COMMENTARY

Herbs as a Food and Medicine Source in Palestine

Aref Abu-Rabia

Abstract

This article describes the broad ethno-botany and folk medicine in Palestine. It presents examples of different edible plants and their use by Palestinians in a host of manners, fresh, cooked and dried, both as foodstuffs and treatment of diseases and medical disorders. Their potential application as cancer chemopreventive agents needs to be a focus of research attention.

Key Words: *Herbs - food - medicine - ethno-botany - Palestine.*

Asian Pacific J Cancer Prev, **6**, 404-407

Introduction

Human being have used herbs as both as a food source and as medicine for at least several thousands years. Ancient Arabic medicine was influenced by medicinal practices in Persia, Mesopotamia, Greece and Rome, and India. The Greco-Roman system of medicine developed, based primarily on the writing of Hippocrates (460-360 B.C.), Dioscorides (circa 54 to 68 AD) and Galen (130-201 AD) in Alexandria, Antioch, Edessa, Amida and Gundishapur which flourished as centers of scientific and medical activity (Mursi 1966; Savage-Smith 1996).

The Arab system grew out of the work of physicians who were contemporaries of the Prophet Muhammad (571-632 AD), including al-Harith ibn Kalada and Ibn Abi Rimtha (Hawting 1989). The sayings (*Hadith*) of the Prophet on health and illness were systemized and became known as Medicine of the Prophet (*al-Tibb al-Nabawi*) (Hawting 1989; Savage-Smith 1996) and during the Umayyad rule (661-750) translations of ancient medical works began.

For over five centuries (750-1258), the Abbasids dominated the sociopolitical life of the greater part of the Muslim world and were generous in their promotion of knowledge and medicine. Countless manuscripts, particularly those written in Greek, were collected and stored in *Bayt al-hikmah* (house of wisdom, established in 830, by Caliph al-Ma'mun), where scholars labored at translating them into Arabic (Hitti 1952; Ullmann 1978). Within a century, Muslim physicians and scientists were writing original contributions to medical and botanical knowledge. One of the greatest and most famous Islamic doctors was Ibn Sina (Avicenna 980-1037), who compiled the "Canon of Medicine" (*Kitab al-Qanun fi al-Tibb*). Another leading Arabic philosopher-physicians was al-Razi (Rhazes 865-923) who compiled the "Comprehensive Book on Medicine" (*Kitab al-Hawi fi al-Tibb*). It should be noted that Ibn Sina and al-Razi works were later translated into Latin, and continued to influence medical work up until the 18th and even the 19th century (Al-Said 1997; Johnstone 1998; Murad 1966; Al-Shatti 1970). The majority of physicians in the Andalus (Islamic Spain) were herbalists . Physicians such as Ibn al-Baytar (1197-1248) whose work "Compendium of Simple Drugs and Food" (*al-jami' li-mufradat al-adwiya wa'l-aghdhiya*), described more than 1400 medicinal drugs, including 300 not previously covered by others. Other well-known physicians who also wrote on plant uses were: Ibn Juljul, al-Ghafiqi, Ibn Bajjah, Ibn Samajun, and Abu al-Hassan al-Andalusi (Al-Najjar 1994; Johnstone 1998). This medical tradition was molded in the 10th century, developed in the 11th and 12th centuries and reached its peak in the 13-16th centuries, and later declined in the 17-19th centuries (Hamarneh 1991; Lev 2002). Medical literature and healing methods that had been at the focus of traditional medicine for over a thousand years, were marginalized by the advent of western medicine in the 19th and 20th centuries, becoming the exclusive domain of traditional medicine and folk healers (Lev 2002; Lev and Amar 2000).

However, the use of traditional medicine in the 20th century, particularly herbal medicine, was widespread throughout the Middle East, including Palestine (Ali-Shtayeh, Yaniv and Mahajna 2000; Bailey and Danin 1981; Palevitch and Yaniv 2000). Most of the herbs were used both as food and as medicine (Abu-Rabia 1999; Canaan 1927; Granqvist 1947; Krispil 1986; Pillsbury 1978; Tal 1981). Wild leafy vegetables consumed by people generally had higher nutritional values than cultivated vegetables grown in their gardens (Booth et al 1992). Wild herb foods often show higher values and more inter-specific variation

Department of Middle East Studies, Ben-Gurion University of the Negev, Beer-Sheva 84105 Israel Tel: 972-8-6472540 Fax: 972-8-6472952 Email: aref@bgu.ac.il

in their content of minerals than do cultivated herbs. Nutritional anthropologists are interested in monitoring what we eat; how we eat and why we eat what we eat. The considerable variation in dietary habits from culture to culture is widely accepted as a factor underlying differences in cancer incidences in different populations around the globe (World Cancer Research/American Association for Cancer Research 1997). The even much wider variation existing among different countries regarding intake of food – particularly consumption of herbs and vegetables, may provide revealing clues to modification potential (Moore and Tajima 2004). A comparative study between Arab and Jews in Israel reveals that the striking differences between the prevalence of cancer are, in fact, the result of different dietary patterns, which may include nutritional factors that serve as cancer-inducing or cancer-protective mechanisms.

