Artuklu Tourism Studies

Mardin Mutfağında Baharat Olarak Kullanılan Aromatik Bitkiler ve Sağlık Etkileri Üzerine Bir İnceleme

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Öz

Mardin mutfağı, zengin aromatik bileşikleri ve kendine has baharat dengeleriyle dikkat çeker. Bu aromatik bileşikler, yemeğin karakteristik lezzetini oluşturmada önemli bir rol oynar. Aynı zamanda, kullanıldıkları yemeklerin hem aroma hem de sağlık açısından çeşitli faydalar sağlamasına imkan tanır. Aromatik bileşikler, bitkisel kaynaklardan elde edilerek ısı ve pişirme teknikleriyle zenginleşir. Kekik, nane, sumak, tarçın, zerdeçal ve kimyon gibi baharatlar, sadece lezzet vermekle kalmaz, aynı zamanda antioksidan, antiinflamatuar ve sindirimi kolaylaştırıcı özellikleriyle bilinir. Antioksidan kapasitesi yüksek olan aromatik bileşikler, serbest radikalleri nötralize ederek hücre hasarını engellerken, bazı baharatlar anti-inflamatuar etkileriyle inflamasyon süreçlerini hafifletir. Ayrıca, bazı baharatların içeriğindeki aroma bileşenleri nedeniyle sindirimi kolaylaştırıcı ve bağışıklık sistemini destekleyici fonksiyonları da bulunur. Bu bağlamda, Mardin mutfağındaki baharatların kullanımı, kültürel mirasın yanı sıra modern sağlık yaklaşımlarına da uyum sağlayan önemli bir unsurdur. Sonuç olarak, aromatik bileşikler sadece lezzet değil, aynı zamanda sağlık açısından da önemli bir bileşen olup, geleneksel tariflerdeki varlıkları, bölgenin gastronomik ve kültürel yapısında merkezi bir yer tutar.

Anahtar Kelimeler: Aromatik Bitkiler, Baharatlar, Fitokimyasal Zenginlik, Geleneksel Yemekler, Mardin Mutfağı

A Review on Aromatic Plants Used as Spices in Mardin Cuisine and Their Health Effects

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Abstract

Mardin cuisine stands out for its rich aromatic compounds and unique spice balances. These aromatic compounds play a significant role in creating the dish's characteristic flavor. At the same time, these compounds allow the dishes they are used in to provide various benefits in terms of both flavor and health. Aromatic compounds are obtained from plant sources and enriched by revealing their properties through heat and cooking techniques. Spices such as oregano, mint, sumac, cinnamon, turmeric, and cumin not only add flavor but are also known for their antioxidant, anti-inflammatory, and digestive properties. Aromatic compounds with high antioxidant capacity neutralize free radicals, preventing cell damage, while some spices alleviate inflammatory processes with their anti-inflammatory effects. Additionally, due to the aromatic components in certain spices also possess functions that aid digestion and support the immune system. In this context, the use of spices in Mardin cuisine is an important element that bridges traditional heritage and modern health approaches. In conclusion, aromatic compounds are not only important for flavor but also for health, and play a central role in the region's gastronomic and cultural structure.

Keywords: Aromatic Plants, Spices, Phytochemical Richness, Traditional Dishes, Mardin Cuisine

Introduction

Mardin cuisine has a unique culinary culture that reflects the region's rich cultural heritage and climatic characteristics. The preferred elements in regional cuisine are important for both their flavor and health benefits (Mathew, 2024). Especially the use of aromatic spices and plants is one of the characteristic features of Mardin cuisine. Spices such as oregano, mint, sumac, cinnamon, allspice, turmeric, thyme, and cumin add flavor to dishes and also provide various health benefits (Bukvicki et al., 2020). Dishes containing these aromatic plants are carefully used in traditional recipes and form an important part of the cultural identity of the region (Antón et al., 2019; Özbay & Çakır, 2022; Richards, 2021). In Mardin local cuisine, the use of these plants is generally made with natural and traditional methods and is passed down from generation to generation as a legacy (Seçim & Okumuş, 2024). Additionally, the spices used in the region, with their antioxidant, anti-inflammatory, and digestive properties, are one of the important elements supporting the health of the local people in their daily lives (Jiang, 2019). For example, aromatic plants such as thyme and cumin are thought to strengthen the immune system by giving flavor to meals and making important contributions to health (Jiang, 2019). Therefore, the use of aromatic plants in Mardin cuisine is not only a traditional practice but also part of a healthy lifestyle. The region's cuisine stands out both in terms of aroma and health benefits thanks to these plants, making it an important representative of the regional culinary culture (Özbay & Çakır, 2022; Seçim & Okumuş, 2024). For this reason, preserving traditional recipes and using aromatic plants correctly in cooking is of great importance both culturally and for health reasons.

