

The Effects of Medicine and Music Therapy Practices on Human Health

Emin Taner ELMAS^{1,*} and Levent OĞUL²

¹Vocational School of Higher Education for Technical Sciences, Iğdır University, Turkey

²Internal Medicine Specialist, Iğdır Dr. Nevruz Erez State Hospital, Iğdır, Turkey

***Corresponding author:** Emin Taner ELMAS, Assistant Professor Dr., Vocational School of Higher Education for Technical Sciences, Division of Motor Vehicles and Transportation Technologies, Department of Automotive Technology, Iğdır University, Turkey & Graduate School of Natural and Applied Sciences - Major Science Department of Bioengineering and Bio-Sciences, Iğdır University, Turkey

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Abstract

The positive effects of music on human health have been known since ancient times. In hospitals, patients were tried to be treated by using the sounds of various instruments and the sound of water.

Today, it is accepted and applied in many parts of the world and in our country as an auxiliary and supportive method, both therapeutic and preventive, in intensive care units, inpatient services and outpatient clinic patient treatment processes, and its effectiveness should be ensured by encouraging its more widespread use. Although it is possible to say that music performed live by doctors and healthcare professionals in intensive care units and inpatient wards has a stronger effect on such patients, music listened to through other methods is also effective. Music performed live or recorded from audio recordings may have similar effects in outpatient treatment processes and in cases where it is expected to have a preventive effect on patients. At this point, Turkish Music should be evaluated and addressed as a priority due to its timbre properties, wide range and rich content structure in terms of being beneficial.

In this article titled "The Effects of Medicine and Music Therapy Practices on Human Health", the interaction of the music in question with human health and therefore with the treatment processes has been evaluated together with the "Turkish Music Makams", and has been presented as both a preventive and an auxiliary - supportive treatment method. It is aimed that this study will serve as a guide for doctors and other healthcare professionals and provide support to increase the quality of life of patients [1-57].

Keywords: Music Therapy; Medical Music; Music Medicine; Therapy with Music; Saz (Bağlama) Instrument, Nây-ı Şerif; Instrument of Ney; Turkish Reed Flute; Nay; Energy Transfer; Mass Transfer; ELMAS's Theory of Thermodynamics; A Scientific Approach for 5th Law of Thermodynamics; Frequency; Turkish Music Makam; The Usul in Turkish Music; Neuro-Engineering; Neuro-Science; Medical Thermodynamics; Medical Technique; Medical Engineering

Introduction

The positive effects of music on human health have been known since ancient times. In hospitals, patients were tried to be treated by using the sounds of various instruments and the sound of water. Today, it is accepted and applied as a supportive and therapeutic method in intensive care units, inpatient services and outpatient treatment processes in many parts of the world and in our country, and its effectiveness should be ensured by encouraging its widespread use. It is possible to say that music performed live by doctors and healthcare professionals in intensive care units and inpatient services has a stronger effect on such patients, while music played with other methods also provides effective benefits. In outpatient treatment processes and cases where it is expected to have a preven-

tive effect, music played live or played from audio recordings can have similar effects. At this point, Turkish Music should be evaluated and addressed as a priority due to its tone characteristics, wide-ranging and rich-content structure in terms of providing benefit.

Especially the sound of the "Ney" instrument has completely natural tones and is a sound very close to the human voice. The "Saz-Bağlama" instrument, when evaluated together with the "Ney" instrument, has a structure that can provide positive benefits on human health in terms of the sound tones it creates and the frequencies created by these tones. (Definition of sound tone: If the sounds have the same frequency values but the sound sources are different, the perception of the sounds as

different is called “tone”. In fact, it is also possible to say the color difference between the sounds for “tone”.) [54]. These instruments mentioned; the “Saz-Bağlama” instrument and the main branches of music performed with the “Ney” instrument, which are Turkish Folk Music (THM), Turkish Art Music (TSM), Classical Turkish Music (KTM) and Turkish Sufi Music (TTM), also have a structural sound tone feature suitable for musicotherapy. Within the scope of our study, the main instruments used for music therapy are seen as **Figure 1** Ney Instrument, Nây-ı Şerif, instrument of Ney (Ney: Turkish Reed Flute, Nay), **Figure 2** Divan Saz and Short Neck Bağlama, **Figure 3** Saz - Long Neck Bağlama, **Figure 4** Cura and Saz - Long Neck Bağlama.