Olive oil is the predominant oil (79%) used in Arab culture and one study suggested that olives have some protective effect against cancer (Bitterman et al 1991). In Italy, Buiatti et al (1989, 1990) found an inverse relation between gastric cancer and olive oil consumption; they suggest that vitamin E might contribute to this 'protective impact' and it should be noted that olive oil is composed of 73% oleic acid, 11% linoleic acid, 12% palmitoleic acid, and 1% other polyunsaturated fatty acids (Passmore & Eastwood 1986). Groen et al (1964) found among the semi-nomadic Bedouin tribes in the Negev desert that their diet consists of olive oil and bread-flour of wheat and little fat – a diet characterized by a very high percentage of carbohydrate calories, a low percentage of fat calories, and an adequate amount of linolenic and linoleic acid. Ben-Assa (1964) found that diabetes and heart disease were rare among the Bedouin during the 1960s. One of the favored condiments/flavoring among Arabs is Marjoram (Origanum-*mardagush*) with olive oil (Abu-Rabia 1999; Krispil 1986). In Turkey, Marjoram has been found to have potential benefit, with anti-cancer/anti-carcinoma (breast, colon, lung, pancreas, prostate) effects (Esiyok et al., 2004).

Methodology

The data for this paper are derived from a broader study of ethno-botany and folk medicine in Palestine over two decades. The paper is based on interviews with healers and patients. All the material was recorded in field logs, and some was tape recorded. Plant samples were collected and identified by healers, tribal elders, and university botanists. The samples were identified and classified according to the plant seeds, leaves, fruit, taste, color and shape.

Plants for Food and Medicine

Allium cepa L.: [Family: Liliaceae]
Arabic: *Basal* English: Onion
Properties and uses: antiseptic, aphrodisiac, appetizer, carminative, digestive, diuretic. Fresh green leaves are eaten as salad or with other food. Eating leaves and bulbs is believed to treat genitourinary infections and prevent cancer. Increase sexual desire. Bulbs treat open wounds.

Allium sativum: [Family: Liliaceae]
Arabic: *Thum* English: Garlic.
Properties and Uses: aphrodisiac, carminative, diuretic. Fresh green leaves to be eaten with salad or with other food. Bulbs are believed useful for treating kidneys infections, intestinal worms, ulcer, piles, genitourinary infections, and prostate. Treat tumor and skin cancer.

Amaranthus retroflexus L. [Family: Amaranthaceae]
Arabic: *Urf al-Dik* English: Amaranth
Properties and Uses: astringent, emmenagogue. Leave are used to treat venereal diseases, to ease the pains during the menstruation period, and to stimulate menstrual flow; increase production of breast milk; and treat skin diseases, bloody diarrhea, dysentery and mouth infections.

Ammi visnaga L. [Family: Umbelliferae]
Arabic: *Khillah, Khall* English: Toothpick plant
Properties and Uses: diuretic, carminative, tonic, digestive, stomachic. Seeds are used to treat asthma, skin diseases - leucoderma, tumor and psoriasis; used as toothpicks and to treat mouth infections; urinary retention, prostate and swollen testicles. Vinegar (*khall*) is added to the food to relieve digestive problems.

Anchusa strigosa Banks et Sol. [Family: Boraginaceae]
Arabic: *Ihmim, Hemhem, Lisan al-Thawr*. English: Bugloss, Ox Tongue.
Properties and Uses: diuretic, demulcent, diaphoretic. Leaves and roots treat bloody diarrhea, dysentery, fever, joints, muscles, rheumatism, skin tumors, sinusitis, varicose veins. The blue flowers have a sweet taste, and are therefore eaten or sucked.

Avena sterilis [Family: Gramineae]
Arabic: *Shufan, Khafur* English: Oats
Properties and Uses: Nutrient, sedative, stimulant, tonic. Crushed grains and straw is used to increase production of breast milk and to strengthen women after childbirth; treat genitourinary tract infections, and prostate; treat abdominal disorders; diabetes; fractures and wounds; and rheumatism. Increase sexual desire. Treat skin diseases, tumors and cancer.

