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Effectiveness of hypnotherapy in the treatment of bruxism: A systematic review of case reports

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REVIEW

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ABSTRACT

Since the time of birth until adulthood, the mouth has been known to be a natural site to release stress. The expression of this stress varies as the human grows. New-born cries when stressed to attract the attention of parents. A child might spit and bite to release stress and anger. An adult might use abusive language, smokes, and uses drugs (all orally) to release stress. Bruxism, clenching or grinding of the teeth, is also a form of stress release through the oral route. It is a harmful behavior or a risk factor for developing negative oral health outcomes rather than a disorder. A psychological element is commonly associated with it. Multiple treatments can be used to treat bruxism, one of which is hypnotherapy. Although many case reports have discussed the role of hypnotherapy in treating bruxism, there is no comprehensive review of them. In this study, we review all published cases in which hypnotherapy was involved in treating bruxism. Our results encompass ten cases which conclude that hypnotherapy is effective in the treatment of bruxism.

Key Words

Bruxism, Nocturnal bruxism, Hypnotherapy, Hypnosis, Maxillofacial pain.

Introduction and Background

Bruxism is defined as the repetitive masticatory muscle activity characterized by clenching or grinding of the teeth. It occurs during sleep (sleep bruxism) or wakefulness (awake bruxism)[1]. According to the international consensus on the assessment of bruxism, bruxism is a harmful behavior or a risk factor that increases the probability of developing a disorder rather than being a disorder itself. However, the cut-off point for which teeth grinding is considered harmful is unclear and mainly dependent on the negative oral health symptoms it produces. The most common symptoms are severe masticatory muscle or temporomandibular joint pain and mechanical tooth wear[2].

Bruxism is usually detected by history taking and physical examination. The approach for assessing awake bruxism starts by confirming that the patient is well-informed regarding what is meant by grinding and clenching the teeth. The patient is then asked to monitor and report their bruxing behavior over a period of one to two weeks. Self-reported bruxism must be evaluated for the presence of psychological conditions, as it has been significantly associated with stress and anxiety. In the case of sleep bruxism, assessment is more complicated. Since it is usually first noticed by bed partners or others, details from those who have witnessed the grinding should be taken.

Self-reported assessments of sleep or awake bruxism help indicate the possibility of bruxism activity and the frequency of it. However, they do not provide accurate information on the intensity and duration of masticatory muscle activity. Therefore, the use of Electromyographic (EMG) recordings during wakefulness is essential to establish evidence of bruxism.

No therapy to date has been shown to cure bruxism. Current treatment focuses on symptom management and prevention of complications. The most widely accepted management approaches are intraoral appliances, pharmacotherapy (for sleep bruxism), and behavioural strategies. Behavioural approaches that have been attempted include patient education, sleep hygiene, habit retraining, relaxation techniques, meditation, psychotherapy, and biofeedback training[3].

Although these treatment approaches have been shown to alleviate or eliminate bruxism for a period of time, none of them have demonstrated long-term effectiveness. However, one pilot study in 1991 aimed to assess the effectiveness of hypnotherapy for bruxism for both immediate and long-term results. It considered bruxism as a habitual response to psychological stress, and the treatment was described as a method to alter this response. The study included eight patients and used EMG evaluations as measurements for bruxism before and after hypnotherapy. A significant decrease in EMG activity was noticed in all patients. In addition, they experienced less facial pain immediately after treatment and 4 to 36 months later. The study discussed that the results indicate a positive response to treatment in both short-term and long-term. Moreover, hypnotherapy has been shown to be effective in achieving a complete resolution of symptoms for long term in multiple case reports [4]. To our knowledge, these case reports have never been combined in one review. Therefore, it is our aim to comprehensively review all case reports discussing the effectiveness of hypnotherapy in the treatment of bruxism.

Methods

Literature search

This review was performed by systematically searching the major scholarly databases PubMed/Medline, Google Scholar, and PsycInfo for any case reports discussing the topic of hypnotherapy use in the treatment of bruxism. A search strategy combining terms for bruxism and hypnotherapy was developed and used. Moreover, no time period was specified.

