# Evaluation of Dr. Tayyar Kuşcu's Work "Haymana Thermal Spring and Its Benefits"*

## Dr. Tayyar Kuşcu'nun Haymana Kaplıcası ve Faydaları Adlı Eserinin Değerlendirmesi

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**ABSTRACT**

Tayyar Kuşcu is a physician who has contributed significantly to Turkish medicine by pioneering the establishment of rheumatology based on internal diseases in Turkey.

In this study, Dr. Tayyar Kuşçu's work, namely "Haymana Thermal Spring and Its Benefits", will be examined in which he wrote about the history of the thermal spring in Ankara's Haymana district, and the properties and benefits of the thermal spring water while he was working as Government and Dispensary Doctor in Haymana.

The work, which was published in 1946 in Istanbul Işıl Printing House, consists of 104 pages. After talking about the history of Haymana, the history and current status of the thermal spring, the characteristics of the thermal spring water, and the bathing technique in his work, the author wrote his observations about the patients who came to the spa for treatment due to various diseases, in chapters.

Haymana thermal springs, located in the capital of the country in the Anatolian geography with rich thermal water resources, have an important position for those who seek healing for their diseases. The work of art of Dr. Tayyar Kuşçu, which includes extensive research, provides important information that sheds light on the history, features and benefits of Haymana thermal spring.

**Keywords:** Tayyar Kuşcu, Haymana, Thermal spring, Healing water

**ÖZ**

Tayyar Kuşcu, Türkiye'de iç hastalıklarına bağlı romatolojinin kurulmasına öncülük ederek Türk tıbbına önemli katkılar sağlamış bir hekimdir.

Bu çalışmada, Dr. Tayyar Kuşcu'nun Haymana Hükümet ve Dispanser Tabipliği yaptığı dönemde Ankara'nın Haymana ilçesinde bulunan kaplıcanın tarihi, kaplıca suyunun özellikleri ve faydaları hakkında yazmış olduğu "Haymana Kaplıcası ve Faydaları" adlı eseri incelenecektir.

1946 yılında İstanbul Işıl Matbaasında basılmış yapılmış olan Eser, 104 sayfadan oluşmaktadır. Yazar Eserinde genel olarak, Haymana'nın tarihçesi, kaplıcanın tarihi ve bugünkü durumu, kaplıca suyunun özellikleri, banyo tekniğinden bahsettikten sonra çeşitli rahatsızlıklar nedeniyle kaplıcaya tedavi olmaya gelen hastalara ilişkin gözlemlerine bölümler halinde yer vermiştir.

Zengin sıcak su kaynaklarına sahip Anadolu coğrafyasında Ülkenin başkentinde bulunan Haymana kaplıcaları, hastalıklarına şifa arayanlar için önemli bir konuma sahiptir. Dr. Tayyar Kuşçu'nun kapsamlı araştırmalarının yer aldığı Eseri, Haymana kaplıcasının tarihi, özellikleri ve faydaları hakkında günümüze ışık tutan önemli bilgiler sunmaktadır.

**Anahtar kelimeler:** Tayyar Kuşcu, Haymana, Kaplıca, Şifalı sular

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## Introduction

Dr. Tayyar Kuşcu has contributed significantly to pioneering the establishment of rheumatology based on internal diseases in Turkey. Kuşcu conducted researches and made observations on the effects of the thermal spring water in Haymana working as a Government and Dispensary Doctor in Haymana. He had the analysis of physical and chemical properties of the thermal spring water in Ankara Hygiene Institute and has reached very important and interesting results from the medical point of view. The government sent Kuşcu to America as a researcher in the field of medicine because of this work. After studying balneology and rheumatology in the USA, Kuşçu returned Turkey and he made a stride in this field by establishing the rheumatology unit in Istanbul Şişli Etfal Hospital. Kuşcu, who had a traffic accident in 1968, died at a young age.[1-3]

Natural spring waters have been used for various purposes all over the world since ancient times.[4] The thermal springs, which enable the use of ground waters, still continue to heal people.[5] Anatolian lands, which have rich underground waters, harbor many thermal springs. Haymana thermal springs, located in the capital of the country, were noticed and used for healing by the civilizations that dominated the Anatolian lands, and has been protected until today and is still being used with same purposes.