Aromatic plants are rich in phenolic acids, flavonoids, terpenes, and essential oils, which provide powerful antioxidant, antimicrobial, anti-inflammatory, and even neuroprotective effects (Grigore-Gurgu et al., 2025; Nurzy´nska & Nurzy´nska-Wierdak, 2023). Examples of these include thyme, rosemary, sage, basil, and cloves, all of which have demonstrated significant biological activities such as antibacterial, antiviral, antifungal, and anticancer properties (Ali, 2021; Mekky et al., 2023; Mokhtari et al., 2023; Shahrajabian et al., 2020). Aromatic compounds are organic compounds that occur naturally in plants and determine their taste, smell, and aroma. These compounds, often phenolic, terpenoid, and flavonoid in structure, play a significant role in plants' defense mechanisms (Batiha et al., 2020a; Mostafa et al., 2022). Thanks to their flavoring properties, they not only add unique taste and aroma to dishes but also provide numerous health benefits. Plants commonly used in Mardin cuisine, such as thyme, mint, sumac, turmeric, and cumin, are rich in aromatic compounds (Soleimani et al., 2022). These compounds not only give dishes their characteristic aroma but also attract attention with their antioxidant, anti-inflammatory, and digestive effects. Phenolic compounds in the structure of aromatic plants can prevent cell damage by fighting free radicals and are protective against aging processes (Christaki et al., 2012; Sun & Shahrajabian, 2023). At the same time, their anti-inflammatory effects help reduce the risk of chronic diseases. On the digestive system, these compounds alleviate stomach gas, regulate bowel movements, and support overall digestive health. Additionally, they promote mechanisms that strengthen the immune system and build resistance to infections in the body (Christaki et al., 2012). Taken together, these properties demonstrate that Mardin cuisine offers remarkable richness and diversity in terms of health-promoting effects. The benefits of aromatic compounds are achieved through the careful and balanced use of plants found in traditional recipes, and modern research supports the scientific basis for these effects. In conclusion, the aromatic compounds used in Mardin cuisine not only add flavor and aroma but also provide valuable contributions with their positive effects on health. The conscious use of these compounds is an important element in preparing both delicious and healthy meals (Canbey, 2025; Sarişik and Şahin, 2021; Göktepe and Akın, 2024; Karaşah, 2025; Özbay and Çakır, 2022; Şahin, 2021; Yilmaz and Akan, 2023). Therefore, this study aims to review the aromatic plants commonly used as spices in Mardin cuisine and to discuss their

phytochemical properties and potential health benefits.

1. Main Aromatic Plants Used in Mardin Cuisine

Aromatic plants have been used in traditional recipes in Mardin cuisine for many years, providing a unique aroma to the dishes and offering health benefits. Thyme stands out with its unique aroma, especially in meat dishes and sauces (Zemzemoğlu et al., 2022). The flavonoids and essential oils in its content exhibit antioxidant effects, protecting cells from the harmful effects of free radicals (Devasagayam et al., 2004; Patil et al., 2021; Shahidi & Ambigaipalan, 2015). Mint is known for its digestive properties and its ability to soothe the stomach. It contributes positively to gut health by providing an antiseptic effect thanks to its essential oil (Arshad et al., 2023; Soleimani et al., 2022). Sumac, in addition to adding a sour flavor to dishes, exhibits anti-inflammatory and antioxidant effects thanks to the polyphenols it contains (Canbey, 2025). Sumac's polyphenols help strengthen the immune system while reducing the risk of inflammation. Turmeric, especially with its deep-rooted structure and curcumin substance, not only has anti-inflammatory and antioxidant functions but also supports liver functions and strengthens the immune system (Gupta et al., 2013; Karaman & Beyaz, 2017). Cumin, on the other hand, adds depth to dishes with its aroma, while the essential oils it contains make digestion easier and promote bowel movements (Erçin and Dincel, 2021; Mnif and Aifa, 2015; Saddique et al., 2024). With regular consumption of these compounds, the digestive and immune systems are strengthened, along with antioxidant and anti-inflammatory effects (Devasagayam et al., 2004; Shahidi & Ambigaipalan, 2015). Additionally, using these aromatic compounds in their natural form in dishes prepared using traditional methods is more beneficial for health and contributes to a sustainable diet (FAO, 1992;1998; Martini et al., 2021; Özbay & Çakır, 2022; Seçim & Okumuş, 2024).

