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Review

The nocebo effect in psychotherapy

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The nocebo effect, negative treatment outcomes arising from patient expectations, therapeutic context, or clinician communication, plays a possibly significant yet often underestimated role in psychotherapy. Drawing on recent empirical and theoretical contributions, possible mechanisms how nocebo effects occur and can be attenuated in psychotherapeutic practice are discussed. Nocebo effects may arise from therapist communication, previous treatment failures, adverse therapeutic dynamics, poorly managed expectations, social influences outside the therapy, or context factors elements such as waiting lists. Strategies for mitigating such effects include, for example, empathic engagement, expectation management, and reconditioning of previous negative treatment experiences in clinical settings.

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Psychotherapy is generally associated with positive outcomes across a wide range of mental health conditions. However, emerging research has identified significant adverse effects which are attributable not to the treatment's inherent limitations but to negative patient expectations or contextual treatment factors. This phenomenon is referred to as the nocebo effect, the counterpart to the well-documented placebo effect [1–3]. In psychotherapy, nocebo responses may occur without deception and often unintentionally, making them ethically and clinically significant.

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The nocebo effect in psychotherapy

The nocebo effect in psychotherapy refers to symptom exacerbation or negative psychological responses induced by contextual, interpersonal, or expectancy-related factors rather than the therapeutic content itself. These effects may emerge from subtle cues in therapist language, treatment framing, or patient beliefs [1–4]. Nocebo effects can include a variety of undesired outcomes, such as symptom increase, dropout or decreased engagement, therapeutic rupture or loss of trust in healthcare providers. Nocebo effects refer specifically to negative outcomes that arise from patients' expectations, rather than from technical errors or inherent risks of the therapeutic intervention. However, consider that negative treatment experiences are inherently a factor that strongly contributes to negative treatment expectancies and therefore nocebo effects in the future. While nocebo effects can be considered a subset of the broader category of negative or adverse effects associated with psychotherapy, they are distinguished by their psychological and expectational origin rather than direct treatment factors. For example, Gerke et al. (2020) found that 15–37 % of patients report negative effects related to psychotherapy in general, with higher prevalence in inpatient settings [5]; however, data isolating the exact proportion attributable solely to nocebo mechanisms remain limited. Clarifying this distinction is important for understanding how patient expectations uniquely contribute to negative treatment outcomes alongside other types of adverse effects (see Fig. 1).

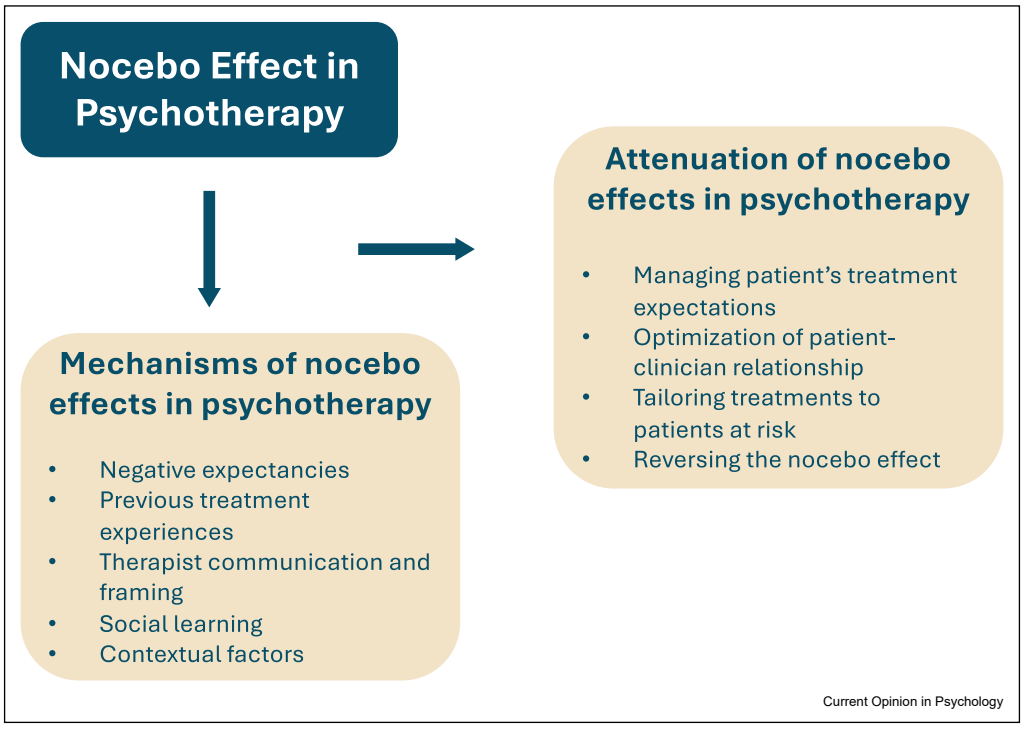
Mechanisms of nocebo effects in psychotherapy

