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Effect of Music on Palliative Care Patients: Historical Development of Therapy with Turkish Music

Palyatif Bakım Hastalarına Müziğin Etkisi: Türk Müziği ile Tedavinin Tarihsel Gelişimi

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ABSTRACT Music is a universal language, and is the best way of cultural interaction, communication and share feelings. Different musical melodies have different influences on mind states of individuals. Musical therapy is a special type of therapy in which verbal communication is coupled with musical interaction and communication styles. Selection of person specific and therapeutic music styles will result in the alleviation of several symptoms in patients under palliative care. Musical therapy is a significant supportive tool for the treatment of cognitive, physical, social, environmental and spiritual needs of palliative care patients of all ages. Furthermore, it prevents the disturbances caused by cancer treatment. The use of musical therapy in Turkish history has first been mentioned in Uyghur rock inscriptions. Ottoman music is a sophisticated and developed synthesis of the makam music. Ottomans would use different instrumental and vocal musical pieces to cure certain medical and psychological conditions. In more recent times however, ethnomusicology was not included in the curriculum as a teaching or means of therapy in Turkish medicine, that is why it did not become a routine treatment modality, the applications were limited to the disciplines of psychiatry, anesthesiology, intensive care, surgery and pediatric medicine as well as to the academic studies of the physicians who had an interest in this field. Despite the fact that it is a significant contributor to the control of symptoms in palliative care patients, there have not been studies emphasizing the importance of its use in such patients until recently. Together with reentry into agenda of the treatment efficacy of music in Turkey and worldwide, Ministry of Health of Turkey initiated a "Musical Therapy Training Certificate Program" for health professionals in 2016. In addition to this intervention, professional musicians should also have an interest in this topic and should collaborate with the physicians academically in the treatment process. This review emphasizes the need for initiating routine clinical applications, academic studies and trainings with cultural, ethnic and individualized Turkish music therapy on palliative care patients as a means of efficient

Keywords: Palliative care; music therapy; Turkey; history

ÖZET Müzik evrensel bir dildir ve kültürel etkileşimin, iletişimin ve duyguların paylaşımının en iyi yoludur. Farklı müzik ezgileri insanların zihinsel durumlarını farklı sekillerde etkiler. Müzik terapisi, sözlü iletişimin yanı sıra müzikal etkileşim ve iletişim biçimlerinin kullanıldığı özel bir terapi türüdür. Kişiye özgü ve tedavi edici özelliği olan müzik türlerinin seçilmesi özellikle palyatif bakım hastalarında birçok semptomun hafifletilmesine yardımcı olacaktır. Müzik terapisi, özellikle her yaştaki palyatif bakım hastalarında duygusal, bilişsel, fiziksel, sosyal, çevresel ve manevi ihtiyaçların tedavisinde önemli bir destektir. Buna ek olarak kanser tedavisinin oluşturduğu rahatsızlıkları da önler. Müzik terapisinin kullanımı Türk tarihinde çok eskilere dayanmaktadır. Türk tarihinde müziğin tedavide kullanımından ilk kez Uygur Türkleri zamanında kaya yazıtlarında bahsedilmiştir. Osmanlı müziği, makam müziğinin gelişmiş ve sofistike bir sentezidir. Osmanlılar belli tıbbi ve psikolojik koşulları iyileştirmek için farklı enstrümantal ve vokal müzik parçalarından yararlanıyorlardı. İlerleyen zamanlarda etnomüzikoloji, Türk tıbbında bir öğreti ve tedavi yöntemi olarak müfredatlarda yer almadığından rutin tedavi modaliteleri arasına girememiş, uygulamalar psikiyatri, anestezi, yoğun bakım, cerrahi, çocuk hastalıkları gibi branşlarda ve ilgi duyan hekimler tarafından akademik çalışmalarla sınırlı kalmıştır. Palyatif bakım hastalarının semptom tedavisinde önemli bir palyasyon yöntemi olmakla birlikte yakın zamana kadar bu hastalarda kullanımının önemini yurgulayan çalışmalar yapılmamıştır. . Ülkemizde ve dünyada müziğin tedavide etkinliğinin yeniden gündeme gelmesiyle 2016 yılında Sağlık Ba kanlığı iyi bir girişim olarak sağlık profesyonellerine yönelik "müzik terapisi sertifikalı eğitim programı" başlatmıştır. Bu girişime ek olarak profesyonel müzisyenler de bu konuyla ilgilenmeli ve akademik olarak terapide hekimlerle iş birliği yapmalıdırlar. Bu derlemede, palyatif bakım hastalarımızda etkin bir palyasyon yöntemi olan kültürel, etnik ve kişiselleştirilmiş Türk müziği terapisi ile eğitimlere, akademik çalışmalara ve rutin klinik uygulamalara en kısa zamanda başlanmasının gerekliliği vurgulanmıştır.

