

Motivational Interviewing Techniques to Improve Psychotherapy Adherence and Outcomes for Patients With Psychogenic Nonepileptic Seizures

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Psychogenic nonepileptic seizures (PNES) are a highly disabling disorder frequently encountered by neurologists, psychiatrists, and emergency medicine physicians. There is accumulating evidence for the efficacy of psychological therapies, yet the majority of patients do not complete treatment. A range of health care system-based, clinician-based, and patient-based barriers to treatment exists, including stigma, poor clinician-patient communication, and patient ambivalence about the diagnosis and treatment of PNES. These barriers frequently lead to treatment non-adherence. Motivational interviewing (MI) is a patient-centered counseling style targeting ambivalence about behavior change, which has been shown to be effective in improving psychotherapy adherence and outcomes among patients with PNES. The authors review MI processes and techniques that may be useful to health care providers

helping patients with PNES and other functional neurological disorders to engage in psychotherapy. The authors examine common challenges arising during MI for patients with PNES, including somatic symptoms distracting from clinician-patient communication, ambivalence about making concrete plans for treatment, and psychiatric comorbidities. Strategies for overcoming these obstacles are reviewed, including the use of complex reflections to enhance patient engagement; the use of an ask-tell-ask format and specific, measurable, achievable, relevant, and time-limited (SMART) goals to facilitate treatment planning; and close collaboration between the neurology and psychotherapy teams.

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CLINICAL VIGNETTE

“Julia,” age 37, was admitted to the epilepsy monitoring unit (EMU) for episodes of unresponsiveness that occurred at times with flailing movements of her arms and legs and at other times with flaccid collapse of her entire body. She had been previously evaluated with ECG and Holter monitors for cardiogenic syncope and with routine EEG and MRI for epileptic seizures. The results of these tests had all been within normal limits. Her general neurologist had diagnosed Julia as having epileptic seizures based on her clinical history and had prescribed a series of antiseizure medications over 4 years, without consistent improvement. She also suffered from severe migraine headaches and depression and was on disability, unable to work. Her seizure events eventually increased in frequency to eight per week, prompting referral to an epilepsy center and admission to the EMU.

In the EMU, Julia’s exam was notable for depressed affect and intact cognition and cranial nerve, motor, and sensory function. Over a 6-day admission she had three typical episodes of unresponsiveness, sometimes with asynchronous flailing movements or flaccid collapse. In all episodes, the video-EEG showed normal awake brain activity with movement artifacts but without any epileptiform abnormality,

and single-lead EKG telemetry showed a normal sinus rhythm. Based on her history, semiology, and video-EEG findings, Julia was diagnosed as having psychogenic nonepileptic seizures (PNES).

Prior to discharge from the EMU, a neurologist and neuropsychiatrist reviewed the diagnosis and treatment options with Julia, including referral to a hospital psychotherapist for 12 weekly sessions of a manualized mindfulness-based psychotherapy regimen or referral to a community psychotherapist. Two weeks later, in an outpatient multidisciplinary seizure clinic, the neurologist, neuropsychiatrist, and a social worker therapist again reviewed the diagnosis of PNES and proposed a psychotherapeutic treatment plan. However, Julia was consistently unable to concentrate on their words. “I’ve got a terrible headache. I...I...hear glass breaking.” She laboriously fumbled to retrieve and open a bottle of acetaminophen from her purse. As the doctors explained her illness, Julia’s symptoms persisted, and she remained focused on the bottle of acetaminophen.

Immediately following her visit to the outpatient seizure clinic, Julia participated in motivational interviewing (MI) with the neurologist, directed at improving engagement and adherence with outpatient psychotherapy. MI was not offered as treatment for her PNES but rather as an opportunity