Eligibility criteria

We included studies that met the following eligibility criteria: 1) patients with a history of bruxism 2) patients who have undergone hypnotherapy sessions 3) articles identified as case series or case reports 4) articles written in English or any language with an English abstract to consider suitability for inclusion. We excluded cases of 1) reports where there was no clear history of bruxism or use of hypnotherapy 2) reports with no case description 3) reports that were not available as full text. We also excluded cases that used different types of psychotherapy in conjunction with hypnotherapy.

Study selection

Two reviewers separately performed the study selection after removing duplicates. Reviewers initially reviewed titles and abstracts, and then they evaluated full text articles. Any discrepancy was resolved through a discussion, and any study that did not meet the inclusion criteria was excluded.

Quality of studies

Even though case reports are inherently biased, standardized tools have been developed to assess their methodological quality in systematic reviews[5,6]. Study quality was independently assessed by two authors using a standardized tool adapted from Moola et al. (Study 5) If a case report satisfied 5 appraisal items out of 8, the case report was regarded to have an acceptable quality and thus, included in this systematic review.

Data extraction

Authors separately extracted data from the selected case reports using a standardized template. Authors extracted 1) patient demographics (i.e., patient age and sex) 2) number of sessions 3) follow-up period and 4) treatment outcome (i.e., resolution of symptoms, major control of symptoms, moderate control of symptoms, and no improvement or relapse).

Data analysis

Given the descriptive nature of the review and the heterogeneity in the study designs, oral health conditions of the participants, specific conduction of hypnotherapy sessions, and outcome variables, a meta-analysis was not possible. Therefore, a descriptive analysis was performed.

Ethical statement

This study was carried out in strict accordance with the recommendations in the CARE and PRISMA guidelines. Institutional review board permission is not required for conducting systematic review and meta-analysis.

Results

Literature search

From the database search, a total of 1104 articles was identified. 23 duplicates were removed, and 1057 articles were excluded based on title and abstract review. The remaining 24 articles were reviewed in full and 15 were excluded. Of excluded articles, 8 were not case reports, 4 used types of therapy other than hypnotherapy, and 3 did not describe a clear history of bruxism. A total of 9 articles met inclusion criteria, comprising 10 individual patients. A PRISMA flow diagram of selected studies is presented in Figure 1.

Quality of studies

All case reports were found acceptable quality and thus, they were included in this systematic review. They all clearly described patients' demographics, past medical history, clinical condition upon presentation, and the procedure of conducting hypnosis. However, all cases did not identify nor clearly describe any adverse events related to hypnotherapy. Additionally, a total of four cases did not adequately describe the post-intervention clinical

condition, and one case did not clearly describe any diagnostic tests or assessment methods. The results are summarized in Table 1.

Review of case presentations

Case 1

In this study, Dr. Lacrosse presents a case of a 63-year-old woman with chronic nocturnal bruxism who was treated with hypnotherapy. She has experienced symptoms of grinding on her teeth nightly during sleep since the age of three. When asked about the frequency of this symptom, she reported that it often awakened her from sleep three to six times per night. Prior to seeking psychological treatment, she had undergone multiple dental treatments, including acrylic overlay splints, which were unsuccessful. Her initial assessment did not reveal any mood disorders. However, she did reveal a history of excessive worrying and social anxiety. Her medical history was unremarkable except for eczema, which was well controlled by topical medications. By the end of the assessment, a diagnosis of Psychological Factors Affecting Physical Condition (Bruxism) and Social Phobia was made according to DSM-III-R. The treatment goals were: (1) elimination of nocturnal bruxism and (2) learning to worry constructively. The patient was highly motivated and optimistic about initiating therapy.

