informing Patient") OR (TI"Informing Patients" OR DE"Informing Patients") OR (TI"Communicate Individual" OR DE"Communicate Individual") OR (TI"Communicate Individuals" OR DE"Communicate Individuals") OR (TI"Communicated Individual" OR DE"Communicated Individual") OR (TI"Communicated Individuals" OR DE"Communicated Individuals") OR (TI"Communicating Individual" OR DE"Communicating Individual") OR (TI"Communicating Individuals" OR DE"Communicating Individuals") OR (TI"Communication Individual" OR DE"Communication Individual") OR (TI"Communication Individuals" OR DE"Communication Individuals") OR (TI"Inform Individual" OR DE"Inform Individual") OR (TI"Inform Individuals" OR DE"Inform Individuals") OR (TI"Informed Individual" OR DE"Informed Individual") OR (TI"Informed Individuals" OR DE"Informed Individuals") OR (TI"Information Individual" OR DE"Information Individual") OR (TI"Information Individuals" OR DE"Information Individuals") OR (TI"Informing Individual" OR DE"Informing Individual") OR (TI"Informing Individuals" OR DE"Informing Individuals") OR (TI"Explain Patient" OR DE"Explain Patient") OR (TI"Explain Patients" OR DE"Explain Patients") OR (TI"Explaining Patient" OR DE"Explaining Patient") OR (TI"Explaining Patients" OR DE"Explaining Patients") OR (TI"Explanation Patient" OR DE"Explanation Patient") OR (TI"Explanation Patients" OR DE"Explanation Patients") OR (TI"Explanations Patient" OR DE"Explanations Patient") OR (TI"Explanations Patients" OR DE"Explanations Patients") OR (TI"Explain Individual" OR DE"Explain Individual") OR (TI"Explain Individuals" OR DE"Explain Individuals") OR (TI"Explaining Individual" OR DE"Explaining Individual") OR (TI"Explaining Individuals" OR DE"Explaining Individuals") OR (TI"Explanation Individual" OR DE"Explanation Individual") OR (TI"Explanation Individuals" OR DE"Explanation Individuals") OR (TI"Explanations Individual" OR DE"Explanations Individual") OR (TI"Explanations Individuals" OR DE"Explanations Individuals" OR TI" language" OR DE" language" OR TI" Communications Media" OR DE" Communications Media"))) OR ((TI"beliefs about

medicines" OR TIexpectation* OR TI"improvement expect*" OR TI"Medicine-related belief*" OR TI"Medicine-related beliefs" OR TImindset OR TI"negative belief*" OR TI"negative beliefs" OR TI"negative expectat*" OR TI"patient belief*" OR TI"patient beliefs" OR TI"patient expectation*" OR TI"patient perspective" OR TI"patients' belief*" OR TI"patients' beliefs" OR TI"patients expectation*" OR TI"patients' expectation*" OR TI"patients perspective" OR TI"patients' perspective" OR TI"patient's perspective" OR TI"patients trust" OR TI"patients' trust" OR TI"patient's trust" OR TI"perceived effectiveness" OR TI"perceived efficacy" OR TI"positive belief" OR TI"positive belief*" OR TI"positive expectat*" OR TI"respondent expectation*" OR TI"respondents expectation*" OR TI"respondents' expectation*" OR TI(suggestibility) OR TI"treatment expect*" OR TI"beliefs about medicines" OR TI"improvement expectation" OR TI"improvement expectations" OR TI"Medicine-related belief" OR TI"Medicine-related beliefs" OR TI"negative belief" OR TI"negative beliefs" OR TI"negative expectation" OR TI"negative expectations" OR TI"patient belief" OR TI"patient beliefs" OR TI"patient expectation" OR TI"patient expectations" OR TI"patient perspective" OR TI"patient perspectives" OR TI"patients belief" OR TI"patients beliefs" OR TI"patients expectation" OR TI"patients expectations" OR TI"patients perspective" OR TI"patients perspectives" OR TI"patients trust" OR TI"patient trust" OR TI"perceived effectiveness" OR TI"perceived efficacy" OR TI"positive belief" OR TI"positive beliefs" OR TI"positive expectation" OR TI"positive expectations" OR TI"respondent expectations" OR TI"respondent expectation" OR TI"respondents expectations" OR TI"respondents expectation" OR TI"positive expectations" OR TI"respondent expectations" OR TI"respondents expectations" OR TI"treatment expectation" OR TI"treatment expectations" OR TI" suggestion*" OR DE" suggestion*" OR ((TIexpectancy OR TIexpectancies) NOT (DE"Life Expectancy" OR (TI"Life Expectancy" OR DE"Life Expectancy") OR (TI"Life Expectan*" OR DE"Life Expectan*")))) AND ((DE(Communication) AND DE"Physician-Patient Relations") OR (DE(Communication) AND DE(Physicians) AND DE(Patients)) OR TI"Communicate Patient" OR TI"Communicate Patients" OR TI"Communicated Patient" OR TI"Communicated Patients" OR TI"Communicating Patient" OR TI"Communicating Patients" OR TI"Communication Patient" OR TI"Communication Patients" OR TI"Inform Patient" OR TI"Inform Patients" OR TI"Informed Patient" OR TI"Informed Patients" OR TI"Information Patient" OR TI"Information Patients" OR TI"Informing Patient" OR TI"Informing Patients" OR TI"Communicate Individual" OR TI"Communicate Individuals" OR TI"Communicated Individual" OR TI"Communicated Individuals" OR TI"Communicating Individual" OR TI"Communicating Individuals" OR TI"Communication Individual" OR TI"Communication Individuals" OR TI"Inform Individual" OR TI"Inform Individuals" OR TI"Informed Individual" OR TI"Informed Individuals" OR TI"Information Individual" OR TI"Information Individuals" OR TI"Informing Individual" OR TI"Informing Individuals" OR TI"Explain Patient" OR TI"Explain Patients" OR TI"Explaining Patient" OR TI"Explaining Patients" OR TI"Explanation Patient" OR TI"Explanation Patients" OR TI"Explanations Patient" OR TI"Explanations Patients" OR TI"Explain Individual" OR TI"Explain Individuals" OR TI"Explaining Individual" OR TI"Explaining Individuals" OR TI"Explanation Individual" OR TI"Explanation Individuals" OR TI"Explanations Individual" OR TI"Explanations Individuals" OR (TI"treatment dropout" OR DE"treatment dropout") OR (TI"treatment dropouts" OR DE"treatment dropouts") OR (TI"therapy dropout" OR DE"therapy dropout") OR (TI"therapy dropouts" OR DE"therapy dropouts" OR DE"nonverbal communication" OR DE"health communication" OR TI "nonverbal communication" OR TI "health communication"))) OR ((DE"Placebo Effect" OR (TI"Placebo Effect" OR DE"Placebo Effect") OR (TI"Placebo Effects" OR DE"Placebo Effects") OR (TI"Placebo Effect*" OR DE"Placebo Effect*") OR (TI"Placebo Response" OR DE"Placebo Response") OR (TI"Placebo Responses" OR DE"Placebo Responses") OR (TI"Placebo Respon*" OR DE"Placebo Respon*") OR DE"Nocebo Effect" OR (TI"Nocebo Effect" OR DE"Nocebo Effect") OR (TI"Nocebo Effects" OR DE"Nocebo Effects") OR (TI"Nocebo Effect*" OR DE"Nocebo Effect*") OR (TI"Nocebo Response" OR DE"Nocebo Response") OR (TI"Nocebo Responses" OR DE"Nocebo Responses") OR (TI"Nocebo Respon*" OR DE"Nocebo Respon*") OR (TInocebo OR ABnocebo) OR (TInocebo* OR ABnocebo*) OR (TI"placebo induced" OR DE"placebo induced") OR (TIbogus OR ABbogus) OR (TI"null treatment" OR DE"null treatment") OR (TI"inactive treatment" OR DE"inactive treatment") OR (TI"positive expectat*" OR DE"positive expectat*") OR (TI"negative expectat*" OR DE"negative expectat*") OR (TI"treatment expect*" OR DE"treatment expect*") OR (TI"patients' expectation*" OR DE"patients' expectation*") OR (TI"patients expectation*" 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Appendix B. Adjusted Grading Criteria.

			Class of Recommendation (COR)			
			Class I	Class IIa	Class IIb	Class III
			Benefit >>> Risk	Benefit >> Risk	Benefit ≥ Risk	No benefit or harmful
			Should be done / is useful	*Reasonable to do / can be useful*	*May be considered / unknown usefulness*	*Not helpful or harmful*
Level (Quality) Of Evidence (LOE)	A	*High quality data, > 1 RCT*	+++++	+++	+++	----
	B-R (randomized)	*Moderate quality data, >1 RCT*	++++	++	++	---
	B-NR (non-randomized)	*Moderate quality evidence from > 1 high quality nonrandomized/observational study*	+++	+	+	--
	C-LD (limited data)	*(non)randomized studies with limitations in design, mechanistic studies*	++	+	0	-
	C-EO (expert opinion)	*Consensus opinion based on clinical experience and expertise*	+	+	0	-

Note. Grading is adjusted from the American College of Cardiology and American Heart Association "Class of Recommendations and Level (Quality) of Evidence Ratings" system[17]. Because the current recommendation paper did not systematically search for systematic reviews and meta-analyses, these criteria were omitted from the evaluation of the level of evidence.

Appendix C. Supplementary Tables

Supplementary Table S1. Overview of the literature backing each clinical recommendation.

Category	Recommendation	Do's and don'ts	References		Systematic review
			First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Optimizing the clinician-patient relationship	Show interest in the patient	✓ Use active listening and personal attention to foster trust and enhance patient satisfaction ✓ Ensure that a patient doesn't feel regarded as just a "number", a "body" or a "case" ✓ Use respectful and caring behaviours, displaying honesty, respect and competence to build trust and foster positive interactions ✖ Avoid misjudgements of patients' unmet needs	19,28,29	30-46	10 / 5 / 2
	Give reassurance about ongoing care	✓ Use brief reassuring statements to reduce insecurity and fears of abandonment, e.g. "we're going to take good care of you" ✓ Establish a cooperative clinician-patient relationship grounded in shared goals	47,48	49-52	2 / 2 / 0
	Respond to negative emotions	✓ Respond to negative emotions, e.g., by naming and understanding them ✓ Provide emotional support and address the emotional needs of patients	28,53,54	55-67	8 / 5 / 0
	Leverage eye contact and physical presence	✓ Use attentive listening and maintain a patient-oriented posture to foster trust ✓ Make eye contact with the patient while listening or providing information ✓ Sit rather than stand during consultations, as this will cause patients to perceive as longer and more positive ✓ Use appropriate facial expressions to increase perceived trustworthiness and competence ✖ Avoid excessive eye contact, as this can diminish trust	21,68-72	19,21,68,73 -80	9 / 2 / 0

	Use patient-centered communication		.	89-113	22 / 3 / 0

*Note. * With 'overall recommendation', we refer to the evidence for the overall domain (e.g., 'optimizing the clinician-patient relationship' or 'asking about expectations'.*

Supplementary Table S1. *Continued*

Category	Recommendation	Do's and don'ts	References		Systematic review
			First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Optimizing the clinician-patient relationship	Adapt communication style to the patient	✓ Adapt your communication to the patient's values and expectations, comprehension levels and information needs ✓ Consider whether it is always helpful to give advice (e.g., when patients are highly distressed)	.	81-88	6 / 2 / 0
	Leverage other behaviours to foster trust	✓ Provide clear explanations and use shared decision making ✓ Adress prior negative encounters that the patient may have had ✓ Foster trust, a sense of control and autonomy, and improve cultural understanding	.	114-131	15 / 2 / 1
	*Overall recommendation**		12,19-27,277		72 / 21 / 3

Supplementary Table S1. *Continued*

Category	Recommendation	Do's and don'ts	References		Systematic review
			First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Asking about expectations	Ask about and identify general expectations towards treatment	✓ Incorporate questions about expectations in the natural flow of the conversation, e.g., integrate them before explaining a specific treatment part ✓ Use open-ended questions to ask about patients' prior knowledge and experiences ✓ Encourage patients to articulate their expectations ✗ Avoid leading questions and filling in the blanks for patients when they have trouble expressing what they expect	2,3,139-141	.	.
	Adjust unrealistic expectations	✓ If patients are overly optimistic, clarify the limitations of the treatment ✓ If patients are overly pessimistic, focus on potential long-term effects to recalibrate their outlook ✓ Check whether patients expect any tests or treatments that are not aligned with existing guidelines and therapies ✓ Take patient beliefs seriously, even if they appear unrealistic or unfounded ✓ Have an open and honest attitude towards patients' expectations, to help them understand treatment suggestions and form realistic expectations	2,132,141,148, 149	.	.
	Address disappointment from previous treatments	✓ Identify negative expectations that may be due to previous disappointments with treatment ✓ Emphasize the differences between the current treatment option and those prior negative experiences ✓ Emphasize the potential effectiveness of the current treatment ✓ If possible, offer alternate routes of administration that resonate with the patient's preferences	2,154	.	.