1.1. Thyme

Source: (Taken from a spice shop in Mardin, 2025)

Thyme is an important aromatic plant used in Mardin cuisine, providing various health benefits along with a distinct aroma in dishes. Thyme draws attention especially with its antioxidant and antimicrobial properties (Gedikoğlu et al., 2019). Compounds like carvacrol and thymol found in its content can fight free radicals, preventing cell damage and slowing down aging processes (Patil et al., 2021). Various studies have also shown that these compounds strengthen the immune system and increase resistance to infections. Carvacrol and thymol are emerging as potential supportive components in diseases related to excessive immune system activity (autoimmunity, allergies, and inflammatory diseases). Carvacrol and thymol act as immunomodulators by suppressing the excessive activity of the immune system. In particular, they decrease the excessive activity of T-cells, decreases the production of proinflammatory cytokines (IL-1β, TNF-α, IFN-γ, IL-17A) and increases the levels of anti-inflammatory cytokines (IL-10, TGF-β) Additionally, they reduces the activity of

inflammation-associated transcription factors such as JNK, STAT-3, AP-1, and NFAT (Gholijani et al., 2015, 2016; Gholijani & Amirghofran, 2016; Rathod et al., 2021). At the same time, consuming thyme can reduce inflammation and alleviate the risks of chronic diseases thanks to its anti-inflammatory effects (Jalil et al., 2024). Thyme, which also has positive effects on the digestive system, contributes to the relief of stomach discomfort with its carminative and soothing properties (Knaub et al., 2022; Rtibi et al., 2019). It is also known that thyme consumption can have soothing effects on the respiratory tract and reduce inflammation in the respiratory tract (Patil et al., 2021; Soleimani et al., 2022). In Mardin cuisine, thyme is widely used, especially in meat and vegetable dishes, creating the characteristic aroma of traditional recipes and becoming an indispensable part of the region's unique culinary culture. The use of this plant not only adds flavor but also attracts the attention of modern medicine today due to its health benefits. Studies have shown that compounds found in thyme may help prevent various chronic diseases (Jalil et al., 2024). Therefore, in Mardin cuisine, thyme represents the indispensable aroma of traditional and healthy dishes (Dönmez, 2025; Kardeş, 2024; Özbay & Çakır, 2022). Beyond its health effects, thyme symbolizes the local identity of Mardin's culinary heritage.

1.2. Mint (Mentha)

Source: (Taken from a spice shop in Mardin, 2025)

Mint is one of the most frequently used aromatic plants in Mardin cuisine, holding a prominent place in local culinary practices. Thanks to compounds like carvone, limonene, and menthol in its content, it provides a pleasant aroma and a unique flavor (Arshad et al., 2023; Park et al., 2016). These compounds exhibit aromatic and refreshing effects during daily consumption, while also offering numerous health advantages. Menthol stimulates a cooling sensation by selectively activating the TRPM8 channel (transient receptor potential melastatin 8 ion channel) (Xu et al., 2020). Menthol, known for its soothing effect on the respiratory system, particularly stands out for its anti-inflammatory and antioxidant properties (Best, 2023). Consuming mint leaves has positive effects on the digestive system, contributing to the relief of problems such as indigestion, bloating, and gas (Hirata et al., 2025; Mahboubi, 2021). Additionally, thanks to the compounds it contains, mint can strengthen the immune system and show resistance-increasing effects against infections (Lahlou et al., 2024; McKay & Blumberg, 2006; Shahidi & Ambigaipalan, 2015; Wani et al., 2022). In Mardin cuisine, its use is traditionally applied either during cooking or sprinkled over the dish, and these methods allow for the preservation of aroma and the effective use of compounds. The health benefits of mint are also supported by scientific research, with its antioxidant and anti-inflammatory effects being particularly noteworthy in the prevention and treatment of chronic diseases (Best, 2023; Lahlou et al., 2024; Park et al., 2016; Wani et al., 2022). Additionally, mint is known to alleviate stomach spasms and have antiseptic effects against mouth and throat infections (Best, 2023; Chakraborty et al., 2022; Park et al., 2016).