Grounding and verifying the new information to be revealed with old information will make the present stronger.[6] Therefore, analyzing and evaluating a work written in ancient times about spa treatment will significantly contribute to the literature. Accordingly, Dr. Tayyar Kuşcu's work, namely “Haymana Thermal Spring and Its Benefits" which was written in 1946, will be evaluated. In his work, the author has written about the history of thermal spring in Haymana, the characteristics of the hot thermal spring water, and the observations he made for about three years between 1943-1945 about the patients who came to the thermal spring for seeking treatment. In this study, the healing waters and Haymana thermal spring are briefly mentioned before evaluating the work of Kuşçu. Although the reviewed work was written in Turkish, the article was presented in English in order to have the attention of world-wide scientists and readers to this subject.

## About Healing Waters

Throughout the history of philosophy, the apparent multiplicity in the universe has been tried to be explained with a single principle (*arkhe*), and this search has come to the present day with various answers. Thales (624-546 BC), the founder of the Ionian school, claimed that *arkhe* was water and tried to explain the basis of everything in the universe with water.[7] Water, one of the elements in Empedocles'' theory of the four elements (air, water, fire, earth), is one of the natural resources that form the basis of life. The esse of life in Mesopotamian civilization is water. In times when opportunities were insufficient, people sought cure for their diseases with water. It is known that the use of healing waters was quite common during the time of the Hittites in Anatolia and also in Ancient Egypt.[8] Physicians were given the name Azu, which means "one who knows water", and this name became Asu among the Assyrians.[9] In addition to ensuring the continuity of human life, water is also necessary for many important vital activities such as nutrition, cleaning, disease prevention and treatment. Water has become a subject of medicine not only as a source of healing, but also in terms of the value of life. Some ancient medical practices were shaped on the water-health axis and Treatment with healing waters can be seen in various folk medicine practices.[10] Rich healing ground water resources in Anatolian geography has enabled the civilizations living in Anatolia to use the healing properties of water.[11] Mineral and thermal healing waters are used by bathing, drinking and inhalation methods as a complement to various diseases due to their content.[12-13] Water is applied in various ways in order to eliminate some physical and mental ailments in facilities such as drinking, thermal springs, hot springs, spas.[14] Numerous studies exist in the literature in the subject of the use of thermal and mineral healing waters in the treatment of various diseases.[15-19]

**Haymana Thermal Springs**

Spa treatment, which dates back to the history of humanity, is a method that has been developed with the use of thermal and mineral waters for the treatment of various diseases and has been used until today.[20] There are various thermal springs such as drinking, spa and hot springs with different characteristics and degrees in almost every corner of Turkey, where tectonic activities are intense.[21] Today, there are more than 900 thermal and mineral springs in Turkey with temperatures ranging between 20-102 ºC.[22] It has been reported that there are approximately 190 thermal spring facilities in 46 provinces of Turkey.[23]

One of the important features of Haymana, which has hosted many civilizations such as Hittite, Phrygia, Lydia, Med, Galat, Roman, Byzantine, Seljuk and Ottoman since the first ages, is thermal springs. The hot water in Haymana was first noticed and used by the Hittites. It is thought that other civilizations that took the region under their dominance after the Hittites also benefited from the Haymana thermal spring.[24] Haymana hot spring water has been found to be beneficial for human health as a result of the research conducted by the International Healing Water Resources Research Center. It has been reported that the water with an outlet temperature of 44.5 °C is at a suitable temperature for treatment. The water distribution and pricing authority belongs to Haymana Municipality. There are 3 thermal enterprises operated by the municipality and 9 private enterprises in Haymana.[25] People visit Haymana thermal springs for the treatment of various diseases. Haymana thermal springs are effective in diseases such as rheumatic diseases and osteoarthritis, chronic joint disease, spine diseases, sciatica, rheumatoid arthritis and spondylitis, polio, brain and spinal cord diseases, waist and neck hernias, skin diseases, kidney and gallbladder sand and stones, arteriosclerosis, gynecological diseases, respiratory system disorders.[26]

