

INDIVIDUALIZED MUSIC THERAPY FOR CHRONIC INSOMNIA

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INTRODUCTION

Trouble falling or staying asleep -commonly termed “insomnia”- affects one in three American adults. It’s more common in women than men, worsening with increasing age. Insomnia disturbs a person’s waking hours as well as sleeping hours since most people feel sleepy the next day and have difficulty concentrating on tasks after a bad night’s sleep. Insomnia afflicts people of all ages, most commonly for a night or two, but sometimes for weeks, months or even years.

Persistent stress and troublesome times are some factors that trigger insomnia. The majority of insomniacs use over-the-counter or prescription sleeping pills as a solution (1).

Surveys show that most people sleep less than they would like. The demands of modern society have compelled many to reduce the time for rest and sleep to pursue goal-oriented behavior. For example, students sleep 1.5 hours less per day than students did in 1910 (2). Further, desynchronization of circadian rhythm from jet lag or shift work can severely alter sleep patterns (3), as well as cause alterations in moods and plasma cortisol secretion, and decreased work performance, task execution and general well-being (4). Adults and, above all, elderly persons sleep less efficiently than younger persons: they spend more time in bed but less time asleep. Their sleep becomes more fragmented and disturbed by awakenings as the need for sleep decreases with age. Deep sleep is reduced by 60% and the number of arousals in the night doubles (5).

The variety of non-pharmacological therapies employed to treat insomnia are designated as Cognitive Behavioral Treatments (CBT). Their primary benefits are being completely

risk-free, showing cost-effectiveness and no side effects. The CBT include: behavioral stimulus control, relaxation training, sleep restriction, sleep hygiene education (6, 7, 8). We found four articles regarding the specific use of music dealing with insomnia (9, 10, 11, 12).

We performed a pilot study in 1998, where Music Therapy showed its efficacy when used in conjunction with relaxation and visualization techniques for enhancing and maintaining sleep in insomniacs. The latter are standard techniques with proven efficacy in treating insomnia (1, 7, 10, 11).

We report a study, the objective of which was to determine the effects of listening to selected music paired with an individualized relaxation and visualization technique in treating insomnia, with particular interest in decreasing the sleep onset latency and increasing sleep maintenance.

METHODS

The Subjects (Ss) were all routine referrals from the Sleep Center at University Hospitals Health System in Cleveland, Ohio. Each Ss received a neurological examination that was within normal limits.

The screening was done through initial phone interviews, where the Music Therapist explained the outline and objectives of this study. The Ss were then given the choice whether to participate.

The final study population was comprised of 13 normal, healthy Ss (6 males and 7 females) with six months or greater history of insomnia. Their age ranged from 28 to 68 years. Some of them continued taking their prescription medicine as needed.

To qualitatively and quantitatively measure the possible sleep improvement, extracted relevant questions from the standardized “Sleep Disorders Questionnaire” (SDQ) (13) were answered by the Ss prior to beginning treatment and 8 weeks later, at the end of the active intervention of the Music Therapist. 65 questions were selected, with response choices 1 to 5 (1=never/strongly disagree, 5=always/agree strongly).

A specific “Music Therapy evaluation questionnaire” was constructed by the therapist to evaluate to what extent the Music Therapy techniques and experiences had been helpful for each Ss and in what particular way. (*See appendix.*)

The length of the study was 8 weeks. Each Ss participated in a 50-minute session every other week, with the guidance of the Music Therapist. The sessions were as follows:

Session 1:

Each Ss signed a “Consent form” and filled out the pre-treatment “SDQ”.

The initial sleep interview focused on issues related to the Ss’ musical background and sound and rhythm preferences, as well as preferred leisure activities and pleasant memories.

Each Ss listened to a choice of musical selections on CDs presented by the Music Therapist (Ss made their choices or asked for a particular type of music not offered by the Music Therapist). (*See appendix for detailed list of music selections.*) The Ss were presented with samples of different verbal sleep-induction methods: deep breathing, Progressive Muscle Relaxation, imagery/visualization, and hypnosis, depending on Ss’ choices.

After this first session, the Music Therapist created two 90-minute tapes for each Ss: one tape with music only and the other tape including the Music Therapist's voiced over script (the latter was created using a 4-track recorder). This verbal guide was used as an relaxation induction method and its content reflected some of the preferred leisure activities and pleasant memories of each Ss, helping them getting into a relaxed state of mind and eventually falling asleep (14, 15, 16).

Session 2:

Ss were given their individualized tapes. The Music Therapist strongly encouraged a consistent use at home, before going to sleep or when being unable to fall asleep after waking up during the night.

