

Review articles

Nocebo effect in health communication: how to minimize it?

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ABSTRACT

Purpose: to describe the strategies used to minimize the nocebo effect in health communication.

Methods: an integrative review of the literature. The keywords “nocebo effect” and “health communication” and their combinations were used in English, Portuguese, and Spanish to search publications from 2011 to 2021 in MEDLINE, Latin American and Caribbean Health Sciences Literature (LILACS), Cochrane Library, EMBASE, and Web of Science/ISI. The following research question was used: “Which strategies have been used to minimize the nocebo effect in health communication?”.

Literature Review: altogether, 77 articles were found, although only six met the inclusion criteria and comprised the review sample. Their year of publication ranged from 2015 to 2021. Positive framing, assertive communication, and contextual factors were the strategies used to minimize the nocebo effect.

Conclusion: the strategies used to minimize the nocebo effect were contextual factors, motivational talk, positive framing, assertive communication, and empathetic communication. These communication techniques are seemingly effective, though still little known by health professionals. This knowledge is important as it helps develop communicative skills aiming at humanized patient care.

Keywords: Nocebo Effect; Health Communication; Health Strategies

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INTRODUCTION

Health communication is strategically important because it improves the quality of health services and promotes behavioral changes that contribute to adherence and response to treatments. These communicative practices pose a challenge to health professionals, as the comprehension of people involved in such communication depends on shared knowledge.

Hence, some aspects that make up the health communication process – such as the placebo and nocebo effects – must be understood.

Placebo and nocebo effects are direct consequences of the therapeutic setting and/or the patient's psychosocial, physical, and mental status. They can take place in different contexts, through counseling or previous experiences¹.

The placebo effect is a positive response to treatment, substance, or setting that does not have a therapeutic purpose for the pathology being treated. Such an effect has psychological and neurobiological mechanisms².

In turn, the nocebo effect is characterized by worsened symptoms regarding a specific therapy, leading to negative results. It can be due to the use of inert substances or treatments, causing hyperalgesia, anxiety, catastrophizing, search for other therapeutic resources, increased drug use, and communication during the treatment³.

Information communicated to the patient at the beginning of the treatment can create a negative context^{4,5}. Thus, health professionals must adjust their communication process in counseling (instructions), considering the patient's perspective and expectations regarding the treatment⁶. Particularly, speech-language-hearing therapists – the health professionals that address different human communication approaches – must be attentive to this effect in their clinical practice.

Health professionals need to know about the nocebo effect in their communication with patients while they explain the therapeutic procedures. Hence,

they can reduce its negative consequences to therapy and favor promising results^{6,7}. This shows the need for compiling robust studies on this topic. Therefore, this research aimed at describing the strategies used to minimize the nocebo effect in health communication.

METHODS

This is an integrative review of the literature, whose research question was: “Which strategies have been used to minimize the nocebo effect in health communication?”.

The search was conducted in MEDLINE (via PubMed), LILACS (via VHL), Cochrane Library, EMBASE, and Web of Science/ISI, with the DeCS terms “efeito nocebo” and “comunicação em saúde” and the MeSH terms “nocebo effect” and “health communication”, as well as “efecto nocebo” and “comunicación en salud”.

Eligible articles were those published in English, Spanish, and Portuguese between 2011 and 2021, addressing the nocebo effect in health communication; the research considered clinical trials, case series, and case reports, published in peer-reviewed journals. All recommendations and guidelines, according to the 2010 study by Souza, Silva, and Carvalho⁸, were followed.

The exclusion criteria were as follows: literature review studies, theses, dissertations, studies that did not report the objective of the investigation, and studies that could not be retrieved in full text.

The strategies to find articles were adapted to each database, according to the previously established research question and inclusion criteria, thus ensuring coherence in article search and avoiding possible biases in the integrative review.

All information was selected and stored in a data bank, with the following data: author, year of publication, country, study title, objective, methodology, strategies to minimize the nocebo effect/results, and contributions, as shown in Chart 1.