**Evaluation of the Work Titled "Haymana Thermal Spring and Its Benefits"**

The evaluated work was printed in Istanbul Işıl Printing House in 1946 and sold for two hundred and fifty kurus. In the 104-page book, there are 17 pictures-figures and 4 tables containing images and information about Haymana and the thermal spring ***(Figure 1).***[27] At the beginning of the book, *"A source of Carbon Dioxide in our hometown!"* titled article can be found including views and evaluations of Dr. Nihad Reşad Belger on this work, who is a diplomat, politician, physician and head of the Hydrology and Climatology Department of Istanbul University Faculty of Medicine, which was founded in 1938.[28-29] Belger emphasized in his article that the author tried to objectively convey the information about Haymana thermal springs by following the scientific methodology. Dr. Tayyar Kuşcu provided brief information about the Haymana thermal spring and the diseases that can be cured by this thermal spring water in the Preface following this article. Before the chapters, there is a map image named "*Ankara Province Thermal and Mineral Springs*", which gives geographical information about the thermal and mineral springs in Ankara ***(Figure 2).*** The content of the book is presented in 7 main chapters. The chapters are: History and Current Situation of the Town, Temperature-Acid Carbonic-Radioactivity and Their Effects, Determination of Bath Reaction and Bath Time, Rheumatism-Sciatica and Lumbagos, Bronchial Asthma, Polyneuritis- and Gynecology, Cases with Hypertension. After the main chapters, the book was completed with the Literature, False-True Table and Table of Contents, respectively.[27]

When the book is examined in all chapters;

In **History and Current Situation of the Town** chapter, information about the history, formation and development of Haymana Town and some geographical features of Haymana and the history of the thermal spring are mentioned. Then, the current status and the characteristics of the thermal spring water are mentioned. In addition, many photographs of Haymana and the thermal spring are included in this chapter. The work was started with the story of how Haymana became the name of the town known as "*yapan bath*

*or yaban bath*". It is said that Haymana is a cool and windy plateau contrary to what is known, and detailed information about the geography of the region is presented.[27]


**Figure 1.** The cover page of the book called Haymana Thermal Spring and Its Benefits

Kuşcu said that the history of the bath is not known exactly, but the stones in the pool made of Ankara stone just above the spring water are the same as the stones used in the construction of the Eti (Hittite) temple, which is known as *Gavurkale* (Infidel's Castle) among the people in *Dereköy* village of Haymana and for this reason, he added that the first installation of the bath may have been made by the Hittites ***(Figure 3).***

