

Plant Biotechnology Persa



Online ISSN: 2676-7414

Homepage: https://pbp.medilam.ac.ir

A Review of Medicinal Plants Used for the Treatment of Hyperlipidemia: An **Ethnobotanical Survey in Southern Iran**

Laya Hooshmand Garehbagh 1 D, Masoumeh Tahmasebi D





¹Department of Internal Medicine, School of Medicine, Imam Khomeini Hospital, Urmia University of Medical Sciences, Urmia, Iran & Department of Internal Medicine, School of Medicine, Imam Khomeini Hospital, Urmia University of Medical Sciences, Urmia, Iran ²School of Medicine, Emam Khomeini Hospital, Ilam University of Medical Sciences, Ilam, Iran

Article Info	ABSTRACT			
Article type:	Objective: Hyperlipidemia refers to a condition characterized by an abnormally high level of			
Review Article	lipids (fats) in the blood. This disorder typically involves elevated triglycerides and low-density lipoprotein (LDL) cholesterol, commonly known as "bad cholesterol," which can increase the risk			
	of cardiovascular diseases, strokes, and other serious health issues. This ethnobotanical review			
	aims to identify medicinal plants used in the ethnobotanical knowledge of southern Iran for the			
Article History:	treatment of hyperlipidemia.			
Received: Jan. 29, 2025	Methodology: In this review, articles were searched using keywords such as medicinal plants,			
Revised: Mar. 08, 2025	ethnobotany, hyperlipidemia, and the names of the provinces of Sistan and Baluchestan, Bushehr			
Accepted: May. 18, 2025 Published Online: July. 27, 2025	Hormozgan, Khuzestan, Fars, and Kerman. For source collection, reliable databases such as Google			
	Scholar, SID, Magiran, PubMed, and Scopus were consulted. Relevant ethnobotanical studies were			
	selected and used in the analysis. Results: The study found that the following medicinal plants are used in the ethnobotanical			
M	knowledge of southern Iran to treat hyperlipidemia: <i>Lepidium latifolium</i> L., <i>Cichorium intybus</i> L.			
[⊠] Correspondence to:	Achillea millefolium L., Silybum marianum (L.) Gaertn., Arum elongatum subsp. alpinariae Alpinar			
laya Hooshmand Garebagh	& R.R. Mill, Glycyrrhiza glabra L., Rheum ribes L., Amygdalus lycioides Spach, Amygdalus scoparia			
	Withania somnifera, Caralluma edulis, Rumex acetosa L., Coriandrum sativum, Allium sativum,			
	Sesamum indicum, Anethum graveolens L., Anthriscus sylvestris, Gundelia tourneforti L., Tragopogon			
Email:	aureus Boiss, Trigonella foenumgraecum L., Solanum nigrum L., Phoenix dactylifera L., Achillea			
Laya.Hooshmand58@gmail.com	eriophora DC., Artemisia sieberi Besser, Bienertia cycloptera, and Teucrium polium L. The leaves of			
	these medicinal plants are the most commonly used plant part for lowering blood lipids.			
	Conclusion: This study highlighted the widespread use of various medicinal plants in southern			
	Iran's ethnobotanical knowledge for reducing blood lipids. These findings underscore the therapeutic potential of these plants in managing hyperlipidemia. However, clinical and			
	pharmacological studies are essential to confirm the efficacy and safety of these herbal			
	compounds.			
	Keywords: Hyperlipidemia, Medicinal Plants, Traditional Medicine, Iran			

> How to cite this paper

Hooshmand Garebagh L, Tahmasebi M. A Review of Medicinal Plants Used for the Treatment of Hyperlipidemia: An Ethnobotanical Survey in Southern Iran. Plant Biotechnology Persa 2025; 7(3): 49-57.





Introduction

Hyperlipidemia, or high blood cholesterol, is a condition where the level of cholesterol in the blood increases to abnormal levels, potentially leading to fat accumulation in blood vessel walls and vessel blockages. Cholesterol is an essential lipid for cell membrane construction, hormone production, and the synthesis of vitamins [1]. Excessive cholesterol production can lead to heart diseases and strokes. Therefore, regulating cholesterol levels through proper diet and treatment is crucial to prevent associated complications [2].

