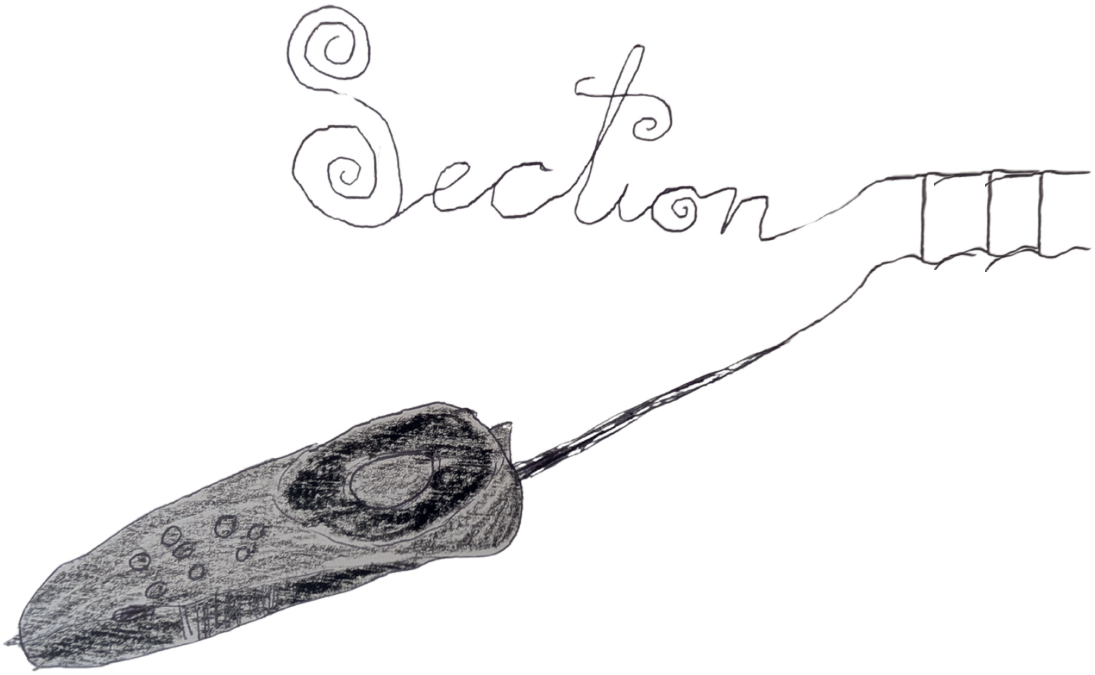
Development and implementation of VR-simulated experiences to train communication skills

Hoek, K.



Communication for Patient Comfort and Anxiety Reduction

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A GOOD INTENTION DOES NOT SUFFICE

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Authors:

Krista Hoek

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ABSTRACT

Spoken words play a powerful yet often underestimated role in shaping patients' experiences. In many low-resource settings, where time, tools, and training may be limited, the words a healthcare provider chooses can still make a world of difference. A calm voice, a thoughtful explanation, or a reassuring phrase may not cost anything—but they can ease fear, reduce pain, and build trust. This commentary highlights how understanding the science behind our words can help create comfort, dignity, and better care—no matter the setting—by exploring how neurolinguistic and neurobiological mechanisms influence patients' perception of pain and comfort and emphasizing the impact of therapeutic communication. Negative language—such as references to pain or negations—can worsen discomfort through nocebo effects, while positive suggestions may enhance treatment outcomes and strengthen the patient-provider relationship. The commentary discusses how the complexity of pain perception is modulated by cognitive and emotional factors such as attention, fear, and expectation. Healthcare providers, often with the best intentions, may inadvertently use language that undermines patient wellbeing. Understanding the implicit effects of language enables more patient-centered communication strategies that can improve outcomes and patient satisfaction. This article advocates for the integration of these insights into clinical training and emphasizes that knowledge of communication science is essential for enhancing therapeutic effectiveness.

INTRODUCTION

Modern medicine advocates patient-centered care, with an understanding that health has changed towards consideration of complex systems in permanent interactions with the environment. It has been well established that the environment of the clinical setting, the cognitive-affective communication of clinicians, and the rituals of administering treatments influence the clinical outcome of patients (1).

Medical situations and procedures are often life-changing events for patients, fragile in unfamiliar surroundings with uncertain outcomes (2). This makes patients susceptible to what a healthcare providers says, or does not say.

In this light, spoken words are powerful and suggestive tools that shape future experiences and perceptions. To illustrate the principles of therapeutic communication, showing the complexity of pain perception, the significant role of cognitive and emotional factors in shaping the patient's pain experience, and demonstrating how negative linguistic suggestions may exacerbate pain and anxiety, consider the following clinical case:

Nathalie, a patient undergoing a vaginal echography with her gynecologist. The procedure is difficult, and Nathalie is in distress and pain. Her gynecologist, intending to encourage her, details the procedure, informs Nathalie of the next steps, tells her it won't hurt that much, that she shouldn't worry, and it will not take much longer.