Various mechanisms that possibly induce nocebo effects in psychotherapy might be at stake. We hereby summarize the most important mechanisms that have been described in the literature.

Negative expectancies

Patients who expect therapy to be painful, confrontational, or ineffective may experience anticipatory anxiety, symptom amplification, or reduced treatment adherence [1]. Expectations are shaped by prior experience, therapist framing, and cultural narratives surrounding mental illness and therapy, or even anticipated negative experiences. This cascade can be further strengthened by an evolutionary bias prioritizing negative expectancies over positive learning [4]. Nocebo

Figure 1



Overview of relevant components of the nocebo effect in psychotherapy.

effects based on negative expectancies are relatively resistant to extinction, as demonstrated in experimental and clinical studies showing that once established, these learned negative associations tend to persist despite the absence of ongoing negative stimuli. For example, conditioning studies have found that nocebo responses can remain stable even after repeated exposure to neutral or positive experiences, indicating that the underlying expectational mechanisms are robust and not easily unlearned [4]. This persistence poses challenges for therapeutic interventions aimed at reducing nocebo-related adverse effects.

Previous treatment experiences

The previous learning history and experiences with psychotherapy of patients undergoing psychotherapy might be one of the most important factors inducing nocebo effects, particularly in patients with relatively long-term or chronic problems who experience regularly relapse. In the case of previous treatment failures, the negative experience of treatment failure might result in significant negative treatment-related expectancies and accompanying fear responses (e.g., concerning the worsening of symptoms) that interfere with the current therapeutic outcomes. Previous negative experiences regarding the treatment might trigger treatment-related fear responses and negative treatment expectancies that in turn affect the therapeutic outcome. In clinical studies, it has for example been shown that specific treatment-related fears mediate the relationship between negative treatment expectancies based on a previous learning history and outcomes in psychotherapy [6].

Therapist communication and framing

Therapists may unintentionally promote negative expectations by emphasizing difficulty or risk without sufficient context. For example, phrasing such as "This might be very hard for you" can provoke fear or anticipatory distress, particularly in trauma-focused treatments [2]. At the same time, clinicians have an ethical duty to prepare patients for potential side effects or challenges during therapy. This creates a tension between honest disclosure and the risk of inducing nocebo effects. A possible resolution lies in how information is framed: difficult aspects of therapy can be acknowledged while also conveying support, therapeutic rationale, and confidence in the patient's ability to cope. For instance, pairing a warning with reassurance—such as "Parts of this process may be challenging, but we'll go at a pace that feels manageable and I'll support you throughout"—may reduce unnecessary fear while preserving informed consent. Inadequate explanation of therapeutic rationale and poor therapeutic alliance,

including a lack of empathy, may further contribute to nocebo responses in psychotherapy [1].