Blood lipids consist of three main types: LDL cholesterol (bad cholesterol), HDL cholesterol (good cholesterol), and triglycerides. LDL is responsible for plaque formation in blood vessel walls, leading to arterial blockages and an increased risk of cardiovascular diseases. On the other hand, HDL helps remove excess cholesterol from the bloodstream [3]. Triglycerides, which are produced from calorie-dense foods, can also elevate blood lipid levels if consumed in excess. Managing these lipids through diet and a healthy lifestyle is necessary to prevent heart issues [4].

High cholesterol is often asymptomatic, but in cases of atherosclerosis (artery narrowing) and cardiovascular complications, symptoms such as chest pain, blocked vessels in the heart and brain, high blood pressure, heart attacks, strokes, shoulder stiffness, yellowing eyelids, and leg pain may appear [5]. A high cholesterol level is usually caused by consuming fatty foods. Saturated fats in animal products and trans fatty acids in processed foods can increase LDL (bad) cholesterol while lowering HDL (good) cholesterol levels [6].

Certain medical conditions may lead to elevated blood lipids. These include diabetes, hypothyroidism, metabolic syndrome, Cushing's syndrome, pancreatic disease, polycystic ovary syndrome (PCOS), multiple myeloma, primary biliary cirrhosis, chronic kidney disease, lupus, sleep apnea, and AIDS [7,8].

High cholesterol can be diagnosed using a lipid panel or cholesterol test, which measures the levels

of four key factors: total cholesterol, LDL (bad cholesterol), HDL (good cholesterol), and triglycerides. For more accurate results, it is typically recommended to fast for 9 to 12 hours before the test, consuming only water [7,8].

High cholesterol can lead to atherosclerosis, which is the buildup of cholesterol deposits in the vessel walls. These plaques block blood flow, leading to serious health issues [9]. Its complications include chest pain (angina) from blocked coronary arteries, heart attacks from disrupted blood flow, and strokes due to blockages in the brain's blood vessels [10].

The initial treatment for high cholesterol involves lifestyle changes, such as a healthy diet and regular exercise [11]. If these measures are insufficient, medications such as statins (atorvastatin), cholesterol absorption inhibitors (ezetimibe), bempedoic acid, bile acid sequestrants (cholestyramine), and PCSK9 inhibitors (Repatha) may be prescribed to lower LDL levels. The choice of medication depends on individual conditions, side effects, cost, and accessibility [11].

Traditional medicine and herbal remedies have long been used to treat various disorders [12], including high blood cholesterol [13]. In recent years, due to fewer side effects and the natural properties of these treatments, there has been increased interest in using herbal remedies to lower blood cholesterol and triglyceride levels [14,15]. Herbal medicines, as complementary treatments with fewer side effects and greater safety, can have positive effects in reducing the risk of cardiovascular diseases [16] and serve as a natural and effective option for managing high blood lipids [17,18]. This ethnobotanical review aims to identify herbal plants used in the ethnobotanical knowledge of southern Iran to treat hyperlipidemia.

Methodology

In this review, articles were searched using keywords such as "medicinal plants," "ethnobotany," "blood lipids," and the names of provinces including Sistan and Baluchestan, Bushehr, Hormozgan, Khuzestan, Fars, and Kerman. To collect resources, reputable databases such as Google Scholar, SID, Magiran, PubMed, and Scopus were reviewed. Relevant articles related to ethnobotanical studies were selected and used for the analysis.

Results

The results of this study showed that medicinal plants such as *Lepidium latifolium* L., *Cichorium intybus* L., *Achillea millefolium* L., *Silybum marianum* (L.) Gaertn., *Arum elongatum* subsp. *alpinariae Alpinar* & R.R. Mill, *Glycyrrhiza glabra* L., *Rheum ribes* L., *Amygdalus lycioides* Spach, *Amygdalus scoparia*, *Withania somnifera*,

Caralluma edulis, Rumex acetosa L., Coriandrum sativum, Allium sativum, Sesamum indicum, Anethum graveolens L., Anthriscus sylvestris, Gundelia tourneforti L., Tragopogon aureus Boiss, Trigonella foenumgraecum L., Solanum nigrum L., Phoenix dactylifera L., Achillea eriophora DC., Artemisia sieberi Besser, Bienertia cycloptera, and Teucrium polium L. are used in the ethnobotanical knowledge of southern Iran for treating hyperlipidemia. Additional information on these medicinal plants and their effects on blood lipids in southern Iran's ethnobotanical knowledge is provided in Table 1.