*Overall recommendation**	2,132-138	142-147,150-153	6 / 4 / 0

Supplementary Table S1. *Continued*

Category	Recommendation	Do's and don'ts	References		Systematic review
			First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Discussing the treatment rationale	Provide correct information based on evidence-based knowledge	✓ Provide accurate and up-to-date information about the treatment and its expected effects, that is grounded in medical knowledge and the clinician's experience ✓ Provide clear and comprehensive explanations to improve decision making ✓ Use explanatory information and discuss biomedical information ✓ Balance optimism with a clear discussion of pessimistic aspects (e.g., a bad prognosis), while being emotionally sensitive ✓ Approach sensitive topics more indirectly ✗ Do not avoid talking about psychosocial issues and offering emotional support if psychosocial problems are present ✗ Avoid medical terms that may induce negative expectations. If possible, use euphemisms instead.	138,161	162-167	6 / 0 / 0
	Avoid exaggeration or underestimation of treatment results	✓ Give an accurate presentation of treatment outcomes to maintain credibility and trust ✓ Transparently communicate about uncertainty, but use implicit phrasing (e.g., "most likely diagnoses") rather than direct statements of uncertainty to maintain trust ✗ Do not exaggerate or underestimate treatment results	2,159	156,168-182,278	15 / 1 / 1
	Clearly state the treatment rationale and expected positive outcomes in concrete terms	✓ Explicitly state the treatment rationale and the expected positive benefits ✓ Supply this statement with tangible details about the predicted outcomes, to help align patient expectations with realistic treatment outcomes ✓ Use positive and gain-framed messages, and use positive affect-oriented speech to reduce anxiety and improve the willingness to receive a treatment	159,183	184-188	2 / 2 / 1

	× Do not omit important biomedical details, e.g. on symptom causes and severity, and test results		

Supplementary Table S1. *Continued*

Category	Recommendation	Do's and don'ts	References		Systematic review
			First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Discussing the treatment rationale	Explain treatment mechanisms of action	✓ Explain what the treatment does in the body clearly and vividly to increase confidence in its effectiveness ✓ Increase patient understanding by explaining mechanisms of treatment, e.g. on procedural information to reduce anxiety or on drug approval processes to foster confidence in (generic) medicine safety and quality ✓ Consider the patient's (medical) history, physical examinations, and prior research in explaining the mechanisms of action	2,8,161	161,189,190	3 / 0 / 0
	Align patient expectations and beliefs with evidence-based care	✓ Ask what a patient personally expects from a treatment and align this with realistic outcomes and evidence-based care ✓ If no treatment is prescribed, express confidence and positive expectations about the course of the symptoms or the patient's ability to cope with them ✓ Balance information with acceptance or denial of unrealistic expectations, using medical knowledge and expertise to challenge these expectations	10,160,161,191	192-196	4 / 1 / 0
	Emphasize the purpose and advantages of treatment procedures	✓ Focus on the purpose and advantages of medical procedures, rather than explicitly mentioning potential pain or discomfort ✓ Use case descriptions, storytelling, reassurance, clear explanations and describing favourable prognoses to highlight potential benefits of treatment and medical procedures	2,5,197,198	199-202	4 / 0 / 0
	Check patient comprehension	✓ Ensure that patients fully comprehend the information provided during medical consultations and verify that they have a solid understanding of their condition and the treatment that they will receive ✓ Promptly correct and adjust any apparent misconceptions or misunderstanding	2,138,156,203,204	205-207	1 / 1 / 1

Supplementary Table S1. *Continued*

Category	Recommendation	Do's and don'ts	References		Systematic review
			First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Discussing the treatment rationale	Suggest reliable information sources	✓ Provide patients with additional resources, including leaflets and reliable websites ✓ Encourage health seeking behaviours and support patients with recommending credible sources, or gently correct them if unreliable sources are used	208-210	211-215	6 / 0 / 0
	*Overall recommendation**		6,10,155-161,197	.	41 / 5 / 3

Supplementary Table S1. *Continued*

Category		Recommendation	Do's and don'ts	References		Systematic review
				First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Discussing side effects	General structure of the consultation	Emphasize positive consequences of side effects	✓ Change patients' mindsets about side effects, e.g. encourage them to reinterpret minor, non-harmful side effects as signals that the treatment may be working (e.g., for vaccinations, allergen desensitization) ✗ Do not encourage patients to reinterpret side effects as positive when they may be harmful, signal treatment intolerability or if alternatives exist	219	220,221	2 / 0 / 0
		Balance side effect information with positive information	✓ If not harmful, indicate that side effects may be unpleasant but that the treatment will have benefits on the longer term ✓ Frame information positively to enhance patient confidence and treatment adherence ✓ Address anxiety before providing information about treatment side effects ✓ Provide a support system for patients should side effects occur ✓ Balance negative information with other positive interventions, including but not limited to self-affirmation, or relaxation	210	222-232	9 / 1 / 0**
		Investigate (sources of) nocebo effects	✓ Carefully check whether the patient had an increased risk of developing nocebo effects, e.g., due to past negative experiences or beliefs about increased sensitivity towards side effects ✓ Openly and without judgement, ask about what a patient expects to experience ✓ Create an atmosphere in which the patient understands that there are no wrong answers to such questions ✓ Help patients to understand numerical information regarding side effects ✗ Avoid leading questions or words to ask about side effect expectations	210	233-235	3 / 0 / 0

Supplementary Table S1. *Continued*

Category	Recommendation	Do's and don'ts	References		Systematic review
			First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Information framing	State all symptoms briefly to reduce nocebo effects	✓ State all symptoms briefly to reduce the chance of side effects, particularly for low-risk side effects × Do not focus or highlight specific side effects, unless they are high-risk effects for which actions should be taken	236,237	229,238	2 / 0 / 0
	Frame positive outcomes rather than negative outcomes	✓ Frame information about side effects positively (i.e., 9 out of 10 do not experience side effects)	198,210,217	239,240	2 / 0 / 0
	Discuss risks in statistical terms	✓ Use statistical terms to describe risks, as these do not appeal to the imagination as much as personal terms (e.g., 1 in 10 people) ✓ Use simplified and risk-neutral phrasing where possible ✓ In serious illness, absolute mortality risk framing may be preferred to reduce bias and improve informed decision making × Avoid descriptors such as 'very common' and 'common' as these can result in negative expectations	241	234,242,243	3 / 0 / 0
	Use neutral terms when performing a procedure	✓ When performing a procedure, use neutral terms rather than terms that can indicate discomfort or pain evoked by the procedure	.	197	1 / 0 / 0
	*Overall recommendation**		7,210,216-218,237		22 / 1 / 0

Supplementary Table S1. *Continued*

Category		Recommendation	Do's and don'ts	References		Systematic review
				First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Explain placebo and nocebo effects	Placebo effects	Careful explanation of placebo effects	✓ First explain the treatment mechanisms of action to increase understanding of the intertwined roles of the mind and brain in treatment efficacy ✓ Communicate clearly that treatments can still be efficacious even when patients are informed about placebo effects ✓ Carefully explain the concept of "placebo effects", using this term judiciously especially for patients with limited health literacy skills	14,244	252-263	12 / 0 / 1
		Mechanism of action of placebo effects	✓ Explain that the placebo effect arises due to positive expectations and that this is a real response of the body that can alleviate symptoms ✓ Provide examples that help patients gain a better understanding of how placebo effects work	14,264	265-268	3 / 1 / 0
		Appropriate presentation of information	✓ Tailor the explanation to the individual that receives it ✓ Use additional terminology or euphemisms to explain the mechanisms of placebo effects	14,264	269-271	3 / 0 / 0
		Prevent overly optimistic expectations	✓ Prevent the shaping of overly optimistic expectations about placebo effects ✓ Clarify that placebo effects can alleviate symptoms, but that they cannot cure illness ✗ Do not give the impression that placebo is preferable over medical treatment or that it can replace conventional treatment	14	.	.

Supplementary Table S1. *Continued*

Category		Recommendation	Do's and don'ts	References		Systematic review
				First stream	Second stream	Study type ratio (quantitative / qualitative / mixed
Explain placebo and nocebo effects	Nocebo effects	Attend to the purpose of explaining nocebo effects	✓ Carefully consider if a patient should be informed about nocebo effects ✓ Emphasize the reasons for why information about nocebo effects is provided, for instance, to reduce them from occurring or to further patient understanding	14,210,272	.	.
		Careful explanation of nocebo effects	✓ Carefully explain nocebo effects, using alternate or related terms if deemed more appropriate, such as anxiety or fear	14,210	247,273-275	4 / 0 / 0
		Keep explanation simple	✓ Keep the explanation of nocebo effects short and simple, if possible, for instance, explaining that side effects or symptoms may be more readily noticed if a patient focuses their attention on them	14	.	.
		Avoid unintentional negative effects	✓ Ensure that it is understood that not all side effects are nocebo effects and that the patient should report them; sometimes they are real side effects that require prompt action from the clinician ✓ If (nocebo) side effects are experienced, discuss and decide about follow-up steps together with the patient ✗ When explaining nocebo effects, avoid unintentionally placing blame or responsibility for experiencing nocebo effects on the patient	14	.	.
		Provide ways to manage nocebo effects	✓ Suggest that family members read the information leaflet to keep an eye out for side effects ✓ Suggest relaxation or distraction techniques to keep attention away from side effects ✓ Combine relaxation and distraction techniques with nocebo education to manage these effects and empower patients	2	276	0 / 1 / 0

*Overall recommendation**	11,13,14,210,2 44-251	22 / 2 / 1
		Total: 163 / 33 / 7

Supplementary Table S2

Please go to this link:

https://docs.google.com/spreadsheets/d/1qa2PPjFW0V1j6sflkcojz96DGodbts2z/edit?usp=sharing&ouid=107410726990848575949&rtpof=true&sd=true

Supplementary Table S3 (also presented in main manuscript as Table 2): NURSE framework for empathic behaviours, developed on the basis of the studies by Pollak et al.[27], Back et al.[26] and van Vliet & Epstein[12]. Note that the examples serve only as an inspiration[23,277].

NURSE	Explanation	Example
Naming	Name the emotion	You sound very anxious.
Understanding	Show understanding of the emotion	I really understand that you're dreading it. I can imagine that you're upset about it.
Respecting	Show respect for the patient	I'm impressed with how well you're handling the situation.
Supporting	Express support	And whatever happens, we'll take good care of you. You don't have to face this alone.
Exploring	Explore the emotion	What are you thinking about now? You're suddenly having to face so much.