Anahtar Kelimeler: Palyatif bakım; müzik terapisi; Türkiye; tarih

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unable to imitate reality, it rises above ordinary nature into an ideal world, and with celestial harmony moves the earthly passions (Gioacchino Rossini, 1824, https://www.laphil.com/philpedia/gioachino-rossini).

Music has been the artistic language of emotions and thoughts since human history. Music therapy had been used for development and maintenance of mental and physical health as a traditional and complementary therapy application in every cultural and ethnic group. There is strong scientific evidence that music is a powerful tool in the treatment of psychological and physical symptoms. The choice of person-specific and therapeutically effective music styles will help alleviate many symptoms, especially in palliative care patients. Throughout human history, music therapy is known to help to eliminate of depression and pain. Music changes neuronal activity with entrainment to musical rhythms in the lateral temporal lobe and in cortical areas devoted to movement. Music is a strong stimulus for neuroplasticity.^{2,3} Music likely reduces alterations in the hypothalamic-anterior pituitaryperipheral hormone axes that produce cortisol and growth hormone. Music can induce decreased production of cytokines such as IL-6 by white blood cells. Dopaminergic neurotransmission has also been implicated as a means by which music can modulate the central nervous system. Another commonly accepted theory is that music acts as a distractor, focusing the patients' attention away from negative stimuli to something pleasant and encouraging.^{4,5} Steady rhythms entrain respiratory patterns. Classical music increases the hearth rate variability. The rock music has been shown to reduce the heart rate. The music therapy intervention has the advantage of no side effects and may be beneficial to improving patients' quality of life by reducing the drug dosage in adult psychiatric outpatients.^{6,7} Significantly improved areas were global state, general and negative symptoms and functioning.8 Music therapy is a significant support for treat of emotional, cognitive, physical, social, environmental and spiritual needs in palliative care patients of all ages. In addition, it prevents discomfort of cancer treatment.9-12

Music is a highly versatile and dynamic therapeutic modality, lending itself to a variety of music therapy techniques used to benefit both those living with life-threatening illnesses and their family members and care givers. Music therapy practice involving musical improvisation, songwriting and receptive/recreational techniques provide effective integration of music therapy for palliative care. ¹³

Most interviewees valued music therapy; however there exists some lack of understanding of the role of the music therapist, particularly amongst nurses. Along with that the benefits of music therapy were well described, with some benefits perceived as synergistic effect, arising from collaborations with other disciplines. Interviewers having experience or witnessing music therapy are effective in developing an understanding the discipline. ¹⁴

This is the first study to use meta-analysis as a scientific technique to provide an integrated analysis of the effectiveness of music intervention in cancer patients.

Music interventions significantly ameliorate anxiety, depression, pain, and fatigue in cancer patients, especially adults. Music interventions were more effective in adults than in children or adolescents and more effective when patients, rather than researchers, chose the music.¹⁵ Music therapy can improve the quality of life and it can help to reduce of pain in palliative care patients. 16,17 A systematic review indicates that music interventions may have beneficial effects on anxiety, pain, fatigue and quality of life in people with cancer. Furthermore, music may have a small effect on heart rate, respiratory rate and blood pressure. 18,19 A study has evaluated the affect of music therapy on pain and nausea on cancer patients' undergoing bone marrow transplant. These patients who received music therapy reported less pain and nause and has more rapidly to their transplant.²⁰ Gallagher et al. concluded that music therapy has a positive impact on the family members of patients and themselves in palliative medicine and hospice settings.²¹ However Bahcıvan, criticized this article and said that the ethnic and cultural history of the patients' needs to be studied, the music to be chosen as therapy needs to be individualized and that studies to be conducted need to be planned under such norms.²²

Music therapy practice is a health profession established in many countries. In order for the therapy not to have negative consequences and be effective, health professionals should have an in depth knowledge of the historical evolution of music, cultural and ethnic sounds as well as musical instruments and they need to get a systematical training to this end.