for Julia to discuss the impact of the seizures on her life, to explore her own reasons for seeking treatment, and to take ownership of plans for therapy. The interviewer asked Julia how her seizures affected her life. “Well, my mom and dad have to watch me all the time in case I have a seizure. They’re both getting old, and my dad is out of breath a lot.” The interviewer responded, “Because of your seizures, your parents have to provide care for you, when you feel that you should be providing care for them in their old age.” This was an MI technique of “complex reflection,” in which the interviewer explicitly states ideas implied by the patient. Julia became much more actively engaged in the conversation and eagerly explained that her seizures left her unable to work or drive and dependent on her parents for money, shelter, and transportation. She discussed her parents’ growing frailty and her own feelings of guilt that she was not caring for them and was adding a great burden to them in their old age. The interviewer responded, “It sounds like your parents give you a lot of care and attention around the seizures, which you greatly appreciate, and you worry that this is burdensome to them at a time when they really need your help.” This reflection of the patient’s words is “double sided” in that it emphasizes Julia’s self-stated reasons for behavior change, while also acknowledging with less emphasis the parental affection and assistance that Julia was receiving because of her seizures. Throughout this conversation the headache and tinnitus did not manifest.

At this juncture, the interviewer summarized Julia’s expressed need to eliminate the seizures to care for her parents and asked her about what steps she might take to meet this need (a “key question” or attempted transition from *evoking* change talk to planning for change). Julia immediately clutched her head and reported again the sound of breaking glass. This response communicated her insufficient readiness to begin planning. The interviewer backtracked and reflected again Julia’s description of the impact of the seizures on her parents and on her life. With this move away from concrete planning, the symptoms of headache and tinnitus again resolved, and Julia could reengage in the conversation. Eventually, with Julia’s permission, the interviewer returned to the planning process, this time focusing on a specific, measurable, achievable, relevant, and time-limited (SMART) goal of trying an initial session of psychotherapy with a therapist affiliated with the hospital within the next 2 weeks. This goal was introduced by the interviewer using an ask-tell-ask structure, in which the interviewer asked the patient’s permission to offer a suggestion, then described the psychotherapy option and potential benefits as reported by other patients with PNES, and then asked for the patient’s thoughts on that suggestion. When reframed in this way, Julia was able to embrace a time-limited trial of mindfulness-based psychotherapy as her own plan for treatment of her PNES.

In addition, while explaining during the MI session how her seizures affected her life, Julia noted that she often had flashbacks to physical and sexual abuse she had suffered as

an adolescent at the hands of an uncle. Of note, during prior psychiatric evaluations, Julia had denied any history of abuse or symptoms such as nightmares or flashbacks. Although she remained reluctant to discuss the details of the abuse, flashbacks, and associated negative affect, it became clear that Julia met criteria for posttraumatic stress disorder (PTSD) (1). The collaborative, compassionate, and accepting manner in which the interviewer spoke with Julia, often referred to as the “spirit of MI” (2), helped Julia engage more deeply in the discussion and reveal more about additional factors that likely contributed to PNES symptoms, including the daily use of marijuana to self-medicate her flashbacks and depression.

The interviewer consulted with an MI peer learning group, in which several clinicians presented cases, including audio recordings, of MI to each other and offered each other feedback on MI technique and other issues. Through this peer consultation, the interviewer obtained recommendations for performing MI in the setting of multiple psychiatric and substance use comorbidities. Recommendations included a) assessing the patient’s willingness to change substance use behaviors and b) offering information on the impact of substance use on psychiatric symptoms (e.g., self-medicating PTSD symptoms instead of treating them directly with targeted evidence-based treatments), using an ask-tell-ask structure. Julia was receptive to information about the potential contribution of marijuana use to her PTSD symptoms and incorporated this information into her reasons for seeking psychotherapy (“change talk”). Through the peer learning group, the interviewer was also able to provide Julia with a specific referral to a psychotherapist with expertise in treating mixed PTSD and substance use disorders. This illustrates the importance of participating in peer learning networks for clinicians who use MI, particularly when working with patients, such as those with PNES, who have highly varied psychiatric comorbidities.

Following MI, Julia attended a mindfulness-based psychotherapy session and at that point agreed to participate in weekly sessions. In fact, Julia canceled, rescheduled, or no-showed nearly half of her weekly sessions. Nonetheless, after 4 months of psychotherapy she experienced a 90% reduction in PNES frequency and became a volunteer at an animal shelter—her first work outside the home in 4 years.