References

1. Bagnis A, Meeuwis SH, Haas JW, et al. A scoping review of placebo and nocebo responses and effects: insights for clinical trials and practice. *Health Psychol Rev*. Jun 2025;19(2):409-447. doi:10.1080/17437199.2025.2471792
2. Bingel U. Placebo 2.0: the impact of expectations on analgesic treatment outcome. *Pain*. Sep 2020;161 Suppl 1:S48-s56. doi:10.1097/j.pain.0000000000001981
3. Bishop FL, Coghlan B, Geraghty AW, et al. What techniques might be used to harness placebo effects in non-malignant pain? A literature review and survey to develop a taxonomy. *BMJ open*. 2017;7(6):e015516.
4. Blasini M, Peiris N, Wright T, Colloca L. Chapter Nine - The Role of Patient–Practitioner Relationships in Placebo and Nocebo Phenomena. In: Colloca L, ed. *International Review of Neurobiology*. Academic Press; 2018:211-231.
5. Chavarria V, Vian J, Pereira C, et al. The Placebo and Nocebo Phenomena: Their Clinical Management and Impact on Treatment Outcomes. *Clin Ther*. Mar 2017;39(3):477-486. doi:10.1016/j.clinthera.2017.01.031
6. Colloca L, Miller FG. How placebo responses are formed: a learning perspective. *Philos Trans R Soc Lond B Biol Sci*. Jun 27 2011;366(1572):1859-69. doi:10.1098/rstb.2010.0398
7. Colloca L, Miller FG. The nocebo effect and its relevance for clinical practice. *Psychosom Med*. Sep 2011;73(7):598-603. doi:10.1097/PSY.0b013e3182294a50
8. Enck P, Bingel U, Schedlowski M, Rief W. The placebo response in medicine: minimize, maximize or personalize? *Nature reviews Drug discovery*. 2013;12(3):191-204.
9. Manaï M, van Middendorp H, Veldhuijzen DS, Huizinga TWJ, Evers AWM. How to prevent, minimize, or extinguish nocebo effects in pain: a narrative review on mechanisms, predictors, and interventions. *Pain Rep*. May-Jun 2019;4(3):e699. doi:10.1097/pr9.0000000000000699
10. Peerdeman KJ, van Laarhoven AIM, Keij SM, et al. Relieving patients' pain with expectation interventions: a meta-analysis. *Pain*. Jun 2016;157(6):1179-1191. doi:10.1097/j.pain.0000000000000540
11. Spotts EK, Geers AL. Interventions that inform patients about nocebo effects: A systematic review of the current evidence. *Ann Behav Med*. Jan 4 2025;59(1)doi:10.1093/abm/kaaf067
12. van Vliet LM, Epstein AS. Current state of the art and science of patient-clinician communication in progressive disease: patients' need to know and need to feel known. *J Clin Oncol*. Nov 1 2014;32(31):3474-8. doi:10.1200/jco.2014.56.0425
13. Evers AWM, Colloca L, Blease C, et al. Implications of Placebo and Nocebo Effects for Clinical Practice: Expert Consensus. *Psychother Psychosom*. 2018;87(4):204-210. doi:10.1159/000490354
14. Evers AWM, Colloca L, Blease C, et al. What Should Clinicians Tell Patients about Placebo and Nocebo Effects? Practical Considerations Based on Expert Consensus. *Psychother Psychosom*. 2021;90(1):49-56. doi:10.1159/000510738
15. Westendorp J, van Vliet LM, Meeuwis SH, et al. Optimizing placebo and minimizing nocebo effects through communication: e-learning and virtual reality training development. *BMC Med Educ*. Jul 1 2024;24(1):707. doi:10.1186/s12909-024-05671-0

16. Page MJ, Moher D, Bossuyt PM, et al. PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. *BMJ*. 2021;372:n160. doi:10.1136/bmj.n160
17. Kremer LCM, Mulder RL, Oeffinger KC, et al. A worldwide collaboration to harmonize guidelines for the long-term follow-up of childhood and young adult cancer survivors: A report from the international late effects of Childhood Cancer Guideline Harmonization Group. *Pediatric Blood & Cancer*. 2013/04/01 2013;60(4):543-549. doi:https://doi.org/10.1002/pbc.24445
18. Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan-a web and mobile app for systematic reviews. *Syst Rev*. Dec 5 2016;5(1):210. doi:10.1186/s13643-016-0384-4
19. Bensing JM, Deveugele M, Moretti F, et al. How to make the medical consultation more successful from a patient's perspective? Tips for doctors and patients from lay people in the United Kingdom, Italy, Belgium and the Netherlands. *Patient Educ Couns*. Sep 2011;84(3):287-93. doi:10.1016/j.pec.2011.06.008
20. Hojat M, Louis DZ, Markham FW, Wender R, Rabinowitz C, Gonnella JS. Physicians' empathy and clinical outcomes for diabetic patients. *Acad Med*. Mar 2011;86(3):359-64. doi:10.1097/ACM.0b013e3182086fe1
21. Hillen MA, de Haes HC, van Tienhoven G, et al. All eyes on the patient: the influence of oncologists' nonverbal communication on breast cancer patients' trust. *Breast Cancer Res Treat*. Aug 2015;153(1):161-71. doi:10.1007/s10549-015-3486-0
22. van Vliet LM, Leeuwenburgh MLR, Westendorp J, van Dulmen S, de Jong PC, Stouthard JML. Good versus bad news consultations in advanced breast cancer: the role of empathy in information recall - an observational study. *BMJ Support Palliat Care*. Mar 27 2023;doi:10.1136/spcare-2022-003938
23. Westendorp J, Stouthard J, Meijers MC, et al. The power of clinician-expressed empathy to increase information recall in advanced breast cancer care: an observational study in clinical care, exploring the mediating role of anxiety. *Patient Educ Couns*. May 2021;104(5):1109-1115. doi:10.1016/j.pec.2020.10.025
24. Stewart MA. Effective physician-patient communication and health outcomes: a review. *Cmaj*. May 1 1995;152(9):1423-33.
25. Lamiani G, Dordoni P, Vegni E, Barajon I. Caring for critically ill patients: clinicians' empathy promotes job satisfaction and does not predict moral distress. *Frontiers in Psychology*. 2020;10:2902.
26. Back AL, Arnold RM, Baile WF, Tulsky JA, Fryer-Edwards K. Approaching difficult communication tasks in oncology. *CA Cancer J Clin*. May-Jun 2005;55(3):164-77. doi:10.3322/canjclin.55.3.164
27. Pollak KI, Arnold RM, Jeffreys AS, et al. Oncologist communication about emotion during visits with patients with advanced cancer. *J Clin Oncol*. Dec 20 2007;25(36):5748-52. doi:10.1200/jco.2007.12.4180
28. Drossman DA, Chang L, Deutsch JK, et al. A review of the evidence and recommendations on communication skills and the patient–provider relationship: a Rome foundation working team report. *Gastroenterology*. 2021;161(5):1670-1688. e7.
29. Ridd M, Shaw A, Lewis G, Salisbury C. The patient-doctor relationship: a synthesis of the qualitative literature on patients' perspectives. *Br J Gen Pract*. Apr 2009;59(561):e116-33. doi:10.3399/bjgp09X420248

30. Skirbekk H, Middelthon AL, Hjortdahl P, Finset A. Mandates of trust in the doctor-patient relationship. *Qual Health Res*. Sep 2011;21(9):1182-90. doi:10.1177/1049732311405685
31. Sternke EA, Abrahamson K, Bair MJ. Comorbid Chronic Pain and Depression: Patient Perspectives on Empathy. *Pain Manag Nurs*. Dec 2016;17(6):363-371. doi:10.1016/j.pmn.2016.07.003
32. Zachariae R, Pedersen CG, Jensen AB, Ehrnrooth E, Rossen PB, von der Maase H. Association of perceived physician communication style with patient satisfaction, distress, cancer-related self-efficacy, and perceived control over the disease. *Br J Cancer*. Mar 10 2003;88(5):658-65. doi:10.1038/sj.bjc.6600798
33. Wollny A, Altiner A, Daubmann A, et al. Patient-centered communication and shared decision making to reduce HbA1c levels of patients with poorly controlled type 2 diabetes mellitus - results of the cluster-randomized controlled DEBATE trial. *BMC Fam Pract*. Jun 25 2019;20(1):87. doi:10.1186/s12875-019-0977-9
34. Lelorain S, Brédart A, Dolbeault S, et al. How does a physician's accurate understanding of a cancer patient's unmet needs contribute to patient perception of physician empathy? *Patient Educ Couns*. Jun 2015;98(6):734-41. doi:10.1016/j.pec.2015.03.002
35. Thom DH, Kravitz RL, Bell RA, Krupat E, Azari R. Patient trust in the physician: relationship to patient requests. *Fam Pract*. Oct 2002;19(5):476-83. doi:10.1093/fampra/19.5.476
36. Bartholomäus M, Zomorodbakhsch B, Micke O, et al. Cancer patients' needs for virtues and physicians' characteristics in physician-patient communication: a survey among patient representatives. *Support Care Cancer*. Aug 2019;27(8):2783-2788. doi:10.1007/s00520-018-4585-3
37. Bendapudi NM, Berry LL, Frey KA, Parish JT, Rayburn WL. Patients' perspectives on ideal physician behaviors. *Mayo Clin Proc*. Mar 2006;81(3):338-44. doi:10.4065/81.3.338
38. Greene J, Ramos C. A Mixed Methods Examination of Health Care Provider Behaviors That Build Patients' Trust. *Patient Educ Couns*. May 2021;104(5):1222-1228. doi:10.1016/j.pec.2020.09.003
39. Greene J, Samuel-Jakubos H. Building Patient Trust in Hospitals: A Combination of Hospital-Related Factors and Health Care Clinician Behaviors. *Jt Comm J Qual Patient Saf*. Dec 2021;47(12):768-774. doi:10.1016/j.jcjq.2021.09.003
40. Hillen MA, de Haes H, Stalpers LJA, et al. How can communication by oncologists enhance patients' trust? An experimental study. *Ann Oncol*. Apr 2014;25(4):896-901. doi:10.1093/annonc/mdu027
41. Jiang S, Lam C. Linking Nonverbal Rapport to Health Outcome: Testing an Organizational Pathway Model. *Health Commun*. Mar 2023;38(3):522-531. doi:10.1080/10410236.2021.1957244
42. Pozzar RA, Xiong N, Hong F, et al. How does patient-centered communication in ovarian cancer care enhance patient well-being? A mixed methods study. *Gynecol Oncol*. Nov 2022;167(2):261-268. doi:10.1016/j.ygyno.2022.08.019
43. Quigley DD, Elliott MN, Farley DO, Burkhart Q, Skootsky SA, Hays RD. Specialties differ in which aspects of doctor communication predict overall physician ratings. *J Gen Intern Med*. Mar 2014;29(3):447-54. doi:10.1007/s11606-013-2663-2

44. Siddiqua A, Kareem Abdul W, Ayan S, Al Azm L, Ali S. Antecedents of patients' trust in pharmacists: empirical investigation in the United Arab Emirates. *Int J Pharm Pract*. Feb 2018;26(1):63-72. doi:10.1111/ijpp.12359
45. Thom DH, Campbell B. Patient-physician trust: an exploratory study. *J Fam Pract*. Feb 1997;44(2):169-76.
46. Weiss R, Vittinghoff E, Fang MC, et al. Associations of Physician Empathy with Patient Anxiety and Ratings of Communication in Hospital Admission Encounters. *J Hosp Med*. Oct 2017;12(10):805-810. doi:10.12788/jhm.2828
47. Sep MS, van Osch M, van Vliet LM, Smets EM, Bensing JM. The power of clinicians' affective communication: how reassurance about non-abandonment can reduce patients' physiological arousal and increase information recall in bad news consultations. An experimental study using analogue patients. *Patient Educ Couns*. Apr 2014;95(1):45-52. doi:10.1016/j.pec.2013.12.022
48. Liu J, Yu C, Li C, Han J. Cooperation or Conflict in Doctor-Patient Relationship? An Analysis From the Perspective of Evolutionary Game. *IEEE Access*. 2020;8:42898-42908. doi:10.1109/ACCESS.2020.2977385
49. Butterworth JE, Campbell JL. Older patients and their GPs: shared decision making in enhancing trust. *Br J Gen Pract*. Nov 2014;64(628):e709-18. doi:10.3399/bjgp14X682297
50. Dang BN, Westbrook RA, Njue SM, Giordano TP. Building trust and rapport early in the new doctor-patient relationship: a longitudinal qualitative study. *BMC Med Educ*. Feb 2 2017;17(1):32. doi:10.1186/s12909-017-0868-5
51. Mazzi MA, Rimondini M, van der Zee E, Boerma W, Zimmermann C, Bensing J. Which patient and doctor behaviours make a medical consultation more effective from a patient point of view. Results from a European multicentre study in 31 countries. *Patient Educ Couns*. Oct 2018;101(10):1795-1803. doi:10.1016/j.pec.2018.05.019
52. Stuhlreyer J, Roder C, Krug F, Zöllner C, Flor H, Klinger R. A digital application and augmented physician rounds reduce postoperative pain and opioid consumption after primary total knee replacement (TKR): a randomized clinical trial. *BMC Med*. Dec 5 2022;20(1):469. doi:10.1186/s12916-022-02638-0
53. Mazzi MA, Bensing J, Rimondini M, et al. How do lay people assess the quality of physicians' communicative responses to patients' emotional cues and concerns? An international multicentre study based on videotaped medical consultations. *Patient Educ Couns*. Mar 2013;90(3):347-53. doi:10.1016/j.pec.2011.06.010
54. Beach MC, Park J, Han D, Evans C, Moore RD, Saha S. Clinician Response to Patient Emotion: Impact on Subsequent Communication and Visit Length. *Ann Fam Med*. Nov-Dec 2021;19(6):515-520. doi:10.1370/afm.2740
55. Adams K, Cimino JE, Arnold RM, Anderson WG. Why should I talk about emotion? Communication patterns associated with physician discussion of patient expressions of negative emotion in hospital admission encounters. *Patient Educ Couns*. Oct 2012;89(1):44-50. doi:10.1016/j.pec.2012.04.005
56. Al-Habbal K, Arawi T. Physicians' empathy levels in a primary care setting: perceptions of patients and their physicians, a qualitative study. *Fam Pract*. Nov 28 2020;37(6):834-838. doi:10.1093/fampra/cmaa073
57. Ali AM, Young HN. Relationships between Key Functions of Patient-Provider Communication, Trust, and Motivation across White, African American, and Hispanic/Latino