Capparis spinosa L. [Family: Capparaceae]
Arabic: *Qubbar, Lassaf.* English: Caper.
Properties and Uses: aphrodisiac, astringent, carminative, condiment, diuretic. Leaves, stems and fruit are used to treat sterility ; to increase sexual desires, to increase menstrual flow; treat open wounds, mouth infections.

Carum carvi L.[Family: Umbelliferae]
Arabic: *Karawiya* English: Caraway
Properties and Uses: aphrodisiac, digestive, emmenagogue, galactogogue, stimulant. Seeds used to treat stomach ache, flatulence, to relieve digestive process; to stimulate menstrual flow and to increase sexual desire; to treat genitourinary tract; and prostate. Increase production of breast milk after childbirth, and stop internal bleeding.

Cichorium intybus L.: [Family: Compositae]:
Arabic: *Hindaba* English: Chicory.
Properties and Uses: aphrodisiac, diuretic, sedative, laxative. Leaves are eaten raw in salads for food and to strengthen the body. Treat urinary tract infections and kidney stones. Increase sexual desire.

Coriandrum sativum L.:[Family:Umbelliferae]
Arabic: *Kusbara* English: Coriander
Properties and Uses: aphrodisiac, diuretic, stimulant. Used by women after childbirth to strengthen the body and to increase production of breast milk, and to increase sexual desire. Treat urinary infections and prostate problems.

Cyclamen persicum Mill.:[Family: Primulaceae]
Arabic: *Sabunit al-Ra'i* English: Aleppo cyclamen
Properties and Uses: aphrodisiac. The bulbs are used to treat genitourinary tract, sterility of men and women, prostate and cystitis; venereal disease; syphilis.

Ecballium elaterium (L.) Ric [Family: Cucurbitaceae]
Arabic: *Qitha al-Hamir*. English: Squirting cucumber.
Uses: diuretic. Treat urine's retention, piles, swollen testicles and yellow fever.

Eruca sativa Miller. [Family: Cruciferae]
Arabic: *Jarjir, Hab al-Rashad*. English: Cress.
Properties and Uses: aphrodisiac, stimulant. Fresh plants are eaten as a salad green. Seeds are used to increase sexual desire and to treat impotency.

Eryngium creticum Lam: [Family: Umbelliferae]
Arabic: *Kursannih* English: Snake root
Properties and Uses: diuretic, emmenagogue. Roots and seeds are immersed in water, and drunk, to treat kidney stones and infections; skin diseases and tumors.

Foeniculum vulgare Mill.:[Family: Umbelliferae].
Arabic: *Shawmar* English: Fennel
Properties and Uses: aphrodisiac, diuretic, emmenagogue, galactogogue, stimulant. Green leaves as eaten raw as a salad green, and also added to cooked food, or to tea. Used to increase production of breast milk; sexual desire; and to treat kidney infections.

Juniperus communis: [Family: Cupressaceae]
Arabic: *'Ar'ar, 'Itran, Qitran* English: Commom juniper
Properties and Uses: diuretic. Berries of the plant are soaked in water and drunk. The fruit and leaves are used to treat urinary infections ; skin lesions including tumors.

Lavandula stoechas L. [Family: Labiate]
Arabic :*Durm* English: French lavender, Stoechas.
Properties and Uses: it is diuretic, tonic. Leaves are boiled in water and drunk to treat kidney stones, and urine retention.

Malva Spp.:[Family: Malvaceae]
Arabic: *Khubaizih, Khubiza* English: Mallow
Properties and Uses: expectorant, laxative, astringent. The leaves are cooked as food. It is a laxative and used to treat night blindness. Treat urinary tract diseases and vaginal diseases; skin disease and tumors.

Nigella sativa L.: [Family: Ranunculaceae]
Arabic: *Habbit al-Barakah, Habbih Suda, Qazhih*),
English: Nigella, black cumin
Properties and Uses: it is a diuretic, emmenagogue, galactogogue. The seeds are boiled or soaked in water and drunk to treat urinary infection and urine retention. Oil is extracted from the seeds to treat prostate, relieve flatulence, increase production/flow of breast milk; used to delay menses. The extracted oil from the seeds is used to treat and prevent cancer and skin tumors.

Olea europaea L.: [Family: Oleaceae]
Arabic: *Zaytun, Zeit* English: Olive oil.
Properties and Uses: Olive oil used to treat urinary retention and infection, cancer and prostate problems. Smearing olive oil and a little salt over a baby's body to strengthen its bones and muscles and prevent diaper rash; to treat venereal diseases and diabetes. Treat kidney stones.