Therefore, the use of mint in Mardin cuisine plays a significant role both in terms of flavor and health. In traditional dishes, mint not only adds flavor but also meets consumers' health expectations, highlighting the functional food value of traditional cuisine. In conclusion, the aromatic and health benefits offered by mint contribute to the creation of unique and healthy dishes in Mardin cuisine.

1.3. Sumac

Source: (Taken from a spice shop in Mardin, 2025)

Sumac is an important aromatic compound frequently used in Mardin cuisine, giving dishes a characteristic sourness. The dried fruit of this plant adds a tangy and refreshing sourness with its unique acidic taste to dishes. The fruit of the sumac plant is rich in phenolic compounds (tannins, flavonoids, and phenolic acids), anthocyanins, essential oils, and minerals (Abu-Reidah et al., 2015; Zannou et al., 2025). Additionally, sumac exhibits antioxidant properties due to its high content of phenolic compounds, reducing cell damage by fighting free radicals (Canbey, 2025). Such antioxidant activity contributes to the prevention chronic diseases and delaying the signs of aging (Alsamri et al., 2021; Zannou et al., 2025). Sumac is traditionally used in combination with nuts, salads, and meat dishes, and in this way, it increases the digestibility of meals. Additionally, sumac supports the digestive system with its diuretic and antiseptic properties, contributing to the regular functioning of the intestines. Thanks to its antibacterial effects (*S. aureus*, *Enterococcus faecalis*, *P. aeruginosa*, *and Acinetobacter baumannii*), it also contributes to food safety by inhibiting the growth of certain microorganisms (Ashoori et al., 2020; Zannou et al., 2025). Sumac helps strengthen the immune system and build resistance to infections thanks to its high vitamin C content (Canbey, 2025; Karaduman, 2022). These features offer various health benefits when used in traditional dishes, while also adding richness to the character of the meals thanks to the sour aroma they impart. Therefore, sumac is not only a flavor enhancer but also a valuable compound for health. These positive effects on human health are significant for the sustainability of natural and healthy eating patterns in traditional cuisines (Canbey, 2025; FAO; 2019; Karaduman, 2022).

1.4. Turmeric

Source: (Taken from a spice shop in Mardin, 2025)

Turmeric is a widely used aromatic plant in Mardin cuisine, important for both flavor and health. Thanks to the active compound called curcumin it contains, turmeric exhibits antioxidant and anti-inflammatory properties (Gupta et al., 2013; Hewlings & Kalman, 2017; Memarzia et al., 2021). These properties play a role in reducing the risk of chronic diseases by protecting cells from the harmful effects of oxidative stress and inflammation (Çeliker & Özdemir, 2023; Karaman & Beyaz, 2017). Turmeric, also known for its digestive properties, supports the smooth functioning of the gastrointestinal system and alleviates discomfort such as bloating and gas (Kattah et al., 2025). Additionally, curcumin is also notable for its ability to strengthen the immune system. Research shows that turmeric's anti-inflammatory properties hold therapeutic potential for rheumatic diseases or inflammatory bowel diseases (Aggarwal & Harikumar, 2009; Artar & Öztürk, 2022; Gupta et al., 2013; Hewlings & Kalman, 2017; İkikardeş & Kurutaş, 2023; Karaman & Beyaz, 2017). Its use in Mardin cuisine adds aromatic depth unique to traditional recipes, while also providing various health benefits. It is known that curcumin, when taken in low doses, supports liver and heart health, strengthens the immune response, and has anti-aging effects. The oral bioavailability of curcumin is very low; the main reasons for this are poor water solubility, low intestinal absorption, rapid metabolism, and rapid systemic elimination. Thus, various strategies have been proposed to enhance bioavailability: adjuvants like piperine and novel pharmaceutical formulations can significantly improve curcumin's absorption and stability (Jamwal, 2018; Racz et al., 2022; Tabanelli et al., 2021). Therefore, it is recommended to consume turmeric with black pepper to increase its absorption rate (Artar & Öztürk, 2022; Erkul et al., 2021; İkikardeş & Kurutaş, 2023; Pour et al., 2023; Şatana & Yeşilot, 2023; Shoba et al., 1998). In traditional uses, turmeric is observed not only to add exquisite color and aroma to dishes but also to contribute to long-term health thanks to its active compounds. Curcumin shows anti-inflammatory and anti-cancer activity by inhibiting various signalling pathways, mainly NF-κB and COX-2. Curcumin decreases the expression of pro-inflammatory cytokines and COX-2 by blocking the activation of NF-κB (Afshari et al., 2024; Mortezaee et al., 2019; Plummer et al., 1999) . Current research highlights the potential benefits of turmeric in preventing and treating various diseases, while also noting that its effectiveness can be enhanced when combined with other aromatic compounds. In conclusion, turmeric not only enhances flavor in the kitchen but also holds a significant place in the field of health, highlighting its relevance in functional nutrition (Artar and Öztürk, 2022; Çeliker and Özdemir, 2023; Erkul et al., 2021; Fatma Bülbül et al., 2021; İkikardeş & Kurutaş, 2023; Şatana & Yeşilot, 2023; Şeker & Akın, 2023).