Patients with Asthma. *Health Commun*. Apr 2022;37(4):450-456. doi:10.1080/10410236.2020.1848758
58. Arora NK, Gustafson DH. Perceived helpfulness of physicians' communication behavior and breast cancer patients' level of trust over time. *J Gen Intern Med*. Feb 2009;24(2):252-5. doi:10.1007/s11606-008-0880-x
59. Chegini Z, Kakemam E, Behforoz A, Lotfollah-Zadeh F, Jafari-Koshki T, Khodayari Zarnag R. Impact of Patient Communication Preferences on the Patient Trust in Physicians: A Cross-Sectional Study in Iranian Outpatient's Clinics. *J Patient Exp*. 2022;9:23743735211069809. doi:10.1177/23743735211069809
60. Fenton JJ, Duberstein PR, Kravitz RL, et al. Impact of Prognostic Discussions on the Patient-Physician Relationship: Prospective Cohort Study. *J Clin Oncol*. Jan 20 2018;36(3):225-230. doi:10.1200/jco.2017.75.6288
61. Gross R, Brammli-Greenberg S, Tabenkin H, Benbassat J. Primary care physicians' discussion of emotional distress and patient satisfaction. *Int J Psychiatry Med*. 2007;37(3):331-45. doi:10.2190/PM.37.3.i
62. Ommen O, Thuem S, Pfaff H, Janssen C. The relationship between social support, shared decision-making and patient's trust in doctors: a cross-sectional survey of 2,197 inpatients using the Cologne Patient Questionnaire. *Int J Public Health*. Jun 2011;56(3):319-27. doi:10.1007/s00038-010-0212-x
63. Pozzar RA, Xiong N, Hong F, et al. Perceived patient-centered communication, quality of life, and symptom burden in individuals with ovarian cancer. *Gynecologic Oncology*. 2021/11/01/ 2021;163(2):408-418. doi:https://doi.org/10.1016/j.ygyno.2021.08.007
64. Ruberton PM, Huynh HP, Miller TA, Kruse E, Chancellor J, Lyubomirsky S. The relationship between physician humility, physician-patient communication, and patient health. *Patient Educ Couns*. Jul 2016;99(7):1138-1145. doi:10.1016/j.pec.2016.01.012
65. Sanders JJ, Dubey M, Hall JA, Catzen HZ, Blanch-Hartigan D, Schwartz R. What is empathy? Oncology patient perspectives on empathic clinician behaviors. *Cancer*. Nov 15 2021;127(22):4258-4265. doi:10.1002/cncr.33834
66. Tietbohl CK. Empathic Validation in Physician-Patient Communication: An Approach to Conveying Empathy for Problems With Uncertain Solutions. *Qual Health Res*. Feb 2022;32(3):413-425. doi:10.1177/10497323211056312
67. Yedidia MJ. Transforming doctor-patient relationships to promote patient-centered care: lessons from palliative care. *J Pain Symptom Manage*. Jan 2007;33(1):40-57. doi:10.1016/j.jpainsymman.2006.06.007
68. Swayden KJ, Anderson KK, Connelly LM, Moran JS, McMahon JK, Arnold PM. Effect of sitting vs. standing on perception of provider time at bedside: a pilot study. *Patient Educ Couns*. Feb 2012;86(2):166-71. doi:10.1016/j.pec.2011.05.024
69. Bagnis A, Todorov A, Altizio I, et al. Familiarity From Facial Appearance Leads to Hypoalgesia. *J Pain*. Nov 2023;24(11):2040-2051. doi:10.1016/j.jpain.2023.06.012
70. Benedetti F. Placebo and the new physiology of the doctor-patient relationship. *Physiol Rev*. Jul 2013;93(3):1207-46. doi:10.1152/physrev.00043.2012
71. Mattarozzi K, Caponera E, Russo PM, et al. Pain and satisfaction: healthcare providers' facial appearance matters. *Psychol Res*. Jun 2021;85(4):1706-1712. doi:10.1007/s00426-020-01330-3

72. Eisenberger NI, Master SL, Inagaki TK, et al. Attachment figures activate a safety signal-related neural region and reduce pain experience. *Proceedings of the National Academy of Sciences*. 2011;108(28):11721-11726.
73. Brugel S, Postma-Nilsenová M, Tates K. The link between perception of clinical empathy and nonverbal behavior: The effect of a doctor's gaze and body orientation. *Patient Educ Couns*. Oct 2015;98(10):1260-5. doi:10.1016/j.pec.2015.08.007
74. Blanch-Hartigan D, van Eeden M, Verdam MGE, Han PKJ, Smets EMA, Hillen MA. Effects of communication about uncertainty and oncologist gender on the physician-patient relationship. *Patient Educ Couns*. Sep 2019;102(9):1613-1620. doi:10.1016/j.pec.2019.05.002
75. Jongerius C, Twisk JWR, Romijn JA, et al. The Influence of Face Gaze by Physicians on Patient Trust: an Observational Study. *J Gen Intern Med*. May 2022;37(6):1408-1414. doi:10.1007/s11606-021-06906-2
76. Bruera E, Palmer JL, Pace E, et al. A randomized, controlled trial of physician postures when breaking bad news to cancer patients. *Palliat Med*. Sep 2007;21(6):501-5. doi:10.1177/0269216307081184
77. Golden BP, Tackett S, Kobayashi K, et al. Sitting at the Bedside: Patient and Internal Medicine Trainee Perceptions. *J Gen Intern Med*. Sep 2022;37(12):3038-3044. doi:10.1007/s11606-021-07231-4
78. Versluijs Y, Moore MG, Ring D, Jayakumar P. Clinician Facial Expression of Emotion Corresponds with Patient Mindset. *Clin Orthop Relat Res*. Sep 1 2021;479(9):1914-1923. doi:10.1097/corr.0000000000001727
79. Marques Caetano Carreira L, Dinis S, Correia A, et al. Does the white coat influence satisfaction, trust and empathy in the doctor-patient relationship in the General and Family Medicine consultation? Interventional study. *BMJ Open*. Dec 22 2021;11(12):e031887. doi:10.1136/bmjopen-2019-031887
80. Tam WY, Ng DLL, Kowitlawakul Y. The Impact of Nurses' Uniforms on Nurse-Patient Interactions: Patients' Perspectives. *J Nurs Adm*. Oct 2018;48(10):526-532. doi:10.1097/nna.0000000000000661
81. Elmore N, Burt J, Abel G, et al. Investigating the relationship between consultation length and patient experience: a cross-sectional study in primary care. *Br J Gen Pract*. Dec 2016;66(653):e896-e903. doi:10.3399/bjgp16X687733
82. Jiang S, Wu Z, Zhang X, et al. How does patient-centered communication influence patient trust?: The roles of patient participation and patient preference. *Patient Education and Counseling*. 2024/05/01/ 2024;122:108161. doi:https://doi.org/10.1016/j.pec.2024.108161
83. Kimberlin C, Brushwood D, Allen W, Radson E, Wilson D. Cancer patient and caregiver experiences: communication and pain management issues. *J Pain Symptom Manage*. Dec 2004;28(6):566-78. doi:10.1016/j.jpainsymman.2004.03.005
84. Klingle RS, Burgoon M, Afifi W, Callister M. Rethinking how to measure organizational culture in the hospital setting. The Hospital Culture Scale. *Eval Health Prof*. Jun 1995;18(2):166-86. doi:10.1177/016327879501800205
85. Martinez KA, Resnicow K, Williams GC, et al. Does physician communication style impact patient report of decision quality for breast cancer treatment? *Patient Educ Couns*. Dec 2016;99(12):1947-1954. doi:10.1016/j.pec.2016.06.025

86. Smets EM, Hillen MA, Douma KF, Stalpers LJ, Koning CC, de Haes HC. Does being informed and feeling informed affect patients' trust in their radiation oncologist? *Patient Educ Couns*. Mar 2013;90(3):330-7. doi:10.1016/j.pec.2012.05.001
87. Swenson SL, Zettler P, Lo B. 'She gave it her best shot right away': patient experiences of biomedical and patient-centered communication. *Patient Educ Couns*. May 2006;61(2):200-11. doi:10.1016/j.pec.2005.02.019
88. Park J, Saha S, Han D, et al. Are clinicians' self-reported empathic concern and perspective-taking traits associated with their response to patient emotions?: Communication Studies. *Patient Educ Couns*. Sep 2020;103(9):1745-1751. doi:10.1016/j.pec.2020.04.016
89. Arborelius E, Bremberg S. What Can Doctors Do to Achieve a Successful Consultation? Videotaped Interviews Analysed by the 'Consultation Map' Method. *Family Practice*. 1992;9(1):61-67. doi:10.1093/fampra/9.1.61
90. Beach MC, Roter D, Korthuis PT, et al. A multicenter study of physician mindfulness and health care quality. *Ann Fam Med*. Sep-Oct 2013;11(5):421-8. doi:10.1370/afm.1507
91. Çakmak C, Uğurluoğlu Ö. The Effects of Patient-Centered Communication on Patient Engagement, Health-Related Quality of Life, Service Quality Perception and Patient Satisfaction in Patients with Cancer: A Cross-Sectional Study in Türkiye. *Cancer Control*. Jan-Dec 2024;31:10732748241236327. doi:10.1177/10732748241236327
92. Hall JA, Schwartz R, Duong F, et al. What is clinical empathy? Perspectives of community members, university students, cancer patients, and physicians. *Patient Educ Couns*. May 2021;104(5):1237-1245. doi:10.1016/j.pec.2020.11.001
93. Haverfield MC, Giannitrapani K, Timko C, Lorenz K. Patient-Centered Pain Management Communication from the Patient Perspective. *J Gen Intern Med*. Aug 2018;33(8):1374-1380. doi:10.1007/s11606-018-4490-y
94. Houwen J, Lucassen PL, Stappers HW, Assendelft WJ, van Dulmen S, Olde Hartman TC. Improving GP communication in consultations on medically unexplained symptoms: a qualitative interview study with patients in primary care. *Br J Gen Pract*. Oct 2017;67(663):e716-e723. doi:10.3399/bjgp17X692537
95. Mattarozzi K, Fino E, Panni V, Agostini A, Morganti AG, Russo PM. The Role Of Effective Radiation Therapist-Patient Communication In Alleviating Treatment-Related Pain And Procedural Discomfort During Radiotherapy. *Patient Prefer Adherence*. 2019;13:1861-1865. doi:10.2147/ppa.S214375
96. Robinson JD, Hoover DR, Venetis MK, Kearney TJ, Street RL, Jr. Consultations between patients with breast cancer and surgeons: a pathway from patient-centered communication to reduced hopelessness. *J Clin Oncol*. Jan 20 2013;31(3):351-8. doi:10.1200/jco.2012.44.2699
97. Saha S, Beach MC. The impact of patient-centered communication on patients' decision making and evaluations of physicians: a randomized study using video vignettes. *Patient Educ Couns*. Sep 2011;84(3):386-92. doi:10.1016/j.pec.2011.04.023
98. Thorne S, Oliffe JL, Stajduhar KI. Communicating shared decision-making: cancer patient perspectives. *Patient Educ Couns*. Mar 2013;90(3):291-6. doi:10.1016/j.pec.2012.02.018
99. Wang Y, Wu Q, Wang Y, Wang P. The Effects of Physicians' Communication and Empathy Ability on Physician–Patient Relationship from Physicians' and Patients'