The second goal of treatment will not be mentioned in this paper as it is beyond the scope of its objectives. Regarding the first goal of treatment, the patient was prepared for her first session. Several hypnotic induction methods were utilized. Though it was difficult to induce hypnotic phenomena, the patient was finally hypnotized, and the session was completed. The patient reported feeling “really good” after the session. She agreed to a telephone assessment in three days. After three days had passed, the patient was contacted via the phone, and she reported that she has not ground her teeth at all. She also quit using the splint and reported good-quality sleep and much less maxillofacial pain. The patient showed up for her second hypnotherapy session, and it was conducted in the same way as the first session. Three days later, the patient said, “Doctor, I know I’m cured. I haven’t clenched or ground my teeth since we started.” Thus, she cancelled the scheduled third session. The doctor asked her to call in 30 days to report her progress, and she did call after 34 days and said that she was “still cured.” Subsequent follow-up assessments at two, three, and five years revealed that the patient was still symptom-free. Contact with her dentist confirmed her progress, as he mentioned that she has not required any dental therapy for bruxism and that the damage to her teeth and the facial pain has stopped. Dr. LaCrosse discussed that the success of her psychological treatment might be attributed to her strong belief in the “power of hypnosis,” which may be considered a placebo effect. He also mentioned that the success of the treatment could be attributed to the control of her anxiety.

Case 2

This study highlights a case of a 55-year-old man suffering from treatment-dependent chronic nocturnal and diurnal bruxism. His diagnosis was made shortly after his wife suffered a hemiplegic stroke. He complained of severe mandibular hypo mobility with muscle splinting and chronic masseter and temporalis pain. The pain peaks twice daily: upon waking up and around midday. An anatomical cause for his condition could not be identified. His previous treatment attempt includes a dental splint for nocturnal use, which his dentist prescribed. It also includes instructions to routinely place his tongue between his posterior teeth and use self-talk reminders to keep his teeth apart. The treatment showed significant improvement regarding his mandibular hypomobility and daytime bruxing. However, he still complained of maxillofacial pain, inability to sleep without the splint, and morning headaches. Further inquiry revealed that all these symptoms could only be alleviated by taking a midday nap with the splint in place.

Ten years post these unsuccessful interventions; the patient was referred to a clinical psychologist for assessment and treatment, if possible. He underwent a total of 12 hypnotic sessions. In the sixth session, he expressed that he is experiencing a significant decrease in his daytime bruxing. However, he was still afraid of sleeping without the splint since any attempt to do so resulted in severe sleep disturbances and morning headaches. The seventh session was tape-recorded, and the patient was instructed to play the audiotaped hypnosis before bedtime. After a consultation with his dentist, he was also encouraged to avoid using the splint as much as he could. In the following session, the patient reported mood improvement and sleeping without the splint for five out of the last seven nights. He still had interrupted sleep and felt fatigued throughout the day. The patient’s progress was reinforced, and his findings were interpreted as signs of recovery. By the end of the session, he was advised to continue listening to the hypnotic audiotape before going to sleep. The subsequent sessions were constructed to help the patient to identify tension build-up in the masseter muscle and to counteract it with an open-eyed relaxation technique.

In the final session, the patient reported having good uninterrupted sleep, no need for the splint, much less pain, and no need for the daily midday naps. A follow-up assessment one month later indicated that he maintained his progress. Other telephone follow-ups at three, six, and twelve months were done. The patient confirmed good quality sleep without the splint and significant improvement in mandibular mobility. Some bilateral masseter pain was still present, but only upon palpation.

This case is another proof that hypnotherapy can be of immense value in treating bruxism. The author believes that lessening the underlying emotional distress of the patient was of great help in the treatment. Another thing that the author believes contributed to the speed of recovery is the temporal proximity of the hypnosis procedure to the onset of sleep.

Case 3

Here we present a case of a 33-year-old woman suffering from nocturnal bruxism for more than 20 years. Her symptoms include consistent sleep disturbances, headaches, and jaw pain in most mornings. The jaw pain was worse while chewing. Thus, she stopped eating meat. She wears a splint to prevent tooth damage. She also had oral surgery on one jaw around one year ago, which was slightly helpful because it allowed her to open her mouth wider. However, it had only a temporary good effect on her condition. She was prescribed clonazepam and diazepam. Diazepam was not helpful, but clonazepam did relieve her jaw pain. Her dentist concluded that there were no medical or dental reasons for her bruxism, which is why she sought psychological help.