DISCUSSION

PNES are episodes of altered consciousness and involuntary movements, thought to be triggered by stress, autonomic arousal, or emotional processes, rather than by abnormal electrical discharges in the brain (3). PNES are also known as psychogenic nonepileptic attacks, nonepileptic attack disorder, functional seizures, or dissociative seizures and in the past were known as pseudoseizures (now avoided as a pejorative term). PNES are a common form of functional neurological disorder (FND), formerly known as conversion disorder, a broad spectrum of often overlapping disorders

that also includes motor FND, FND with sensory manifestations, and speech FND (4). PNES have an incidence of 5 per 100,000 person-years; are diagnosed in approximately one-quarter of patients evaluated in EMUs; and cause high levels of health care utilization, with frequent encounters with neurologists, psychiatrists, and emergency medicine physicians (1, 5, 6). Although PNES are usually not immediately life threatening in the way that prolonged epileptic seizures may be, they are highly disabling and are associated with markedly reduced health-related quality of life, long-term unemployment, and increased mortality rates (7–9). In the present study, we reviewed the diagnosis and evidence-based psychotherapeutic treatments for PNES, discuss the numerous obstacles to treatment, and focus on the use of MI as an intervention to improve psychotherapy adherence and outcomes. In addition, we reviewed the theory underlying MI and the counseling techniques that may be beneficial for psychiatrists, neurologists, internists, and psychotherapists helping patients with PNES and other FNDs to engage in psychotherapy.

From August 2015 to June 2017, we conducted a randomized controlled trial of MI as an intervention to improve psychotherapy adherence and outcomes among 60 consecutive participants with PNES (10). Participants were randomly assigned to receive a single session of MI prior to the initiation of psychotherapy or to receive psychotherapy alone. At the 16-week follow-up, those who received the MI session had higher rates of psychotherapy adherence (65% versus 31%), lower PNES frequency (mean reduction of 76% versus 35%), and higher quality of life (7- versus 2-point improvement in mean score on the 40-point Quality of Life in Epilepsy–10 scale).

Diagnosis and Treatment of PNES

The gold standard for diagnosis of PNES is capture of all habitual event types on video-EEG, with history and semiology (signs and symptoms of the seizure event) consistent with PNES and with no epileptiform EEG abnormality immediately before, during, or following the events (11). The differential diagnosis includes epileptic seizures, syncope, complex migraines, sleep disorders, movement disorders, cerebrovascular injuries, metabolic derangements, and medication effects. Once the diagnosis is made, 90% of neurologists internationally agree that psychotherapy is the treatment of choice (12). Two small randomized trials of cognitive behavioral therapy–informed psychotherapy (CBT) have provided preliminary evidence that CBT is effective in improving PNES frequency and quality of life (13, 14). A large, fully powered, multisite randomized trial of CBT efficacy—the CODES trial—has completed enrollment and treatment in the United Kingdom, with results forthcoming (15). Published CBT regimens for the treatment of PNES exist and are widely used by neurologists, psychiatrists, and psychologists who specialize in this disorder (16–18). Observational studies also suggest that other psychotherapy modalities, such as brief psychodynamic psychotherapy,

mindfulness-based therapy, group therapy, and biofeedback, may also be effective in treating PNES, but clinical trial data do not exist (19–23). Brief psychodynamic interpersonal therapy has also shown benefit in studies including mixed populations of participants with PNES and other FNDs (24, 25).

Obstacles to Treatment

Unfortunately, there are many obstacles to evidence-based treatment of PNES, and most patients who receive the diagnosis do not complete any psychotherapy intervention (26, 27). The obstacles to treatment may be roughly divided into systemic obstacles, clinician-based obstacles, and patient-based obstacles (28). Systemic obstacles to treatment include a shortage of psychotherapists (29), driving restrictions (30), and poor insurance coverage of psychotherapy. Clinician-based obstacles include stigma, a general lack of knowledge about PNES and other FNDs (31), poor clinician–patient communication, and poor communication between the neurologists who diagnose PNES and the psychotherapists who provide treatment (32). Individual patient-based obstacles to treatment include a high prevalence of psychiatric comorbidities, such as PTSD, depression, anxiety, and personality disorders (27); alexithymia (an inability to consciously recognize and verbally describe one's emotions) (33); poor social supports; and ambivalence about the diagnosis or psychotherapeutic treatment.