 Table 1: Medicinal Plants Effective on Hyperlipidemia in the Ethnobotanical Knowledge of Southern Iran

Scientific Name	Common Name	Plant Family	Used Part(s)	Study Area	Reference
Lepidium latifolium L.	Broad-leaved Pepperweed	Brassicaceae	Leaf	Abadeh, Shiraz	[19]
Cichorium intybus L.	Chicory	Asteraceae	Leaf, Root	Abadeh, Shiraz	[19]
Achillea millefolium L.	Yarrow	Asteraceae	Leaf, Flower	Abadeh, Shiraz	[19]
Silybum marianum (L.) Gaertn.	Milk Thistle	Asteraceae	Leaf, Seed	Abadeh, Shiraz	[19]
Arum elongatum subsp. alpinariae	Long-spurred Arum	Araceae	Leaf	Abadeh, Shiraz	[19]
Glycyrrhiza glabra L.	Licorice	Fabaceae	Leaf, Root	Abadeh, Shiraz	[19]
Rheum ribes L.	Turkish Rhubarb	Polygonaceae	Leaf, Stem	Abadeh, Shiraz	[19]
Amygdalus lycioides Spach	Spiny Almond	Rosaceae	Fruit, Wood	Abadeh, Shiraz	[19]
Amygdalus scoparia	Wild Almond	Rosaceae	Fruit	Baluchestan	[20]
Withania somnifera	Ashwagandha	Solanaceae	Leaf, Fruit	Baluchestan	[20]
Carolluma edulis	Marmot Plant	Apocynaceae	Fruit	Baluchestan	[20]
Silybum marianum (L.) Gaertn.	Milk Thistle	Asteraceae	Leaf, Seed	Behbahan	[21]
Cichorium intybus L.	Chicory	Asteraceae	Aerial Parts	Behbahan	[21]

Laya Hooshmand Garebagh and Masoumeh Tahmasebi

Rumex acetosa L.	Sorrel	Polygonaceae	Leaf, Stem	Behbahan	[21]
Coriandrum sativum	Coriander	Apiaceae	Leaf	South Kerman	[22]
Allium sativum	Garlic	Amaryllidaceae	Leaf, Bulb	Dashtestan, Bushehr	[23]
Coriandrum sativum	Coriander	Apiaceae	Leaf, Fruit	Sirjan	[24]
Sesamum indicum	Sesame	Pedaliaceae	Seed	Sirjan	[24]
Anethum graveolens L.	Dill	Apiaceae	Leaf, Seed	Northeast Khuzestan	[25]
Anthriscus sylvestris	Wild Chervil	Apiaceae	Leaf, Root	Northeast Khuzestan	[25]
Gundelia tourneforti L.	Gundelia	Asteraceae	Stem	Northeast Khuzestan	[25]
Silybum marianum L.	Milk Thistle	Asteraceae	Fruit, Root	Northeast Khuzestan	[25]
Tragopogon aureus Boiss	Yellow Goat's Beard	Asteraceae	Leaf, Fruit	Northeast Khuzestan	[25]
Trigonella foenumgraecum L.	Fenugreek	Fabaceae	Seed	Northeast Khuzestan	[25]
Solanum nigrum L.	Black Nightshade	Solanaceae	Aerial Parts, Fruit	Northeast Khuzestan	[25]
Phoenix dactylifera L.	Date Palm	Arecaceae	Fruit	Fasa	[26]
Achillea eriophora DC.	Yellow Yarrow	Asteraceae	Flower	Fasa	[26]
Artemisia sieberi Besser	Sieber's Wormwood	Asteraceae	Aerial Parts	Fasa	[26]
Cichorium intybus L.	Chicory	Asteraceae	Aerial Parts	Genaveh	[27]

A Review of Medicinal Plants Used for the Treatment of Hyperlipidemia

Bienertia cycloptera	Mangk	Chenopodiaceae	Aerial Parts	Genow, Bandar Abbas	[28]
Teucrium polium L.	Polemonium	Lamiaceae	Aerial Parts	Kazeroon	[29]
Solanum nigrum L.	Black Nightshade	Solanaceae	Fruit	Kazeroon	[29]

