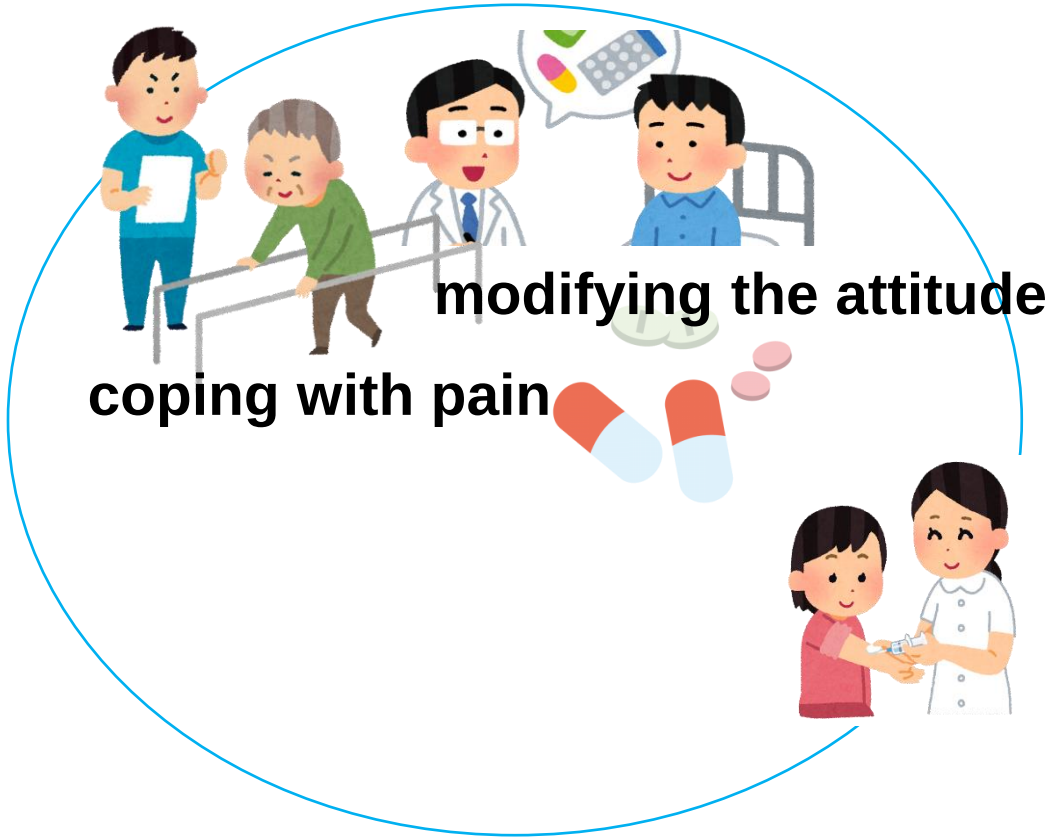
A strategy to promote the mission of hypnosis in chronic pain treatment

Aichi medical university, multidisciplinary pain center

Miyuki Mizutani, Ph.D, certified clinical psychologist, certified public psychologist

- Working for many years with other clinicians who use CBT alone, I have come to realize that the barrier to the widespread use of hypnosis is not only about the efficacy or effectiveness, but also about the different focus on the mechanism involved in chronic pain ant its treatment.
- Recently, some basic scientists of pain or physiologists told me that they have come to understand the validity of hypnotic analgesia presented in research meetings, thanks to the development in the basic science of pain and the fact that the new pain mechanism, called nociplastic pain, has been highlighted.
- This presentation is about strategies for practicing and presenting hypnosis as an indispensable treatment option to consistently help patients up to those with really intractable chronic pain, in cooperation with CBT.
- Let me start with an introduction to the reality of chronic pain management.