Social learning

Social learning after observing the behaviour of others can play a considerable role in shaping an individual's expectations and experiences within a therapeutic contexts. Independently of the health information disseminated by therapists, patients can develop nocebo effects by observing other patient's negative treatment experience or receiving negative information through social channels (e.g., conversation with family and friends, social media). Consequently, individuals may develop negative expectancies by observing others independently of the information communicated to them by their therapists [7].

Contextual factors

Waiting lists or other contextual factors that result in treatment delay can possibly act as nocebo conditions, as patients assigned to waitlists may feel neglected or demoralized. Furukawa et al. (2014) demonstrated via meta-analysis that wait-listed participants in psychotherapy trials often deteriorated over time, indicating expectancy-driven harm [8].

Clinical assessment tools

To assess possible nocebo effects during psychotherapy, clinimetric assessment can provide valuable insight into various types of adverse effects, as well as inform the need for additional support or identify relevant health priorities for both the patient and their environment. While not originally designed to assess nocebo effects specifically, tools such as the INEP (Inventory for the Assessment of Negative Effects of Psychotherapy) [9] and the UE-ATR checklist (Unwanted Effects to Adverse Treatment Reactions) [10] allow for systematic documentation of negative experiences. The INEP is a 21-item self-report questionnaire that captures patient-reported adverse effects across domains such as interpersonal relationships, emotional state, work functioning, and the therapeutic relationship, including potential malpractice. The UE-ATR checklist is completed by therapists and includes categories like treatment-emergent symptoms, failure of expected improvement, therapist misbehavior, role conflicts, and contextual issues. Both instruments have shown adequate reliability and validity [9,10].

However, a notable limitation of these tools is their exclusive focus on negatively framed items, which could inadvertently prime or reinforce negative expectancies—the very mechanisms underlying nocebo effects. In light of this, more recent instruments that include both positive and negative therapy outcomes, such as the one developed by Verkooyen et al. (2024), may offer a more balanced and expectancy-sensitive approach [11]. Such tools align better with the principle of positive framing in treatment communication and may help reduce the risk of inducing nocebo effects through assessment itself.

Nocebo attenuation in psychotherapy

As outlined by Locher and colleagues [12], Enck and Zipfel [13], and others, there are several strategies that have been successfully applied to mitigate nocebo effects and can be also applied to psychotherapy contexts.

1. Managing patients' treatment expectancies

When nocebo effects are formed based on one encounter with negative information (e.g., verbal suggestions by the therapist or informational leaflets), the management of patients' treatment expectancies is an important strategy, for example, by giving enhanced treatment information by the therapist. A better understanding of the prescribed treatment may exert a positive influence on patients who show concerns about psychotherapy. Treatment information can be conveyed in such a way that positive treatment effects are emphasized, while avoiding the overemphasis on treatment side effects. In this positive framing method, an ethical balance should be maintained to minimize clinician-induced nocebo effects on possible treatment side effects, while simultaneously respecting patient integrity. This includes transparent communication without inducing fear, informed consent that acknowledges the risk of adverse effects, and expectation management as a core therapeutic skill [12].

2. Optimization of patient−clinician relationship

Strong, empathic alliances can buffer against patient anxiety and change possibly negative treatment expectancies. Clinicians who convey a sense of warmth, friendliness, and reassurance obtain more effective treatment effects than clinicians who keep their consults formal without any form of reassurance. Verbal or nonverbal communication and communication style, such as not providing a trusting and empathetic environment, can unintentionally produce nocebo effects. Because negative associations between the clinical context and a treatment could elicit nocebo effects, it is preferred to create an environment that is associated with positive expectations rather than feelings of fear and uncertainty. Educational strategies to enhance communication skills that promote trust, mutual understanding, and support could foster positive expectations about the suggested treatment outcome and minimize or prevent nocebo effects [14].