Discussion

Iranian medicinal plants play a significant role in the management of hyperlipidemia. These plants, with their active compounds, have the potential to lower harmful blood lipids and increase beneficial cholesterol. As natural therapies with minimal side effects, they are effective in preventing and controlling cardiovascular diseases [30]. A study conducted in Iran highlighted the use of medicinal plants such as artichoke, alfalfa, fenugreek, garlic, soybean, and milk thistle for managing blood lipid levels [31]. Research has shown that milk thistle, either alone or in combination with other herbs, can contribute to the reduction of blood lipids, with no significant side effects reported [32]. According to another study, various medicinal plants, including thyme (Thymus vulgaris), celery (Apium graveolens), chicory (Cichorium intybus), fumitory (Fumaria officinalis), Bermuda grass (Cynodon dactylon), wild parsnip (Heracleum rawianum), tall chamomile (Anthemis altissima), Gundelia (Gundelia tournefortii), wild parsley (Anthriscus sylvestrianum), black nightshade (Solanum nigrum), common barberry (Berberis vulgaris), licorice (Glycyrrhiza glabra), long-leafed Arum (Arum elongatum), rhubarb (Rheum ribes), and spearmint (Mentha spicata) are used for lowering blood lipids [33]. A review of the effectiveness and safety of medicinal plants in reducing blood lipids reveals that plants like thyme, celery, chicory, barberry, and spearmint, through mechanisms such as inhibiting fat absorption and increasing metabolism, are effective in controlling hyperlipidemia. The growing attention to traditional medicine and the reduction of side effects from synthetic drugs emphasize the need for more research in this field [34]. Another study confirmed that plants like fenugreek, garlic, milk thistle, dill, and artichoke play a role in reducing blood cholesterol levels, and these herbs have been analyzed in this article [35]. In Lorestan, medicinal plants such as Anethum graveolens L., Cichorium intybus L., Lactuca sativa L., Malva neglecta Wallr., Allium tripedale Trautv., Ocymum bacilicum L., Olea europea L., *Urtica dioica* L., and *Vitis vinifera* L. are used to manage high blood lipid levels [36]. In Bushehr, medicinal plants like Cichorium intybus L. and Silybum marianum L. Gaertn. are most commonly applied in managing hyperlipidemia [37]. Medicinal plants play a significant role in traditional medicine due to their active compounds, and their therapeutic effects are primarily attributed to these bioactive constituents [38-40].

In many diseases and disorders [41-46], turning to nature and embracing traditional or natural therapeutic approaches can serve as a beneficial and complementary strategy helping to alleviate symptoms, support overall well-being, and enhance patients' quality of life [47,48].

Conclusion

The results of this study indicate that in the ethnobotanical knowledge of southern Iran, a wide variety of medicinal plants are used to manage blood lipid levels. These findings highlight the therapeutic potential of these plants in hyperlipidemia management. However, clinical and pharmacological studies are necessary to confirm the effectiveness and safety of these medicinal plants.

Conflict of Interest

The author declares no conflict of interest related to the publication of this article.

Acknowledgment

The author extends sincere appreciation to Department of Internal Medicine, School of Medicine, Imam Khomeini Hospital, Urmia University of Medical Sciences, Urmia, Iran for their valuable support and contributions to this research.

Consent for Publication

The author confirms that the final version of the manuscript has been reviewed and approved for publication.

Funding/Support

None.

Author's Contributions

LHGH and MT was responsible for conceptualization, data collection, analysis, and manuscript preparation.

Ethical Considerations

As this study is a review article, it does not involve human or animal subjects and therefore does not require ethical approval or informed consent.

References

- 1. Stewart J, McCallin T, Martinez J, Chacko S, Yusuf S. Hyperlipidemia. Pediatrics in Review. 2020;41(8):393-402. doi: 10.1542/pir.2019-0053.
- Esfahanian F, Hazaveh MM, Garehbagh LH, Falahati K, Ataei M, Sanati MH, Jadali Z. Increased mitochondrial DNA copy number and oxidative damage in patients with Hashimoto's thyroiditis. Iran J Public Health. 2021 Aug;50(8):1697-1704. doi:10.18502/ijph.v50i8.6817.
- Yu JN, Cunningham JA, Thouin SR, Gurvich T, Liu D. Hyperlipidemia. Prim Care Clin Off Pract. 2000;27(3):541-87. doi: 10.1016/s0095-4543(05)70164-0.