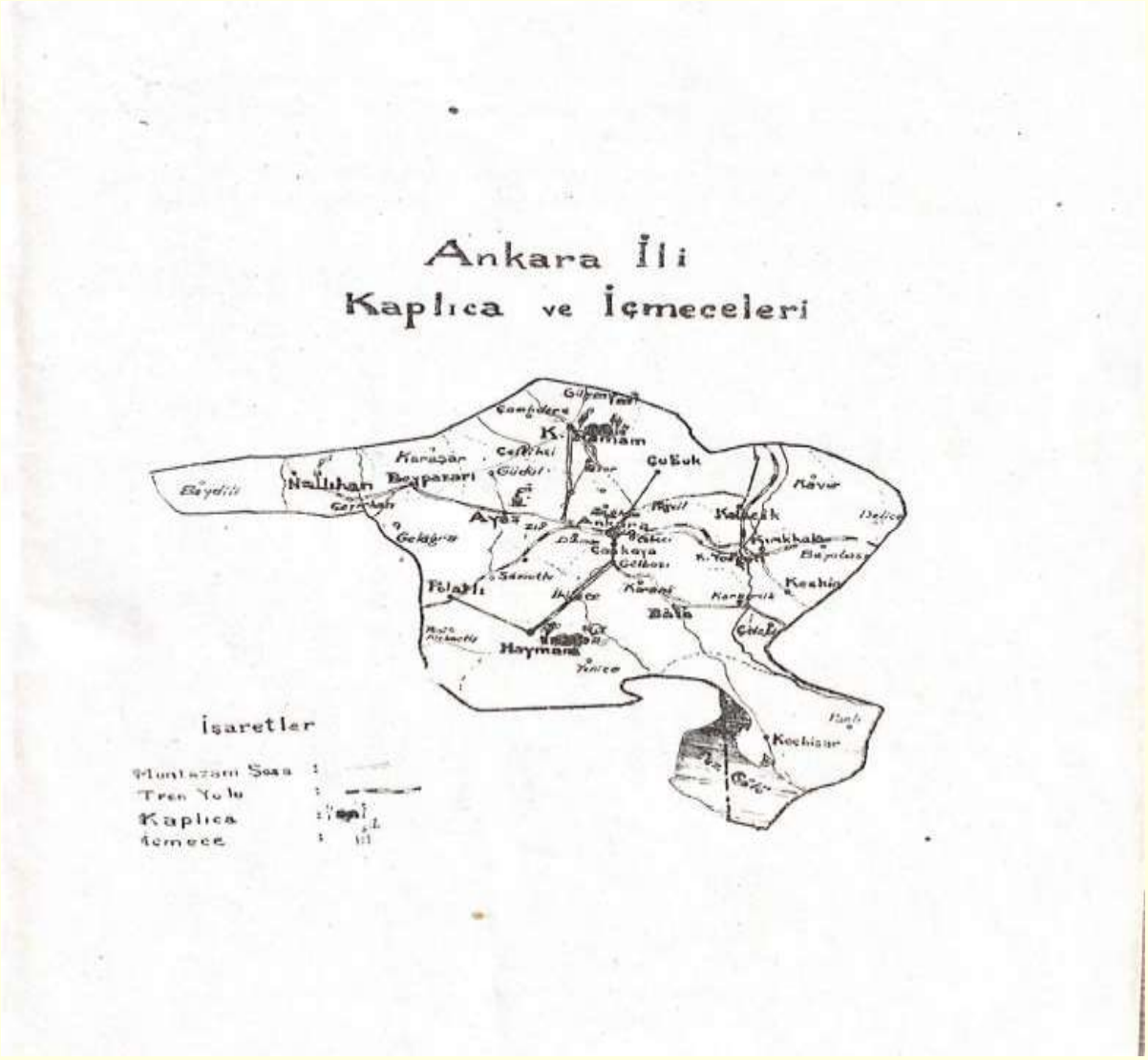


**Figure 2.** Thermal and mineral springs in Ankara province – From Kuşcu's book named as Haymana Thermal Spring and Its Benefits

He also stated that it was understood that the bath was used by the Romans because of the money recovered from the debris and excavations near the bath, and he also reported that the bath continued to be used by the Seljukian and Ottomans in the region in the later periods. [27]

About the current situation of thermal spring, he said that the thermal spring water is carried from the outlet to the dispensary, private baths, men's and women's baths with the help of pipes ***(Figure 4).*** The author has provided detailed information about the temperature of the water, the flow rate and the amount of carbon dioxide. In addition, there is a variety of information in this chapter that presents the results of the analysis on the physicochemical properties of the thermal spring water by the Chemistry Branch of the Central Hygiene Institution (Dr. Scheller).[27]

