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UPDATE

Nutritional and health benefits of some foods mentioned in the Holy Quran

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KEY WORDS

Holy Quran, Health, Mediterranean foods, Nutritional properties, pharmacological virtues.

Abstract

Background-The Holy Quran provides direction for both spiritual and religious practices. Additionally, the Quran contains numerous references to health and dietary practices. This review aims to establish a connection between the Quranic teachings and scientific evidence regarding the health benefits of selected Mediterranean foods (dates, grapes, olives and olive oil, pomegranates, honey, lentils, onions, and figs).

Materials and Methods- A comprehensive literature review was conducted using scholarly databases, including ScienceDirect, PubMed, Scopus, and Google Scholar, to gather relevant scientific studies and findings.

Results- The foods mentioned in the Quran and analyzed in this literature review exhibit a dense nutritional profile and pharmacological virtues supported by contemporary research. Fruits (dates, pomegranate, grapes, figs) and honey demonstrate antioxidant, anti-inflammatory, and antimicrobial properties. Extra virgin olive oil and lentils favorably modulate lipid profiles and metabolic health, while onions and figs contain compounds with chemo-preventive potential.

Conclusion-The results show that these foods are rich in specific bioactive compounds, such as polyphenols, monounsaturated fatty acids, hydroxytyrosol, and organosulfur compounds. These compounds are responsible for their documented antioxidant, anti-inflammatory, cardioprotective, neuroprotective, and chemopreventive effects. Thus, the study confirms that the emphasis placed by the Quran on these natural provisions is supported by modern science, aligning spiritual guidance with evidence-based nutrition for holistic health.

1. Introduction

According to the famous physicist and Nobel Prize winner, Albert Einstein, "Science without religion is lame and religion without science is blind". the Holy Quran is considered as the most perfect book that explains all human needs with the best style and there isn't any defect in the Holy Quran [1]. The Holy Quran contains many foodstuffs and verses with nutritional concepts and it recommends eating healthy, varied and balanced diet [2]. Food rules are contained within the concepts of halal and haram. Halal means lawful, permitted and recommended by the sheria. Haram is the opposite, meaning unlawful, prohibited. Between these two extremes lies the concept of mushbooh, which means doubtful or suspect [3]. Except few Haram foodstuffs that are harmful for health and are forbidden in Islam, consuming other various types of food is recommended [2]. The Holy Quran and the Hadith of the Prophet Muhammad have mentioned the type of food prohibited for consumption because that is not good for humans [4]. Some foods, such as drinking blood and eating pork, carrion, or any animal not slaughtered in Allah's name, are forbidden in Islam [4].

In Islam, herbs and its constituents have important value in diet and treatment of various types of diseases. The Prophet Mohammed (Peace Be Upon Him) used various herbs and recommended various medicinal plants for cure of various diseases [5]. According to Holy Quran, the fruits like grape, date, fig, olive and pomegranate are gifts and heavenly fruits of Allah. Eighteen fruits and plants name have been mentioned in the holy book of Muslim [6]. A close attention to Quranic verses and its scientific signs can have a significant influence on the correction and maintenance of healthy lifestyles and the prevention of chronic diseases. A reflection of these Quranic verses could serve as a health-promoting guide for culturally competent health educators and public health practitioners in diverse populations [7, 2].

Therefore, in-depth reading and scientific understanding of Quranic verses will enable Muslims to better apply the recommendations of Allah and develop scientific research based on divine truths especially about nutrition and healthy lifestyle. The present review resumes some health benefits and nutritional properties of some Mediterannean foods (date, grape, olive and olive oil, pomegranate, honey, lentils, onion and figs) cited in the Holy Quran. Although many other foods and herbs, such as ginger, basil and cucumber, are mentioned in the Holy Quran, the selection of these specific eight foods was mostly made because they are the most commonly consumed in the mediterranean diet.

2. Materials and methods

A literature review was conducted of relevant published studies until December 2024. The online databases of Google Scholar, Scopus or PubMed were used to create a targeted search (last search performed December 01, 2024). Articles related to the cited foods were searched using specific related keywords such as 'Ficus carica and health'; 'pomegranate and nutritional value'; 'grape and cancer'; 'olive oil and health', 'onion and cardiovascular disease', and many others. Studies that were not written in English or had no abstracts were excluded from the initial screening.