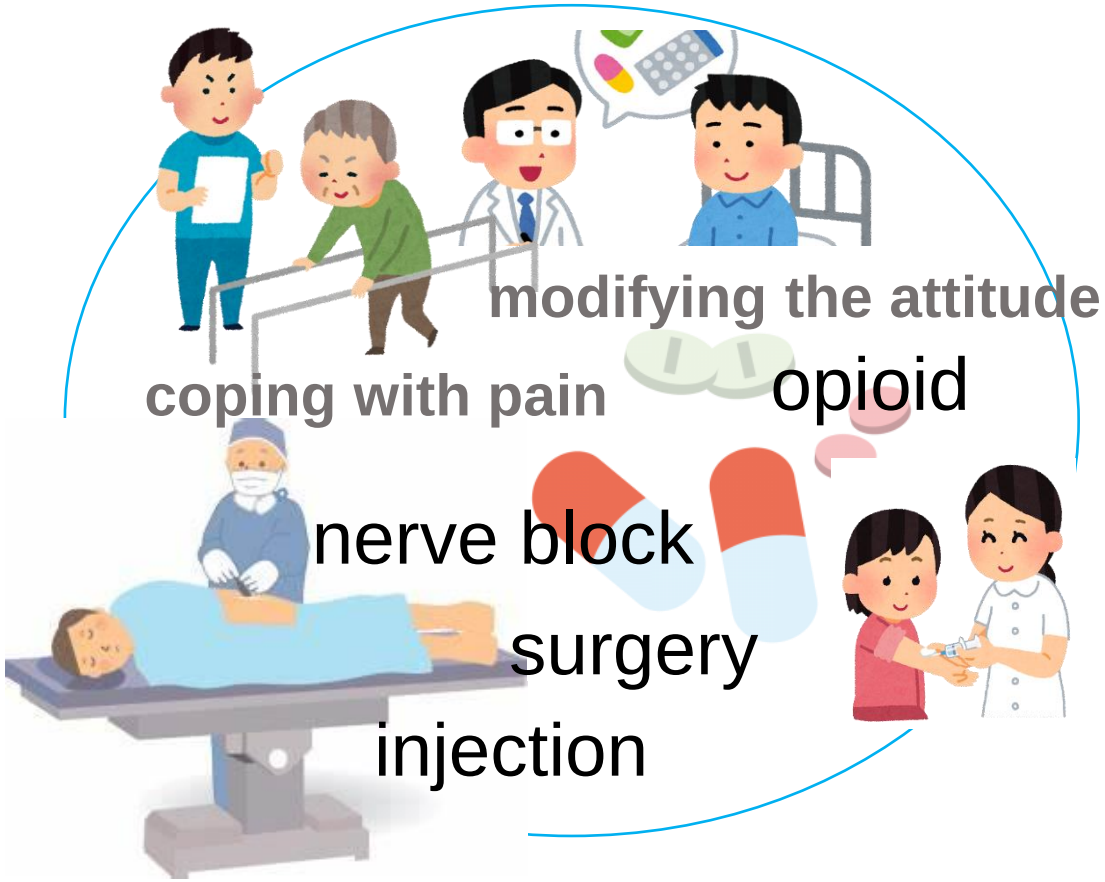
- 70 years ago, chronic pain was identified as resistant to acute pain treatments.
- **Multidisciplinary pain treatment based on CBT(MPT-CBT)** was implemented, targeting on the patients' maladaptation to pain,



It is intended to foster the ability to live a valued life in the presence of pain,
without a direct approach to pain.
Because, "attempting to lessen or ignore pain can actually lead to an increase in pain itself and preoccupation with it."

(Eccleston, Crombez,2007).