**Figure 3.** Eti Temple (Gavurkale- Infidel's Castle) (Cited from: https://www.haymana.bel.tr/haberler/gavur-kalesi-turizme-kazandiriliyor)

In ***Temperature-Acid Carbonic-Radioactivity and Their Effects*** chapter, various information is presented about the temperature, PH value, carbon dioxide content, radioactivity values and effects of the thermal spring water. The author stated that the Haymana thermal spring is a hyper thermal water in terms of its temperature, the thermal spring does not have a cold water installation, and the local people can withstand the temperature of the water for a longer time than other people. He said that a horripilation was felt due to vasoconstriction when first entered the water. After then a sweet warmth was felt due to vasodilation. He emphasized that the content of the thermal spring water plays a role in the effects besides the temperature of the water. He stated that the carbon dioxide in the thermal spring water isolates the skin surface and alleviates the thermic effect of the water, causes a decrease in blood pressure (especially in diastolic blood pressure) and an increase in the respiratory volume. Then the author noticed the radioactivity and mentioned that sources containing a small amount of radioactivity have some properties accepted by the authorities that they accelerate metabolism, reduce pain and lower blood pressure. In addition, he emphasized that the bathing technique is important for radioactivity to affect the body and to benefit more from the thermal spring water and focused on what should be considered in this regard.[27]