MUSIC THERAPY IN TURKS

Musicology is a discipline and ethnomusicology is a sub-discipline which researches music's effect on human spirit and behavior as socially and culturally. Use of music therapy is based on a very old time in the history of the Turkish people. The earliest musical examples of Uyghur Turks dates to 6000-8000 years ago. In the rock inscriptions, when Uyghur Turks belonged to shaman religion 3000 years ago, it was seen that they did patient treatment sessions and ceremonies by singing songs and dancing, and they sacrificed their deaths by singing and dancing. The kopuz (lute), dombra, hirakkopuz, şangobiz were important instruments, and they are therapeutic, calling the good spirits, banishing of evil spirits. The sound of water ac-

companied to this music. This music structure is called "pentatonism" in the west and "fivephony" among the Turks.²³

In the Altai Turks, drum was used by shamans in patient treatment and in religious ceremonies. The shaman, that raised the soul in the skies and made you feel separated from the body, was a trance master. It was believed that shaman took under control the souls by drumming, and treated the sickness by communicating with devils, demons, and periles. In Altai, Kashgar and Kyrgyz Turks, the treatment method was called baksi (Figure 1), that emerged with the influence of Islam, is a trance including music, poetry, imitation and dance. In these communities, it was called baksi (baksı, cam, onlooking, sighted) instead of shaman, and it means healer that have an internal vision, clear vision in a trance. An example of therapeutic dance is baksi dance, which based on horse walk and survived to the present day, we can see similar examples in figures of Azerbaijan Gobustan rocks. It should be noted that this tradition dates to 12,000 years ago. This treatment method is still used by Kazakh, Kyrgyz and Altai Turks.^{24,25}

In Turks who emigrated to the west and accepted Islam (9th century), music had a fundamental place in Turkish-Islamic culture, and it continued to develop especially around the palace



FIGURE 1: Treatment with baksian music in the accompaniment of the Kopuz instrument (used by permission from TUMATA group archive).

and the mehterhane. The centers of these developments mainly are Mevlevihane (school of religious education) and Enderun (school of state administration, science, and religious education). The pentatonic system in the Asian Turkish music began to change together with the religious effect after the acceptance of Islam and eight sounds started to be used. Ottoman music has been a developed and sophisticated synthesis of the makam music of the Middle East and Central Asia. Makam is a system of melody types used in Persian and Turkish classical music. There are thousands of musical examples of works written using hundreds of different makams in the literature of Turkish classical music. Makam names vary according to pitches used as well as general direction of the melodic flow. Ottomans used different instrumental and vocal musical pieces to cure certain medical and psychological conditions. Among the members of Mevlevi and Sufis (Islam philosophers), great composers were brought up, both religious and non-religious music developed. In the Sufi teaching, each makam represents and conveys a particular psychological and spiritual state. Folk music has been developed with Bektashism. Bektashi tekkes (place of worship) had rooms devoted to music therapy. The Turco-Persian psychologist and music theorist Al-Farabi (872–950) dealt with music therapy in his treatise, in which he discussed the therapeutic effects of makam (Table 1).26,27

Ideas Al-Farabi, Zekerriya Al-Razi (854-932) and Ibn Sina (Avicenna; 980-1037) on music were followed by several Ottoman physicians and musicians were aware of the music therapy in continuation of previous similar Muslim practices. Ibn Sina said that one of the best and most effective ways of treatment were to improve the patient's mental and spiritual strengths, give courage to fighting with disease better, listen to her the best music, and bring them together with people they love. Muslim scholars arranged the ancient musical theories and information related with therapeutic music, which can be traced back to the Hellenistic sources, cited mainly from Sumerian, Babylonian and Egyptian concepts, perspectives, and mysticism. "The search for reason and intellectual logic in

TABLE 1: Al-Farabi detailed the use of the Turkish makam and its uses. ^{26,27}

Rast: Makes one feel happy and comfort.

