

# Punicagranatum (Pomegranate) with Anthelmintic Activity

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**Abstract:** Ancient civilizations have long recognized the therapeutic and nutritional advantages of pomegranates, or *Punicagranatum*. Furthermore, pomegranates have been a part of many cultures' diets since prehistoric times (4000–3000 B.C.). According to one account, it was first cultivated in Iran; according to another, it was in India or Turkey. After that, trade channels were used to spread it throughout the world. This study focused on the pomegranate by reviewing the literature to learn about its history, categorization, and description; its medical and therapeutic value; the chemical makeup of the different pomegranate sections; and, lastly, its antiparasitic properties. Modes: 2antibacterial, anti-inflammatory, antiviral, and anticarcinogenic activities. The fruit also improves cardiovascular and oral health. These beneficial physiological effects may also have preventive applications in a variety of pathologies. The health benefits of pomegranate have been attributed to its wide range of phytochemicals, which are predominantly polyphenols, including primarily hydrolyzable ellagitannins, anthocyanins, and other polyphenols. The aim of this review was to present an overview of the functional, medical, and physiological properties of this fruits antiviral, antibacterial, anti-inflammatory, and anticarcinogenic properties. The fruit also enhances dental and cardiovascular health. These advantageous physiological effects might also be used to avoid various illnesses. Pomegranates contain a wide range of phytochemicals, mostly polyphenols (mostly hydrolyzable ellagitannins, anthocyanins, and other polyphenols), which are thought to be responsible for their health benefits. An overview of this fruit's physiological, medicinal, and functional characteristics was the goal of this review. Fresh and juiced, the pomegranate (*Punicagranatum L.*) is a popular ancient fruit. Pomegranate fruit has been used for medicinal purposes since ancient times, and stories about its benefits have persisted over time. Studies conducted in vivo and in vitro have shown that this fruit has antibacterial, anti-inflammatory, antiviral, and anticarcinogenic properties in addition to acting as an antioxidant, antidiabetic, and hypolipidemic.

**Keywords:** Pomegranate; Chemical constituents, Medical significance; Anti-parasitic activity; Pomegranate extracts

## REFERENCES

- [1]. Microbial Biotechnologies, Agrosociences and Environment (Labelled research Unit N°4CNRST), Faculty of Sciences Semlalia, Cadi Ayyad University, Marrakesh Morocco. GSC Biological and Pharmaceutical Sciences, 2023, 23(02), 100–114 Publication history: Received on 06 April 2023; revised on 15 May 2023; accepted on 18 May 2023
- [2]. GSC Biological and Pharmaceutical Sciences, 2023, 23(02), 100–114 101
- [3]. Albrecht M, Jiang W, Kumi-Diaka J, Lansky EP, Gommersall LM, Patel A, Mansel RE, Neeman I, Geldof AA, Campbell MJ. 2004. Pomegranate extracts potently suppress proliferation, xenograft growth, and invasion of human prostate cancer cells. *J Med Food* 7(3):274–83
- [4]. Adams LS, Seeram NP, Aggarwal BB, Takada Y, Sand D, Heber D. 2006. Pomegranate juice, total pomegranate ellagitannins and punicalagins suppress inflammation. *Gil MI, Artes F, Tomas-Barberan FA. Minimal processing and modified atmosphere packaging effects on*
- [5]. *The Pharma Innovation Journal* 2018; 7(10): 71-81
- [6]. Esmailzadeh A, L Azadbakht L. Major dietary patterns in relation to general obesity and central adiposity among Iranian women. *Journal of Nutrition*. 2008; 138(2):358-363.2

- [7]. Olapour S, Najafzadeh H. Evaluation Analgesic, Anti-Inflammatory and Antiepileptic Effect of Hydro Alcoholic Peel Extract of " Punicagranatum (pomegranate)". Asian Journal of medical Sciences. 2010 ;2(6):266-70.
- [8]. Li Y, Guo C, Yang J, Wei J, Xu J, Cheng S. Evaluation of antioxidant properties of pomegranate peel extract in comparison with pomegranate pulp extract. Food chemistry. 2006; 96(2):254-60. <https://doi.org/10.1016/j.foodchem.2005.02.033>
- [9]. Coronado-Reyes JA, Cortes-penagos CD, Gonzalez-hernandez JC. Chemical composition and great applications to the fruit of the pomegranate (Punicagranatum): a review. Food Science and Technology.2021; 42. <https://doi.org/10.1590/fst.29420>.
- [10]. Ercisli S, Gadze J, Agar G, Yildirim N, Hizarci Y. Genetic relationships among wild pomegranate (Punicagranatum) genotypes from Coruh Valley in Turkey. Genetics and Molecular Research, 2011; 10(1):459-464
- [11]. Fernandez-Lopez J, Viuda-Martos M, Sendra E, SayasBarbera E, Navarro C, Perez-Alvarez JA. Orange fibre as potential functional ingredient for dry-cured sausages.European Food Research and Technology. 2007; 226(1-2):1-6
- [12]. Guo S, Deng Q, Xiao J, Xie B, Sun Z. Evaluation of antioxidant activity and preventing DNA damage effect of pomegranate extracts by chemiluminescence method. Journal of Agricultural and Food Chemistry.2007; 55:3134-3140.
- [13]. Erences1da Silva, J.A.T.; Rana, T.S.; Narzary, D.; Verma, N.; Meshram, D.T.; Ranade, S.A. Pomegranate Biology and Biotechnology:A Review. Sci. Hort. 2013, 160, 85–107. [CrossRef]
- [14]. Singh, B.; Singh, J.P.; Kaur, A.; Singh, N. Antimicrobial Potential of Pomegranate Peel: A Review. Int. J. Food Sci. Technol. 2018, 54,959–965.[CrossRef].
- [15]. Currò, S.; Caruso, M.; Distefano, G.; Gentile, A.; La Malfa, S. New Microsatellite loci for Pomegranate, Punicagranatum(Lythraceae). Am. J. Bot. 2010, 97, e58–e60. [CrossRef]
- [16]. Bratan, S. et al. World market for nanomaterials: structure and trends. MATEC We Conf. 129, 02013. <https://doi.org/10.1051/mateconf/201712902013> (2017).
- [17]. Still DW. Pomegranates: A botanical perspective. InPomegranates2006;(pp. 217-228). CRC Press
- [18]. Longtin R. The pomegranate: nature's power fruit? *J. Natl. Cancer Inst.* 2003;95:346–348. [PubMed] [Google Scholar]