It is important to note that this review adopts a distinct literature review format rather than a systematic review. Its primary aim is not to exhaustively identify, appraise, and synthesize all available evidence. Instead, its scope is exploratory and illustrative, seeking to present recent and compelling scientific findings that align with inherent value of specific foods mentioned in the Holy Quran.

Consequently, while the spirit of rigorous and transparent literature searching is upheld, the formal PRISMA methodology is not directly applicable. The methodology employed is better characterized as a targeted narrative synthesis.

Therefore, while a definitive total number of articles for a PRISMA-style quantitative synthesis is not provided, the review includes a curated selection of over 70 key studies that together establish a coherent and scientifically grounded body of evidence. This approach effectively fulfills the review's core mission: to bridge traditional wisdom and modern science by demonstrating that the foods divinely ordained in the Holy Quran are consistently validated by contemporary research as possessing significant health-promoting properties.

3. Results and discussion

3.1. Date

Phoenix dactylifera (date palm) is a member of the genus Phoenix belonging to family Arecaceae. It is widely cultivated for its edible fruits and kernels [8]. The therapeutic applications of date palm are well recognized in Middle Eastern folklore and Indian traditional medicine [9]. Dates have been traditionally used to break the fast during the holy month of Ramadan [10]. The Holy Quran highlights the nutritional significance and health benefits of dates by mentioning the fruit several times. This frequent citation underscores the pivotal role of dates in the Muslim economy, culture, and diet. Furthermore, it may be interpreted as a divine indication from Allah regarding the health advantages associated with this fruit.

Dates are a good source of many nutrients essential for human health, such as amino acids, essential fatty acids, minerals such as potassium, calcium, magnesium, and phosphorus, and fiber, as well as compounds that provide antioxidant activity by fighting free radicals such as phenols, flavonoids, and carotenoids, which protect against inflammatory diseases and cancers [11]. Many reports have stated that consuming date fruits would help people in safeguarding against cardiovascular disease (CVD), which is the major cause of mortality worldwide. Date fruits help to reduce the blood pressure, cholesterol level and lipid oxidation [9]. Data from in vitro and animal studies report that consumption of date fruit or extracts can modulate select markers of vascular health, particularly plasma lipid levels including triglycerides and cholesterol, indices of oxidative stress and inflammation [12].

Date palm fruit-derived extracts are excellent sources of biologically active constituents and substantiate their potential use in new anticancer strategies [13]. Subash et al., (2015) have shown that chronic dietary supplementation of date palm fruits showed possible beneficial effects concomitant with oxidative stress reduction and increased antioxidant enzymes in transgenic mice model [14].

According to Eid et al. (2015), the consumption of date fruits may enhance colon health by increasing beneficial bacterial growth and inhibiting the proliferation of colon cancer cells [15]. Recently, scientist [16] have examined the potent effects of date palm on the reproductive parameters in males including hormonal levels and seminal vesicle parameters as well as sperm motility, count, and viability; whereas, in females, it shows a convincing effect on reproductive parameters including oogenesis process, strengthening of oocytes, regulation of hormones, strengthening of pregnancy, reduction of the need for labour augmentation, and postpartum haemorrhage prevention. For instance, many other studies [17, 18] have shown that date fruit has antioxidant, antimutagenic, anti-inflammatory, gastroprotective, hepatoprotective, nephroprotective and immunostimulant activities.

3.2. Grape

Grape (Vitis species) is one of the most produced and consumed fruits in the world [19]. The use of grapes is known to date back to Neolithic times. Greek philosophers believed in the healing powers of whole grapes and products derived from grapes [20]. In the Holy Quran, grape is mentioned multiple times symbolizing divine blessings and the sustenance provided by Allah to humanity. They are often associated with paradise and the bounties that await the faithful.