Origanum majorana L.: [Family: Labiatae]
Arabic: *Mardaqush* English: Sweet or knotted marjoram.
Properties and Uses: aphrodisiac; emmenagogue; tonic. Carminative, diuretic, stimulant. Treat kidney stone, genitourinary tract infections, and prostate; skin diseases and tumors. Strengthen the body and act as an appetizer.

Raphanus sativus L.: [Family: Cruciferae] :
Arabic: *Fijil* English: Radish; common radish
Properties and Uses: Appetite stimulant, aphrodisiac, diuretic, emmenagogu. Increase sexual desire, strengthen the body; to increase lactation; treat syphilis; rheumatism genitourinary tract diseases.

Rhus coriaria L.: [Family: Anacardiaceae]
Arabic: *Summag, summaq*.English: Sicilian sumach
Properties and Uses: as an astringent to stop bleeding. Used to treat venereal diseases; urinary tract inflammations; as spice with olive oil. Treat piles and bloody diarrhea and dysentery.

Rosmarinus officinalis L.:[Family: Labiatae]
Arabic: *Hasalban, Iklil al-Jabal* English: Rosemary
Properties and Uses: antiseptic, diuretic, carminative, stimulate, emmenagogue. Treat gonorrhea, and prostate.

Ruta chalepensis L.:[Family: Rutaceae]
Arabic: *Faijan, Fijan, sadhab, shadhab* English: Rue
Properties and Uses: aphrodisiac, diuretic, sedative, analgesic; venereal diseases; emmenagogue. Treat swollen testicles; syphilis and prostate. Treat skin diseases and tumors.

Salvia fruticosa Mill. [Family: Labiatae]
Arabic: *Marmarya, miramia* English: Sage
Properties and Use: Used to treat genitourinary tract infections; stomachache, diarrhea, open wounds, nausea, to regulate menstruation and to ease menstrual pains.

Silybum marianum: [Family: Compositae]
Arabic: *Khurfeish al-Jamal* English: Milk/St. Mary's Thistle.
Properties and Uses: galactagogue, nutritious.
Shoots are eaten as a raw salad green; or boiled in water to treat kidney stones and infections, to treat urine retention and kidney stone, cough and bronchitis; congestion of uterus

and varicose veins; and prostate.

Smilax aspera L. [Family: Liliaceae]
Arabic: *Medaidet hayih, Sabrin, Fishagh* English: Smilax, Rough bindweed, Prickly ivy.
Properties and Uses: aphrodisiac, diuretic, tonic. To treat syphilis; dried roots and leaves are soaked in water and drunk to treat kidney infections and stones.

Taraxacum cyprium: [Family: Compositae]
Arabic: *Salatat al-Ruhban* English: Taraxacum
Properties and Uses: diuretic, nutritious. Flowers are eaten and leaves are used as a raw salad green to treat urinary infections and retentions; digestive disorders, VD.

Urtica pilulifera L. .:[Family: Urticaceae]
Arabic: *Hurriq, Qurris* English: Roman nettle
Properties and Uses: aphrodisiac; diuretic. Fresh young leaves are eaten to treat kidney stone and infections; rheumatism; treat female sterility, bleeding.

Vitex agnus-castus L.:[Family: Verbenaceae]
Arabic: *Shajarat Ibrahim, Yarnahin* English: Chaste tree
Properties and Uses: To treat eye diseases; toothaches; venereal diseases; ease menstrual pains; stomachaches, headaches and sore joints.

Summary

These herbs and foodstuffs commonly in Palestine clearly contain a host of biologically-active compounds. Their physiology effects warrant stress in future research to improve our understanding of human nutritional and medicinal requirements, especially with reference to cancer prevention.

References

Abu-Rabia A(1999). *Bedouin's Traditional Medicine*, Tel-Aviv: Mod Publishing (in Hebrew).

Ali-Shtayeh, M S, Zohara Yaniv, Jamal Mahajna (2000). Ethnobotanical survey in the Palestinian area: a classification of the healing potential of medicinal plants. *J Ethnopharmacology*, **73**, 221-32.

Al-Najjar A(1994). *Fi Tarikh al-Ttib fi al-Dawlah al-Islamyya*: History of Medicine in the Islamic Empire. Al-Qahira: Dar al-Ma'aref. (in Arabic).

Al-Said, MS (1997). "Medicine in Islam", in *Encyclopedia of the History of Science, Technology, and Medicine in Non-Western Cultures*, edited by Helaine Selin. Dordrect/Boston/ London: Klewer Academic Publishers.