Perspectives. *Journal of Clinical Psychology in Medical Settings*. 2022/12/01 2022;29(4):849-860. doi:10.1007/s10880-022-09844-1
100. Zhang Z, Bickmore TW, Paasche-Orlow MK. Perceived organizational affiliation and its effects on patient trust: Role modeling with embodied conversational agents. *Patient Educ Couns*. Sep 2017;100(9):1730-1737. doi:10.1016/j.pec.2017.03.017
101. Lu Q, Link E, Baumann E, Schulz PJ. Linking patient-centered communication with cancer information avoidance: The mediating roles of patient trust and literacy. *Patient Educ Couns*. Jun 2024;123:108230. doi:10.1016/j.pec.2024.108230
102. Flickinger TE, Saha S, Roter D, et al. Clinician empathy is associated with differences in patient-clinician communication behaviors and higher medication self-efficacy in HIV care. *Patient Educ Couns*. Feb 2016;99(2):220-6. doi:10.1016/j.pec.2015.09.001
103. Gerger H, Munder T, Kreuzer N, Locher C, Blease C. Lay Perspectives on Empathy in Patient-Physician Communication: An Online Experimental Study. *Health Commun*. May 2024;39(6):1246-1255. doi:10.1080/10410236.2023.2210380
104. Tamura H, Shikino K, Sogai D, et al. Association Between Physician Empathy and Difficult Patient Encounters: a Cross-Sectional Study. *J Gen Intern Med*. Jun 2023;38(8):1843-1847. doi:10.1007/s11606-022-07936-0
105. Walsh S, O'Neill A, Hannigan A, Harmon D. Patient-rated physician empathy and patient satisfaction during pain clinic consultations. *Ir J Med Sci*. Nov 2019;188(4):1379-1384. doi:10.1007/s11845-019-01999-5
106. Bauer AM, Parker MM, Schillinger D, et al. Associations between antidepressant adherence and shared decision-making, patient-provider trust, and communication among adults with diabetes: diabetes study of Northern California (DISTANCE). *J Gen Intern Med*. Aug 2014;29(8):1139-47. doi:10.1007/s11606-014-2845-6
107. Du L, Wu R, Chen X, Xu J, Ji H, Zhou L. Role of Treatment Adherence, Doctor-Patient Trust, and Communication in Predicting Treatment Effects Among Tuberculosis Patients: Difference Between Urban and Rural Areas. *Patient Prefer Adherence*. 2020;14:2327-2336. doi:10.2147/ppa.S277650
108. Heisler M, Bouknight RR, Hayward RA, Smith DM, Kerr EA. The relative importance of physician communication, participatory decision making, and patient understanding in diabetes self-management. *J Gen Intern Med*. Apr 2002;17(4):243-52. doi:10.1046/j.1525-1497.2002.10905.x
109. Molfenter TD, Brown RL. Effects of Physician Communication and Family Hardiness on Patient Medication Regimen Beliefs and Adherence. *Gen Med (Los Angel)*. 2014;2doi:10.4172/2327-5146.1000136
110. Nikjoo RG, Chegini Z, Partovi Y, Behforoz A, Koshki TJ. Relationship between Self-care and Physician-Patient relations in patients with heart failure. *J Health Scope*. 2023;12(2):1-4.
111. Salt E, Wiggins AT, Francis D, Lohr K, Rayens MK. Patient trust, quality communication, and medication adherence in rheumatoid arthritis patients highly affected by social determinants of health. *Musculoskeletal Care*. Jun 2024;22(2):e1882. doi:10.1002/msc.1882
112. Steinhausen S, Ommen O, Thüm S, et al. Physician empathy and subjective evaluation of medical treatment outcome in trauma surgery patients. *Patient Educ Couns*. Apr 2014;95(1):53-60. doi:10.1016/j.pec.2013.12.007

113. Świątoniowska-Lonc N, Polański J, Tański W, Jankowska-Polańska B. Impact of satisfaction with physician-patient communication on self-care and adherence in patients with hypertension: cross-sectional study. *BMC Health Serv Res*. Nov 16 2020;20(1):1046. doi:10.1186/s12913-020-05912-0
114. Kaptchuk TJ, Kelley JM, Conboy LA, et al. Components of placebo effect: randomised controlled trial in patients with irritable bowel syndrome. *Bmj*. May 3 2008;336(7651):999-1003. doi:10.1136/bmj.39524.439618.25
115. Chandra S, Mohammadnezhad M. Investigating factors influencing patient trust in a developing Pacific Island Country, Fiji, 2018. *Heliyon*. Dec 2020;6(12):e05680. doi:10.1016/j.heliyon.2020.e05680
116. Orom H, Homish DL, Homish GG, Underwood W, 3rd. Quality of physician-patient relationships is associated with the influence of physician treatment recommendations among patients with prostate cancer who chose active surveillance. *Urol Oncol*. May 2014;32(4):396-402. doi:10.1016/j.urolonc.2013.09.018
117. He W, Wang X, Zhou X, Xu L. Negative expectations and bad relationships: Effects of negative metastereotypes on doctor–patient relationships. *Asian Journal of Social Psychology*. 2020/03/01 2020;23(1):103-108. doi:https://doi.org/10.1111/ajsp.12388
118. Wiering B, de Boer D, Krol M, Wieberneit-Tolman H, Delnoij D. Entertaining accurate treatment expectations while suffering from chronic pain: an exploration of treatment expectations and the relationship with patient- provider communication. *BMC Health Serv Res*. Sep 11 2018;18(1):706. doi:10.1186/s12913-018-3497-8
119. Fico AE, Lagoe C. Patients' Perspectives of Oral Healthcare Providers' Communication: Considering the Impact of Message Source and Content. *Health Commun*. Aug 2018;33(8):1035-1044. doi:10.1080/10410236.2017.1331188
120. Asan O, Yu Z, Crotty BH. How clinician-patient communication affects trust in health information sources: Temporal trends from a national cross-sectional survey. *PLoS One*. 2021;16(2):e0247583. doi:10.1371/journal.pone.0247583
121. Du L, Xu J, Chen X, et al. Rebuild doctor-patient trust in medical service delivery in China. *Sci Rep*. Dec 15 2020;10(1):21956. doi:10.1038/s41598-020-78921-y
122. Gu L, Tian B, Xin Y, Zhang S, Li J, Sun Z. Patient perception of doctor communication skills and patient trust in rural primary health care: the mediating role of health service quality. *BMC Prim Care*. Sep 29 2022;23(1):255. doi:10.1186/s12875-022-01826-4
123. Gutzeit A, Heiland R, Sudarski S, et al. Direct communication between radiologists and patients following imaging examinations. Should radiologists rethink their patient care? *Eur Radiol*. Jan 2019;29(1):224-231. doi:10.1007/s00330-018-5503-2
124. Henry SG, Bell RA, Fenton JJ, Kravitz RL. Communication about chronic pain and opioids in primary care: impact on patient and physician visit experience. *Pain*. Feb 2018;159(2):371-379. doi:10.1097/j.pain.0000000000001098
125. Schrimpff C, Link E, Fisse T, Baumann E, Klimmt C. Communication matters when it comes to adverse events: Associations of adverse events during implant treatment with patients' communication quality and trust assessments. *Patient Educ Couns*. May 2023;110:107675. doi:10.1016/j.pec.2023.107675
126. Su F, Wang Y, Wu Q, Wang P-J, Chang X. The Influence of Stereotypes on Trust in Doctors from Patients' Perspective: The Mediating Role of Communication. *Psychology Research and Behavior Management*. 2022/12/31 2022;15(null):3663-3671. doi:10.2147/PRBM.S389202

127. Fernández-Ortega MA, Juárez-Flores A, Olaiz-Fernández GA, Muñiz-Salinas DA, Rodríguez-Mendoza O. Patient dissatisfaction associated with physician-patient linguistic discordance in California clinics: an analytical cross-sectional study. *BMC Health Serv Res*. Feb 23 2023;23(1):189. doi:10.1186/s12913-023-09176-2
128. Gabay G. Perceived control over health, communication and patient-physician trust. *Patient Educ Couns*. Jun 29 2015;doi:10.1016/j.pec.2015.06.019
129. Wu Q, Jin Z, Wang P. The Relationship Between the Physician-Patient Relationship, Physician Empathy, and Patient Trust. *J Gen Intern Med*. May 2022;37(6):1388-1393. doi:10.1007/s11606-021-07008-9
130. Simonds VW, Christopher S, Sequist TD, Colditz GA, Rudd RE. Exploring patient-provider interactions in a Native American community. *J Health Care Poor Underserved*. Aug 2011;22(3):836-52. doi:10.1353/hpu.2011.0076
131. Tang C, Tian B, Zhang X, et al. The influence of cultural competence of nurses on patient satisfaction and the mediating effect of patient trust. *Journal of Advanced Nursing*. 2019/04/01 2019;75(4):749-759. doi:https://doi.org/10.1111/jan.13854
132. Mannion AF, Impellizzeri FM, Naal FD, Leunig M. Fulfilment of patient-rated expectations predicts the outcome of surgery for femoroacetabular impingement. *Osteoarthritis Cartilage*. Jan 2013;21(1):44-50. doi:10.1016/j.joca.2012.09.013
133. Malfliet A, Lluch Girbés E, Pecos-Martin D, Gallego-Izquierdo T, Valera-Calero A. The Influence of Treatment Expectations on Clinical Outcomes and Cortisol Levels in Patients With Chronic Neck Pain: An Experimental Study. *Pain Pract*. Apr 2019;19(4):370-381. doi:10.1111/papr.12749
134. Bingel U, Wanigasekera V, Wiech K, et al. The effect of treatment expectation on drug efficacy: imaging the analgesic benefit of the opioid remifentanil. *Science translational medicine*. 2011;3(70):70ra14-70ra14.
135. Nestoriuc Y, von Blanckenburg P, Schuricht F, et al. Is it best to expect the worst? Influence of patients' side-effect expectations on endocrine treatment outcome in a 2-year prospective clinical cohort study. *Ann Oncol*. Oct 2016;27(10):1909-15. doi:10.1093/annonc/mdw266
136. Swift JK, Callahan JL. Decreasing treatment dropout by addressing expectations for treatment length. *Psychother Res*. Mar 2011;21(2):193-200. doi:10.1080/10503307.2010.541294
137. Ekman I, Wolf A, Vaughan Dickson V, Bosworth HB, Granger BB. Unmet expectations of medications and care providers among patients with heart failure assessed to be poorly adherent: results from the Chronic Heart Failure Intervention to Improve MEdication Adherence (CHIME) study. *European Journal of Cardiovascular Nursing*. 2017;16(7):646-654. doi:10.1177/1474515117707669
138. Caliskan EB, Bingel U, Kunkel A. Translating knowledge on placebo and nocebo effects into clinical practice. *PAIN Reports*. 2024;9(2)
139. Price DD, Finniss DG, Benedetti F. A comprehensive review of the placebo effect: recent advances and current thought. *Annu Rev Psychol*. 2008;59:565-90. doi:10.1146/annurev.psych.59.113006.095941
140. Amelung D, Whitaker KL, Lennard D, et al. Influence of doctor-patient conversations on behaviours of patients presenting to primary care with new or persistent symptoms: a video observation study. *BMJ Qual Saf*. Mar 2020;29(3):198-208. doi:10.1136/bmjqs-2019-009485