1.5. Cumin

Source: (Taken from a spice shop in Mardin, 2025)

Cumin is an aromatic plant that holds a significant place in Mardin cuisine and gives dishes a characteristic aroma. Thanks to the phytochemicals it contains, it not only adds flavor but also provides various health benefits. One of the most well-known properties of cumin is its positive effects on the digestive system (Milan et al., 2008). Cumin, which alleviates stomach discomfort, reduces bloating, and aids digestion, holds a significant place in regional cuisine, especially where heavy and spicy foods are frequently consumed (Meena et al., 2022; Milan et al., 2008). Additionally, cumin's antioxidant properties help reduce the harmful effects of free radicals, thereby delaying cell aging. Therefore, it can play a role in reducing the risk of chronic diseases. The antioxidant efficacy of cumin is closely related to its high phenolic and flavonoid content. These compounds neutralise free radicals and inhibit lipid peroxidation thanks to their hydroxy and methoxy groups (Mnif & Aifa, 2015). At the same time, thanks to its anti-inflammatory properties, it alleviates inflammatory processes in the body and can show soothing effects on joint and muscle pain (Bettaieb et al., 2010; Meena et al., 2022; Soroosh et al., 2025). Cumin seeds have a high content of volatile oils (especially cuminaldehyde, γ-terpinene, α-terpinene, daucene, and trans-caryophyllene) and fixed oils. Petroselinic acid and sterols are also important fatty acids in cumin. Flavonoids and phenolic acids like apigenin, luteolin, quercetin, rutin, ellagic acid, and vanillic acid are components that stand out for their antioxidant and anticancer features in cumin (Iram & Edwin, 2022; Merah et al., 2020; Ramya et al., 2022). This spice, which strengthens the immune system, increases resistance to infections. Regular consumption of cumin is also known for its blood sugar-balancing effects, making it a positive support for individuals with diabetes (Jafari et al., 2017; Karimian et al., 2021). Additionally, the minerals and vitamins found in cumin help improve overall health. Therefore, it is important to integrate its traditional use with modern nutritional and pharmacological approaches in both culinary culture and the health field (Akeren and Hintistan, 2021; Dönmez, 2022; Erçin and Dincel, 2021).

1.6. Cinnamon

Source: (Taken from a spice shop in Mardin, 2025)

Cinnamon, like in Middle Eastern and Indian cuisine, is traditionally used in savory dishes in Mardin cuisine. Cinnamon adds a unique aroma and a slightly sweet-spicy flavor to pilafs, meat dishes, and some local desserts (Spence, 2024). Cinnamon is usually used in powder form or as a stick. In Mardin, cinnamon is used in combination with other spices, especially in meat pilafs and some local kebabs (Özbay & Çakır, 2022; Spence, 2024). The different species of cinnamon (*Cinnamomum verum*, *Cinnamomum cassia*, etc.), which add depth to dishes with their distinctive sweet aroma, have different aroma profiles. Significant comparisons can be made in terms of chemical composition between the most commonly used cinnamon species, *Cinnamomum verum* (light cinnamon) and *Cinnamomum cassia* (dark cinnamon). *C. verum*: Its main components are cinnamaldehyde, eugenol, cinnamic acid, and cinnamyl acetate. It is particularly high in eugenol, which plays a role in antioxidant and antimicrobial effects (Kim et al., 2023; Narayanankutty et al., 2021; Pathak & Sharma, 2021). *Cinnamomum verum* is rich in phenolic compounds, generally having a milder aroma (Pathak & Sharma, 2021). On the other hand, *Cinnamomum cassia* has a more dominant and intense aroma profile due to its high safrole and coumarin content. These differences can create different effects in terms of both taste and health (Alam et al., 2023; Dönmez, 2022; Mokhtarzadeh et al., 2023). Cinnamon offers versatile health benefits thanks to its rich phenolic compounds. Major phenolics include catechin, epicatechin, proanthocyanidins, quercetin, ferulic acid, p-coumaric acid, and cinnamic acid. The phenolic components in cinnamon eliminate free radicals and reduce oxidative stress (Błaszczyk et al., 2021; Pagliari et al., 2023). These components form the basis of cinnamon's antioxidant, anti-inflammatory, antidiabetic, and cardiovascular protective effects (Das et al., 2022; Gulcin et al., 2019; Shang et al., 2021). Various clinical and biochemical studies reveal many positive health effects of cinnamon.