In Turkish Music, the interval between two tones can be divided into nine intervals and coma tones can be created, “Turkish Music Makams” and coma tones are integrated to form a rich musical branch with productive content and emotional “Harmony Structure”. The relevant “Turkish Music Usûls” also contribute to this purpose as a component. In addition, “Turkish Folk Music” also increases the musical harmonic richness in question due to the variety of “Local Attitude” it contains and its maqam structure. Music “Rhythms” – “Tempo” emerges as an important element of this accumulation. With all these features, this wide range of musical accumulation formed from an artistic perspective can also create many positive effects on human health and can also be beneficial for treatment processes. The application area that reveals these positive effects of music on human health can be called “Medical Music”, “Music Medicine”, “Music Therapy”, “Treatment with Music” and “Musicotherapy”.

In this article titled “The Effects of Medical and Musicotherapy

Applications on Human Health”, the interaction of the music in question with human health and therefore with the treatment processes is evaluated together with the Turkish Music Maqams and presented as both a preventive and an auxiliary-supportive treatment method. It is aimed that this study will serve as a guide for doctors and other healthcare professionals and provide support to increase the quality of life of patients.

When patients in intensive care and inpatient wards see their treating doctors and healthcare professionals performing live music with their instruments, it provides morale and motivation, provides psychological support, thus accelerating the medical recovery process and positively affecting it.

The living nature is extremely compatible with music and contains psychological and physiological harmony. There is also a great numerical similarity between the human pulse rate and the beats of musical rhythms, and this is evidence supporting the psychological and physiological harmony in question.

In general, it is possible to say that playing an instrument will contribute to personality development and intelligence development. In addition, the universal nature of music and its unifying and integrative structure also provide tangible positive contributions to human and living life.

The activation and release of hormones triggered by music also contribute to the treatment and help recovery. When the Musicotherapy mentioned in this article is evaluated scientifically on the basis of Neuroengineering and Neuroscience; it is based on the principle that the vibration frequencies created by musical tones spread in the form of energy waves and strengthen the signal transmission in neurons to the extent that they can also be described as the firing of neurons, and that hormone ac-



Figure 1: Ney Instrument, Nây-ı Şerif, instrument of Ney (Ney: Turkish Reed Flute, Nay).



Figure 3: Saz - Long Neck Bağlama.



Figure 2: Divan Saz and Short Neck Bağlama.



Figure 4: Cura and Saz - Long Neck Bağlama.

tivities occur more effectively, thus positively affecting organs, including the brain. This interaction that occurs with the event in question is also compatible with ELMAS's Thermodynamic Theory ("ELMAS's Theory of Thermodynamics": A Scientific Approach for the 5th Law of Thermodynamics -A Theoretical Application Example for Medical Thermodynamics), which is a scientific approach for the 5th Law of Thermodynamics, and it leads to the conclusion that energy and mass are vectorial quantities, and therefore energy and mass transfers will also occur vectorially. Thanks to the vectorial energy and matter transfers expressed here, drug-cell interaction can occur and ultimately the effectiveness process of drug treatment can be formed. [4] Therefore, the highlighted "Thermodynamic Theory of ELMAS" forms the basis of Medical Thermodynamics. There is a sequence within the musical modes. A connection can also be established between the cell DNA and RNA sequence structures and the modal sequences. It is also possible that the vibration frequencies formed by musical tones match with the DNA and RNA sequence frequencies and a resonance situation occurs. The resonance phenomenon expressed here can also support the treatment process of viral diseases. [2,10,11] The sounds obtained with the Ney instrument are very beneficial for heart health, reduce high blood pressure, prevent palpitations, and are beneficial for diabetes. Blowing the Ney is good for asthma, provides breathing exercises and strengthens the lungs. A "Neyzen" who blows the "Ney" for the purpose of performing music therapy on patients can be called a "Healing". In addition, music performed with the sound of the Ney helps prevent and treat neurological diseases such as Alzheimer's, Parkinson's, etc. The last forgotten memory is the musi-

cal memory, which has been scientifically proven. It is also effective for psychological, psychiatric disorders, stress, anxiety and worry. It increases the level of patience and tolerance.