Initial psychological assessment was not suggestive of any signs of disabling depression or anxiety. However, she reported feeling anxious about keeping everything in her life in order. She expressed that she can manage her stress. When asked about her family and social life, she said she has a good relationship with her husband, parents, and brother. However, she stated that her parents had a volatile relationship that scared her. She described herself as the “pacemaker” of the family. She said that there are other “clenchers and grinders” in her family, which caused her to think there might be a genetic component to her condition. There were hints about excessive alcohol consumption and substance abuse earlier in her life, but she denied any current use of both. When asked about the possible cause of her bruxism, she did show insight that it could be related to stress, but she could not identify any specific trigger.

The patient has had seven sessions. After a week of her first hypnotic experience, the patient reported with excitement that hypnotherapy worked for her as she slept better during the last seven days and did not experience jaw pain upon waking up. The patient continued to report much less pain and remarkable progress in her subsequent sessions. A great indicator of that was her ability to eat nuts, which she couldn’t do before. She did mention, however, that the pain worsens when she is stressed or irritated.

The author contacted the patient around a year later for a follow-up about her treatment. She reported that she’s finally free of the jaw pain. In addition, she noted that she is having a better relationship with her husband and parents. She also mentioned that she’s applying for an advanced degree, which she didn’t think she could do before hypnotherapy.

Case 4

In this report, Dr. Johar presents a case of a 26-year-old housewife complaining of severe pain in all her teeth, disturbed sleep, and tightness in the temporomandibular joint for a few months. The pain peaks in the morning and decreases towards the evening. Her X-ray showed generalized thickening of the periodontal ligament space. Her family history revealed that both her parents died of cancer recently. Physical examination was unremarkable except for tenderness in the region of her masseter muscle. The differential of traumatic occlusion due to premature contacts was considered, but the diagnosis of bruxism was made. Her treatment history involved a correction of occlusal prematurity, using anti-inflammatory drugs, Valium, and a splint at night. All these treatment options failed, and the patient reported that her pain and other symptoms persisted. It was concluded that a psychological problem might cause her condition, and thus, hypnotherapy was suggested.

Under hypnosis, the patient described a dream in which she was frightened by an old lady with flowing white hair. She could not identify who she was or why she was afraid of her. The patient started shivering, grinding her teeth, and sweating as she related her dream. Her pulse became rapid, and her skin was cold. In the following sessions, the patient followed the post-hypnotic suggestion given to her the last time, and she was no longer frightened of the old lady. She reported that she started to get good-quality sleep. In addition, she stopped grinding her teeth, and her pain disappeared, too.

On further inquiry, the patient revealed a history of dispute between her husband and mother, which resulted in her being forced out of the house by her husband along with her two children. Her mother also refused to help or shelter her, which created a sense of insecurity in her

subconscious mind, according to the author of the case report. It was suggested that the frightening old lady in her dream was her mother, who also had long, white hair. A five-year follow-up revealed that the patient was still symptom-free.

Case 5

This case concerns a 17-year-old girl with temporomandibular joint disease concurrent with bruxism. She complained of severe facial pain radiating from her temporomandibular joints. The pain occurs at least twice daily, and she reported that certain moods could exacerbate it. The pain was caused by unconscious grinding of her teeth at night and gritting them during the day. Her medical and family history was unremarkable. She had many friends and participated in football. Her previous treatment attempts included a mouthpiece, acetaminophen, codeine, biofeedback, removal of eight teeth, and a mouth guard, all of which failed to control her pain and other symptoms effectively. Her condition interfered significantly with her daily activities and eating habits. She had missed a lot of classes in primary school, and grade six was completed with the help of a home tutor.

A brief explanation of hypnotherapy was provided, and then the first session was conducted. After the session was completed, the patient was smiling. Her mom mentioned that this was the first time she left a doctor's office with a smile. A week later, the patient reported having less pain and a better mood. A second session was carried out using the same techniques and suggestions as the first one. A telephone follow-up revealed that the patient had been able to graduate high school and stop grinding her teeth at that time. She was attending a residential college, in which she performed very well and did not miss any classes. However, she was then transferred to another college, in which she presumably could not handle the pressure, and her symptoms started to reappear. She was persuaded by the author of the case report to have another appointment with him. She showed up but refused to continue treatment with hypnosis. In conclusion, hypnotherapy appears to have been a useful treatment option in this case. The reason for the patient's relapse after her transfer to another college and her refusal to continue treatment remains unclear.