Chart 1. Strategies to minimize the nocebo effect/results and contributions

Authors/Year/ Country	Objective	Methodology	Strategies to minimize the nocebo effect/Results	Contributions
Bisconti and col. (2021) Italy ⁹	To understand the management of contextual factors and identify the most relevant ones and the underestimated ones by physical therapists.	Cross-sectional study with the development of a questionnaire, which was divided into two parts. The first part is the sociodemographic questionnaire, while the second part has specific questions on contextual factors.	The following strategies were used: taking into consideration the contextual factors (verbal and nonverbal interaction, health professional's appearance and behaviors, patient's expectations) and stimulating positive expectations in patients toward successful therapies.	The study observed the need for using contextual factors in practice, as well as its effectiveness to minimize the nocebo effect.
Rossetini and col. (2019) Italy ¹⁰	To investigate the attitudes and beliefs of Italian patients with musculoskeletal pain about the use of contextual factors in clinical practice.	Web-based quantitative cross-sectional study. The sample comprised Italian patients with musculoskeletal pain, who answered a questionnaire on sociodemographic data, characteristics of the musculoskeletal pain, expectations for the treatment based on previous experiences and laser use.	Contextual factors associated with evidence-based therapy.	The use of contextual factors along with evidence-based intervention provides better therapeutic results.
Petit and col. (2021) France ¹²	To assess an intervention aimed at reducing the patient's nocebo effect by switching the drug of infliximab originator to biosimilar infliximab SB2.	Study divided into four stages. The first one was a systematic review. The second one had interviews with the patients who received the drug. The third stage had a multiprofessional intervention. In the fourth stage, the intervention was put into effect, switching the drug.	Motivational talk was the strategy used for patients to accept drug switch.	The adapted communication strategy focused on a trust relationship between patients and the multiprofessional team proved to be well-accepted in drug switch and minimized the nocebo effect.
Devlin and col. (2019) Australia ¹⁵	To observe whether the expectancies of side effects before the treatment influence subsequent experiences.	The sample comprised university students. Interviewers informed them they were participating in a study, indicating its objective. The instruments used were sociodemographic questionnaires, behavioral style scale, depression, anxiety, and stress scale, response expectancy scale, and experience scale. Subjects were also informed of the cold pressor test (CPT). Then, standardized CPT data were presented to them.	Positive framing	Positive framing reduced short-term adverse effects. However, such a reduction did not occur in follow-up.
Vijayan and col. (2015) United Kingdom ¹⁶	To describe whether the communication process induces patients' negative expectations and whether they can generate a nocebo response, represented by greater pain intensity.	Mixed study combining two cross-sectional and one randomized study. The observational study included interviews with professionals addressing verbal communication in venipuncture. It used the degree of agreement regarding four statements about the justification of a verbal warning. The second study was conducted on patients of a clinic, who answered a questionnaire on the use of verbal warnings.	Assertive communication before venipuncture	Health professionals managed to use phrases before invasive procedures without causing the nocebo effect.
Van and col. (2019) The Netherlands ¹⁸	To provide further information on how and how often oncologists use expectancy and empathy expressions in their visits.	Multicentric observational study regarding visits with advanced breast cancer patients. The sample comprised 33 recorded visits, which were later analyzed and decoded to determine the expressions of expectancy and empathy and positive, negative, and uncertain expectancies.	Empathetic communication.	Empathetic communication between physicians and patients influences the therapeutic process, ensuring better treatment results.

Captions: Biosimilar Infliximab (SB2), Cold Pressor Test (CPT).

LITERATURE REVIEW

The search retrieved 77 articles, eight of which were excluded before screening because they were duplicates. In screening, 69 were selected; however, after the title and abstract reading, 18 were excluded for being literature reviews and one for being a conference

study. Thus, 50 articles were read in full text. After this reading, 38 clinical trials that did not meet the eligibility criteria and two editorials were excluded. Another four studies were excluded because they were not available in full text. Thus, six studies were included in this review, as shown in Figure 1.