Healthcare providers highly estimate the importance of communication skills (3). Also, in medical school, generally it is thought patients need to be informed of all details of a procedure. However, alleviating anxiety, stress and pain needs careful consideration of human psychology and pain modulation which will be elaborated in this article.

Pain perception

Pain is defined as 'An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage' (4). How the brain recognizes and interprets pain depends on numerous factors and complex mechanisms. For instance, certain stimuli can alleviate pain. A gentle touch can close pain gates by gate control systems, fear and stress activate the entorhinal cortex, insula and anterior cingulate gyrus amplifying the perception of pain(5).

Attention also affects the perception of pain. Every second, thousands of signals enter our brains. We are only aware of an exceedingly small fraction of these signals as our brain filters signals as they come in. Studies using functional MRI have shown that visual and somatosensory stimuli have pain-modulating functions. Simply put, shifting attention leads to less pain.

The peculiarity of pain is expressed in its own complexity. The ultimate pain and lived experience is a result of complex neuronal networks, interactions, and multiple thalamo-corticolimbic connections. Fear, stress, emotions, and attention all influence pain perception. Understanding these mechanisms can provide insight into more effective patient care strategies.

Negative suggestions

The use of linguistics may influence perception. A negative context can enhance nocebo effects. When said: "the injection of this medication may sting", it has been demonstrated that someone's negative expectation induces an exacerbation of pain or anticipatory anxiety and triggers an inflammatory activation of cytokines, making pain transmission easier (5).

A nocebo effect can also be involuntarily created using negation. The human brain is incapable to 'not' think of something. 'Do not think of a pink elephant' makes one immediately think of a pink elephant. A phrase as 'Do not worry' or 'This will not hurt' are examples of negative suggestions, as they imply a negative context and cannot be erased by negation.

Other negative suggestions may include any suggestion of a negative feeling or experience, such as: "Please feel free to call us if you feel any nausea or pain", or "Can you describe your intensity in pain, from no pain at all, to the most excruciating pain you've ever felt"? Aforementioned suggestions allow attention to be shifted to nausea, and pain, enhancing their intensity. Alternatives may be "Feel free to call us if we can do anything for you to improve your comfort" and "Can you describe the intensity of your comfort, from the least to the most comfortable you've ever felt?".

From a neutral to a positive suggestion

Once medication is administered without announcing its effects, its therapeutic actions are known to diminish (1, 6). In the classical paradigm, a placebo effect is assessed by administering either an inactive substance or a fake intervention. However, in the open/hidden paradigm, therapy is not withheld from the patient. Here, the placebo effect emerges from the contrast between the usual therapy's effects (open = drug and expectation effect) and treatment without disclosure (hidden = solely drug effect) (6). Hence, therapy can be potentiated by our words: "I'm giving you morphine" can be transformed into "I'm giving you morphine, a strong medicine that will probably make you feel better". Feeling comfortable and safe can easily be enhanced with our spoken words: "I'm raising the bed rail" can be transformed into "I'm raising the bed rail for your safety and comfort".

From a good intention to a good therapeutic relationship

Important to note is that suggestions may influence patients in an implicit way, that is, without patients consciously realizing its impact. A good intention does not suffice. Knowledge of how neurolinguistic and neurobiological mechanisms affect patient pain perception and comfort can be used by healthcare providers to influence the patients' lived experience.

Linguistic features include the use of positive suggestions, and avoidance of negative suggestions with negations. The choice of words when providing information on therapeutic benefits and potential side effects impact patient's lived experience and clinical outcomes. A good intention becomes a good therapeutic relationship with mutual understanding.

CONCLUSIONS

Spoken words wield significant power in healthcare settings, influencing patient experiences and outcomes. By integrating insights from neurolinguistics and neurobiology, healthcare providers can enhance their communication strategies to foster positive therapeutic relationships and improve patient comfort and pain management. This commentary underscores the necessity of moving beyond good intentions to implementing informed, strategic communication practices that prioritize patient-centered care.

REFERENCES:

1. Benedetti F. Placebo and the new physiology of the doctor-patient relationship. Physiol Rev. 2013;93(3):1207-46.
2. Friedrich S, Reis S, Meybohm P, Kranke P. Preoperative anxiety. Curr Opin Anaesthesiol. 2022;35(6):674-8.
3. Hoek KB. Patient-embodied virtual reality as a learning tool for therapeutic communication skills among anaesthesiologists: A phenomenological study. Patient Education and Counseling. 2023;114.
4. Raja SN, Carr DB, Cohen M, Finnerup NB, Flor H, Gibson S, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Pain. 2020;161(9):1976-82.
5. Richter M, Schroeter C, Puensch T, Straube T, Hecht H, Ritter A, et al. Pain-related and negative semantic priming enhances perceived pain intensity. Pain Res Manag. 2014;19(2):69-74.
6. Finniss DG, Benedetti F. Mechanisms of the placebo response and their impact on clinical trials and clinical practice. PAIN. 2005;114(1).