The Music Therapist played three pre-selected songs on the keyboard to the Ss: "Shepherd Moons", "From Where I Am" and "Watermarks", written by Enya (17). After listening, the Ss were asked to entitle each song and to give a short explanation about the feelings or mental images triggered by the different musical pieces. Ss and Music Therapist completed the session by talking about the importance and usefulness of music and how it affects the human being (18, 19). We taught the Ss how to choose music conducive to sleep. This was accompanied by instructing them to simultaneously reduce body movements and develop deep, slow respiration. The Ss accomplished this in one session.

Session 3:

Each Ss gave verbal and written (filling out of the “Music Therapy evaluation questionnaire”) feedback to the Music Therapist about the tapes. They had the choice of keeping the tapes unchanged or asking for the music or the verbal induction to be changed.

Fried found that “music enhances the process of learning breathing and relaxation skills and affects common behavioral and psycho-physiological variables” (20). Therefore, this session was focused on breathing retraining exercises as part of the relaxation process, matched with the appropriate type of music (12, 13, 21). The Ss were taught how to actively include these techniques into their daily schedule.

Session 4:

Each subject completed the post-treatment “SDQ” and the second “Music Therapy evaluation questionnaire”.

The Music Therapist provided the revised 90-minute tapes to those Ss who had requested them.

A final conversation between each Ss and the therapist offered subjective feedback and insight about the effects of this Music Therapy treatment regarding chronic insomnia.

RESULTS

Of the 13 participating Ss, one male Ss withdrew from the study after session 2, pointing out that he did not believe that Music Therapy would help him sleep better. Some Ss

rescheduled appointments on a regular basis, normally due to family issues or because of “not feeling well that day”; they were usually last-minute cancellations.

In the “Sleep Disorders Questionnaire”, only two questions out of the 65 showed improvement among all the Ss that stayed in the study:

A) “How many hours of sleep do you get at night, not including the time spent awake in bed?”

- 1) <4hrs
- 2) 4-5hrs
- 3) 6hrs
- 4) 7hrs
- 5) >8hrs

B) “How long is your longest wake period at night?”

- 1) <5min
- 2) 6-19min
- 3) 20-59min
- 4) 1-2hrs
- 5) >2hrs.

Sleep improved in eight of the 12 Ss by about one hour. Wakefulness decreased an average half an hour.

The results are reflected in Sleep Improvement Graphs A and B.

Note: Ss 4 had a marked discordance in the response to the two questions; this patient had a Sleep/Wake disorder. Ss 11 was at ceiling on pre and post testing on question B.

Results from the “Music Therapy evaluation questionnaire”:

The Ss reported listening to the two tapes on an average 3-4 times a week at bedtime or when unable to fall back asleep during the night. Four Ss also reported using the tapes to help them relax during the day.

Five Ss commented that their preference was the ‘music-only tape’, five Ss preferred the ‘music and verbal induction tape’, and two had no preference.

Eleven Ss stated that they ‘slept better after listening to the Music Therapy tapes’ and that they ‘would continue to use the Music Therapy tapes to help them fall asleep or get back to sleep during the night’.

One female Ss asked for a third 90-minute tape to have more options when choosing the right music or induction technique for every night.

The most requested types of music were (in order): guided imagery with slow ocean sounds, piano music with waterfalls, guitar music with slow ocean sounds, easy listening pieces, and oriental music for meditation.

DISCUSSION

The use of individualized Music Therapy together with verbalized relaxation and visualization techniques can be an effective treatment for decreasing sleep onset latency and maintaining sleep during the night with chronic insomnia patients.

The questions on the “SDQ” related to common explanations of why a person had trouble falling asleep. Some questions measured the Ss appreciation of their inner state, such as: “At bedtime thoughts race through my mind” or “At bedtime I feel muscular tension”. Others measured external sleep disturbances: “My night sleep is disturbed by light” or “My night sleep is disturbed by noise”. Still others investigated the internal psychological milieu: “I am unhappy about my social life” or “I feel useful and needed”. All of these can be associated with anxiety and insomnia.

Our sample did not reveal any preferred explanation for the Ss’ insomnia. Thus, only questions directly related to the endpoints showed change, namely those questions addressing the hours of sleep and the time awake in bed. This is important for it suggests that the Music Therapy techniques described above can be useful in chronic insomnia associated with a wide variety of stresses.

The success of this treatment primarily depended on the Ss’ expectation level. This had a great influence on the Ss’ motivation and interest in Music Therapy for dealing with chronic insomnia. Not surprisingly, those Ss with a strong believe in the effectiveness of music and relaxation techniques increased their total sleep time and decreased their length of waking periods during the night. These Ss accepted the treatment as a helpful

tool for dealing with their insomnia, relying on its effectiveness, consistently using the Music Therapy tapes and regularly practicing the breathing exercises.