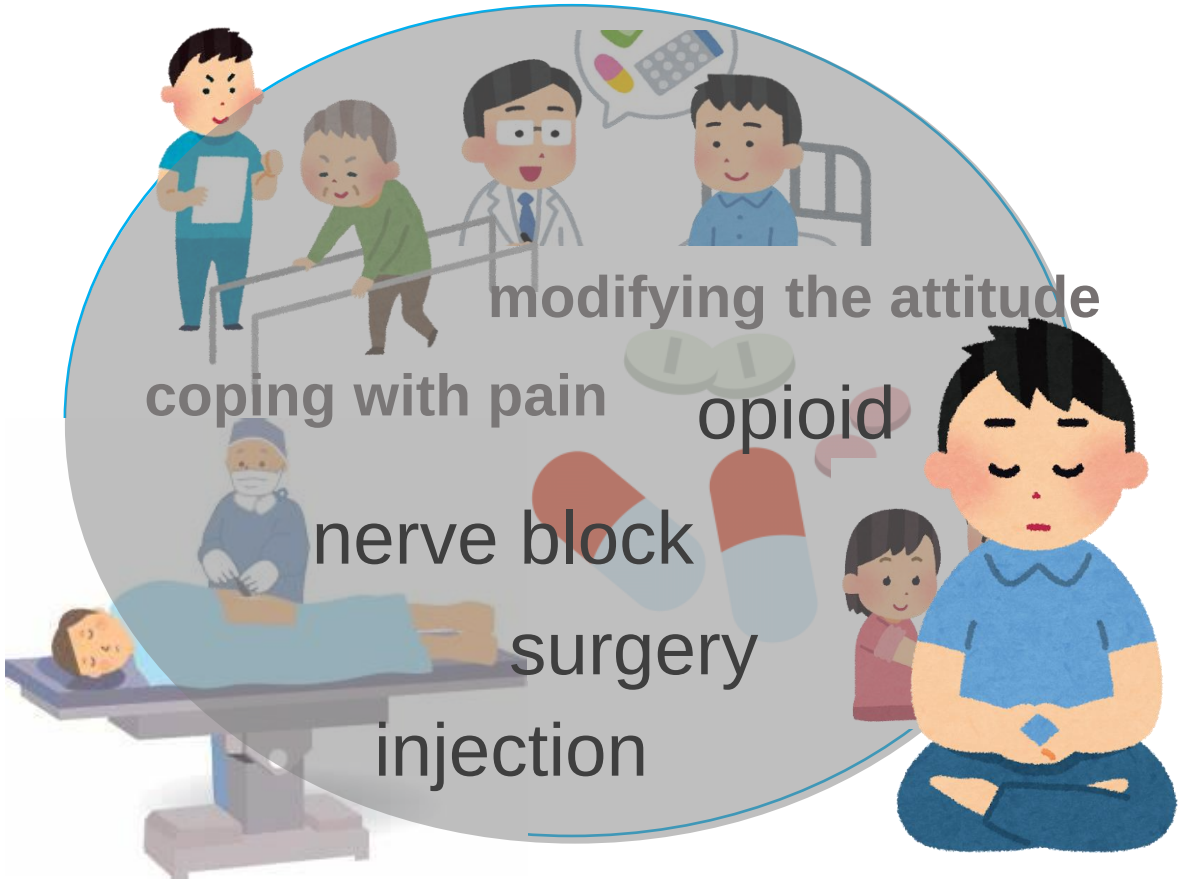
- But for these 20years, medical interventions have been increasing. There may be a number of reasons for this, but probably the most important is that **the desired solution for patients is pain relief**. So the second goal in CBT became



"patients' engagement in pursuit of unachievable goal of pain relief". (Eccleston, Crombez,2007

Recently, CBT has incorporated meditation and mindfulness techniques, allowing patients to experience hypnotic states.

- “Meditation and mindfulness shift the individual’s relationship, resulting in pain reduction.” (Williams et al.,2022)