Grape is a very energetic and refreshing fruit; it is recommended for the feeding of children and athletes. Not only grape is a tonic provider, but it is also very nutritious because of the elements it contains, such as vitamin C and many group B vitamins [21]. Grapes are also a rich source of bioactive molecules including phenolic acids, flavonoids, anthocyanins and stilbenes, all of which are strong antioxidants [22]. Human clinical data support cardioprotective benefits of grapes through inhibition of platelet aggregation, decreased low-density lipoprotein (LDL) oxidation, reduction in oxidative stress and improvements in endothelial function [23, 24].

Pre-clinical and clinical evidence suggest blood pressure lowering potential for whole grapes and its derivatives [20]. Moreover, through different and various studies, it was proved that the proanthocyanidin rich grape seed extract provides benefits against many diseases such as inflammation, cardiovascular disease, hypertension, diabetes, cancer, peptic ulcer and microbial infections [25]. Grape products may be beneficial for individuals with parameters related to Metabolic Syndrome because they may have hypotensive and hypolipidemic properties [26]. Further, polyphenol-rich grape powder extract attenuates Obesity-associated inflammation in human macrophages and in human adipocytes [27]. Lu et Serrero (1999), showed that resveratrol, a natural product derived from grape, exhibits antiestrogenic activity and inhibits the growth of human breast cancer cells [28]. El Gaamouch et al. (2021) stated that grape derived polyphenols have been shown to modulate Alzheimer disease pathophysiology including amyloid plaques and neurofibrillary tangles formation, Alzheimer disease-induced oxidative stress, neuroinflammation and synaptic dysfunction [29].

3.3. Olive and olive oil

Olea europaea L., commonly known as the olive tree, is native in the Mediterranean region and is one of the oldest tree species. The olive tree is mentioned multiple times in the Quran, emphasizing its blessed nature. Also, olive oil holds significant importance in the Holy Quran, both spiritually and practically, symbolizing blessings and health. The important nutritional value of olive is due to its richness in monounsaturated fat, mainly oleic acid, fibre and vitamin E together with the presence of several phytochemicals like hydroxytyrosol [30].

Olive oil, the main fatty component of the Mediterranean diet, is characterized by consisting of monounsaturated fatty acids (55% to 83% of the total fatty acids) as well as by its elevated content in antioxidant agents [31, 32].

Extra virgin olive oil is a functional food with legal health claims, certified as cardioprotective [33].

Furthermore, consumption of extra virgin olive oil is associated with a reduction in inflammatory biomarkers and molecules implicated in atherosclerosis well as other complications such as heart failure and atrial fibrillation [34]. The benefits of olive oil consumption are beyond a more reduction of the LDL cholesterol. Olive oil- rich diets increased HDL cholesterol and insulin sensitivity and decreased lipid and DNA oxidative damage [32]. In a study involving persons at high cardiovascular risk, the incidence of major cardiovascular events was lower among those assigned to a Mediterranean diet supplemented with extra-virgin olive oil or nuts than among those assigned to a reduced-fat diet [35]. In the EPICOR (long-term follow-up of antithrombotic management patterns in acute coronary syndrome patients) study, the authors [36] enrolled 29,689 Italian women, evaluating the possible associations between assumption of extra virgin olive oil, vegetable and fruits, and incidents of coronary heart disease. The authors demonstrated that women who consumed more vegetables and olive oil had a significant reduced risk of developing coronary heart disease.

3.4. Pomegranate

Pomegranate (Punica granatum) is considered by several religions and brotherhoods as a sacred fruit [37]. Pomegranate (Punica granatum L.) is native to the Mediterranean region and has been used extensively in the folk medicine of many civilisations [38]. Since ancient years, its consumption has been associated with numerous health benefits [39]. Pomegranate, known as Ar-Rumman in Arabic, holds a significant place in Islam, it is one of the many fruits provided by Allah, symbolizing abundance and divine provision. The pomegranate is also considered a fruit of paradise. Certainly, a fruit promised by Allah as a reward in Paradise have numerous health benefits.