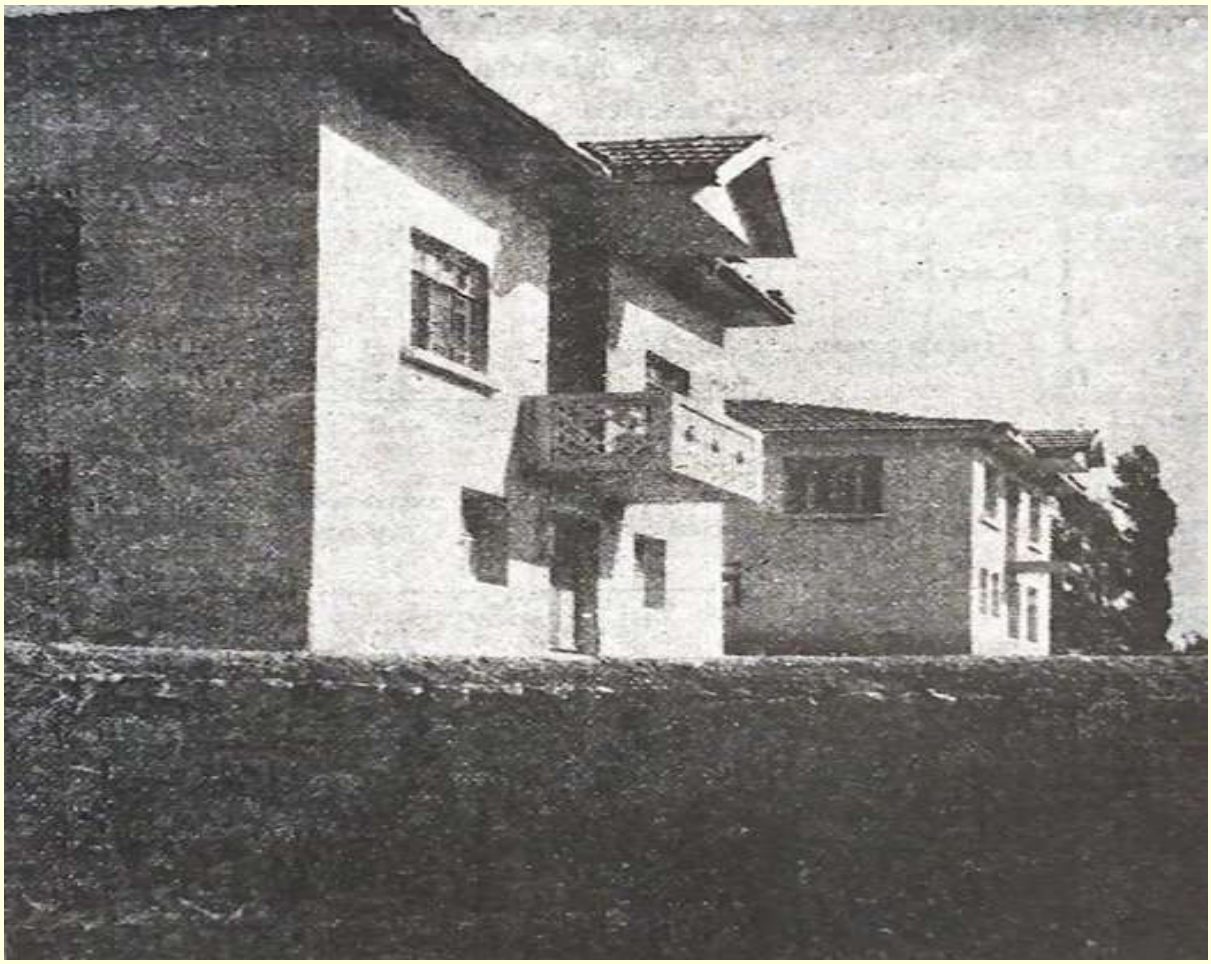

**Figure 4**. Rear view of the current spa building – From Kuşcu's book named as Haymana Thermal Spring and Its Benefits

In ***Bath Reaction and determination of Bath Time*** chapter**,** the author provided various information about the bath reaction of Haymana thermal spring, the determination of the bath time and the bath technique. The bath reaction was defined by the author as *"the reaction caused by mechanical, chemical and thermal effects on the skin, which provides the relationship between our internal organs and the outside"*. The author stated that, according to his impressions, the bath reaction varies according to the time of the person's illness and the status of taking bath treatment, and explained when the reaction can begin. He stated that these reactions may manifest themselves as pain, fatigue, loss of appetite, nausea, and diarrhea. The author tried to explain the situation with various case reports by expressing that the severity of the bath reaction can sometimes be excessive. In the part of determining the bath time, the author stated that the patients who came to the thermal spring wanted to go as soon as possible by completing the number of baths in Haymana due to the problems they had with food and accommodation. He mentioned the importance of rest and nutrition as much as the number of baths in order to get good results. Kuşcu mentioned a bathing technique in order to benefit effectively from the thermal spring water. According to this technique, it is necessary to do a light massage before the bath, to stay calm in the bath and to dry a little after the bath. At the end of the chapter, information about the patients who applied to the polyclinic with various diseases and received positive or negative results from the bath treatment between July 1943 and the end of the year 1945 is given. According to this information, the author examined not only the diseases presented in chapters, but also various diseases such as eczema and skin diseases, goiter, polio, gallbladder and liver diseases, varicose veins, phlebitis, and provided various information about whether patients can benefit from bath treatment or not.[27]

In ***Rheumatism-Sciatica and Lumbagos*** chapter***,*** various information was given about rheumatism, rheumatoid arthritis and osteoporosis in general, and observations of some patients with these complaints who came to the thermal spring for treatment were included. In the section, the etiologies, pathologies of rheumatism, osteoarthritis and rheumatoid arthritis diseases and evaluations of some authorities on these diseases, which are most benefiting from the treatment of hot spring water due to its physicochemical properties, are presented in this chapter. The author talked about the meaning of the word "Rheumo", which has been used since the time of Hippocrates, and stated that the equivalent of this word in our population is "Yel" due to its wandering feature among the people. He stated that patients with acute rheumatism can only take a bath after their fever is reduced, and that there is no problem in taking a bath for those with chronic rheumatism. Besides, He drew attention to the relationship between rheumatism and psychotherapy, which is accepted by the authorities, and emphasized that these patients should believe that they will definitely benefit from the thermal spring. The chapter also includes observation notes on the complaints, bath treatments and benefits of some patients who were treated for these diseases.[27]