141. Kiel S, Raus C, Sierocinski E, Knauthe P, Chenot J-F. Concordance of patient beliefs and expectations regarding the management of low back pain with guideline recommendations – a cross-sectional study in Germany. *BMC Family Practice*. 2020/12/21 2020;21(1):275. doi:10.1186/s12875-020-01352-1
142. Clemens KS, Faasse K, Tan W, et al. Social communication pathways to COVID-19 vaccine side-effect expectations and experience. *J Psychosom Res*. Jan 2023;164:111081. doi:10.1016/j.jpsychores.2022.111081
143. Schwartz M, Fischer LM, Bläute C, et al. Observing treatment outcomes in other patients can elicit augmented placebo effects on pain treatment: a double-blinded randomized clinical trial with patients with chronic low back pain. *Pain*. Jul 1 2022;163(7):1313-1323. doi:10.1097/j.pain.0000000000002513
144. Akroyd A, Gunn KN, Rankin S, et al. Optimizing patient expectations to improve therapeutic response to medical treatment: A randomized controlled trial of iron infusion therapy. *Br J Health Psychol*. Sep 2020;25(3):639-651. doi:10.1111/bjhp.12435
145. Rief W, Shedden-Mora MC, Laferton JA, et al. Preoperative optimization of patient expectations improves long-term outcome in heart surgery patients: results of the randomized controlled PSY-HEART trial. *BMC Med*. Jan 10 2017;15(1):4. doi:10.1186/s12916-016-0767-3
146. Welschen I, Kuyvenhoven M, Hoes A, Verheij T. Antibiotics for acute respiratory tract symptoms: patients' expectations, GPs' management and patient satisfaction. *Fam Pract*. Jun 2004;21(3):234-7. doi:10.1093/fampra/cmh303
147. Land V, Parry R, Pino M, Jenkins L, Feathers L, Faull C. Addressing possible problems with patients' expectations, plans and decisions for the future: One strategy used by experienced clinicians in advance care planning conversations. *Patient Educ Couns*. Apr 2019;102(4):670-679. doi:10.1016/j.pec.2018.11.008
148. Hafkamp FJ, Gosens T, de Vries J, den Oudsten BL. Do dissatisfied patients have unrealistic expectations? A systematic review and best-evidence synthesis in knee and hip arthroplasty patients. *EFORT Open Rev*. Apr 2020;5(4):226-240. doi:10.1302/2058-5241.5.190015
149. Vennedey V, Hower KI, Hillen H, Ansmann L, Kuntz L, Stock S. Patients' perspectives of facilitators and barriers to patient-centred care: insights from qualitative patient interviews. *BMJ Open*. 2020;10(5):e033449. doi:10.1136/bmjopen-2019-033449
150. Kronish IM, Leventhal H, Horowitz CR. Understanding minority patients' beliefs about hypertension to reduce gaps in communication between patients and clinicians. *J Clin Hypertens (Greenwich)*. Jan 2012;14(1):38-44. doi:10.1111/j.1751-7176.2011.00558.x
151. Croker JE, Swancutt DR, Roberts MJ, Abel GA, Roland M, Campbell JL. Factors affecting patients' trust and confidence in GPs: evidence from the English national GP patient survey. *BMJ Open*. May 28 2013;3(5)doi:10.1136/bmjopen-2013-002762
152. Prades J, Ferro T, Gil F, Borras JM. Core communication components along the cancer care process: the perspective of breast cancer patients. *Breast*. Oct 2014;23(5):617-22. doi:10.1016/j.breast.2014.06.001
153. Stone DA, Kerr CE, Jacobson E, Conboy LA, Kaptchuk TJ. Patient expectations in placebo-controlled randomized clinical trials. *J Eval Clin Pract*. Feb 2005;11(1):77-84. doi:10.1111/j.1365-2753.2004.00512.x

154. Schemer L, Rief W, Glombiewski JA. Treatment Expectations Towards Different Pain Management Approaches: Two Perspectives. *Journal of Pain Research*. 2020/07/09 2020;13(null):1725-1736. doi:10.2147/JPR.S247177
155. Kube T, Rief W. Are placebo and drug-specific effects additive? Questioning basic assumptions of double-blinded randomized clinical trials and presenting novel study designs. *Drug Discovery Today*. 2017/04/01/ 2017;22(4):729-735. doi:https://doi.org/10.1016/j.drudis.2016.11.022
156. Benedetti F, Pollo A, Lopiano L, Lanotte M, Vighetti S, Rainero I. Conscious expectation and unconscious conditioning in analgesic, motor, and hormonal placebo/nocebo responses. *J Neurosci*. May 15 2003;23(10):4315-23. doi:10.1523/jneurosci.23-10-04315.2003
157. Oken BS. Placebo effects: clinical aspects and neurobiology. *Brain*. Nov 2008;131(Pt 11):2812-23. doi:10.1093/brain/awn116
158. Wolters F, Peerdeman K, Gussekloo J, et al. Prescriptions of Essentially Placebo Treatments Among General Practitioners in 21 Countries. *JAMA Netw Open*. Sep 2 2025;8(9):e2532672. doi:10.1001/jamanetworkopen.2025.32672
159. Peerdeman KJ, Geers AL, Della Porta D, Veldhuijzen DS, Kirsch I. Underpredicting pain: an experimental investigation into the benefits and risks. *Pain*. Jul 1 2021;162(7):2024-2035. doi:10.1097/j.pain.0000000000002199
160. Rosén A, Sachs L, Ekdahl A, et al. Surgeons' behaviors and beliefs regarding placebo effects in surgery. *Acta Orthop*. Oct 2021;92(5):507-512. doi:10.1080/17453674.2021.1941627
161. Kleinstäuber M, Colgan S, Petrie KJ. Changing understanding, perceptions, pain relief of and preference for generic medicines with patient education: An experimental intervention study. *Res Social Adm Pharm*. Jul 2021;17(7):1288-1299. doi:10.1016/j.sapharm.2020.09.014
162. Aiarzaguena JM, Grandes G, Gaminde I, Salazar A, Sánchez A, Ariño J. A randomized controlled clinical trial of a psychosocial and communication intervention carried out by GPs for patients with medically unexplained symptoms. *Psychol Med*. Feb 2007;37(2):283-94. doi:10.1017/s0033291706009536
163. Katalan A, Drach-Zahavy A, Dagan E. Medical encounters with patients diagnosed with cancer: The association between physicians' behavior and perceived patient centered care and anxiety. *Eur J Oncol Nurs*. Feb 2024;68:102484. doi:10.1016/j.ejon.2023.102484
164. van den Brink-Muinen A, Verhaak PF, Bensing JM, et al. Doctor-patient communication in different European health care systems: relevance and performance from the patients' perspective. *Patient Educ Couns*. Jan 2000;39(1):115-27. doi:10.1016/s0738-3991(99)00098-1
165. Tayler M, Ogden J. Doctors' use of euphemisms and their impact on patients' beliefs about health: an experimental study of heart failure. *Patient Educ Couns*. Jun 2005;57(3):321-6. doi:10.1016/j.pec.2004.09.001
166. Robinson TM, Alexander SC, Hays M, et al. Patient-oncologist communication in advanced cancer: predictors of patient perception of prognosis. *Support Care Cancer*. Sep 2008;16(9):1049-57. doi:10.1007/s00520-007-0372-2
167. Nakayama K, Osaka W, Matsubara N, et al. Shared decision making, physicians' explanations, and treatment satisfaction: a cross-sectional survey of prostate cancer

patients. *BMC Med Inform Decis Mak*. Dec 14 2020;20(1):334. doi:10.1186/s12911-020-01355-z

168. Claus BB, Scherbaum N, Bonnet U. Effectiveness of an Adjunctive Psychotherapeutic Intervention Developed for Enhancing the Placebo Effect of Antidepressants Used within an Inpatient-Treatment Program of Major Depression: A Pragmatic Parallel-Group, Randomized Controlled Trial. *Psychother Psychosom*. 2020;89(4):258-260. doi:10.1159/000505855

169. Goodenough B, Kampel L, Champion GD, et al. An investigation of the placebo effect and age-related factors in the report of needle pain from venipuncture in children. *Pain*. Sep 1997;72(3):383-91. doi:10.1016/s0304-3959(97)00062-6

170. Haas JW, Rief W, Glombiewski JA, Winkler A, Doering BK. Expectation-induced placebo effect on acute sadness in women with major depression: An experimental investigation. *J Affect Disord*. Sep 1 2020;274:920-928. doi:10.1016/j.jad.2020.05.056

171. Jockenhöfer F, Knust C, Benson S, Schedlowski M, Dissemond J. Influence of placebo effects on quality of life and wound healing in patients with chronic venous leg ulcers. *J Dtsch Dermatol Ges*. Feb 2020;18(2):103-109. doi:10.1111/ddg.13996

172. Kam-Hansen S, Jakubowski M, Kelley JM, et al. Altered placebo and drug labeling changes the outcome of episodic migraine attacks. *Sci Transl Med*. Jan 8 2014;6(218):218ra5. doi:10.1126/scitranslmed.3006175

173. Keitel A, Wojtecki L, Hirschmann J, et al. Motor and cognitive placebo-/nocebo-responses in Parkinson's disease patients with deep brain stimulation. *Behav Brain Res*. Aug 1 2013;250:199-205. doi:10.1016/j.bbr.2013.04.051

174. Mercado R, Constantoyannis C, Mandat T, et al. Expectation and the placebo effect in Parkinson's disease patients with subthalamic nucleus deep brain stimulation. *Mov Disord*. Sep 2006;21(9):1457-61. doi:10.1002/mds.20935

175. Müller M, Kamping S, Benrath J, et al. Treatment history and placebo responses to experimental and clinical pain in chronic pain patients. *Eur J Pain*. Oct 2016;20(9):1530-41. doi:10.1002/ejp.877

176. Wise RA, Bartlett SJ, Brown ED, et al. Randomized trial of the effect of drug presentation on asthma outcomes: The American Lung Association Asthma Clinical Research Centers. *Journal of Allergy and Clinical Immunology*. 2009/09/01/ 2009;124(3):436-444.e8. doi:https://doi.org/10.1016/j.jaci.2009.05.041

177. Street RL, Jr., Cox V, Kallen MA, Suarez-Almazor ME. Exploring communication pathways to better health: clinician communication of expectations for acupuncture effectiveness. *Patient Educ Couns*. Nov 2012;89(2):245-51. doi:10.1016/j.pec.2012.06.032

178. Tippens KM, Purnell JQ, Gregory WL, et al. Expectancy, Self-Efficacy, and Placebo Effect of a Sham Supplement for Weight Loss in Obese Adults. *J Evid Based Complementary Altern Med*. Jul 2014;19(3):181-188. doi:10.1177/2156587214528513

179. Stortenbeker IA, Houwen J, Lucassen P, et al. Quantifying positive communication: Doctor's language and patient anxiety in primary care consultations. *Patient Educ Couns*. Sep 2018;101(9):1577-1584. doi:10.1016/j.pec.2018.05.002

180. Bhise V, Meyer AND, Menon S, et al. Patient perspectives on how physicians communicate diagnostic uncertainty: An experimental vignette study. *Int J Qual Health Care*. Feb 1 2018;30(1):2-8. doi:10.1093/intqhc/mzx170