Ambivalence is the common state of experiencing simultaneous conflicting motivations (2)—for example, when we are simultaneously motivated to undertake an important work project yet are also drawn to relax with a procrastinatory activity such as watching TV. Legitimate motivations can pull an individual in two contradictory directions, as when those with PNES wish to treat their PNES so that they can care for their family members and are simultaneously reluctant to engage in psychotherapy that may involve discussing and thinking about traumatic memories and negative emotions. The discomfort of ambivalence can lead one to stop thinking about treatment altogether, perpetuating the status quo (2). Negative interactions with the health care system can also cause and exacerbate ambivalence, as when a clinician treats a patient in a disparaging or distrustful manner, leaving the patient feeling defensive or confused about the cause of the symptoms for which the patient was sincerely seeking help. Unfortunately, such behaviors by clinicians toward patients with PNES are extensively reported by patients and documented in the medical literature (34, 35).

Although we can reduce systemic and clinician-based obstacles to treatment through technological interventions such as teletherapy, training additional psychotherapists, and continuing education to reduce stigma, the individual patient-based obstacles to treatment can still present significant barriers. Even in a resource-rich quaternary care setting, with rapidly available psychotherapy and providers who are knowledgeable about PNES and committed to its

treatment, nonadherence with psychiatric follow-up was shown to reach 76% within 6 months of initiation and 86% within 17 months (26). Moreover, nonadherence with psychotherapy is associated with worse treatment outcomes, including worse PNES frequency, quality of life, and emergency department utilization (27). Therefore, it is essential for neurologists, psychiatrists, and other psychotherapists to utilize effective interventions to address patient ambivalence and improve adherence to psychotherapy.

MI for PNES

MI was developed as a patient-centered counseling style specifically to address the common problem of ambivalence about behavior change (2). MI has been demonstrated to be effective in helping people to change risky substance use behaviors and has also been adapted to promote adherence with numerous medical interventions for medical and psychiatric conditions (36–38). MI is efficacious in improving psychotherapy adherence specifically among patients with PNES and in other populations with high rates of nonadherence, such as adolescents with depression and anxiety (10, 39). Importantly, MI is deployed as an intervention to improve clinician-patient communication, to give patients a greater voice in considering and planning treatment, and ultimately to improve patient engagement and adherence with psychotherapy. MI is not in and of itself a treatment for PNES. Rather, it is a complement to CBT or other forms of psychotherapy and can be integrated within active psychotherapeutic PNES treatments when patients' motivations for such treatments wax and wane.

MI differs from more didactic methods of health education and counseling in that it focuses on eliciting patients' own reasons for changing their behavior, helping patients to explain these reasons in their own words, and transitioning from those reasons to formulating their own plan for change. Although the interviewer has a target behavior in mind, such as adherence with a specific medical intervention or psychotherapy, the process of MI involves a complex interaction between the patient and interviewer in which the interviewer primarily reflects the patient's speech and unspoken but implied ideas, minimizing novel input and questions. Throughout the course of MI, there is an emphasis on the skill of reflective listening, in which the patient's literal statements are repeated by the interviewer ("simple reflection") or in which ideas suggested by the patient are stated explicitly by the interviewer ("complex reflection"). In either case, the goal is to elicit further "change talk" from the patient—i.e., statements that favor change, usually moving steadily in the direction of making concrete plans. Simultaneously, there is an effort to acknowledge but gradually deemphasize and resolve the patient's statements opposing change ("sustain talk"). MI research has demonstrated that the resolution of the patient's ambivalence, as manifested by an increased ratio of change talk to sustain talk, is correlated with the likelihood of subsequent behavior change (40). Another mechanism by

which MI may improve engagement and adherence with psychotherapy among patients with PNES, is by promoting a more reflective and patient-centered communication style for clinician-patient interactions. This may result in patients feeling more heard, understood, and respected, thereby reducing ambivalence about the diagnosis and treatment of PNES.

The application of the methods of MI are applied across four sequential but overlapping processes: engaging, focusing, evoking, and planning (Table 1). A critical component of MI, which underlies all four of the overlapping processes, is the attitude or "spirit" of MI, which entails the interviewer's commitment to collaborating with the patient, engaging and working with the patient as he or she is, and the interviewer's belief that all persons have the capacity to change their behavior, no matter how ambivalent or opposed to change they may present initially (2). This stance supports curiosity about a patient's perspective and the use of reflective listening to convey empathy and discover the patient's motivations for change. Importantly, the interviewer's willingness to meet and collaborate with the patient, regardless of his or her current beliefs and motivations, does not imply that MI is an undirected counseling style. MI is necessarily directed toward a specific behavior change, such as cessation of risky substance use or psychotherapy adherence. The interviewer utilizes all elements of MI (reflective listening, processes, and spirit) to more effectively enhance the patient's movement toward behavior change.