Cinnamon has antioxidant, anti-inflammatory, antimicrobial, and digestive system-supporting properties. It has also been shown to have protective effects against chronic diseases such as diabetes and cardiovascular disease. Cinnamon is preferred not only for its flavor but also for its digestive and immune-supporting effects (Błaszczyk et al., 2021). Cinnamon is a spice that has a deep-rooted place in intercultural gastronomy and is notable for its rich chemical components. This flavoring plant, which has stood out throughout history for both its flavor and potential health benefits, is widely used, especially in traditional cuisines. Mardin cuisine is one of the regions that prefers cinnamon to obtain characteristic flavors, especially in desserts, beverages, and various meat dishes. Cinnamon is rich in micro- and macro-components and has a complex chemical profile containing various essential oils, phenolic compounds, and structural aromatic contents. Thanks to these properties, beyond its traditional uses, its antioxidant, anti-inflammatory, and glucose metabolism regulating effects

are also being investigated in modern medicine (Błaszczyk et al., 2021; Hajimonfarednejad et al., 2019; Silva et al., 2022). In the region's food culture, the use of cinnamon is not only limited to adding flavor but also serves the function of increasing the durability of dishes and extending the storage life of the substance. In this context, it is seen that cinnamon is used extensively and in various ways in traditional recipes in Mardin cuisine (Demirci & Coşkun, 2025; Özbay & Çakır, 2022).

1.7. Isot (Urfa Pepper)

Source: (Taken from a spice shop in Mardin, 2025)

Isot is a spice widely used in Mardin cuisine and stands out with its unique aroma, and has a rich content structure in terms of chemical components and aromatic properties. The main components of this spice include various volatile oils, phenolic compounds, and carotenoids. *Capsicum annuum* L. contains mainly capsaicinoids (capsaicin, dihydrocapsaicin), phenolic compounds (quercetin and luteolin), carotenoids (lutein, chlorophyll, and anthocyanins), vitamins (A, C, and E) and minerals (Ashour et al., 2021; Grojja et al., 2023). Capsaicin is responsible for the pungency and basic pharmacological properties of isot (Batiha et al., 2020b). These chemical elements create the distinctive, broad, and complex aromatic profile of isot, while also providing a characteristic depth of flavor and aroma. These substances, in their chemical structure, not only directly contribute to the aromatic and gustatory properties of isot but are also related to its known health effects (Batiha et al., 2020b; McCarty et al., 2015). Capsaicin exerts a potent antioxidant effect by scavenging free radicals and reducing oxidative stress (Batiha et al., 2020b; Hormozi & Baharvand, 2025; Lee et al., 2003). It also has anti-inflammatory effects through the inhibition of pro-inflammatory cytokines (IL-6, TNF-α) and NF-κB. Moreover, capsaicin enhances the lipid profile by lowering LDL, total cholesterol, and triglyceride levels while increasing HDL (Ávila et al., 2024; Panchal et al., 2018). Additionally, it enhances energy expenditure through thermogenic effects and supports lipolysis in adipose tissue (Ávila et al., 2024; Lee et al., 2011; Panchal et al., 2018; Wang et al., 2021). In addition, the various essential oils and phenolic compounds contained in isot contribute to the distinctive smoky, mildly pungent, and earthy aroma of the spice, making it a preferred choice in various dishes. Isot pepper (*Capsicum annuum* L.) is a distinctive spice widely used in Mardin cuisine, recognized for its smoky aroma, mild pungency, and deep reddish-brown color. Chemically, isot contains a rich composition of volatile oils, phenolic compounds, carotenoids, capsaicinoids, and unsaturated fatty acids, which together create its characteristic flavor profile and health-promoting potential (Basyigit et al., 2020) . These ingredients ensure that isot is valuable both for its gastronomic and potential health benefits. As a result, the various components in the chemical structure of isot pepper contribute to both sensory perception and functional properties while also providing various health benefits (Basyigit et al., 2020; Cho et al., 2020; de Sá Mendes & Gonçalves, 2020).