181. Bontempo AC. Patient attitudes toward clinicians' communication of diagnostic uncertainty and its impact on patient trust. *SSM - Qualitative Research in Health*. 2023/06/01/ 2023;3:100214. doi:https://doi.org/10.1016/j.ssmqr.2022.100214
182. O'Donoghue AC, Sullivan HW, Aikin KJ. Randomized study of placebo and framing information in direct-to-consumer print advertisements for prescription drugs. *Ann Behav Med*. Dec 2014;48(3):311-22. doi:10.1007/s12160-014-9603-1
183. Danaher TS, Berry LL, Howard C, Moore SG, Attai DJ. Improving How Clinicians Communicate With Patients: An Integrative Review and Framework. *Journal of Service Research*. 2023;26(4):493-510. doi:10.1177/10946705231190018
184. Blakely K, Karanicolas PJ, Wright FC, Gotlib Conn L. Optimistic honesty: understanding surgeon and patient perspectives on hopeful communication in pancreatic cancer care. *HPB (Oxford)*. Jul 2017;19(7):611-619. doi:10.1016/j.hpb.2017.04.001
185. Gasteiger C, Jones ASK, Kleinstäuber M, et al. Effects of Message Framing on Patients' Perceptions and Willingness to Change to a Biosimilar in a Hypothetical Drug Switch. *Arthritis Care Res (Hoboken)*. Sep 2020;72(9):1323-1330. doi:10.1002/acr.24012
186. Tähepold H, van den Brink-Muinen A, Maaroos HI. Patient expectations from consultation with family physician. *Croat Med J*. Feb 2006;47(1):148-54.
187. van Osch M, van Dulmen S, van Vliet L, Bensing J. Specifying the effects of physician's communication on patients' outcomes: A randomised controlled trial. *Patient Educ Couns*. Aug 2017;100(8):1482-1489. doi:10.1016/j.pec.2017.03.009
188. Thorne S, Hislop TG, Kuo M, Armstrong EA. Hope and probability: patient perspectives of the meaning of numerical information in cancer communication. *Qual Health Res*. Mar 2006;16(3):318-36. doi:10.1177/1049732305285341
189. Flam B, Spice-Cherry P, Amsel R. Effects of preparatory information of a myelogram on patients' expectations and anxiety levels. *Patient Educ Couns*. Oct 1989;14(2):115-26. doi:10.1016/0738-3991(89)90047-5
190. Lin MP, Probst MA, Puskarich MA, et al. Improving perceptions of empathy in patients undergoing low-yield computerized tomographic imaging in the emergency department. *Patient Education and Counseling*. 2018/04/01/ 2018;101(4):717-722. doi:https://doi.org/10.1016/j.pec.2017.11.012
191. Waljee J, McGlinn EP, Sears ED, Chung KC. Patient expectations and patient-reported outcomes in surgery: a systematic review. *Surgery*. May 2014;155(5):799-808. doi:10.1016/j.surg.2013.12.015
192. Williams S, Weinman J, Dale J, Newman S. Patient expectations: what do primary care patients want from the GP and how far does meeting expectations affect patient satisfaction? *Fam Pract*. Jun 1995;12(2):193-201. doi:10.1093/fampra/12.2.193
193. Gerke L, Pauls F, Ladwig S, et al. Optimizing treatment expectations and decision making through informed consent for psychotherapy: A randomized controlled trial. *J Consult Clin Psychol*. Feb 2024;92(2):93-104. doi:10.1037/ccp0000851
194. van Vliet LM, Godfried MB, van Deelen GW, et al. Placebo Effects of Nurses' Communication alongside Standard Medical Care on Pain and Other Outcomes: A Randomized Controlled Trial in Clinical Tonsillectomy Care. *Psychother Psychosom*. 2020;89(1):56-58. doi:10.1159/000503904
195. van Vliet LM, Meijers MC, van Dulmen S, et al. Addressing challenges in information-provision: a qualitative study among oncologists and women with advanced breast cancer. *BMC Palliat Care*. Sep 14 2021;20(1):142. doi:10.1186/s12904-021-00836-w

196. Hong SH. Potential for physician communication to build favorable medication beliefs among older adults with hypertension: A cross-sectional survey. *PLoS One*. 2019;14(1):e0210169. doi:10.1371/journal.pone.0210169
197. Varelmann D, Pancaro C, Cappiello EC, Camann WR. Nocebo-induced hyperalgesia during local anesthetic injection. *Anesth Analg*. Mar 1 2010;110(3):868-70. doi:10.1213/ANE.0b013e3181cc5727
198. Barnes K, Faasse K, Geers AL, et al. Can Positive Framing Reduce Nocebo Side Effects? Current Evidence and Recommendation for Future Research. Mini Review. *Frontiers in Pharmacology*. 2019;Volume 10 - 2019
199. Avelino-Silva VI, Ferreira-Silva SN, Soares MEM, et al. Say it right: measuring the impact of different communication strategies on the decision to get vaccinated. *BMC Public Health*. Jun 16 2023;23(1):1162. doi:10.1186/s12889-023-16047-2
200. Fassaert T, van Dulmen S, Schellevis F, van der Jagt L, Bensing J. Raising positive expectations helps patients with minor ailments: a cross-sectional study. *BMC Fam Pract*. Jun 30 2008;9:38. doi:10.1186/1471-2296-9-38
201. Zandbelt LC, Smets EM, Oort FJ, Godfried MH, de Haes HC. Medical specialists' patient-centered communication and patient-reported outcomes. *Med Care*. Apr 2007;45(4):330-9. doi:10.1097/01.mlr.0000250482.07970.5f
202. Eide H, Graugaard P, Holgersen K, Finset A. Physician communication in different phases of a consultation at an oncology outpatient clinic related to patient satisfaction. *Patient Educ Couns*. Nov 2003;51(3):259-66. doi:10.1016/s0738-3991(02)00225-2
203. Watermeyer J, Penn C. "Tell me so I know you understand": pharmacists' verification of patients' comprehension of antiretroviral dosage instructions in a cross-cultural context. *Patient Educ Couns*. May 2009;75(2):205-13. doi:10.1016/j.pec.2008.09.009
204. Robinson EJ, Whitfield MJ. Improving the efficiency of patients' comprehension monitoring: a way of increasing patients' participation in general practice consultations. *Soc Sci Med*. 1985;21(8):915-9. doi:10.1016/0277-9536(85)90148-0
205. Ohnishi M, Fukui T, Matsui K, et al. Interpretation of and preference for probability expressions among Japanese patients and physicians. *Fam Pract*. Feb 2002;19(1):7-11. doi:10.1093/fampra/19.1.7
206. Visser LNC, Schepers S, Tollenaar MS, de Haes H, Smets EMA. Patients' and oncologists' views on how oncologists may best address patients' emotions during consultations: An interview study. *Patient Educ Couns*. Jul 2018;101(7):1223-1231. doi:10.1016/j.pec.2018.02.012
207. Friedman DS, Hahn SR, Gelb L, et al. Doctor-patient communication, health-related beliefs, and adherence in glaucoma results from the Glaucoma Adherence and Persistency Study. *Ophthalmology*. Aug 2008;115(8):1320-7, 1327.e1-3. doi:10.1016/j.ophtha.2007.11.023
208. Han YY, Gutwein A, Apter A, Celedón JC. Health literacy and asthma: An update. *J Allergy Clin Immunol*. May 2024;153(5):1241-1251. doi:10.1016/j.jaci.2023.12.007
209. van Leeuwen GL, Kooijman MA, Schuurmann RCL, et al. Health Literacy and Disease Knowledge of Patients With Peripheral Arterial Disease or Abdominal Aortic Aneurysm: A Scoping Review. *Eur J Vasc Endovasc Surg*. Jun 2024;67(6):935-947. doi:10.1016/j.ejvs.2024.03.040
210. Petrie KJ, Rief W. Psychobiological Mechanisms of Placebo and Nocebo Effects: Pathways to Improve Treatments and Reduce Side Effects. *Annual Review of Psychology*.

2019;70(Volume 70, 2019):599-625. doi:https://doi.org/10.1146/annurev-psych-010418-102907

211. Liu PL, Jiang S. Patient-Centered Communication Mediates the Relationship between Health Information Acquisition and Patient Trust in Physicians: A Five-Year Comparison in China. *Health Commun*. Feb 2021;36(2):207-216. doi:10.1080/10410236.2019.1673948

212. Lu X, Zhang R. Impact of patient information behaviours in online health communities on patient compliance and the mediating role of patients' perceived empathy. *Patient Educ Couns*. Jan 2021;104(1):186-193. doi:10.1016/j.pec.2020.07.001

213. Lu X, Zhang R, Wu W, Shang X, Liu M. Relationship Between Internet Health Information and Patient Compliance Based on Trust: Empirical Study. *J Med Internet Res*. Aug 17 2018;20(8):e253. doi:10.2196/jmir.9364

214. Zhang H, Zhang R, Lu X, Zhu X. Impact of Personal Trust Tendency on Patient Compliance Based on Internet Health Information Seeking. *Telemed J E Health*. Mar 2020;26(3):294-303. doi:10.1089/tmj.2018.0296

215. Audrain-Pontevia AF, Menvielle L. EFFECTS OF INTERPERSONAL TRUST AMONG USERS OF ONLINE HEALTH COMMUNITIES ON PATIENT TRUST IN AND SATISFACTION WITH THEIR PHYSICIAN. *Int J Technol Assess Health Care*. Jan 2018;34(1):56-62. doi:10.1017/s0266462317004433

216. Raguz Lucic N, Jakab J, Smolic M, et al. Primary Care Provider Counseling Practices about Adverse Drug Reactions and Interactions in Croatia. *J Clin Med*. Aug 22 2018;7(9)doi:10.3390/jcm7090231

217. Baumeister RF, Bratslavsky E, Finkenauer C, Vohs KD. Bad is Stronger than Good. *Review of General Psychology*. 2001/12/01 2001;5(4):323-370. doi:10.1037/1089-2680.5.4.323

218. Zinn JO. Heading into the unknown: Everyday strategies for managing risk and uncertainty. *Health, risk & society*. 2008;10(5):439-450.

219. Leibowitz KA, Howe LC, Crum AJ. Changing mindsets about side effects. *BMJ Open*. 2021;11(2):e040134. doi:10.1136/bmjopen-2020-040134

220. Crum AJ, Heathcote LC, Morrison Z, et al. Changing Mindsets About Side Effects of the COVID-19 Vaccination: A Randomized Controlled Trial. *Ann Behav Med*. Oct 16 2023;57(11):901-909. doi:10.1093/abm/kaad020

221. Howe LC, Leibowitz KA, Perry MA, et al. Changing Patient Mindsets about Non-Life-Threatening Symptoms During Oral Immunotherapy: A Randomized Clinical Trial. *J Allergy Clin Immunol Pract*. May-Jun 2019;7(5):1550-1559. doi:10.1016/j.jaip.2019.01.022

222. Atmaca M, Korucu T, Cekic S, et al. Should patients be informed about the side effects of psychotropic drugs? According to us: Yes. *Psychiatry Res*. Dec 2018;270:176-179. doi:10.1016/j.psychres.2018.09.042

223. Morris LA, Kanouse DE. Informing patients about drug side effects. *J Behav Med*. Sep 1982;5(3):363-73. doi:10.1007/bf00846163

224. Myers ED, Calvert EJ. Information, compliance and side-effects: a study of patients on antidepressant medication. *Br J Clin Pharmacol*. Jan 1984;17(1):21-5. doi:10.1111/j.1365-2125.1984.tb04993.x

225. Ren Y, Xu F. How patients should be counseled on adverse drug reactions: Avoiding the nocebo effect. *Research in Social and Administrative Pharmacy*. 2018/07/01/ 2018;14(7):705. doi:https://doi.org/10.1016/j.sapharm.2018.04.007

226. Zech N, Schrödinger M, Hansen E. Avoidance of nocebo effects by coincident naming of treatment benefits during the medical interview for informed consent-Evidence from dynamometry. *Front Psychol*. 2022;13:923044. doi:10.3389/fpsyg.2022.923044
227. Gray SW, O'Grady C, Karp L, et al. Risk information exposure and direct-to-consumer genetic testing for BRCA mutations among women with a personal or family history of breast or ovarian cancer. *Cancer Epidemiol Biomarkers Prev*. Apr 2009;18(4):1303-11. doi:10.1158/1055-9965.Epi-08-0825
228. Hoffmann M, Linell P, Lindh-Åstrand L, Kjellgren K. Risk talk: rhetorical strategies in consultations on hormone replacement therapy. *Health, Risk & Society*. 2003;5(2):139-154.
229. Barth J, Muff S, Kern A, et al. Effect of Briefing on Acupuncture Treatment Outcome Expectations, Pain, and Adverse Side Effects Among Patients With Chronic Low Back Pain: A Randomized Clinical Trial. *JAMA Netw Open*. Sep 1 2021;4(9):e2121418. doi:10.1001/jamanetworkopen.2021.21418
230. Holzhüter F, Hamann J. Nocebo effects by providing informed consent in shared decision making? Not necessarily: a randomized pilot-trial using an open-label placebo approach. *BMC Med Ethics*. Oct 14 2020;21(1):97. doi:10.1186/s12910-020-00541-y
231. Jacobs W, Schagen SB, Brouwer SM, et al. The Effects of Being Informed About Chemotherapy-Related Cognitive Symptoms With And Without Self-Affirmation on Perceived Cognitive Symptoms of Breast Cancer Patients: A Randomized Prospective, Longitudinal Study. *Clin Breast Cancer*. Jul 2022;22(5):439-454. doi:10.1016/j.clbc.2022.03.001
232. Jacobs W, Schagen SB, Thijssen M, Das E. Preventing adverse information effects on health outcomes: A self-affirmation intervention reduced information-induced cognitive decline in gastrointestinal cancer patients. *Soc Sci Med*. Apr 2019;226:47-55. doi:10.1016/j.socscimed.2019.02.013
233. Bonner C, McKinn S, Lau A, et al. Heuristics and biases in cardiovascular disease prevention: How can we improve communication about risk, benefits and harms? *Patient Educ Couns*. May 2018;101(5):843-853. doi:10.1016/j.pec.2017.12.003
234. Webster RK, Weinman J, Rubin GJ. How does the side-effect information in patient information leaflets influence peoples' side-effect expectations? A cross-sectional national survey of 18- to 65-year-olds in England. *Health Expect*. Dec 2017;20(6):1411-1420. doi:10.1111/hex.12584
235. Karacaoglu M, Peerdeman KJ, Numans ME, et al. Nocebo Hyperalgesia in Patients With Fibromyalgia and Healthy Controls: An Experimental Investigation of Conditioning and Extinction Processes at Baseline and 1-Month Follow-up. *J Pain*. Sep 2023;24(9):1696-1711. doi:10.1016/j.jpain.2023.05.003
236. Colagiuri B, McGuinness K, Boakes RA, Butow PN. Warning about side effects can increase their occurrence: an experimental model using placebo treatment for sleep difficulty. *J Psychopharmacol*. Dec 2012;26(12):1540-7. doi:10.1177/0269881112458730
237. Mahr A, Golmard C, Pham E, Iordache L, Deville L, Faure P. Types, frequencies, and burden of nonspecific adverse events of drugs: analysis of randomized placebo-controlled clinical trials. *Pharmacoepidemiol Drug Saf*. Jul 2017;26(7):731-741. doi:10.1002/pds.4169
238. Zhang W, Zhang J, Ma R, Chen H, Huang J, Xu B. Patient expectations and awareness of information regarding adverse reactions in drug labelling in China. *International Journal of Clinical Pharmacy*. 2021/02/01 2021;43(1):174-180. doi:10.1007/s11096-020-01127-9