Rehavi: Instills the feeling of eternity.

Kuçek: Makes one feel sad and anxious.

Büzürk: Makes one feel fear.

Isfahan: Makes one feel secure, thus able to move into action

Neva: Makes one feel pleasure and contentment.

Ussak: Makes one feel like laughing.

Zirgüle: Makes one sleep.

Saba: Makes one feel brave, power

Buselik: Makes one feel strength.

Hüseyni: Makes one feel serene, at ease.

Hicaz: Makes one feel humility.

music therapy depended on the idea that man was a part of the universal harmony." Just as celestial bodies were believed to have counterparts in the human body, sound vibrations as a reflection of celestial bodies were supposed to affect a diseased part of the body as well. Attaining harmony between body and soul led to health. 24-26

Al Kindi (Alchindus; 801-873), who works in various branches of science such as; philosophy, medicine, mathematics, astronomy and music, is an Islamic scholar. His merchant neighbor's son suddenly got sick, and he asked for help. After he has checked the patient's pulse, he invited several of his students who were skilled in music. He told them what music he needed, and wanted them to keep playing. Within minutes, the patient's pulse increased, and breath is restored. After a while he started to move, sit down and talk. Kindi says the merchant "What do you want to ask your son?". After asking questions and receiving answers, his son becomes sick again. When the father wanted to continue the musicians, Kindi said, "The patient showed his last effort, there is no possibility, because life is complete." In other words, the patient in terminal period was provided symptom treatment with music.27-30

In Evliya Celebi's Book "Seyahat-name", Evliya Çelebi had stated Isfahan for strengthening memory, opening mind, the Rehavi for calming agitated and hyperactive patients, Kuçi in distressed, pessimistic, stagnant patients are useful.^{29,31} Hekimbaşı (director of doctors) Gevrekzade Hasan Efendi (18th century), who translated Ibn Sina's famous work "El Kanun fi'ttıbbi" (the law of medicine), classified which types of music were good at which childhood diseases as follows (Table 2).^{5,32}

It is well known that at Anatolia where Turks have immigrated, first health institutions using musical therapy were "sifahane" hospitals. The first sifahane, "Nureddin Hospital" was constituted at Damascus by Seljuk emporer Nureddin Zengi at 12th century. The most important institutions of Ottoman Empire using musical therapy were Fatih Darussifa (hospital, medical scool and mosque complex) in İstanbul and Edirne Darussifa (IInd Bayezid Complex) at Edirne. The first documented music medicine in a general hospital began in 1484 in the Beyazid Hospital (in the city of Edirne). Mental Disorders were treated with makam of classical Turkish Music.^{27,31} Edirne Darüssifa Hospital is unique for its being preeminence in hospital history during Reneissance times and reflecting Turkish psychiatry and civilization. According to Evliya Celebi; the director of Darüssifa hospital had appropriate knowledge and experience about the positive effect of music on human soul. He made his patients listen to different types of music. It was analyzed if their heart rate was increasing or decreasing with the music played, determined which music type was beneficial for the patient, was gathered the complaints and similar diseases and ordered the musicians of Darüssifa to perform concerts on selected days of the week. Evliya Celebi has reported on his travel book that "Isfehan" was played for improving intelligence, "rehavi" was played to sedate excited and restless patients and "kuci" was played for the treatment of patients who had a complaint of poverty, pessimism, tillness and mirthlessness. He also reported that "neva, rast, dugah, segah, cargah, suzinak" musics belongs to the musicians of Darussifa Hospital. Darussifa Hospital was accepting all patient types when it was first incepted but than it became psychiatry clinic. Besides treatment with music, water sound and odoriferous

TABLE 2: The use of makams in childhood diseases. 5,32

Pentatonik: Pentatonic music is the most important and characteristic feature of Turkish music of Asian origin. It gives confidence, stability and comfort. Children are advised to listen to only pentatonic music until the age of 9-10.

Rast: Effective on bone and brain. It prevents too much sleep. Good for mental illness.