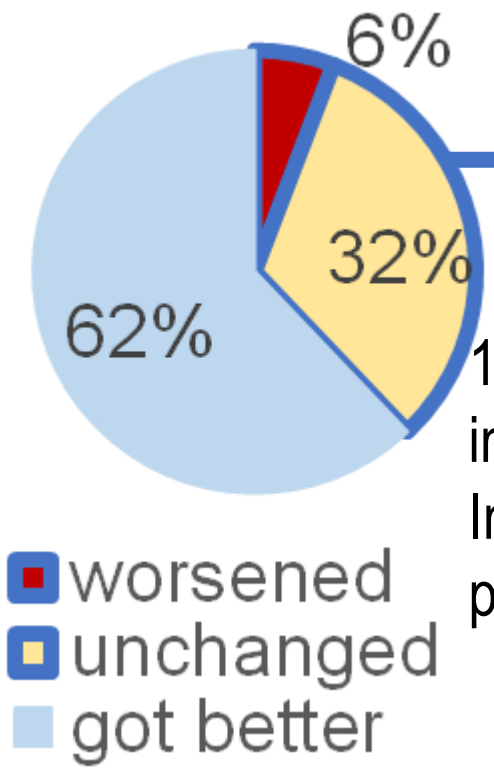


In this way, CBT sets the goal of therapy as adaptation to pain or changing the relationship to pain, theorizing the mechanism and explaining the outcome from the theoretical point of view.
CBT-based chronic pain treatment works well and reduces pain intensity for mild to moderate pain(Hayashi, Arai, Ikemoto, et al., J Physical Therapy Sci.,2015)

On the other hand, Hypnosis has worked to treat pain beyond adaptation to pain, especially for pain that is difficult to treat.

The current indication for HA is limited.
Without HA , non-responders to CBT-based treatment must accept pain.

Subjective evaluation at
3 months from the outset
(2013.10~2017.09)



13% was introduced to Individual psychotherapy

Pain mechanism (IASP)	**the cause**
Nociceptive pain (2008)	tissue damage
Neuropathic pain(1994)	lesion of the somatosensory nervous system
Nociplastic pain(2016)	**“altered nociception”** without the above causes

Key symptoms of nociplastic pain
abnormal pain hyperalgesia, wide-spread pain
autonomic symptoms
Hypersensitivity, fatigue, sleep disturbances,
cognitive dysfunction,
depression, anxiety.

(Shraim et al.,PAIN 163, 2022)

Patients who essentially need hypnosis for chronic pain are among those with nociplastic pain.

Pain conditions with nociplastic pain

- Fibromyalgia
- musculoskeletal pain such as LBP
- osteoarthritis. rheumatoid arthritis,
- complex regional pain syndrome (CRPS) ,
- Irritable bowel syndrome

a part of:

- burning mouth syndrome,
- temporomandibular joint dysfunction

at risk:

Cancer survivors, gluteal syndrome, electrical injury, multiple sclerosis, cerebral palsy, spina bifida, Parkinson's disease, post-COVID pain…

(Shraim et al.,PAIN 163, 2022)

- Before being introduced to hypnosis, patients who have not responded to CBT-based treatment understand that ” there is no treatment for this pain” .
- As for the patients introduced to me, some of them could readily work with hypnosis, but others are more or less ambivalent about a “new treatment”, wanting to expect and fearing to be disappointed, or wanting their pain to improve but fearing to lose credibility with clinicians who think that hypnosis is not a real treatment for pain but just a fantasy and so is the patient’s pain.
- It is undoubtedly necessary to present hypnosis as a reliable psychotherapy for the treatment of intractable pain, under socio-medical influences.
- And fundamentally, nociplastic pain can coexist with any kind of pain, and can have a pervasive influence on any kind of treatment outcome.
- Adaptation to pain is not sufficient for patients with intractable pain.

A goal is to indicate hypnosis as a reliable psychotherapy to treat “treatment-resistant” pain under the sociomedical influences

Strategies

1. **A clear definition** suitable for pain treatment, indicating the psychophysiological effects and safety as a scientific and ethical practice.
2. **A principles-based approach** to reliably build up patients’ therapeutic experience to win over the pain experience and to improve the comparability of the individual differences .
3. **Understanding** individual differences in response , providing measures for indication, initiation, prognosis and factors inhibiting (or prolonging) treatment.
4. Promote a **mechanism-based understanding of HA not only in scientific research but also in clinical practice as precision medicine.**

Strategy1. A Explanatory definition for pain treatment.

- **Clinical hypnosis is a *process* of building up psychophysiological experience for therapeutic purposes in focused consciousness, one of which is experiencing analgesia.**
- It distinguishes Clinical hypnosis from stage hypnosis which exploits suggestibility in subjects.
- The term, focused consciousness/ hypnotic concentration is for distinguishing high-level 'cognitive control' process in hypnosis (Egner & Raz,2007) from attention control or ordinary cognitive control sometimes erroneously thought of as hypnosis.