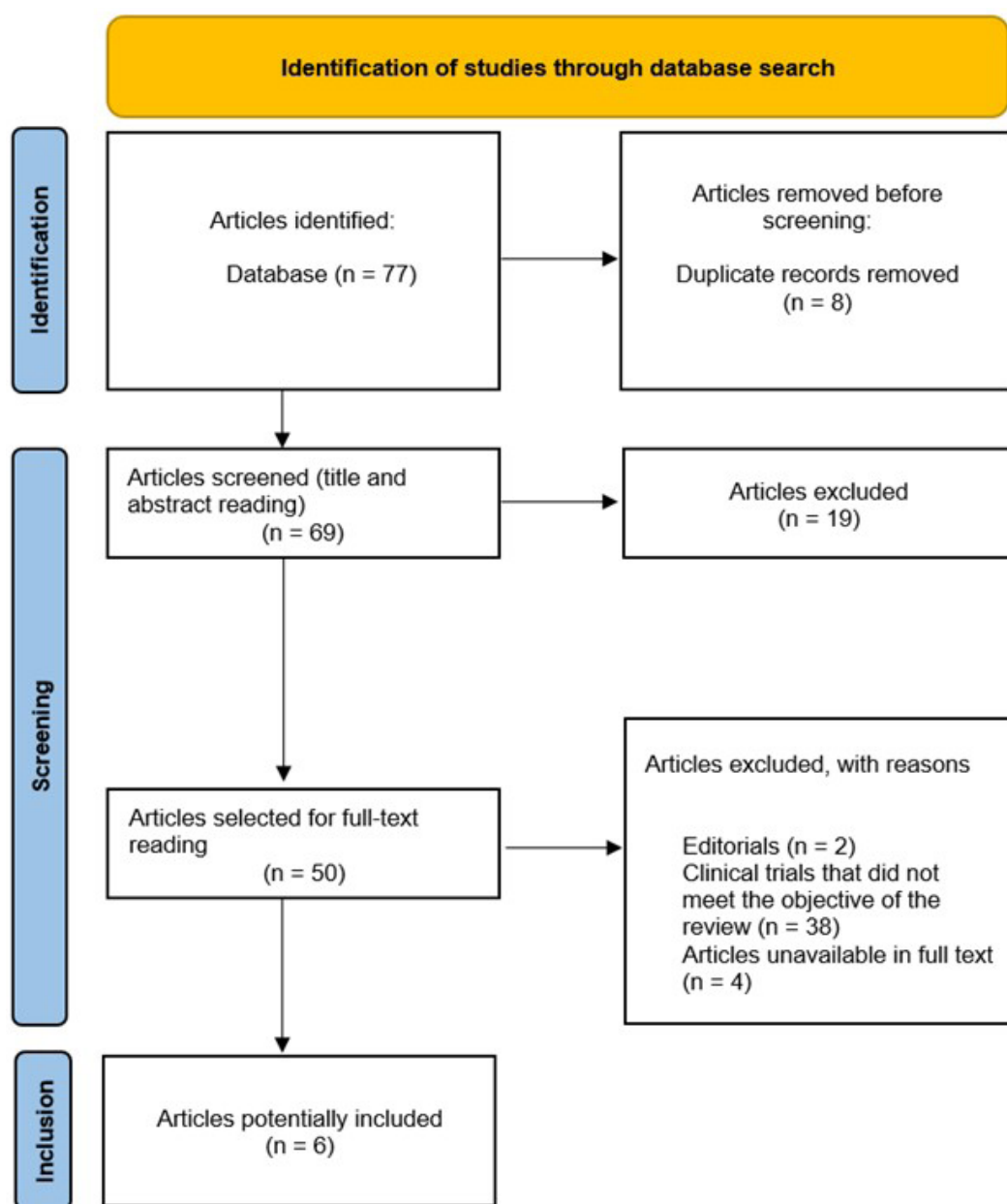


Figure 1. Flowchart describing the study selection process

The studies included in the review were conducted in Italy, France, Australia, the Netherlands, and the United Kingdom. No Brazilian research on the topic was found based on the inclusion criteria. They were

published between 2015 and 2021, mostly in 2019, as presented in Figure 2. As for the types of studies, there were three clinical trials and three observational studies.