Case 6

This is a case of a 40-year-old woman who was experiencing jaw and facial pain and interrupted sleep as a result of nocturnal bruxism. Her pain decreases as the day progresses. She proposed that her symptoms may be triggered by work stressors as she had been threatened with retrenchment and an increased workload. She has been attending dental care for nine years, during which she had extensive restorative and endodontic treatment and periodontal maintenance. Furthermore, her dentist noticed that over the years, she showed signs of occlusal wear on her posterior teeth, which may have been an indication of bruxing. She has a history of epilepsy, which is well-controlled by Primidone. She also had a history of depression two years ago, for which she took Prothiaden for a year. Her initial psychological assessment shows that she is currently free of her previous depressive symptoms. However, she does suffer from moderate anxiety regarding her work. Accordingly, we can infer that both psychological stressors and occlusal interferences trigger her bruxing. Therefore, her treatment aimed to use a combination approach that addresses both psychological and occlusal trigger factors.

Mersyndol, a muscle relaxant, was prescribed to help with any muscle pain at night. An occlusal splint was also made to be used at night. In addition, a local adjustment of occlusal interferences was made. Six hypnosis sessions were conducted to access the patient's unconscious mind to aid with anxiety and relax the jaw muscles. In the fifth session, the patient reported that she had not been wearing the splint every night, but when she wore it, she felt comfortable enough to sleep through the night. When she did not, she had morning jaw pain and awakened; being aware that she was grinding her teeth during the night. In addition, the fifth session was audiotaped for the patient's home use. She was instructed to listen to the audiotape every night for a week and then every other night until she felt that she did not need it. Moreover, a follow-up appointment in a month was scheduled. The patient cancelled the scheduled appointment but attended the rescheduled one a few weeks later. She revealed she was not compliant with listening to the tape as instructed because she did not have enough time to listen to it. On the other hand, she reported wearing the splint much more easily and sleeping through the night. Her jaw was tender on very few occasions. She was assessed for any further occlusal interference, but nothing of significance was noted. The patient was scheduled for a follow-up in six months. However, the follow-up details were not discussed. We can conclude that the combination of hypnotherapy and occlusal/dental care can reduce the symptoms of bruxism to a manageable level and prevent any further damage to the teeth.

Case 7

This is a case of a 15-year-old girl who has been complaining of right temporomandibular joint pain for five months. Her pain is precipitated by nocturnal bruxism and saxophone playing. The pain increases in the morning and gets worse after chewing gum. Her medical and psychiatric history was negative. Her physical examination was unremarkable except for tenderness around the masseter muscle upon palpation. Her temporomandibular joint radiographs were completely normal. Her previous conservative therapy consisted of flurazepam at night, diazepam, a mouth guard, occlusal equilibration, and a soft diet. All these methods failed to relieve her symptoms. Therefore, she was referred to the Neuropsychiatric Department to be evaluated for hypnotherapy.

The patient's mental status examination was normal. On further probing, she revealed that she had the facial pain intermittently for approximately a year. Her academic, family, and social history were surveyed and were thought to be non-contributory to her pain. The only possible trigger was the suicide of a male friend by asphyxiation in his car around one year ago. The patient had a total of three weekly hypnosis sessions in which she was able to transfer induced numbness in her hand to her jaw. A follow-up six months later revealed that the patient's pain had disappeared. The author of this paper discussed that the patient was dealing with some unconsciously repressed material that she did not want to confront.