2. The Effects of Aromatic Compounds on Health

Aromatic compounds are important components that create the characteristic aroma and taste of the herbs and spices used in Mardin cuisine. Plants like thyme, mint, sumac, turmeric, and cumin, which contain these compounds, not only enhance the flavor of dishes but also provide various health benefits. Thanks to their antioxidant properties, they can protect cells from oxidative damage, reducing the risk of aging and many diseases. Especially thyme and mint, containing aromatic compounds, flavonoids, and unique phenolic compounds, fight free radicals in the body. Additionally, with their anti-inflammatory effects, they can slow the progression of inflammatory diseases (Pandey & Rizvi, 2009; Shahidi & Ambigaipalan, 2015). These compounds have positive effects on the digestive system; especially turmeric and cumin, which alleviate indigestion, reduce gas and bloating, and contribute to the regular functioning of the intestines (Kattah et al., 2025; Thavorn et al., 2024). These compounds, which strengthen the immune system, can increase resistance to infections by stimulating immune defence cells. All of this shows that the aromatic compounds found in traditional Mardin cuisine not only provide flavor but also offer natural support for health. Incorporating these bioactive compounds into daily diets can help prevent chronic diseases and improve overall health. In conclusion, the bioactive compounds found in aromatic plants, with their protective and healing effects, represent one of the key determinants of the unique and therapeutic properties of Mardin cuisine (Cihangir et al., 2023; Özbay & Çakır, 2022).

Conclusion

The nutritional value of Mardin dishes, along with the richness and diversity of aromatic compounds they contain, is noteworthy. The aromatic herbs and spices used in these dishes, such as thyme, mint, sumac, turmeric, and cumin, not only enhance the flavor but also provide significant health benefits. Thyme and mint can help prevent cellular damage by fighting free radicals thanks to their high antioxidant content. They also alleviate various inflammatory processes with their anti-inflammatory properties. Sumac is known for its immune-boosting, antibacterial, and antiviral effects. Curcumin, the active compound in turmeric, contributes to essential health benefits with its potent antioxidant and anti-inflammatory effects. Cumin and cinnamon, on the other hand, stand out for their properties that facilitate digestion and support digestive and metabolic mechanisms. The health effects of these aromatic compounds enhance the nutritional value of Mardin cuisine and play a beneficial role in daily life. Additionally, the consumption of these compounds appears significant for the prevention of chronic diseases and the strengthening of the immune system (Kunnumakkara et al., 2018; Shahidi & Ambigaipalan, 2015; Yahfoufi et al., 2018). Therefore, the traditional dishes of Mardin cuisine offer richness not only culturally and gastronomically, but also in terms of health. In summary, these dishes can be considered a significant example of the use of aromatic plants, considering both their flavor and health benefits (Best, 2023; Dönmez, 2022; İkikardeş & Kurutaş, 2023; Karaduman, 2022; Özbay & Çakır, 2022; Patil et al., 2021). Ultimately, these properties highlight the potential of traditional diets as a model for functional nutrition, emphasizing the need for integrated approaches that bridge gastronomy and health science.

Article Information

Değerlendirme	İki Dış Hakem / Çift Taraflı Körleme
Evaluation	Two Outside Referees, / Double-Sided Blinding
Etik Beyan	Bu çalışma Etik Kurul beyanı gerektiren çalışmalar kapsamına girmemektedir. Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.
Ethical Consideration	This study does not fall within the scope of studies requiring an Ethics Committee declaration. It is hereby declared that scientific and ethical principles were followed during the preparation of this study and that all studies utilized were indicated in the bibliography.
Benzerlik Taraması	Yapıldı-intihal.net
Similarity Scan	Done-intihal.net
Etik Bildirim Ethical Statement	artuklutourismstuidies@artuklu.edu.tr
Yazar Katkıları	Çalışma tek yazarlıdır.
Author Contributions	The study has a single author.
Çıkar Çatışması	Çıkar çatışması beyan edilmemiştir.
Conflict of Interest	No conflict of interest declared.
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