- 4. Havel RJ, Rapaport E. Management of primary hyperlipidemia. N Engl J Med. 1995 Jun 1;332(22):1491-8. doi: 10.1056/NEJM199506013322207.
- 5. Karr S. Epidemiology and management of hyperlipidemia. Am J Manag Care. 2017 Jun 1;23(9 Suppl):S139-48.
- 6. Naser IH, Alkareem ZA, Mosa AU. Hyperlipidemia: pathophysiology, causes, complications, and treatment. A review. Karbala J Pharm Sci. 2021 Jan 1;1(19).
- 7. Jain KS, Kathiravan MK, Somani RS, Shishoo CJ. The biology and chemistry of hyperlipidemia. Bioorg Med Chem. 2007 Jul 15:15(14):4674-99.
- 8. Grundy SM, Vega GL. Causes of high blood cholesterol. Circulation. 1990 Feb;81(2):412-27. doi: 10.1055/s-2007-1002769.
- 9. Naser IH, Alkareem ZA, Mosa AU. Hyperlipidemia: pathophysiology, causes, complications, and treatment. A review. Karbala Journal of Pharmaceutical Sciences. 2021 Jan 1;1(19).
- 10. Charlton M. Obesity, hyperlipidemia, and metabolic syndrome. Liver transplantation. 2009 Nov;15(S2):S83-9. doi: 10.1002/lt.21914.
- 11. Last AR, Ference JD, Falleroni J. Pharmacologic treatment of hyperlipidemia. Am Fam Physician. 2011 Sep 1;84(5):551-8.
- 12. Hooshmand Garehbagh L, Shahsavari S. The Most Important Medicinal Plants in the Treatment of Hypothyroidism in Iranian Traditional Medicine: A Review. Plant Biotechnology Persa. 2025 Jan 10;7(3):1-8
- 13. Ebrahimi Y, Hasanvand A, Valibeik A, Ebrahimi F, Abbaszadeh S. Natural antioxidants and medicinal plants effective on hyperlipidemia. Research Journal of Pharmacy and Technology. 2019;12(3):1457-62.
- 14. Rauf A, Akram M, Anwar H, Daniyal M, Munir N, Bawazeer S, Bawazeer S, Rebezov M, Bouyahya A, Shariati MA, Thiruvengadam M. Therapeutic potential of herbal medicine for the management of hyperlipidemia: latest updates. Environmental Science and Pollution Research. 2022 Jun;29(27):40281-301. doi: 10.1007/s11356-022-19733-7.
- 15. Mollazadeh H, Mahdian D, Hosseinzadeh H. Medicinal plants in treatment of hypertriglyceridemia: A review based on their mechanisms and effectiveness. Phytomedicine. 2019 Feb 1;53:43-52.
- 16. Saki K, Shokri S, Mazaheri Y, Tahmasebi M. The perception and attitude of using herbal antianxiety and antidepressant drugs in medical students of Ilam University of Medical Sciences during 2021. Advancements in Life Sciences. 2022 Nov 4;9(3):368-72.
- 17. Bazgir N, Ghaysouri A, Tahmasebi M. Phytoconstituents, extraction and analysis of chemical compounds of Crataegus pontica K. Koch fruit using HS-SPME and GC-MS methods. Plant Science Today. 2020 Oct 1.
- 18. Mazloomi S, Heydarizadeh H, Tahmasebi M. A mini review of medicinal plants effective against head lice: A traditional medicine approach to skin and hair hygiene.