Case 8

This case discusses a 34-year-old housewife who has been suffering from temporomandibular joint pain and temporal headache for five years. The pain becomes worse upon chewing and opening her mouth wide. She reported that the pain diminishes when she does not talk or eat. The onset of her jaw pain occurred immediately after her husband slapped her on her face during one of their arguments. She had the pain for six months after the incident, and then the pain disappeared. Around one and a half years later, the pain reappeared. In addition to the jaw pain, she gradually started to have headaches over the left temporal area. She was also found to be grinding her teeth approximately one and a half years before her current presentation, and she was prescribed chlorzoxazone and muscle exercises. Her symptoms were not relieved, and she discontinued treatment roughly eight months before her current consultation. Physical examination was unremarkable except for palpatory pain over the temporalis and left masseter muscles. Her radiographs were completely negative. At first, her treatment plan was conservative, and she was prescribed diazepam 5 mg. four times a day. Her symptoms were initially relieved, but then she complained that diazepam was not helping anymore. Since conservative treatment was not helpful and no abnormalities were detected in her investigations, a psychological element in her pain was suspected, and hypnotherapy was considered.

Her initial psychiatric evaluation revealed that the patient appears to have a labile mood with appropriate affect. She also exhibited mood swings that go from depression to elation. There were no signs suggestive of psychosis. Her social history revealed an unstable relationship with her husband of 15 years. Moreover, she admitted that her sex life was unsatisfactory. She gave birth to her third child while she and her husband were separated, and she had severe postpartum depression for six months. She also expressed that this child represented an attempt to save her marriage.

The patient has undergone a total of four sessions, three of which hypnosis was included. During her sessions, anaesthetic numbness was induced in her left fingertips and then transferred to her left jaw. She could stop the pain immediately and experienced less pain between hypnotic sessions. In the last visit, the therapist interpreted the patient's pain as a reflection of her unresolved anger toward her husband. She broke down and cried, and she admitted that she was frustrated and didn't want to be married. However, she did not want to discuss her issues with her husband and cancelled her upcoming appointments.

Case 9

This is a 46-year-old married female who presented with pain in the area around her left ear. She has had medical and dental attention for several years, but her symptoms were never fully relieved. Her dentist inserted a mandibular removable lingual bar with occlusal coverage as a mechanical therapy to relieve her left ear pain. However, after a short time, the patient re-experienced the same pain. She was then referred to an orthodontist. A clinical examination revealed an underdeveloped and recessed mandible and an overbite of the anterior maxillary teeth. The patient underwent orthodontic treatment according to her examination. The patient complained of the same symptoms after three months of satisfactory progress. Finally, the patient was treated palliatively with warm applications to the affected area and mild sedation. Three weeks have passed with no improvement. Additionally, she mentioned that her husband heard considerable noise while she was asleep at night, which was because she ground her teeth. Therefore, an investigation of a psychological trigger was issued. After explaining to the patient that bruxism could be explained

as an expression of suppressed aggression, fear, or frustration, the patient felt comfortable relating a domestic problem that had been disturbing her for some time.

The patient was hypnotized and given post-hypnotic suggestions that she would no longer grind her teeth. The patient's bruxism completely stopped, and she no longer experienced her previous symptoms. A three-year follow-up revealed that she was happy, content, and symptom-free.

Case 10

This patient is a 23-year-old pregnant female whose husband reported that she awakened him at night with her loud teeth grinding during the last few weeks. He noticed that she looked agitated and moved a lot during the grinding periods. He had to awaken her multiple times, and she reported feeling the baby kicking during these times. After four weeks of experiencing this nocturnal bruxism, they decided to visit a dentist. Her dental examination showed that everything was within normal limits except for two occlusal interferences, which were then reduced.

The patient was hypnotized and taught self-hypnosis. A post-hypnotic suggestion was given in which she was told that whenever her teeth come together firmly at non-eating times, her lower jaw would relax completely. A follow-up with her husband revealed that her bruxism stopped and never returned. However, the period was not specified. Moreover, it is unclear whether her symptoms were relieved by the dental treatment of her occlusal interference or hypnotherapy. The author hypothesized that the foetus kicking acted as a physical stressor and that the occlusal interferences reinforced the grinding. Regardless, the treatment was effective.

Discussion

As shown In Table 2, excellent treatment results have been shown in almost all cases. The outcome of treatment was divided into five categories: resolution of symptoms, major control of symptoms, moderate control of symptoms, and no improvement or relapse. Out of the ten cases discussed in this review, seven patients experienced a complete resolution of symptoms and maintained their recovery. Furthermore, two patients experienced a major control of their symptoms but still had some pain. However, one patient relapsed and discontinued treatment after some improvement; the exact reason for that was unclear.