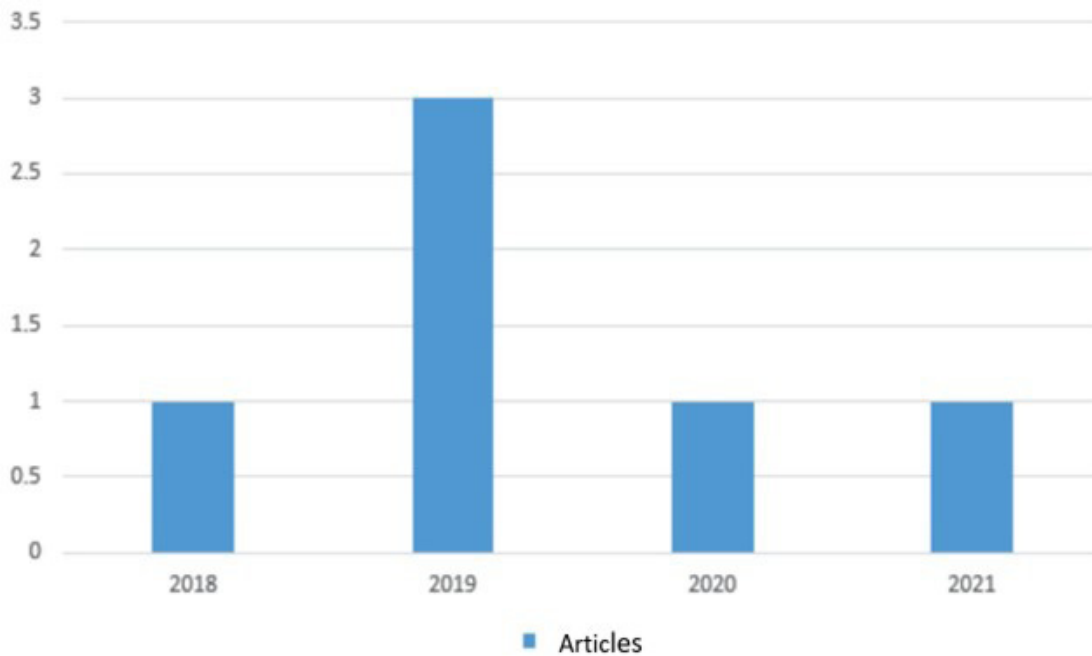


Figure 2. Articles per year of publication

The methodology retrieved six international articles. The data found in this literature review demonstrated the importance of efficient communication with strategies and a low nocebo effect rate. The selected research encompassed three clinical trials and three observational studies.

The articles showed that well-developed health communication can make information clear and influence the patients' decisions, resulting in their satisfaction and adherence to the treatment⁹. Hence, health professionals must understand the aspects involving their communication, attentive to the possibility of the nocebo effect and its consequences.

Bisconti and col. conducted a study with physical therapists in 2021¹⁰ to understand the management of contextual factors and identify the most relevant ones and the underestimated ones by professionals. The contextual factors included physical therapists' characteristics, patients' characteristics, patient/physical therapist relationship, treatment, and therapeutic setting. The results highlighted that participants considered any voluntary or involuntary element with

which they interacted during the treatment as contextual factors, which made up the therapeutic setting. It then found that physical therapists considered communication strategies – e.g., stimulating positive expectations in patients toward successful therapies, having a therapeutic relationship with patients, and using active clinical listening in the treatment – highly important to achieve better therapeutic results¹⁰.

Contextual factors were also studied by Rossetini and col. (2019)¹¹. The researchers defined characteristics that can be related to the health service, such as uniforms, expectations, physician/patient interaction (verbal communication), treatment, and therapeutic setting (design). In this perspective, communication stood out, as volunteers indicated they appreciated receiving information on the use of contextual factors. Hence, the study concluded that subjects who attended the outpatient center reported positive attitudes and beliefs regarding the use of contextual factors in clinical practice¹¹. Therefore, it is necessary to disseminate the use of contextual factors in health communication to reduce the nocebo effect in clinical practice.