Irak: It is beneficial to meningitis, brain and mental illnesses.

Isfahan: There is a body-protective feature in hot illnesses.

Zirefkend: It is useful for back, joint and knee pain.

Büzürk: It is useful for severe diseases caused by joint and brain damage It gains power.

Zirgüle: It affects heart diseases, meningitis and brain diseases. It is formed by leaving the hicaz before the 13th century. It inculcates imagination of dreams and secrets, gives sleep, gives sense of fairy tales.

Rehavi: It is useful for right shoulder, headache, nose bleeds, mouth sickness and sputum from diseases, and is useful to people with mental illness.

Hüseyni: It has beauty, goodness, silence, comfort and refreshing properties, and suppress to liver and heart inflammation. It is useful in the relief of febrile seizures.

Hicaz: There is a therapeutic effect on the bone, brain and pediatric diseases. The urinary-genital system and the kidneys are more active. It gives a sense of humility.

Nihavend: It affects blood circulation, abdominal region, hip, thigh and leg regions. It is useful for gripes, low back pain and tension disorders.

Neva: It has effects on the right side of the chest, the kidneys, spinal cord, hip and thigh areas. It relieves sorrow, and gives flavor. It is known as a heart caressing tonality.

Uşşak: It is beneficial for foot, heart disorders and nausea pain. It gives laughter, joy, strength and heroism emotions.

Acemaşiran: It affects the bone and the brain. It gives a sense of creativity and inspires, and stimulates calm thoughts and emotions. It facilitates childbirth in women.

Segah: It is beneficial for obesity, insomnia, high heart rate, heart, and muscle diseases.

It affects brain neurons, and creates mystical feelings.

treatment were used at Darussifa Hospital. Ottoman music contains many instruments such as ud (lute), ney (flute), kemençe (violin), kanun (zither). It has been theorized that classical Turkish music, a slow and relaxing type of instrumental music, has the most recreative effect on people's psychological state. Ney in the music of mevlevi provides relieving those who are psychologically disturbed. 33-35

Today, there is no official medical institution that provides academic education on music therapy in Turkey. There are only Turkish Treatment Music Practice and Research Group (TUTEM), Turkish Music Research and Promotion Group (TUMATA), Darussifa Music Research and Practice Society, and Practical Music Therapy Association (UMTED). Just as in the world, the precaution of healing with music has been understood in Turkey and scientific studies have been started on this area. The pictures were taken with the permission of TUMATA group (Figures 2, 3) and the internet access of the samples from the Turkish compositions were given below (Table 3).

Recently, at universities-affiliated medical faculties, private hospitals and specialized centers in many departments such as; physiotherapy and rehabilitation, anesthesia, intensive care, surgery, oncology, neurology, child psychiatry, psychiatry, algology, internal medicine, gynecology ect., therapy with Turkish Music has started, and these

works has gained importance. Some of todays 'scientific studies are mentioned below. Schizophrenia is characterized by some histopathological abnormalities of cortical structures concerned with autonomic control. In a study it has been shown that respiration and heart rate responses to Classical Turkish Music can be used as discriminating features to compare autonomic differences between schizophrenics and healthy controls. Although Classical Turkish Music evoked more increase in respiration rate in controls, no significant respiration rate differences were found in the schizophrenia patients.³⁶ To determine whether listening to music decreases dose of sedative drugs, patients' anxiety, pain and dissatisfied feelings during colonoscopy and makes the procedure more comfortable and acceptable. Listening to music during colonoscopy help to reduce the dose of sedative medications, as well as patients' anxiety, pain and dissatisfaction during the procedure.³⁷ Bekiroğlu at al. demonstrated that both Turkish



FIGURE 2: Patient treatment session with pentatonic music of TUMATA group (used with permission from TUMATA group archive).



FIGURE 3: Baksian dance (used with permission from TUMATA group archive).

TABLE 3: Internet access to a few examples of Turkish music composition of TUMATA group (used with permission from TUMATA group archive, youtube).