Pomegranate is a rich source of a variety of phytochemicals, which are responsible for its strong antioxidative and anti-inflammatory potential [40, 41]. The ellagitannins, which are found in the pomegranate fruit, the dietary consumption of their metabolic precursors its potential application in strategies to improve mitochondrial and muscle function [42]. The antidiabetic, antihypertensive, antimicrobial and anti-tumour effects of pomegranate fruit are of particular scientific and clinical interest [40, 43]. Pomegranate juice that is superior to other fruit juices is a fortified source of dietary polyphenols with potential antioxidant capacity [44].

Pomegranate juice and its by-products substantially reduced macrophage cholesterol and oxidized lipids accumulation, and foam cell formation (the hallmark of early atherogenesis), leading to attenuation of atherosclerosis development, and its consequent cardiovascular events [45]. Moreover, pomegranate juice appeared to decrease systolic blood pressure and diastolic blood pressure in a dose-dependent manner [46]. Pantuck et al. (2006) observed that pomegranate consumption may retard prostate cancer progression and improve patient's quality of life. Prostate Specific-Antigen doubling time increased from 15 months to 54 months after pomegranate juice supplementation [47].

3.5. Honey

Honey is a natural product formed from nectar of flowers by honeybees (Apis mellifera; Family: Apidae) [48]. Honey is one of the most appreciated and valued natural products introduced to humankind since ancient times. Honey has been widely recognized in all ages, and goes beyond cultures. In the Holy Quran, there is a complete Surat called Al-Nahl (the Honey Bee). The importance and usefulness of the honey for health is evident from the Holy Quran.

The main nutritional and health relevant components are carbohydrates, mainly fructose and glucose but also about 25 different oligosaccharides. It contains small amounts of proteins, enzymes, amino acids, minerals, trace elements, vitamins, aroma compounds and polyphenols [49]. Medicinal importance of honey has been documented in the world's oldest medical literatures, and since the ancient times, it has been known to possess antimicrobial property as well as wound-healing activity [50]. Clinical evidence supports the effectiveness, specificity, and sensitivity of honey in wound care. Honey, which has a 1:1 ratio of fructose to glucose, may help to promote better blood sugar level, which is useful for those suffering from fatty liver disease since it provides adequate glycogen storage in liver cells [51].

Honey has been shown to possess antimicrobial, antiviral, antiparasitory, anti-inflammatory, antioxidant, antimutagenic and antitumor effects [49]. Clinical surveys have shown that honey decreased the secretion of gastric acid and increased the healing effect [51].

3.6. Lentil

Lentil (Lens culinaris Medik.) is one of the first, if not the very first, crop species domesticated. Its origins were in the Fertile Crescent region of the Middle East at least 12,000 years ago [52]. Lentils are among the most extensively used pulses in the world [53]. The lentil (Arabic: adas) is mentioned in the Holy Quran in the context of food and sustenance. It appears in Surah Al-Baqarah (Chapter 2, verse 61), where the Children of Israel are reminded of the blessings and sustenance provided by Allah during their time in the desert after their exodus from Egypt.

According to the USDA National Nutrient Database, lentils are rich in sugar, protein, dietary fibre, minerals, and some vitamins. Lentil seeds are an excellent source of plant-based proteins and represent a viable alternative to animal and soybean proteins for food processing formulations.

Lentil proteins provide not only dietary amino acids but are also a source of bioactive peptides and of many other bioactive compounds, such as polyphenols, saponins and phytosterols that provide health benefits [54, 55].

Lentils have the highest proportion of fibre among different legume cultivars and are inexpensive, easily accessible, and have a long shelf-life. The inclusion of pulses in regular dietary patterns is an easy and effective solution for achieving recommended fibre intake and maintaining a healthier gut and overall health [56]. For example, the Nordic Nutrition Recommendation (NNR2023) recommend a predominantly plant-based diet rich in pulses and other vegetables [57]. Similarly, one of the World Cancer Research Fund International (WCRF) cancer prevention recommendations is to make wholegrains, vegetables, fruit, and pulses such as beans and lentils a major part of the usual daily diet [58]. Patel et al. (2024) reveals a significant inverse link between legume consumption and colorectal cancer, suggesting a potential role in cancer prevention. This highlights the importance of integrating legumes into preventive dietary approaches [59]. Hanson et al. (2013), indicated that lentil-based diets attenuate hypertension and large-artery remodelling in spontaneously hypertensive rats [60].