Strategy 2. Principle-based approach

	Scientific method	"Clinical research method"	Clinical method
approach	standardization	**principle-based**	personalization
	a suggestion produces a behavioral or mental response following	**Core principles that typify a reliable hypnotic response**	generate a hypnotic response using intuition and a wide variety of mental strategies
purpose	Develop a science that generalizes to an entire population	**Develop valid guidelines, affording sufficient flexibility to tailor interventions.**	Develop personalized therapeutic tools adaptable to single cases

(based on M Landry 1, M Stendel 2, M Landry 3, Amir Raz .,2018)

Strategy 2.A principle-based approach to help patients with different hypnotizability reliably build "involuntary analgesic experience "

Basic components: empathic communication, instructions, minimal suggestions.

(hypnotic)

Bottom-up approach to create non-pain experience

1. ***Introduction***: **inviting** the patients to tell their story, **finding** therapeutic individual contexts over the patient's chaotic pain experiences, **relieving** negative emotions towards "me."
2. ***Induction***: **instructing patients to focus on their somatic non-pain experiences** such as breathing, proprioception, or ideomotor responses, **implicitly and explicitly suggesting ego-strengthening**, **using Imagery** to deepen and maintain the absorption.
3. *Post-hypnotic suggestion* (somatic memory, diminution of pain)

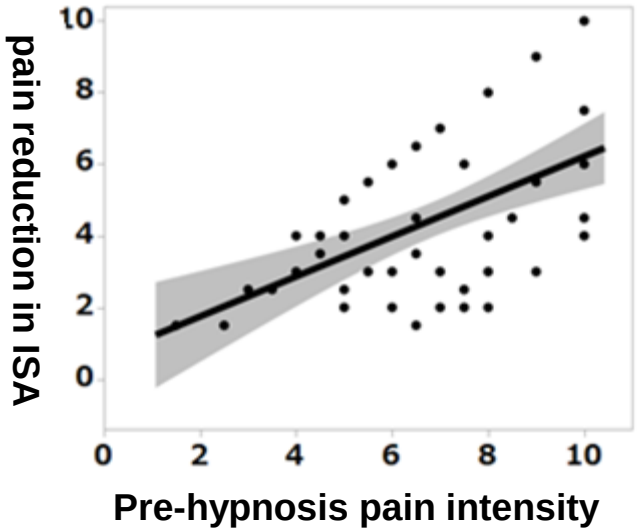
(Mizutani et al.,,Pain research, 2017;Mizutani, ,J. J Clin. Hyp.,2014)

Strategy 3. Showing individual difference as meaningful.

- **The three-phase of HA**

1. Self-decision to use HA
2. In-session analgesia(ISA)*
3. Out-of-session analgesia(OSA)

- **Variable**
- Rate of patients able to complete each phase
- Psychosocial differences between those who succeeded and those who did not.
- Number of sessions required to reach the first in each phase.
- other



P<0.0001

* experiencing reduction of more than 2 point with NRS(numerical rating scale).

(Mizutani et al.,,Pain research, 2017;Mizutani, ,J. J Clin. Hyp.,2014)

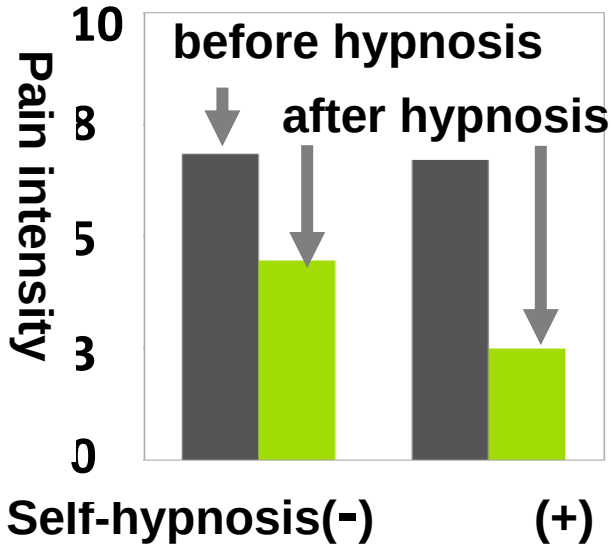
The readiness for each phase and obstacle factors