3. Tailoring treatment to patients at risk

Strategies could be implemented that identify patients at risk and offer these patients enhanced treatment information in a manner that prevents the development of negative treatment expectations. To identify patient expectations and possible fears is especially important in patients who are highly susceptible to the nocebo effect, such as patients with negative previous treatment experience or patients who worry more. As previously outlined, reliable and valid screening instruments—often administered via web-based platforms—have been developed to identify patients at risk for nocebo side effects [15,16]. These tools typically consist of self-report questionnaires that assess patients' expectations, previous experiences with treatment adverse effects, and psychological factors such as anxiety or somatization. For example, the Inventory for the Assessment of Negative Effects of Psychotherapy (INEP) includes items specifically designed to detect early signs of nocebo-related responses, enabling clinicians to tailor interventions accordingly. Incorporating such instruments into routine assessment may help to proactively manage and reduce the impact of nocebo effects in psychotherapy.

4. Reversing the nocebo effect

Induction of nocebo effects cannot always be prevented. Therefore, it is useful to be able to reverse nocebo effects once they are established. Several strategies exist that could be used to reverse acquired nocebo effects. Since, once established, nocebo effects are difficult to reverse, it is important to actively introduce strategies that mitigate the nocebo effect. In previous studies, turning previously negative learned associations into positive associations significantly reduced nocebo effects [15,17]. While extinction learning may not be sufficient to totally reverse acquired nocebo effects, reconditioning of previous, possibly traumatic treatment experiences seems to be a powerful strategy to minimize and reverse the nocebo effect in clinical populations [15,17].

Conclusion

The increasing awareness of nocebo effects among healthcare professionals highlights the importance of communication and mindset in patient care. Literature from medicine consistently suggests that addressing nocebo responses can meaningfully reduce side effects and improve treatment adherence. For instance, Yielder and associates [18] demonstrated in a randomized controlled trial that changing patient mindsets about methotrexate in a rheumatology clinic significantly reduced side effects and improved medication adherence, showing a practical and scalable approach to mitigating nocebo responses through psychological intervention and education. Similarly, experimental studies reveal how nocebo information can directly alter drug efficacy and patient experience. For example, clinician-expressed empathy combined with nocebo-alleviating information reduced anxiety and side effects among breast cancer patients undergoing chemotherapy, further exemplifying the benefits of sensitive communication strategies [19]. Moreover, there is evidence from obstetrics that the framing of information during a medical procedure of childbirth can influence the experience of labor pain, emphasizing the potential of communication strategies for reducing nocebo mechanisms across diverse medical fields [20]. Similarly, Treister and colleagues (2025) showed that positive framing of the use of pain medication during planned surgery significantly reduced pain and opioid use [21]. These findings are supported by expert consensus outlining the clinical implications of nocebo effects and recommending strategies for professionals to enhance patient outcomes [22]. In line with this, Westendorp et al. demonstrated that training clinicians through e-learning and virtual reality can effectively optimize communication to minimize nocebo effects, highlighting the practical benefits of increasing professional sensitivity towards nocebo phenomena [23].

Taken together, these studies affirm that professional sensitivity towards nocebo effects yields measurable improvements in patient well-being and overall treatment efficacy.

Author statement

Andrea Evers: Conceptualization, Writing- Original draft preparation, Visualization, Writing- Reviewing and Editing.

Declaration of competing interest

The author declares no conflict of interest.

Data availability

No data was used for the research described in the article.

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Further information on references of particular interest

1. * This chapter offers a comprehensive overview of how nocebo effects specifically manifest in psychotherapy. It includes ethical implications and outlines key mechanisms and clinical examples, serving as a foundational source in the emerging literature on this topic.

7. * The authors examined how negative expectations about treatment can be socially transmitted via peers, family, and media. This study underscores the importance of managing not just direct patient-therapist communication, but also the broader social context of treatment.

17. * This study demonstrated that reconditioning—associating previously negative treatment experiences with new, positive therapeutic outcomes—can reduce established nocebo effects. The research highlights a promising avenue for reversing harmful expectancy-driven responses in clinical settings.