Baksı: https://www.youtube.com/watch?v=g-QDj16b9Gohttp://www.tu-mata.com/user/files/1min_pentatonik.mp3

Rehavi: https://www.youtube.com/watch?v=UL40btF-M2Ehttp://tumata.com/user/files/1min_rehavi.mp3

Hüseyni: https://www.youtube.com/watch?v=LXPVbPZ0HFY

Isfahan: https://www.youtube.com/watch?v=ePWZbkwV8LI

Buzurk: https://www.youtube.com/watch?v=SitEClq9Vws

Uşşak: https://www.youtube.com/watch?v=9wqH0NCKTxc

Rast ilahi: https://www.youtube.com/watch?v=nH9munUSiNE.

classical music and resting have positive effects on blood pressure in patients with hypertension.³⁸ It was determined that complementary approaches comprising music therapy and visual imagery had positive effects on chemotherapy-induced anxiety, nausea and vomiting, which are suffered often and affect the patients' whole lives adversely.³⁹ Gok et al. has carried out in an effort to determine the effect of music therapy on depression and physiological parameters in elderly people who were living in a nursing home. It was concluded that music therapy decreased the depression level and systolic blood pressure in elderly people. Results of the study imply that music therapy can be an effective practice for public health and home care nurses attempting to reduce depression and control physiological parameters of elderly people. 40 Aktas et al. had conducted a study to determine the effect of music therapy on pain intensity, sedation level and physiological parameters during endotracheal suctioning of mechanically ventilated patients in cardiovascular surgery intensive care unit. The results of this study imply that music therapy can be effective practice for nurses attempting to reduce patients' pain and control sedation level in patients on mechanical ventilators during endotracheal suctioning.41 Bilgic et al. had tested the effect of listening to music during chemotherapy on pain, tiredness, nausea, depression, anxiety, drowsiness, lack of appetite, not feeling well, and shortness of breath in cancer patients. Their results show that improvements in total general comfort, as well as physical, psychospiritual, and sociocultural comfort. ⁴² In a study, Tanrıverdi et al. had aimed to determine medical oncologist attitudes to music therapy for patients with cancer and knowledge about musicology and music therapy in Turkey. In their results, for more harmony with patients and to ensure management of adverse effect, it was concluded that music therapy should be regarded as an additional therapy in oncology clinics. ⁴³

The associates of Darüssafaka Music Investigation and Application Community, which was constituted to apply musical treatment techniques during Ottoman and Seljuk Empire times, has brought the treatment techniques of Turkish musical modalities with the "Treatment Musics from Modality to Cure" concerts up to date. Ministry of Culture Edirne Government Turkish Musical Association and Trakya University Department of Physiology members are researching the musical treatment modalities at ancient hospitals. Musicians and health professionals united under the Applicational Musical Therapy Society (AMTS) have collective studies at Germany, Netherlands and France, and have taken collectivity offers from United Kingdom, Macedonia and Republic of the Congo.24,27

Music therapy training is offered at undergraduate and graduate levels in Europe, United States and South America where academic conferences can be organized, and associations can be established. Music therapy is considered as an important occupation in these countries and therapists work in government institutions. Unfortunately, ethnomusicology is not until recently enough applicated it at palliative care. Turkish Ministry of Health announced a 5-year national cancer control program including palliative care in 2009. With the "Palya-Turkish" project of Ministry of Health in 2010, "palliative care" was recognized as a medical discipline. 44,45 In this process, it has come to the agenda that non-invasive and nonpharmacological methods such as music therapy in palliative care patients can be used to relieve pain and other symptoms. 46,47 As a good initiative in this regard, Turkish Ministry of Health launched a music therapy training program with a certificate to health professionals in 2016. In addition, professional musicians should be directed to this topic and have occupational education standards to establish academical relationship with physicians in therapy.

CONCLUSION

Turkish music has as old a history as that of humanity, it has been always used in the field of health from past to present and has been the subject of academic studies. However, the issue of it is being awarded as a certificate program to health professionals in line with health policies and its being accepted as a treatment modality is recent. Palliative care units are new structures within the Ministry of Health; however, music therapy is not being used sufficiently in this context. Music is a non-invasive symptom treatment method, it

should be included in our routine applications as a complementary treatment, and our ethnical and cultural music knowledge should be supported with academic studies in this field.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

This study is entirely author's own work and no other author contribution.

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