The clinical vignette presented above highlights several obstacles that frequently arise during MI and strategies that can be used to overcome these obstacles (Table 2). Julia's response to conventional didactic psychoeducation, when her neurologist, neuropsychiatrist, and social work therapist attempted to summarize PNES and recommend a treatment plan, demonstrates how somatic symptoms (in her case tinnitus and headache) can challenge the psychotherapeutic process. As illustrated in the vignette, one strategy for resolving such disruptions is using a more open and inclusive communication style, such as reflective listening, to increase patient control of and engagement in the communication.

The recurrence of Julia's somatic symptoms during the transition from the evoking to the planning phases of MI illustrates the intense ambivalence that patients with PNES may have about making concrete plans for psychotherapeutic treatment. The reasons for this ambivalence may include discomfort with traumatic memories and negative emotions discussed during psychotherapy, negative prior experiences with the health care system, and other factors. Strategies for addressing this ambivalence illustrated in the clinical vignette include double-sided reflections, in which the patient's reasons for avoiding behavior change are briefly noted before the patient's self-stated reasons for behavior change are summarized and emphasized. The interviewer makes the patient's ambivalence explicit while encouraging the patient to talk about the reasons for treating the seizures

TABLE 1. Processes of motivational interviewing^a

Process	Description	Clinical examples
Engaging	Establishing an open, empathic, patient-centered relationship	Patient: "I'm willing to talk, but I really think the doctors here are making a mistake about these 'psychogenic seizures.'" Interviewer: "You have some serious doubts about the diagnosis you've been given, and you're here to learn more about it."
Focusing	Helping the patient identify a specific target for behavior change	Interviewer: "Tell me about how having these seizures affect your life."
Evoking	Drawing out the patient's own motivations supporting the target behavior change	Patient: "The seizures prevent me from doing anything! I can't work, I can't drive, I can't even watch after my kids!" Interviewer: "The seizures prevent you from fulfilling your responsibilities. They've stripped you of your independence."
Planning	Eliciting the patient's specific plans for behavior change and for overcoming obstacles to those plans	Interviewer: "Given what you've said about how the seizures undermine your independence, what steps might you take to gain more control over the seizures?"

^a Motivational interviewing comprises four overlapping processes. Clinical examples include brief interactions that might take place during each process between a patient and a motivational interviewer, rather than the entirety of the process. Adapted from Tolchin et al. (10).

(change talk) rather than the reasons for avoiding treatment (sustain talk). Another strategy for managing heightened ambivalence around treatment planning is spending increased time evoking change talk prior to initiating the planning process. This allows the patient more opportunity to contemplate and state his or her reasons for engaging in psychotherapy and gives the patient greater control over what can be a particularly momentous and frightening decision to start psychotherapy. Using an ask-tell-ask framework to introduce SMART goals can be a respectful and nonthreatening way to introduce suggestions, such as the time-limited trial of psychotherapy suggested in the clinical vignette. This guiding strategy is often helpful for patients with PNES because they frequently assume that the only possible treatments are medications or surgeries. This strategy introduces the idea of trying psychotherapy, the recommended treatment for PNES, in a collaborative and nonthreatening manner that also respects the limited time available in typical clinical encounters.

Another commonly encountered obstacle among patients with PNES is a specific preference for neurological or medical interventions over psychotherapeutic interventions. Strategies for addressing this obstacle illustrated in the clinical vignette include close collaboration between the diagnosing neurological team and the treating psychotherapeutic team and the initiation of MI by the neurological team. Whether or not interdisciplinary clinics of the sort utilized in the vignette are available, close interdisciplinary communication (including direct verbal communication) and care coordination are essential for effective treatment of PNES. Finally, psychiatric comorbidities, including depression, anxiety, PTSD, and personality disorders, complicate treatment for the majority of patients with PNES (27). Close collaboration between the neurological, psychiatric, and psychotherapeutic team is again critical for addressing this challenge and can be enhanced through the use of a multidisciplinary MI study group to review and discuss cases. The vignette illustrates the benefit, when possible, of