The three-phase of HA	Rate of patients who succeeded	Number of sessions required	The characteristics of patients who completed each phase
Self-decision to use HA	75.2% (75.2%)		younger patients* higher score HAD-D** higher score HAD-A*
In-session analgesia(ISA)	71% (53.4%)	3.81±3.74	longer years with pain** smaller pain disability
Out-of-session analgesia(OSA)	65% (34.8%)	4.36±6.30	Greater reduction in pain intensity at the first ISA * Number of BPSCFs domain*

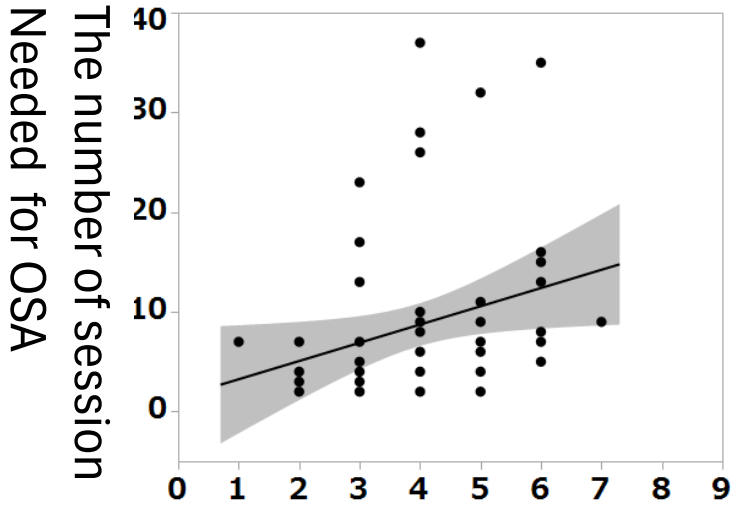
No significant difference with age, duration of pain, pain catastrophizing, pain intensity

(Mizutani et al.,,Pain research, 2017;Mizutani, ,J. J Clin. Hyp.,2014)

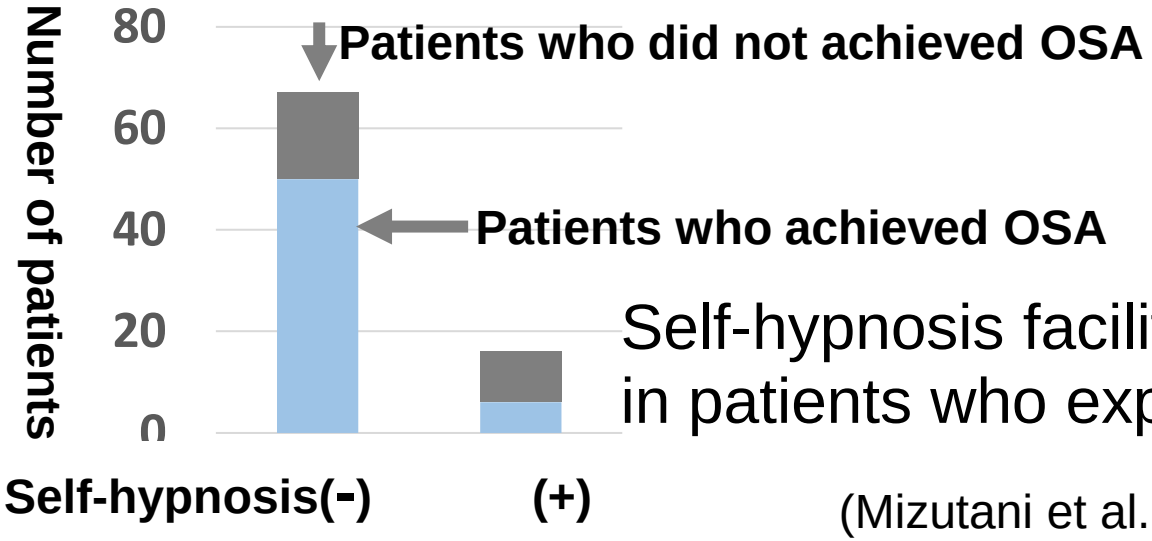
The non-pain experience for HA includes “analgesic response ” that have been suppressed under the influence of bio-psycho-social coexisting factors(BPSCFs)



experiencing ISA facilitate learning self-hypnosis.