- Journal of Biochemicals and Phytomedicine. 2024; 3(2): 95-99. doi: 10.34172/jbp.2024.23.
- 19. Kiasi Y, Forouzeh MR. Ethnobotanical study of the medicinal plants in Abadeh (Case study: Almalicheh rangelands). J Integr Traditional Med. 2019;10(1):71-8. Available from: http://jiitm.ir/article-1-1093-fa.html
- 20. Keshtegar S, Ghaeramani Nejad F, Minab Poodineh H, Farzanjo M. Ethnobotanical study of some medicinal plants in Sistan and Baluchestan Province. Third National Conference on Medicinal Plants and Sustainable Agriculture, Hamedan; 2015. Available from: https://civilica.com/doc/416449
- 21. Razmjoue D, Zarei Z, armand R. Ethnobotanical Study (Identification, Medical Properties and How to Use) of some Medicinal Plants of Behbahan city of Khuzestan Province, Iran. J. Med. Plants 2017; 16 (64):33-49 URL: http://jmp.ir/article-1-1384-en.html
- 22. Hosseini SH, Bibak H, Ramazani Ghara A. Ethnobotanical study of medicinal plants in southern Kerman region. Eco-Phytochemical Journal of Medicinal Plants [Internet]. 2020;8(1):30–63. Available from: https://sid.ir/paper/368836/fa
- 23. Dowlatkhahi M, Ghorbani Nehooji M. Introduction of commonly used medicinal plants in Dashtestan County, Bushehr Province, with an emphasis on traditional uses. Med Plants [Internet]. 2013;12(46):85-105.
- 24. Sharifi Far F, Koohpayeh Abad A, Motaghi MM, Amirkhosravi A, Pour Mohseni Nasab E, Khodashenas M. Ethnobotanical study of medicinal plants in Sirjan County, Kerman Province. Herbal Med [Internet]. 2010;1(3):19-28.
- 25. Khodaiari H, Amani Shahriyar S, Amiri H. Ethnobotany of medicinal plants in the northeastern region of Khuzestan Province. Ecophytochem Med Plants [Internet]. 2014;2(4, consecutive issue 8):12-26. Available from: https://sid.ir/paper/247818/fa
- 26. Ramezanian M, MinaeiFar AA. Ethnobotanical study of medicinal plants in Fasa county. J Integr Traditional Med. 2016;7(2):221-31. Available from: http://jiitm.ir/article-1-680-fa.html
- 27. Moradi L, Dowlatkhahi M, Darabi H, Nabipour I. Ethnopharmacology of medicinal plants in Bandar Genaveh. J South Med [Internet]. 2014;17(5):959-73. Available from: https://sid.ir/paper/33530/fa
- 28. Soltani Poor MA. Medicinal plants of the Gano Protected Area. Res Constr Nat Resour [Internet]. 2005;18(3, serial 68):27-37. Available from: https://sid.ir/paper/19065/fa
- 29. Dolatkhahi M, Ghorbani Nohooji M, Mehrafarin A, Amini Nejad G, Dolatkhahi A. Ethnobotanical Study of Medicinal Plants in Kazeroon, Iran: Identification, Distribution and Traditional Usage. J. Med. Plants 2012; 11 (42):163-178.
- 30. Dolatkhahi M, Gorbani-Nehoji M*, Mehr-Afarin A, Amini-Nejad GH, Dolatkhahi A. Ethnobotanical study of medicinal plants in Kazeroon County: Identification, distribution, and traditional uses. 11th Year, 2nd Series, Issue No. 42, Spring.
- 31. Falah-Hosseini H, Fakhrazadeh H, Dastpak A, Azarabadi M, Mohtashami Tootkaban R. A review of medicinal