239. O'Connor AM, Pennie RA, Dales RE. Framing effects on expectations, decisions, and side effects experienced: the case of influenza immunization. *J Clin Epidemiol*. Nov 1996;49(11):1271-6. doi:10.1016/s0895-4356(96)00177-1
240. Webster RK, Rubin GJ. The Effect of Positively Framing Side-Effect Risk in Two Different Formats on Side-Effect Expectations, Informed Consent and Credibility: A Randomised Trial of 16- to 75-Year-Olds in England. *Drug Saf*. Oct 2020;43(10):1011-1022. doi:10.1007/s40264-020-00959-8
241. Planès S, Villier C, Mallaret M. The nocebo effect of drugs. *Pharmacology Research & Perspectives*. 2016/04/01 2016;4(2):e00208. doi:https://doi.org/10.1002/prp2.208
242. Prediger B, Meyer E, Büchter R, Mathes T. Nocebo effects of a simplified package leaflet compared to unstandardised oral information and a standard package leaflet: a pilot randomised controlled trial. *Trials*. Jul 26 2019;20(1):458. doi:10.1186/s13063-019-3565-3
243. Perneger TV, Agoritsas T. Doctors and patients' susceptibility to framing bias: a randomized trial. *J Gen Intern Med*. Dec 2011;26(12):1411-7. doi:10.1007/s11606-011-1810-x
244. Charlesworth JEG, Petkovic G, Kelley JM, et al. Effects of placebos without deception compared with no treatment: A systematic review and meta-analysis. *J Evid Based Med*. May 2017;10(2):97-107. doi:10.1111/jebm.12251
245. von Wernsdorff M, Loef M, Tuschen-Caffier B, Schmidt S. Effects of open-label placebos in clinical trials: a systematic review and meta-analysis. *Sci Rep*. Feb 16 2021;11(1):3855. doi:10.1038/s41598-021-83148-6
246. Makoul G, Arntson P, Schofield T. Health promotion in primary care: physician-patient communication and decision making about prescription medications. *Soc Sci Med*. Nov 1995;41(9):1241-54. doi:10.1016/0277-9536(95)00061-b
247. Pan Y, Kinitz T, Stapic M, Nestoriuc Y. Minimizing Drug Adverse Events by Informing About the Nocebo Effect-An Experimental Study. *Front Psychiatry*. 2019;10:504. doi:10.3389/fpsyt.2019.00504
248. Görner KJ, Spotts EK, Geers AL. Identifying the psychological effects of nocebo education: results from two pre-registered experiments. *J Behav Med*. Dec 2024;47(6):1080-1093. doi:10.1007/s10865-024-00520-3
249. Crichton F, Petrie KJ. Health complaints and wind turbines: The efficacy of explaining the nocebo response to reduce symptom reporting. *Environmental Research*. 2015;140:449-455.
250. Wood FA, Howard JP, Finegold JA, et al. N-of-1 Trial of a Statin, Placebo, or No Treatment to Assess Side Effects. *N Engl J Med*. Nov 26 2020;383(22):2182-2184. doi:10.1056/NEJMc2031173
251. Faasse K, Grey A, Horne R, Petrie KJ. High perceived sensitivity to medicines is associated with higher medical care utilisation, increased symptom reporting and greater information-seeking about medication. *pharmacoepidemiology and drug safety*. 2015;24(6):592-599.
252. Hoenemeyer TW, Baidwan NK, Hall K, Kaptchuk TJ, Fontaine KR, Mehta TS. An Exploratory Analysis of the Association Between Catechol-O-Methyltransferase and Response to a Randomized Open-Label Placebo Treatment for Cancer-Related Fatigue. *Front Psychiatry*. 2021;12:684556. doi:10.3389/fpsyt.2021.684556

253. Kaptchuk TJ, Friedlander E, Kelley JM, et al. Placebos without deception: a randomized controlled trial in irritable bowel syndrome. *PLoS One*. Dec 22 2010;5(12):e15591. doi:10.1371/journal.pone.0015591
254. Kelley JM, Lembo AJ, Ablon JS, et al. Patient and practitioner influences on the placebo effect in irritable bowel syndrome. *Psychosom Med*. Sep 2009;71(7):789-97. doi:10.1097/PSY.0b013e3181acee12
255. Kleine-Borgmann J, Schmidt K, Hellmann A, Bingel U. Effects of open-label placebo on pain, functional disability, and spine mobility in patients with chronic back pain: a randomized controlled trial. *Pain*. Dec 2019;160(12):2891-2897. doi:10.1097/j.pain.0000000000001683
256. Kube T, Kirsch I, Glombiewski JA, Witthöft M, Bräscher AK. Remotely Provided Open-Label Placebo Reduces Frequency of and Impairment by Allergic Symptoms. *Psychosom Med*. Nov-Dec 01 2022;84(9):997-1005. doi:10.1097/psy.0000000000001110
257. Nurko S, Saps M, Kossowsky J, et al. Effect of Open-label Placebo on Children and Adolescents With Functional Abdominal Pain or Irritable Bowel Syndrome: A Randomized Clinical Trial. *JAMA Pediatr*. Apr 1 2022;176(4):349-356. doi:10.1001/jamapediatrics.2021.5750
258. Schaefer M, Sahin T, Berstecher B. Why do open-label placebos work? A randomized controlled trial of an open-label placebo induction with and without extended information about the placebo effect in allergic rhinitis. *PLoS One*. 2018;13(3):e0192758. doi:10.1371/journal.pone.0192758
259. Schaefer M, Zimmermann K, Enck P. A randomized controlled trial of effects of open-label placebo compared to double-blind placebo and treatment-as-usual on symptoms of allergic rhinitis. *Sci Rep*. May 24 2023;13(1):8372. doi:10.1038/s41598-023-34790-9
260. Winkler A, Hahn A, Hermann C. The impact of pharmaceutical form and simulated side effects in an open-label-placebo RCT for improving psychological distress in highly stressed students. *Sci Rep*. Apr 19 2023;13(1):6367. doi:10.1038/s41598-023-32942-5
261. Friehs T, Milde C, Glombiewski JA, Kube T. Change in pain expectations but no open-label placebo analgesia: An experimental study using the heat pain paradigm. *Eur J Pain*. May 2024;28(5):769-785. doi:10.1002/ejp.2216
262. Haas JW, Winkler A, Rheker J, Doering BK, Rief W. No open-label placebo effect in insomnia? Lessons learned from an experimental trial. *J Psychosom Res*. Jul 2022;158:110923. doi:10.1016/j.jpsychores.2022.110923
263. Kleine-Borgmann J, Dietz TN, Schmidt K, Bingel U. No long-term effects after a 3-week open-label placebo treatment for chronic low back pain: a 3-year follow-up of a randomized controlled trial. *Pain*. Mar 1 2023;164(3):645-652. doi:10.1097/j.pain.0000000000002752
264. Smits RM, Veldhuijzen DS, Olde Hartman T, et al. Explaining placebo effects in an online survey study: Does 'Pavlov' ring a bell? *PLoS One*. 2021;16(3):e0247103. doi:10.1371/journal.pone.0247103
265. Flowers KM, Patton ME, Hruschak VJ, et al. Conditioned open-label placebo for opioid reduction after spine surgery: a randomized controlled trial. *Pain*. Jun 1 2021;162(6):1828-1839. doi:10.1097/j.pain.0000000000002185

266. Sandler A, Glesne C, Geller G. Children's and parents' perspectives on open-label use of placebos in the treatment of ADHD. *Child Care Health Dev*. Jan 2008;34(1):111-20. doi:10.1111/j.1365-2214.2007.00743.x
267. Sandler AD, Bodfish JW. Open-label use of placebos in the treatment of ADHD: a pilot study. *Child Care Health Dev*. Jan 2008;34(1):104-10. doi:10.1111/j.1365-2214.2007.00797.x
268. Sandler AD, Glesne CE, Bodfish JW. Conditioned placebo dose reduction: a new treatment in attention-deficit hyperactivity disorder? *J Dev Behav Pediatr*. Jun 2010;31(5):369-75. doi:10.1097/DBP.0b013e3181e121ed
269. Leibowitz KA, Hardebeck EJ, Goyer JP, Crum AJ. The role of patient beliefs in open-label placebo effects. *Health Psychol*. Jul 2019;38(7):613-622. doi:10.1037/hea0000751
270. Bishop FL, Greville-Harris M, Bostock J, et al. Informing Adults With Back Pain About Placebo Effects: Randomized Controlled Evaluation of a New Website With Potential to Improve Informed Consent in Clinical Research. *J Med Internet Res*. Jan 17 2019;21(1):e9955. doi:10.2196/jmir.9955
271. Cohen EA, Hassman HH, Ereshefsky L, et al. Placebo response mitigation with a participant-focused psychoeducational procedure: a randomized, single-blind, all placebo study in major depressive and psychotic disorders. *Neuropsychopharmacology*. Mar 2021;46(4):844-850. doi:10.1038/s41386-020-00911-5
272. Barsky AJ, Saintfort R, Rogers MP, Borus JF. Nonspecific medication side effects and the nocebo phenomenon. *Jama*. Feb 6 2002;287(5):622-7. doi:10.1001/jama.287.5.622
273. Meijers MC, Stouthard J, Evers AWM, et al. Possible alleviation of symptoms and side effects through clinicians' nocebo information and empathy in an experimental video vignette study. *Sci Rep*. Sep 27 2022;12(1):16112. doi:10.1038/s41598-022-19729-w
274. Michnevich T, Pan Y, Hendi A, Oechsle K, Stein A, Nestoriuc Y. Preventing adverse events of chemotherapy for gastrointestinal cancer by educating patients about the nocebo effect: a randomized-controlled trial. *BMC Cancer*. Sep 23 2022;22(1):1008. doi:10.1186/s12885-022-10089-2
275. Nestoriuc Y, Pan Y, Kinitz T, Weik E, Shedden-Mora MC. Informing About the Nocebo Effect Affects Patients' Need for Information About Antidepressants-An Experimental Online Study. *Front Psychiatry*. 2021;12:587122. doi:10.3389/fpsyt.2021.587122
276. von Blanckenburg P, Schuricht F, Heisig SR, et al. Psychologische Optimierung von Erwartungen zur Prävention von Nocebo-Nebenwirkungen bei Brustkrebs - 2 Fallberichte. *Verhaltenstherapie*. 2015;25(3):219-227. doi:10.1159/000377711
277. Uitterhoeve R, Bensing J, Dilven E, Donders R, deMulder P, van Achterberg T. Nurse-patient communication in cancer care: does responding to patient's cues predict patient satisfaction with communication. *Psychooncology*. Oct 2009;18(10):1060-8. doi:10.1002/pon.1434
278. Olson JA, Lifshitz M, Raz A, Veissière SPL. Super Placebos: A Feasibility Study Combining Contextual Factors to Promote Placebo Effects. *Front Psychiatry*. 2021;12:644825. doi:10.3389/fpsyt.2021.644825