Corroborating the results of these two studies^{10,11}, Barnes and col. (2019)¹² published a systematic review to identify promising framing strategies to reduce nocebo side effects and make suggestions for further research. They concluded that positive information on the side effects of a given treatment can diminish the number of nocebo side effects, also enabling patients to be informed throughout the therapeutic process¹².

Another strategy used to minimize the nocebo effect in communication was motivational talk, described in the studies by Pettit and col. (2021)¹³ and D'Amico and col. (2021)¹⁴. Both studies concluded that an adapted communication strategy focused on the trust relationship between patients, nurses, and a multiprofessional team has good results, minimizing the nocebo effect in clinical practice¹⁴.

In the study by Devlin and col. (2019)¹⁵, participants received information, represented by “positive framing” (G1) and “negative framing” (G2), as their hand and forearm were immersed in cold water in the cold pressor test (CPT). Communication was made with posters and was tested in terms of expectations of the possible time of immersion; it was also verified whether they influenced subsequent experiences. The study concluded that neither the positive nor the negative framing significantly influenced the study groups. Nevertheless, G1 participants had higher discomfort thresholds than those in G2. On the other hand, the study by Arnold and col. (2014)¹⁶ revealed that contextual elements in positive and honest framing about the therapy, encouragement, compassion, empathy, and trust relationship, and interpersonal relationships in medical practice modulate clinical results, and placebo and nocebo effects arise from clinical practice.

Information passed to patients before an intervention can impact a nocebo effect. Vijayan and col. conducted a clinical trial in 2015 to analyze the prevalence of verbal warnings such as “sharp scratch” and “ready” given by health professionals before venipuncture, and that of the patients regarding these phrases. The study was conducted in four hospitals, assessing health professionals who performed venipunctures, as well as patients. They verified that 85 professionals reported using the following phrases: “sharp scratch”, “needle going in”, “let’s go”, and “little prick”. The results indicate the participation of 72 patients, with a 70% response rate. It was concluded that health professionals can use assertive communication with confident phrases during procedures, knowing that they are unlikely to have a nocebo response¹⁷.

In this regard, the study conducted by Ever and col. in 2018 gathered specialists to reach a consensus on clinical recommendations based on the current state of the art of research on placebo and nocebo. They established that to minimize the impact of the nocebo effect in communication, health professionals must ensure a physician/patient relationship based on trust, cordiality, and empathy¹⁸.

Empathetic communication seemingly minimizes the nocebo effect in clinical practice as well. Van and col. (2019)¹⁹ conducted a study that showed how and how often oncologists used words of expectancy and empathy in their visits with advanced breast cancer patients. They also observed that oncologists did not respond to the patients’ emotional concerns, using uncertain expressions. These results are related to the findings of the study by Hansen and col. (2019)²⁰, which points out that the lack of communication, meaning of words addressed to patients, positive expectations, and positive suggestions are predictive of the nocebo effect and consequently worsened symptomatology and lack of therapeutic adherence¹⁹.

Lastly, there is an evident need for further studies aimed at understanding and developing strategies to minimize the nocebo effect in health communication. This topic must be further discussed by health professionals and especially speech-language-hearing therapists, given their importance in clinical treatment outcomes.

The recommendations presented in various studies show that health professionals, including speech-language-hearing therapists, must be attentive to the nocebo effect in their communication throughout the therapeutic process, as well as the strategies that can be used to minimize it. Health professionals must further research and discuss this topic to have successful approaches in all levels of healthcare – i.e., from health promotion to intervention. Hence, the importance of this research lies in its support for the development of future studies using the strategies and verifying whether communication helps minimize the nocebo effect.

CONCLUSION

The following strategies to minimize the nocebo effect were found: contextual factors, motivational talk, positive framing, assertive communication, and empathetic communication. These communication techniques are seemingly effective, though still little known by health professionals. This knowledge is important as it helps develop communicative skills aiming at humanized patient care.

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