HA recover **analgesic response** that have been repressed under the influence of BPSCFs



Self-hypnosis facilitate OSA in patients who experienced ISA.

(Mizutani et al.,,Pain research, 2017;Mizutani, ,J. J Clin. Hyp.,2014)

Patients' experience of HA indicate "psychophysiological analgesia"

Voluntary report on the analgesic experience at the first ISA	n
Comfort	33
Pain relief	31
Surprise	12
reduction in muscle tension	11
Autonomic shift	15
Consciousness alteration	5
Spontaneous movement	5
Spontaneous Imagery	6

(Mizutani et al.,,Pain research, 2017;Mizutani, ,J. J Clin. Hyp.,2014)

The patient's experience implies what is happening in the brain

Particularly salient HA is
preceded by absorption in non-pain somatic experience
the patient having talk freely about his pain experience
feeling that "my pain is really here to be treated".

It is considered that the non-pain experience brain network can be analgesic when it overlaps with the individual pain network.

Thus HA facilitate/ recover analgesic response in patients with intractable chronic pain.

Mechanism–based understanding of HA
case 1: A 50-year-old female patient with oral pain(nociplastic pain)

- A 50-year-old female patient with persistent spontaneous severe oral gum and tongue pain in and hypersensitivity, dysgeusia/an impaired taste, glare, allodynia, had a very strong belief that she had an incurable disease and spent most of the day in bed.
- Until 5 years ago, she had been a workaholic, devoted to her clients, her children and her husband, when she started taking ballet lessons after her full-time job.
- In hypnosis, the autonomic symptoms improved in the first session,(physiological analgesia) but the pain and her belief in the incurability of the disease did not change at all.
- After the patient's self-decision was implicitly evoked in hypnosis, the quality of the pain changed from a cruciating quality to an unthreatenig pulsating pain, probably associated with the original sensory stimulus .(psychological analgesia)
- In the last session she said she was convinced of her complete recovery from the "painful disease" although she still had persistent pain during the day. 3days after the last session, when she got up in the morning, she noticed that her pain was completely gone. (analgesia of memorized pain).

Mechanism–based understanding of HA
Case 2. A patient (40'femele) with fibromyalgia.

A 40-year-old female patient, a pharmacologist, lives with her baby boy. She has been suffering from fibromyalgia symptoms for the last 5 years and has had had 3 episodes of vagal reflex syncope in the last month. An antidepressant is slightly effective for symptomatic relief. .

- 1st session: the patient could not breath deeply due to excessive muscle tension. Pain with unbearable tightness ceased in ISA, accompanied by warm sensation all over the body and brighter vision, comfortable deep sleep in the same night, which continued for several days.
- 2nd session: "Other pain" emerged in parts of the body other than where the analgesia is produced, which was not clear whether it was an aggravation or a complication of the pain. Later, it is named as "paradoxical pain"
- 3rd session; "I do not know what hypnosis is but people around me say I gained some freedom. Sometime I feel pain but most pain disappeared. In ISA," I feel pain in the back of my trunk or lower limb. I understand I had supressed"
- 6th session; the suppressed pain became overwhelming. The clinician says "You may notice a strength to tense the region ..... This is your strength and power, thanks to which you have done many good things and achieved many important things....

Summing up

- There is a large group of patients with intractable pain who need consistent help to recover while hypnosis is under-utilized.
- Hypnotic analgesia for chronic pain involves the recovery of the “analgesic response” as an innate therapeutic resource that underlies the outcome of any type of treatment and medication.
- Recovery of analgesic response facilitates adaptation to pain.