The immune levels of cancer patients can be increased with music support. Again, increasing the body's immune level with music can be preventive by creating resistance to the development of autoimmune diseases and can support the treatment process of these autoimmune diseases.

The "Ney" instrument and the "Saz-Bağlama" instrument also relax the patient thanks to the tones they create, reduce the level of dental anxiety, and reduce the patient's need for anesthesia in surgical operations related to dentistry.

The medical music - music therapy will also be helpful and beneficial for individuals with "Special Educational" need. The physical body posture created while blowing the "Ney" instrument will also be beneficial for head, neck and spine health. In order to prevent and treat disorders such as neck flattening and cervical disc herniation, blowing the "Ney" instrument will be beneficial in terms of physical posture and listening to music in terms of reducing stress, anxiety and worry levels. The reduction of stress levels will support the preventive and healing treatment process related to the neck by providing relief from muscle contractions, nerve compressions and muscle tensions. Music will also be effective in preventing and treating various muscle spasms.

Doctors can recommend "Turkish Music Makams" suitable for

Table 1: Associations between Turkish Music Makams, the organs on which they are effective, and the diseases for which they provide supportive benefits.

MAKAM-MAQAM	RELATED DISEASE – ORGAN	IMPACT - SPECIAL NOTES
Rast	For anorexia. Strengthens immunity. It is one of the authorities to rest before going to sleep. It takes away the tiredness and stress of the day. It is beneficial to listen to children who cry a lot and hyperactive children. It provides relief to angry people when listened to.	It stimulates appetite. It dilates the vessels, lowers blood pressure, allows you to fall asleep easily. It is a rehavi maqam, it gives comfort.
Mahur	It is suitable for the treatment of depression.	Does not listen to before sleep. (Example: The Mehter March is in the Mahur mode.)
Suzinak	It is effective against psychological – psychiatric disorders. It lowers the stress level. It has an immune-boosting effect. It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.	It gives general spiritual refreshment. It provides psychological and physiological health support.
Segah	It helps the patient to relax. It is effective against sleep disorders. It gives comfort and courage to people. It strengthens the brain by affecting neurons. It is good for obesity, obesity, insomnia, high blood pressure, heart and lung diseases. It is beneficial for the pancreas, regulates the functioning of the pancreas, is good for pancreatic cancer. It has a positive effect on the liver. Useful for diabetes.	Segâh has a noble, sad meaning.

Hüzzam	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p>
Beyati	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Acem	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Acem Kürdi	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Ussak	<p>It has a positive effect on the brain.</p> <p>It is a joyful position.</p> <p>It is effective against panic attacks and psychological disorders.</p>	<p>It is the maqam of "Asklar".</p>
Hüseyni	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p>
Buselik	<p>Eye Diseases.</p>	<p>It provides psychological and physiological health support.</p> <p>It increases the level of patience and endurance.</p>
Nihavend	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Kürdi	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>

Neva	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Hicaz	<p>For those who are on a diet.</p> <p>For insomnia.</p> <p>Brain, Liver, Kidney, Stomach, Intestine</p> <p>Gastritis, Ulcer, Colitis</p> <p>Hijaz maqam is good for stomach pain caused by stress, pain, sadness and anxiety.</p>	<p>Curbs appetite.</p> <p>It helps with sleep.</p> <p>It activates the hormones secreted during the coordinated work of the liver and brain.</p> <p>It creates a sense of humility in people.</p> <p>It activates the sense of compassion and conscience of man.</p>
Nikriz	<p>It is a sister authority to the Rast authority and shows similar effects.</p> <p>For anorexia.</p> <p>Strengthens immunity.</p> <p>It is one of the authorities to rest before going to sleep. It takes away the tiredness and stress of the day.</p> <p>It is beneficial to listen to children who cry a lot and hyperactive children.</p>	<p>It stimulates appetite.</p> <p>It dilates the vessels, lowers blood pressure, allows you to fall asleep easily.</p> <p>It is a rehavi maqam, it gives comfort.</p>
Çargah	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Saba	<p>It regulates blood pressure.</p> <p>Effective for cardiovascular diseases.</p> <p>Panic attacks.</p> <p>Psychological factors.</p>	<p>When you wake up in the morning, you should listen to the Saba maqam and then listen to the maqam of Shehnaz, Ferahfeza and Kurdilihiczkar.</p>
Yegah	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Ferahfeza	<p>It increases the level of patience and endurance.</p>	<p>Listening to it when you wake up in the morning is good for health.</p>
Sehnaz	<p>It increases the level of patience and endurance.</p>	<p>Listening to it when you wake up in the morning is good for health.</p>
Kürdilihiczkar	<p>It increases the level of patience and endurance.</p>	<p>Listening to it when you wake up in the morning is good for health.</p>
Sultani Yegah	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p>