A recurring theme throughout the cases is the role of stress and other psychological triggers in the psychopathology of bruxism. For instance, in case 2, the patient's problem could be traced to an earlier conflict with his father, which was uncovered during one of the hypnotic sessions. Once the patient confronted the problem, his symptoms were relieved[7]. Similarly, marital conflicts and domestic abuse have also been shown to be related to the onset of bruxism in cases 4, 8, and 9 [8-12]. Another example of psychological stressors is the suicide of a friend, as discussed in case 7[13].

Limitations although the outcome in most cases proves that hypnotherapy is effective, the relief of symptoms cannot be attributed to hypnotherapy alone. The reason for that is the inclusion of other therapeutic methods in some cases. Dental treatment for occlusal interferences, for example, has been involved in cases 6 and case 10, which might have been helpful to the treatment outcome [14]. The nocturnal use of a splint and the prescription of pain relievers or muscle relaxants during the treatment course is another confounder.

Therefore, randomized control trials and comparative studies are needed to prove further the validity and effectiveness of hypnotherapy in treating bruxism.

Conclusion

This review has demonstrated that hypnotherapy is a valuable treatment approach for bruxism. It offers a more rapid and cost-effective form of treatment compared to non-hypnotic treatments. Moreover, our review highlights the importance of investigating the emotional background of patients suffering from bruxism, as it is usually related to underlying psychological stressors. Although many case reports discussed the effectiveness of hypnotherapy in managing bruxism, randomized controlled trials and comparative studies are needed.

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Disclosures

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Tables and Figures

Table 1: **Systematic review related to hypnotherapy.**

Study ID	Were Patient's demographic characteristics clearly described?	Was the patient's history clearly described and presented as a timeline?	Was the current clinical condition of the patient on presentation clearly described?	Were diagnostic tests or assessment methods and the results clearly described?	Was the intervention(s) or treatment procedures clearly described?	Was the post-intervention clinical condition clearly described?	Were adverse events (harms) or unanticipated events identified and described?
1 [5]	Yes	Yes	Yes	Yes	Yes	Yes	No
2 [6]	Yes	Yes	Yes	Yes	Yes	Yes	No
3 [7]	Yes	Yes	Yes	Yes	Yes	Yes	No
4 [8]	Yes	Yes	Yes	Yes	Yes	Yes	No
5 [9]	Yes	Yes	Yes	Yes	Yes	No	No
6 [10]	Yes	Yes	Yes	Yes	Yes	No	No
7 [11]	Yes	Yes	Yes	No	Yes	Yes	No
8 [11]	Yes	Yes	Yes	Yes	Yes	No	No
9 [12]	Yes	Yes	Yes	Yes	Yes	Yes	No
10 [13]	Yes	Yes	Yes	Yes	Yes	No	No

Table 2: The outcome of treatment was divided into five categories: resolution of symptoms, major control of symptoms, moderate control of symptoms, and no improvement or relapse. When data are missing in the columns specifying the number of sessions and follow up period, the exact reason was provided and described as either not mentioned or unclear.

TABLE 2: Case presentations

	Age, sex	Main complaint(s)	Dental history	Number of hypnotherapy sessions	Follow up period	Treatment outcome
Case 1	63, F	Maxillofacial pain, excessive worrying, sleep disturbances	Use of a dental splint	2	5 years	Resolution of symptoms
Case 2	55, M	Mandibular hypomobility, masseter and temporalis pain, morning headaches, fatigue throughout the day	Use of a dental splint	12	1 year	Major control of symptoms
Case 3	33, F	Jaw pain while chewing, morning headaches, excessive worrying, sleep disturbances	Use of a dental splint, oral surgery on one jaw	7	1 year	Resolution of symptoms
Case 4	26, F	Maxillofacial pain, disturbed sleep, tight temporomandibular joint, generalized sickening of the periodontal ligament space, nightmares	Use of a dental splint, traumatic occlusion due to premature contact, correction of occlusal prematurity	Not mentioned	5 years	Resolution of symptoms
Case 5	17, F	Maxillofacial pain, poor scholastic performance	Use of a dental splint, removal of 8 teeth	2	6 months	Discontinued treatment/relapse
Case 6	40, F	Maxillofacial pain, disturbed sleep, low mood, excessive worrying	Use of a dental splint, extensive restorative and endodontic treatment, periodontal maintenance, occlusal wear on posterior teeth, local adjustment of occlusal interferences	6	6 months	Major control of symptoms
Case 7	15, F	Right temporomandibular joint pain, masseter pain	Use of a dental splint, occlusal equilibration	3	6 months	Resolution of symptoms
Case 8	34, F	Maxillofacial pain, jaw pain while chewing or talking, temporal pain	Unremarkable	4	Not mentioned	Resolution of symptoms