3.7. Onion

The Allium genus, encompassing garlic, onions, shallots, leeks, and chives, is widely recognized in global cuisines and valued for its potential medicinal properties [61]. Onions, in particular, contain two major classes of secondary metabolites: flavonoids and organosulfur compounds, which are believed to confer various health benefits. Organosulfur compounds are noted for their anti-inflammatory, anti-allergic, anti-microbial, and anti-thrombotic activities, primarily through the inhibition of cyclooxygenase and lipoxygenase enzymes [62, 63]. Allium vegetables and their constituents impact each stage of carcinogenesis and influence numerous biological processes that modify cancer risk [61].

The consumption of vegetables, particularly onions and garlic, is associated with a reduced risk of intestinal stomach cancer [64]. Hejazi et al. (2023) reported that onion supplementation can improve metabolic health parameters [65]. Carlotta et al. (2006) demonstrated an inverse relationship between the frequency of Allium vegetable consumption and the risk of several common cancers [66]. Galeone et al. (2007) concluded that increased intake of Allium vegetables is associated with a decreased risk of developing benign prostate hyperplasia [67]. Furthermore, research on garlic supplementation and hypertension has achieved an A Level of Evidence and Class I Recommendation, due to the consistent and significant reductions in blood pressure observed across various populations [68].

3.8. Fig

With their rich history dating back 6000 years, figs (Ficus carica) are one of the oldest known Figs have considerable cultural importance throughout the tropics, both as objects of worship and for their many practical uses plants to mankind [69, 70]. The fig (At-Tin) holds a special place in the Holy Quran. It is explicitly mentioned in Surah At-Tin.

This verse begins with an oath, where Allah swears by the fig (At-Tin) and the olive (Az-Zaytoon), emphasizing their importance and significance. We can interpret this reference to highlight both the physical and spiritual symbolism of the fig.

Figs are nutritious fruits rich in fibre, potassium, calcium, and iron [71]. The powerful health benefits of figs are mainly associated with their high levels and diversity of phenolic compounds [72]. Owing to rich and diversified presence of biologically active compounds, they possess a diverse array of advantageous effects, including, but not limited to, antioxidant, anti-inflammatory, antibacterial, anticancer, hepatoprotective, antidiabetic, antifungal, antiviral, antimutagenic, antipyretic, antituberculosis, anti-angiogenic, antiparisitic, hematostatis, anticonstipation and antiwarts activities [73, 74].

Antioxidants from Ficus carica were demonstrated to inhibit cholinesterase, potentially protecting neurons in Alzheimer's disease and other neurodegenerative conditions [75]. Ghanbari et al. (2019) found that fig latex inhibits properties that are associated with Human PapillomaVirus-positive cervical cancer transformed cells such as rapid growth and invasion [76].

Khodarahmi et al. (2011), reported that latex and extracts of different species of Ficus are cytotoxic to some human cancerous cell lines [77]. Similarly, Morovati et al. (2022), concluded that Ficus carica has been shown to use multitargeted pathways to prevent cancer initiation and development by modulating numerous dysregulated signalling cascades involved in cell proliferation, cell cycle regulation, apoptosis, autophagy inflammatory processes, metastasis, invasion, and angiogenesis [78].

Conclusion

The impact of dietary choices on human health is well-documented, and numerous scientific guidelines have been developed to promote healthy living. For Muslims, the Holy Quran serves as the foundational source of guidance for achieving a balanced and healthy lifestyle. This review examines the nutritional significance of several foods (dates, grapes, olives and olive oil, pomegranates, honey, lentils, onions, and figs) mentioned in the Holy Quran highlighting their contributions to human health. In addition to their nutritional value, these foods demonstrate biological and functional properties that may aid in the prevention of various diseases. The alignment between Quranic revelations and modern scientific discoveries underscores the potential health benefits of consuming these foods. A deeper understanding of the Holy Quran is likely to uncover additional scientific insights, further strengthening the connection between health and religion.

Conflict of interests

The authors do not declare any conflict of interest.

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