Hüseyni Asiran	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Acem Asiran	<p>Reduces pain.</p> <p>It has spasm relieving properties.</p>	<p>It increases the level of patience and endurance.</p>
Suzidil	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p>
Irak	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Bestenigar	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Hisar	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Karcigar	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Muhayyer	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>
Muhayyer Kürdi	<p>It is effective against psychological – psychiatric disorders.</p> <p>It lowers the stress level.</p> <p>It has an immune-boosting effect.</p> <p>It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.</p>	<p>It gives general spiritual refreshment.</p> <p>It provides psychological and physiological health support.</p> <p>Strengthens memory.</p> <p>It increases the level of patience and endurance.</p>

Gerdaniye	It is effective against psychological – psychiatric disorders. It lowers the stress level. It has an immune-boosting effect. It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.	It gives general spiritual refreshment. It provides psychological and physiological health support. Strengthens memory. It increases the level of patience and endurance.
Sünbüle	It is effective against psychological – psychiatric disorders. It lowers the stress level. It has an immune-boosting effect. It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.	It gives general spiritual refreshment. It provides psychological and physiological health support. Strengthens memory. It increases the level of patience and endurance.
Dügah	It is effective against psychological – psychiatric disorders. It lowers the stress level. It has an immune-boosting effect. It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.	It gives general spiritual refreshment. It provides psychological and physiological health support. Strengthens memory. It increases the level of patience and endurance.
Eviç	It is effective against psychological – psychiatric disorders. It lowers the stress level. It has an immune-boosting effect. It helps to prevent and alleviate muscle contractions, nerve compressions, muscle tensions, muscle spasms.	It gives general spiritual refreshment. It provides psychological and physiological health support. Strengthens memory. It increases the level of patience and endurance.

the relevant disease for medical treatment drug prescriptions, thus increasing the effectiveness of the prescription, and thus contributing to the healing process, and these makams can also be considered as a component of preventive medical activities. The sound of water also has a healing tone, and has a calming effect. The sound of water can be played to crying children. When the relevant makam and the sound of water are played together, this effect will be even stronger.

Before operations such as endoscopy, the patient can be made to listen to relaxing makams with the sound of “Ney”, reducing the need for sedation, and after the operation, patients can be made to listen to rhythmic broken tunes with lively makams, “Saz-Bağlama”. This application can also be made valid for other surgical operations and surgeries [1-57].

Method, Findings and Discussion

The main “Turkish Music Makams” that will be used to create positive effects on human health as a result of the applications to be carried out within the scope of musicotherapy can be listed as follows: Rast, Mahur, Suzinak, Segâh, Hüzzam, Beyati, Acem, Acem Kürdi, Uşşak, Hüseyini, Buselik, Nihavend, Kürdi, Neva, Hicaz, Nikriz, Çargâh, Saba, Yegâh, Ferahfeza, Şehnaz, Kürdilihicazkâr, Sultani Yegâh, Hüseyini Aşiran, Acemaşiran, Suzidil, Irak, Bestenigâr, Hisar, Karcıgar, Muhayyer, Muhayyer Kürdi, Gerdaniye, Sünbüle, Dügâh, Eviç. Especially the sound of the “Ney” instrument has completely natural tones and is a sound very close to the human voice. The “Saz-Bağlama” instrument, when evaluated together with the “Ney” instrument, has a structure that can provide positive benefits on human health in terms of the sound tones it produces and the frequencies created by these tones. (Definition of tone: If the sounds have the same frequency values but

the sound sources are different, the perception of the sounds as different is called “tone”. In fact, it is also possible to say that “tone” is the color difference between the sounds.)[54].