At the beginning of ***Bronchial Asthma*** chapter, information about patients who were observed for bronchial asthma is given. The author provided the opinions and recommendations of Dr. J. Diener, *Bad Ems* (thermal town in Germany) Head of Government Medical Experience Institute, about bath therapy for asthmatics. He talked about Diener's opinion that the most important step in the treatment of asthma is to increase body resistance and mentioned that early initiation of bath therapy in asthmatics will provide early and rapid results. Besides, he stated that the French *Le mont-Dore* thermal bath city is especially good for asthmatics, and that good results can be obtained in asthmatics because the water in Haymana thermal spring is close to the water in this city in terms of content. At the end of the chapter, observation notes about some asthmatic patients who were taking bath therapy are given.[27]

In the first part of the ***Polyneuritis and Gynecology*** chapter, observation notes about patients who received bath therapy for polyneuritis are included. In the section of gynecology, it has been reported that some patients came directly to the thermal spring, while others came with the advice of their doctors. It has been emphasized that bath treatment as once a day for a month or twice a day for twenty-one days would be beneficial. Then, the author focused on endocrine arthritis and conveyed the evaluations of some authorities on this issue. This chapter is concluded with information about some patients with gynecological diseases and their bath treatments.[27]

In the ***Cases with Hypertension*** chapter, the author stated that recently positive results have been obtained in the treatment of hypertension with water, and that the Royot thermal springs in France and Yalova thermal springs in Turkey are good for hypertension. He reported that he noticed the beneficial effects of Haymana thermal spring on hypertension for the first time on his mother, and later confirmed this situation with his observations on cases with hypertension who came to the thermal spring for bath treatment. In this chapter, information about 37 cases who benefited from bath therapy for hypertension is presented. Afterwards, observations about some patients who took bath therapy for hypertension were presented and the chapter was completed.[27]

**Discussion**

Thermal springs are structures or settlements established to benefit from the healing possibilities of healing waters with thermal or thermomineral structure. It is possible to encounter springs with various mineral contents and varying temperatures in Anatolia, which has a rich structure in terms of natural originating waters. For this reason, throughout history, Anatolia has witnessed the use of thermal springs and healing waters by the people.[30] The healing water found in Haymana thermal springs has attracted the attention of people living in the region for a long time and has been used for various diseases.

The use of warm water for therapeutic purposes comes from ancient times to dates.[31] However, not all hot water is considered to be a healing water. In order to consider spring waters as healing water, physical and chemical properties of water such as temperature, mineral content, density, radioactivity should be checked. As a result of the examination, water that meet certain criteria are accepted as healing water.[32] It has been understood from the information in the studied work and the current studies that the Haymana thermal spring, which is located in the center of Anatolia and have been used by people for centuries, has a deep-rooted history and curative from a thermo-mineral aspect.[27,33]

It has been reported that the studies about Haymana thermal spring during the Republican period are limited. The first study identified was published in 1935 by Dr. Kerim Ömer Çağlar. Çağlar presented information about Haymana and the physical characteristics of the thermal spring. The second study identified about Haymana thermal spring is the article about Haymana thermal spring and its benefits, written by Nüzhet Şakir Dirisu in 1936. Another study that presents important information about Haymana thermal spring and its benefits belongs to Dr. Tayyar Kuşcu.[24] In this respect, the work examined is among the pioneering works that provide important and comprehensive information about the Haymana thermal spring.