		and headaches				
Case 9	46, F	Left ear pain	Insertion of mandibular removable lingual bar with occlusal coverage, underdeveloped recessed mandible, overbite of the anterior maxillary teeth	Unclear	3 years	Resolution of symptoms
Case 10	23, F	Disturbed sleep	Reduction of occlusal interferences	Unclear	Not mentio ned	Resolution of symptoms

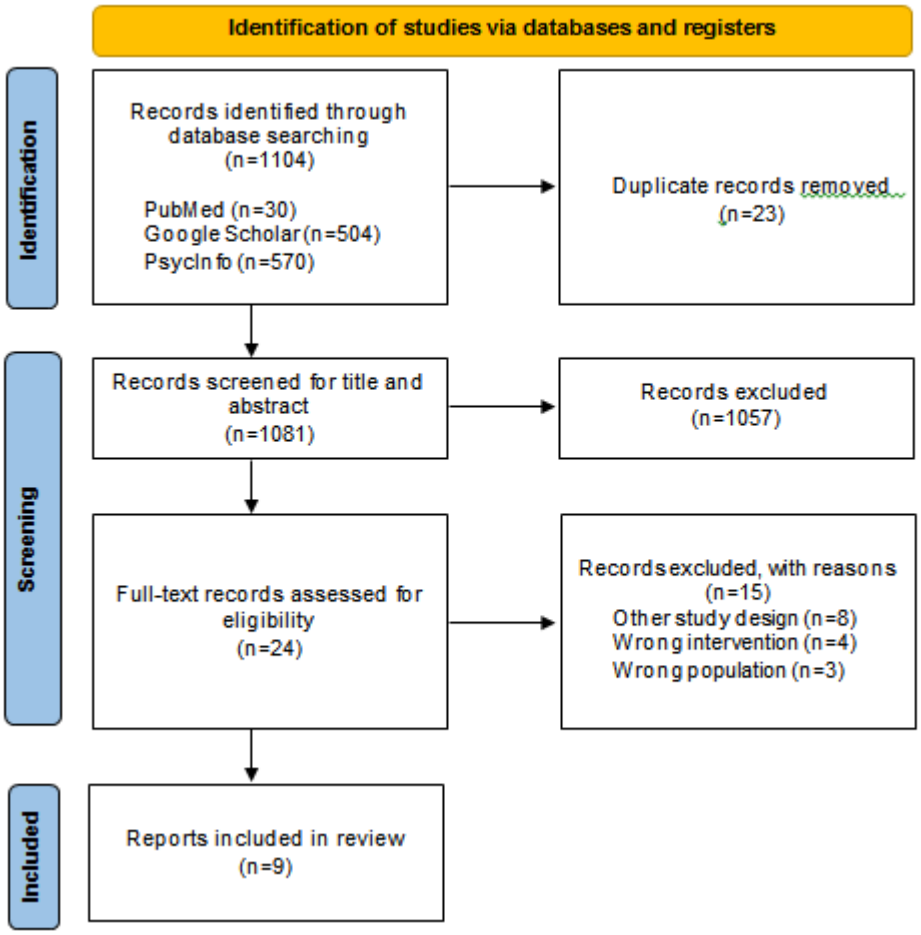

Figure 1: Identification of studies *via* databases and registers

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