Ss participating in this study represented diverse cultural and socioeconomic backgrounds. It was important to the Music Therapist that the choices of musical selections offered in the first session reflected that diversity. When asked, Ss stated that they had had no problems or concerns when choosing music they liked from what was offered. Ss expressed their confidence in the Music Therapist's professional knowledge and experience of what kind of music would be more helpful in each single case. This confirms the initial idea that the Ss would be more responsive to the music they liked best. Furthermore, being given the opportunity to make music selections under the guidance of the Music Therapist enabled the Ss to begin trusting their own musical taste when making future music selections.

An important point in this study was the Music Therapist and her influence on the Ss' perception of possible sleep improvement. During the study, Ss had the freedom to decide when and how to use the tapes. They became actively involved with recognizing and dealing with their own insomnia through the use of Music Therapy strategies. The content of the four sessions was not randomized, but was chosen to trigger a reinforcement of the Ss' self-esteem and decrease their feelings of dependency on the Music Therapist, or the two tapes as their only possible help facing troublesome sleep. This criterion differs from a study done before, where the use of sleep inducing musical activities was mandatory, every night for 2 weeks (11).

Being taught standard relaxation, visualization and breathing techniques enabled the Ss to understand the meaning and usefulness of these, as well as applying them at home without the presence of the Music Therapist. Once the Ss became familiar with these techniques, they were prone to use them as a means for falling asleep.

During the final session, Ss unanimously reported that the Music Therapist's involvement and reliability were two of the most important aspects of this treatment. All 13 Ss (including the one that withdrew from the study) discussed relevant issues of their lives with the Music Therapist, e.g.: family troubles, importance of friendships, job concerns, their lack of ability to cope with activities of daily living (ADL) and feelings of anger, frustration and low self-esteem. Furthermore, the Ss talked about their level of confidence in this treatment and its effects not only on their sleep patterns but also other psycho-social variables affecting their attitudes towards life and their relationships with people around them. This could be a positive consequence of enjoying restful sleep: the feelings of tiredness decrease during the daytime, making the Ss capable to carry out their job adequately and relating to others without angry feelings, not being troubled about the quality and quantity of the following night's sleep.

The fact that some of the Ss were still using pharmacological means to fall asleep might bias the results. Eliminating the drug intake completely was not possible due to the complicating factors caused by acute withdrawal. This study suggests an approach combining pharmacology and Music Therapy, using medication until the behavioral skills were learned, at which point medication would be terminated.

In conclusion, this study suggests that Music Therapy can be effective in treating chronic insomnia patients. A controlled study would be required to determine the efficacy of the Music Therapy intervention in treating chronic insomnia.

MUSIC THERAPY EVALUATION FORM

PATIENT: _____

Date: _____

1. How many times during the last week have you used the Music Therapy tapes to help you falling asleep and/or getting back to sleep during the night?

- 1) None
- 2) One time
- 3) Two or three times
- 4) Four or more times.

2. How many times during last week have you used the Music Therapy tapes to help you getting relaxed during the day?

- 1) None
- 2) One time
- 3) Two or three times
- 4) Four or more times.

3. What type of Music Therapy method was more effective?

- 1) Only music
- 2) Music with verbal inductions.

4. Will you continue to use the Music Therapy tapes to help you falling asleep or getting back to sleep during the night?

1) Yes

2) No

... to help you getting relaxed during the day?

1) Yes

2) No.

5. I feel that I sleep better after listening to the Music Therapy tapes:

1) Yes

2) No.

MUSIC SELECTION (CDs)

Natural Sleep Inducement-Music for your health

Solitudes Ltd., 1998

Natural Stress Relief-Music for your health

Solitudes Ltd., 1998

Piano Cascades-Exploring Nature with music

Dan Gibson

Solitudes Ltd., 1998

Shorelines Classical Guitar-Exploring Nature with music

Dan GibsonSolitudes Ltd., 1999

T'ai Chi Sunrise

Avalon Music (Socan), 1998

Mind-Body Rhythm. Music for Healing.

Janalea Hoffman

Unity, 1996

Six Musical Portraits

Kitaro

Domo Records, 1998

Sentimental Journey

Kelly Stewart

Avalon Music, 1995

Lullababy-Tender Dreams

Laura Nashman

Fluteworks (Socan), 1996

Silk Branches

Daniel Kobialka

Li-Sem Enterprises Inc., 1996

Adagio Karajan

Berlin Philharmonic Orchestra – H. von Karajan

Deutsche Grammophon GmbH, 1989

Adagio Karajan II

Berlin Philharmonic Orchestra – H. von Karajan

Deutsche Grammophon GmbH, 1995

El mejor album de relajacion del mundo

EMI Records, 1997

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