Al-Shatti A (1970) *al-'Arab waal-tibb* = The Arabs and Medicine. Dimashq: Manshurat Wazarat al-Thaqafa (in Arabic).

Bailey Clinton, A Danin (1981). Bedouin plant utilization in Sinai and the Negev. *Economic Botany*, **35**, 145-62.

Ben Assa B (1964). Medical observations on 2000 Bedouin patients. *Harefuah*, **67**, 450-3. (In Hebrew, with English abstract).

Bitterman W, Farhadian H, Abu-Samra C, et al (1991). Environmental and nutritional factors significantly associated with cancer of the urinary tract among different ethnic groups. *Urol Clin North America*, **18**, 501-8.

Booth S, Bressani R, Johns T (1992). Nutrient content of selected indigenous leafy vegetables consumed by the Kekchi people of Alta Verapaz, Guatemala. *J Food Comp Analy*, 5, 25-34.

Buiatti E, Palli D, Decarli A, et al (1989). A case control study of gastric cancer and diet in Italy. *Int J Cancer*, **44**, 611-6.

Buiatti E, Palli D, Decarli A, et al (1990). Case control study of gastric cancer and diet in Italy II: Association with nutrients. *Int J Cancer*, 45, 896-901.

Canaan T (1927), *Muhammedan Saints and Sancuaries in Palestine*. London: Luzac.

Dursun E, Otles S, Akcicek E (2004). Herbs as a food source in Turkey. *Asian Pacific J CancerPrev*, **5**, 334-9.

Granqvist H (1947). *Child Problems Among the Arabs*. Helsinki and Copenhagen: Helsingfors, Soderstorm.

Groen JJ, Miriam Balogh, Mina Levy, et al (1964). Nutrition of the Bedouin in the Negev Desert, *Am J Clinic Nutr*, **14**, 37-46.

Hamarneh S (1991). Ibn al-Quff's contribution to Arab-Islamic medical sciences. *Hamdard*, **34**, 27-36.

Hawting GR (1989). The Development of the Biography of al-Harith ibn Kalada and the Relationship between Medicine and Islam, in *The Islamic World, from Classical to Modern Times*; edited by C.E. Bosworth, Charles Issawi, Roger Savory, and A.L. Udovitch. Princeton, New Jersey: The Darwin Press, Inc.

Hitti P (1952). *History of the Arabs, from the earliest times to the present*. London: Macmillan & Co. LTD.

Johnstone P (1998). in, *Ibn Qayyim al-Jawziyya. Medicine of the Prophet.* Cambridge: The Islamic Texts Society.

Krispil Nissim (1986). Medicinal Herbs. (in Hebrew).

Lev E, Zohar A (2000). Ethnopharmacological survey of traditional drugs sold in Israel at the end of the 20th Century. *J Ethopharmacol*, **72**, 191-205.

Moore MA, Tajima K (2004). We are what we eat-but what do we eat? A role for coordination of cancer registration and dietary intake. *Asian Pacific J Cancer Prev*, **5**, 229-30.

Murad A (1966). *Lamhat min tarikh al-tibb al-qadim* = Glimpses from the History of Early Medicine. al-Qahira: Maktabat al-Nasr al-Haditha (in Arabic).

Mursi Arab (1966). *Dirasat fi'l-Shi'un al-tibbiyah al-'arabiyah* = Studies on Arab Medical Affairs. Al-Iskandariya: al-Ma' arif (in Arabic).

Palevitch D, Zohara Y (2000). *Medicinal Plants of the Holy Land*. Tel-Aviv: Modan Publishing House.

Passmore R, Eastwood MA (1986). Fats. In, Passmore and Eastwood (eds):Davidson and Passmore: *Human Nutrition and Dietetics*. Edinburgh, Churchill Livingstone, pp. 55-58.

Pillsbury B (1978). *Traditional Health Care in the Near East*. A Report prepared for the U.S. Agency for International Development, Washington D.C.

Savage-Smith E (1996). "Medicine", in *Encyclopedia of the History of Arab Science*. Vol. 3. edited by Roshdi Rashid in collaboration with Regis Morelon. London and New York: Routledge.

Tal Pnina (1981). *Medicinal Plants*. Tel-Aviv: Rshafim (Hebrew).

Ullmann M (1978). Islamic Surveys: Islamic Medicine. Edinburgh: University Press.

Ungar P, Teaford M (2002). *Human Diet, Its Origin and Evolution*. Westport, Connecticut and London: Bergin & Garvey.

World Cancer Research Fund/American Association for Cancer Research (1997). Food, Nutrition and the Prevention of Cancer: a Global Perspective.