- plants effective on hyperlipidemia. Journal of Medicinal Plants. 2005;4(15): [page numbers].
- 32. Sadeghi G, Mohammadzadeh F, Mazloom SR. The effect of Silybum marianum on hyperlipidemia: a systematic review. Navid No. 2019;22(72):64-73. doi: 10.22038/nnj.2019.44027.1185.
- 33. Mivefroshan A, Afsargharehbagh R. Medicinal Plants and Their Bioactive Compounds in the Control of Hyperlipidemia: A Review Study. J Arak Uni Med Sci 2024; 27 (4) :231-237. URL: http://jams.arakmu.ac.ir/article-1-7845-fa.html
- 34. Mivefroshan A, Afsargharehbagh R. Medicinal Plants and Their Bioactive Compounds in the Control of Hyperlipidemia: A Review Study. J Arak Uni Med Sci 2024; 27 (4):231-237.
- 35. Shiri S, Soleimani-Fard M, Yarijani Sh, Rostaminajad V. The application of medicinal plants in the reduction of blood lipids. In: 2nd International Conference on Holistic Life Secrets with a Focus on Medical Sciences, Nutrition, and Mental Health; 2023. Available from: https://civilica.com/doc/1762751.
- 36. Delfan B, Bahmani M, Kazemeini H, Zargaran A, Rafieian-Kopaei M, Asadi-Samani M, Shahsavari S. Identification of effective medicinal plants for hyperlipidemia: an ethnobotanical study in Lorestan Province, West of Iran. Trad Integr Med. 2016;1(1):28. Available from: www.timjournal.com.
- 37. Dastyar N, Ahmadi M. An ethnobotanical study of medicinal plants administered for the treatment of hyperlipidemia in Bushehr, South Iran. J Biochem Phytomed2022; 1(1): 26–30. doi: 10.34172/jbp.2022.7
- 38. Abangah G, Hjazi A, Amin RS, Bustani GS, Romero-Parra RM, Zabibah RS, Moradniani M, Marzbali MY, Nazer MR, Tahmasebi M. The correlation between atrophic gastritis and Helicobacter pylori infection in patients referred to Shohadaye Ashayer Hospital in Khorramabad. Adv Life Sci 2023 Oct 23;10(3):375-80.
- 39. Bazgir N, Ghaysouri A, Tahmasebi M. Phytoconstituents, extraction and analysis of chemical compounds of Crataegus pontica K. Koch fruit using HS-SPME and GC-MS methods. Plant Science Today. 2020 Oct 1.
- 40. Mazloomi S, Heydarizadeh H, Tahmasebi M. A mini review of medicinal plants effective against head lice: A traditional medicine approach to skin and hair hygiene. J Biochem Phytomed2024; 3(2): 95-99. doi: 10.34172/jbp.2024.23.
- 41. Darvishi M, Nava AO, Karimi E, Nouri M, Meigooni SS, Hejripoor SZ. Human and animal bites. Caspian J Environ Sci. 2023;21(2):445–456.
- 42. Mahmud Hussen B, Noori M, Sayad B, Ebadi Fard Azar M, Sadri Nahand J, Bayat M, Babaei F, Karampour R, Bokharaei-Salim F, Mirzaei H, Moghoofei M. New potential MicroRNA biomarkers in human immunodeficiency virus elite controllers, human immunodeficiency virus infections, and coinfections with hepatitis B virus or hepatitis C virus. Intervirology. 2023 Dec 20;66(1):122–135.
- 43. Ghanbari A, Nouri M, Darvishi M. Evaluation of relationship between serum hemoglobin A1C level and

- severity of diabetic foot ulcers based on Wagner criteria. J Med Chem Sci. 2023;6:2234–2241.
- 44. Darvishi M, Nouri M, Zahir M, Asli M, Hejripoor SZ, Karimi E. Overview of human papillomavirus infection. Infect Disord Drug Targets. 2024 Mar 1;24(2):65–76.
- 45. Nouri M, Kamakifar P, Khodabandehlou N, Nahand JS, Tavakoli A, Norooznezhad F, Sorayyayi S, Babaei F, Mostafaei S, Moghoofei M. Association between Parvovirus B19 and anemia in HIV-infected patients. Med J Islam Repub Iran. 2019 Dec 16;33:137.
- 46. Darvishi M, Noori M, Nazer MR, Soleiman-Meigooni S, Forootan M. The relationship between Helicobacter pylori and extra-gastrointestinal infections. Iran J Med Microbiol. 2020 Nov 10;14(6):543–565.
- 47. Darvishi M, Hashemi Rafsanjani SMR, Nouri M, Abbaszadeh S, Heidari-Soureshjani S, Kasiri K, Rahimian G. Biological mechanisms of polyphenols against Clostridium difficile: A systematic review. Infect Disord Drug Targets. 2025 May;25(3): 18715265313944. doi: 10.2174/0118715265313944240726115600
- 48. Hooshmand Garehbagh L. Ethnobotanical review of medicinal plants used for the treatment of hypertension in the southern provinces of Iran. Journal of Biochemicals and Phytomedicine. 2025; 4(1): 40-45. doi: 10.34172/jbp.2025.6.