The mentioned instruments; the main music branches performed with the “Saz-Bağlama” instrument and the “Ney” instrument, which are Turkish Folk Music (THM), Turkish Art Music (TSM), Classical Turkish Music (KTM) and Turkish Sufi Music (TTM), also have a harmonic structural sound tone feature suitable for musicotherapy. These main music branches are performed with “Turkish Music Makams”. The associations between the Turkish Music Makams mentioned here and the organs they are effective on and the diseases they provide supportive benefits are summarized in **Table 1**. [1-57].

Conclusion

In this article titled “Effects of Medical and Musicotherapy Applications on Human Health”, the interaction of the music in question with human health and therefore with treatment processes is evaluated together with Turkish Music Makams and presented as both a preventive and an auxiliary-supportive treatment method. It is aimed that this study will be a guide for doctors and other health professionals and will provide support to increase the quality of life of patients.

The living nature is extremely compatible with music and contains psychological and physiological harmony. There is also a great numerical similarity between the human pulse rate and the beat numbers of musical rhythms, and this situation is evidence supporting the psychological and physiological harmony in question.

A “Neyzen” who blows a “Ney” for the purpose of performing musicotherapy on patients can be called a “Healing”.

The sounds obtained with the Ney instrument are very beneficial for heart health, reduce high blood pressure, prevent palpitations, and are beneficial for diabetes.

Instead of the Triflo respiratory exercise device, "Lung Breathing Exercise" can be performed using the "Ney" instrument.

In addition, music performed with the Ney sound helps prevent and treat neurological diseases such as Alzheimer's, Parkinson's, etc. The last forgotten memory is the musical memory, and this fact has been scientifically proven.

The immunity levels of cancer patients can be increased with music support. Again, increasing the body's immunity level with music can be preventive by creating resistance to the development of autoimmune diseases and can support the treatment process of these autoimmune diseases.

Musical tones are also effective for psychological, psychiatric disorders, stress, anxiety and worry, and increase general immunity.

The "Ney" instrument and the "Saz-Bağlama" instrument also relax the patient thanks to the tones they create, reduce the level of dental anxiety, and reduce the patient's need for anesthesia in surgical operations related to dentistry.

The medical music - music therapy will also be helpful and beneficial for individuals with "Special Educational" need. The physical body posture created while blowing the "Ney" instrument will also be beneficial for head, neck and spine health.

For the prevention and treatment of disorders such as neck flattening and cervical disc herniation, blowing the "Ney" instrument will be beneficial in terms of physical posture, and listening to music will be beneficial in terms of reducing stress, anxiety and worry levels. The reduction of stress levels will support the preventive and healing treatment process related to the neck by providing relief from muscle contractions, nerve compressions and muscle tensions. Music will also be effective in the prevention and treatment of various muscle spasms. In medical treatment drug prescriptions, doctors can increase the effectiveness of the prescription by recommending the "Turkish Music Makams" that are appropriate for the relevant disease, thus contributing to the healing process, and these makams can also be considered as a component of preventive medical activities.

The sound of water also has a healing tone and has a calming effect. The sound of water can be played to crying children. This effect will be even stronger when the relevant makam and the sound of water are listened to together.

In general, it is possible to say that playing an instrument will also contribute to personality development and intelligence development. In addition, the universal nature of music and its unifying and integrative structure provide concrete positive contributions to human and living life.

Before operations such as endoscopy, the need for sedation can be reduced by having the patient listen to relaxing tunes with the sound of "Ney", and in order to wake up the patients after the operation, rhythmic broken tunes containing lively tunes can be played with the performance of "Saz-Bağlama". This application can also be made valid for other surgical operations and surgeries. The activation and release of hormones triggered by music also contributes to the treatment and helps recovery. When the Musicotherapy mentioned in this article is evaluated scientifically on the basis of Neuroengineering and Neuroscience; it is based on the principle that the vibration fre-

quencies created by musical tones spread in the form of energy waves and strengthen the signal transmission in the neurons to the extent that it can also be described as the firing of neurons, and hormone activities occur more effectively, thus positively affecting the organs, including the brain. This interaction that occurs with the event in question is also compatible with ELMAS's Theory of Thermodynamics ("ELMAS's Theory of Thermodynamics": A Scientific Approach for 5th Law of Thermodynamics -A Theoretical Application Example for Medical Thermodynamics), which is a scientific approach to the 5th Law of Thermodynamics, and it leads to the conclusion that energy and mass are vectorial quantities, and therefore energy and mass transfers will also occur vectorially [4].