TABLE 2. Obstacles and strategies in motivational interviewing (MI) for patients with psychogenic nonepileptic seizures^a

Obstacle	Strategy
Somatic symptoms pose a distraction to counseling	Reflective listening to enhance patient's engagement with counseling
Strong ambivalence makes the transition from evoking to planning difficult	1) Double-sided reflections to acknowledge sustain talk while emphasizing and promoting change talk; 2) spend additional time evoking change talk; 3) use ask-tell-ask to suggest small concrete steps (SMART goals) that the patient can take, if he or she is still having difficulty starting the planning process
Patient preference for "medical" rather than psychotherapeutic interventions	1) Close cooperation between diagnosing neurology team and treating psychiatric and psychotherapy teams; 2) initiation of MI by neurology team if possible
Frequent psychiatric comorbidities, including anxiety, depression, posttraumatic stress disorder, and personality disorders	1) Close collaboration between diagnosing neurology team and treating psychiatric and psychotherapy teams; 2) participation of motivational interviewers in an in-person or online peer-review MI learning group to share strategies, recommendations, and feedback

^a Commonly encountered obstacles to MI among patients with psychogenic nonepileptic seizures and effective strategies in managing these obstacles are presented. SMART=specific, measurable, achievable, relevant, time-limited.

involving the diagnosing neurological team in supporting patient engagement and adherence with psychotherapy, directly through MI and indirectly through close verbal communication and collaboration with psychotherapists.

CONCLUSIONS

Patients with PNES are frequently deeply ambivalent about their psychogenic seizures and obtaining treatment. They may simultaneously hate their attacks and yet recoil from psychotherapy, which often involves discussion of traumatic memories and negative emotions and which is commonly stigmatized. Reasons for pursuing treatment, often cited in patients' change talk, include the loss of independence and self-respect; their inability to drive, work, or care for their families; and the frightening nature of the episodes. Reasons for avoiding psychotherapy include patients' reluctance to acknowledge that the seizures are stress related; prior negative experiences with the health care system; and the care and attention they may receive from family members, friends, and health care providers as a result of attacks.

MI provides a method for helping patients to resolve this ambivalence, acknowledging sustain talk while emphasizing and promoting change talk. Patients with PNES present special obstacles to MI, illustrated in the vignette and summarized in Table 2, but these obstacles can be overcome by specific MI techniques. Such techniques include reflective listening, double-sided reflections, additional time and attention devoted to the evoking process, the use of ask-tell-ask to initiate the planning process, initiation of MI by the neurology team, close collaboration between neurologists and psychotherapists, and use of peer-review MI learning groups. All these strategies were utilized in our randomized trial of MI for PNES (10). On the basis of prior MI research and on the results of our randomized trial, this process is effective in improving psychotherapy adherence and outcomes among patients with PNES.

Of note, PNES are only one common form of FNDs. FNDs appear to be a spectrum rather than truly discrete disorders, and multiple FNDs (for example, PNES and psychogenic movement disorders) commonly manifest simultaneously within individual patients. Therefore, it seems likely that MI, using the techniques described above, may be similarly effective in improving psychotherapy adherence and outcomes among patients with other FNDs. This hypothesis will be an important area for future research.

Finally, we must acknowledge the current lack of availability of psychotherapy for PNES and other FNDs. Patients' ambivalence is only one obstacle to providing effective evidence-based psychotherapy to those with PNES and other FNDs. For most patients with FNDs, especially in rural areas, there simply is no psychotherapy available regardless of their level of commitment or ambivalence. Increasing the number of psychotherapists and especially the number of psychotherapists with training and experience with FND is critical to providing adequate treatment for FNDs. To

achieve this, it will be necessary to increase training related to FNDs among psychiatrists and psychotherapists, as well as to increase the availability of teletherapy and computer-assisted MI and psychotherapy for rural patients with FNDs. These interventions can and should be pursued in parallel to interventions to improve psychotherapy adherence, such as MI. In conclusion, neurologists, psychiatrists, and psychotherapists must work collaboratively to improve both the supply and delivery of evidence-based psychotherapy for PNES and other FNDs.

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