It is stated that traditional and complementary medicine (TCM) practices should not be excluded, otherwise the gap between society and modern medicine may become deep and is emphasized that the method used should be proven to be beneficial in terms of health.[34] However, it is known that scientific studies and data on TCM applications are not sufficient.[35] In this context, it is necessary to reveal the necessary scientific knowledge by carrying out scientific multidimensional studies for the use of TCM applications. When the scientific studies about Haymana thermal spring are considered, it is seen that these studies are generally dated to recent times.[24,25,33] In this work, the results of the physicochemical analysis of the thermal spring water and observations lasting about 3 years about patients coming to the thermal spring for the treatment of various diseases in the work written by Dr. Tayyar Kuşçu in 1946 is shared. In this respect, it is admirable that a work in which such a comprehensive research was carried out and the data were shared objectively, including laboratory results and observation notes for spa treatment, which is a traditional method, and puts the work in a very special position in its field. In addition, this work exhibits a perspective that will shed light on the future studies about Haymana thermal spring.

It is understood from the work that Haymana thermal spring water is beneficial for patients with hypertension, asthmatics, and for diseases such as rheumatism and sciatica.[22] It can be seen that the information about diseases that have benefit from thermal spring water in the work is generally comparable with current studies.[5,33,36,37] In this respect, the ideas put forward by the author in his work are still valid today and guide the future studies about thermal springs. On the other hand, it is possible that future studies on the characteristics and indications of Haymana thermal spring water will show some differences in parallel with scientific developments. In his work, the author made suggestions about bath therapy for patients who applied to the outpatient clinic due to certain diseases.[27] However, it is not fully understood whether any medical treatment is given in addition to bath therapy.

The author stated in his work that the temperature of the hot spring water (44.6 ºC) is too high to enter and that water at this temperature can be tolerated for a very short time. He also stated that the amount of carbon dioxide in the place where the water first flowed was very high and the amount of carbon dioxide decreased over time due to the volatilization of the gas. He also warned that people with rheumatic fever should not take bath treatment, and he clearly stated his views on the diseases that the thermal spring water is good / not good for.[27] From these statements, it is understood from these statements that an objective attitude, which prioritizes public health, is exhibited in this work.

It has been reported that it is necessary to have peace of mind and belief in healing, good nutrition and sleep in order to benefit from the spa treatment.[38] In traditional practices, it is said that the belief factor is important, and the patient heals when he/she believes in getting better.[39] In accordance with the literature, it was emphasized in this work that there should be sufficient rest and nutrition, and the patients should believe that they would definitely benefit from the bath in order for the person to benefit from the spa treatment.[27]

One of the most important points in spa treatment is the necessity of applying the treatment methods under the control of the relevant physician.[5,40] Toktas et al. (2020) stated in their study that very few of those who applied to the thermal spring for treatment were under the control of a physician, while the majority of them used traditional and empirical methods.[41] In addition, it is emphasized that the integration of spa treatment centers with modern medicine is of great importance and it is reported that most centers do not have a specialist on the subject or do not have integration with the health center.[33] In his work, the author stated that he offered bath treatment to patients who applied to the polyclinic for their complaints and that the hot spring water was carried to the dispensary with the help of pipes. From this point of view, this work reveals the intertwining of modern and traditional medicine practices in the past. Besides this work is important and exemplifies other traditional practices since the follow-up of the patients, the time and frequency of the bath, and the monitoring of side effects, were made by a physician in the health center.

## Conclusion

The healing waters, which were used in the past by taking advantage of the natural opportunities in order to find a cure for the diseases, have preserved their existence and importance until today. Today, thermal springs with healing waters are traditional treatment centers that people frequently resort to be healed and improve their health. Haymana thermal springs offer healing to various diseases of the people in the region from past to present due to its central location in the Anatolian geography.

This work, namely Haymana Thermal Spring and Its Benefits, contains extensive researches of Tayyar Kuşcu, a physician who made significant contributions to Turkish medicine, including observations and analysis results about Haymana thermal spring. The work is a pioneer in terms of revealing the properties of Haymana thermal spring water and determining its indications and contraindications. In addition, it provides valuable information on the history and use of Haymana thermal spring. In this direction, this work contributes to revealing the benefits of spa treatment, which is a traditional method, and its proper use. In conclusion, this work is a good example of the traditional medical practice shaped around the culture and intersecting with water.

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