Musical modes have their own sequence. A connection can also be established between cell DNA and RNA sequence structures and modal sequences. It is also possible that the vibration frequencies created by musical tones match with DNA and RNA sequence frequencies and a resonance situation occurs. The resonance phenomenon expressed here can also support the treatment process of viral diseases [2,10,11]. In addition, seeing doctors and healthcare professionals performing live music with their instruments by patients in intensive care units and patient wards creates morale and motivation, provides psychological support, thus accelerating the medical recovery process and positively affecting it [1-57].

Biography of Authors

Emin Taner ELMAS*

Asst. Prof. Dr. Emin Taner ELMAS, has graduated from faculty of Mechanical Engineering as B.Sc. in 1995 and then completed his M.Sc. in "Energy" at Mechanical Engineering Department of Dokuz Eylül University in İzmir, Turkey and after that he received his Ph.D. in "Thermodynamics" at Mechanical Engineering Department of Ege University, in İzmir, Turkey. He has graduated from "İzmir Atatürk Lisesi - High school" in 1991.

Asst. Prof. Dr. ELMAS has completed his military service as a NATO Officer in Bosnia and Herzegovina. He was a "Reserved Officer" as a "2nd Lieutenant" as an "English-Turkish Interpreter". He was also a "Guard Commander" and served in Sarajevo, Camp Butmir within the SFOR task force of NATO. He has been awarded with 2 (two) NATO Medals and Turkish Armed Forces Service Certificate of Pride (Bosnia & Herzegovina).

Asst. Prof. Dr. Elmas is Department Head and is an Assistant Professor of Automotive Technology at the Department of Motor Vehicles and Transportation Technologies at Vocational School of Higher Education for Technical Sciences at IĞDIR UNIVERSITY, Turkey. He is also an Assistant Professor of Bioengineering & BioSciences at the same university. He has nearly 30 years of total experience in academia and in industry. Dr. Elmas is also a musician and "Saz (Bağlama)" instrument virtuoso player and "Neyzen" - "Ney" instrument performer. (Ney: Turkish Reed Flute, Nay, Instrument of Ney, Nây-ı Şerif). He has a YouTube Music Channel (Emin Taner ELMAS) consisting some of his "Saz-Bağlama" and "Ney" voice recordings.

His Academic & Industrial Research Interests And Experiences are as follows: Mechanical Engineering, Energy Transfer, Thermodynamics, Energy, Fluid Mechanics, Advanced Fluid

Mechanics, Heat Transfer, Advanced Engineering Mathematics, Applied Mathematics, General Mathematics, Heat Pipes, Evaporation, Turbomachinery, Aerospace, Aeronautics, Space Science, Pressure Vessels and Steam Boilers, Power Plants, Cogeneration, Pure Water Treatment, Waste Water Treatment, Heat Recovery, Energy Efficiency, Energy Storage Systems, Heat Exchangers, Metal Machining, Motor Vehicles, Electric Vehicle, UAV-Unmanned Aerial Vehicle, Automotive, Mechatronics, Multi-Disciplinary Science, Bioengineering, Neuro-Engineering and Medical Technique. (ORCID ID: 0000-0002-7290-2308)

Levent OĞUL

Uzm.Dr. Levent OĞUL, is a specialist medical doctor, MD. He has graduated from Hacettepe University Faculty of Medicine in Ankara, Turkey, and then completed his specialty training in internal medicine sciences. Dr. OĞUL is an internal medicine specialist and working at İğdır Dr. Nevruz Erez State Hospital, İğdır, Turkey. He is also interested in music and a “Ney” instrument performer. (Ney: Turkish Reed Flute, Nay, Instrument of Ney, Nây-ı Şerif), as well. (ORCID ID: 0000-0001-8076-6134)

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