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# Folk medicine and integrative healing in West Asia: Analysis of historical and modern practice and perceptions

Tammi Moe*, Fahad Ahmed Al Obaidly, Reem Al Khoder, Doreen Schmid

Virginia Commonwealth University Qatar (VCUQatar), Doha, Qatar
*Email: tammimoe@gmail.com

**ABSTRACT**

This manuscript is developed from the findings of the Qatar Unified Imaging Project (QUIP), a research project documenting the cultural heritage of Qatar and the bordering Gulf regions through primary sources. Through the critical evaluation of published works and primary sources we explore the culture of traditional medicine in the Arab world beginning with historical texts of the 11th century to the most current study of Qatar in the 21st century. Traditions contain and reflect the cultural beliefs of the people who created and preserved what they believed most valuable.

Medical heritage figures prominently into the historical documentation of Qatar in the 20th century, and reflects the historical contributions of the Arabs to the development of chemistry and pharmacology, as well as the transnational influences that have affected Qatar's health care systems over time. Western-based medicine in the Gulf was introduced by Christian missionaries. These "modern" practices were grounded in a very different belief system, one foreign to the established healing culture. Despite ongoing developments in modern medicine many traditional practices maintain their popularity today. There is a viable place for tradition and heritage in healing. Medical anthropology helps us to identify cultural representations within traditional treatment practices that positively inform evolving healthcare procedures. We hypothesize that health care professionals can serve their clients' needs more effectively through the integration of traditional techniques into patient care.

*Keywords:* folk medicine, traditional medicine, herbal therapy, integrative healing, Arab medical heritage, South-west Asia, Qatar

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## BACKGROUND

Healing practices found in literature of the Mediterranean region from the 11th century A.D. provide the foundation for understanding the historical position of traditional folk medicine. Traditional medicine first came to the Persian Gulf through the writings of Avicenna.

Additional influences are documented as traversing the desert with migratory tribes. The communities situated on the Gulf littoral are equally influenced by transnational healing practices that penetrated the coastal communities from the sea. The transmission of knowledge passed on through early pharmaceutical folklore holds a prevalent position in poetry and literature of the Arab world. The Arab's role in developing modern chemistry through alchemical theories is evident in taxonomic links. These applications inform the modern practice of traditional healing, occurring parallel to modern medicine. The post-oil economy of the 20th century introduced a focused shift in health care practices in the Persian Gulf toward a Western model of patient care. Medical literature from this period mainly focuses on the development of infrastructure. There is a knowledge gap regarding the traditions of healing in Qatar that have as yet unknown implications in patient care. A Qatar-based field study conducted by Dr. Ali Al-Makawi in 2011 provides the most current evaluation of "Arab medical heritage" in the modern practices of Qatar.[1] Continual research into this subject offers valuable insights into the culture of healing. Increased awareness will enrich dialogue and initiate further research regarding models of integrative healing practices appropriate for Arab communities.

## ARAB MEDICAL HISTORY AND HERITAGE

Religion, medicine and magic are interconnected throughout history. Nearly all of the Gods and Goddesses of Greek mythology have an association with sickness and healing as well as botanicals and accompanying rituals. This is due to the belief that illness came from malevolent forces and influencing those forces could determine one's spiritual and physical fate. Divination was a common diagnostic tool. Religious rites practiced in concert with herbal remedies were common treatments. Numerous references to the medicinal properties of plants exist within the canonized scriptures of the monotheistic and polytheistic religions. As noted by Gotting, medicinal plants were well understood and commonly used for their pharmacological benefits including antefebrile, laxative, emetic, antispasmodic, diuretic, local analgesic, respiratory-soothing, pain relieving, sedative and stimulating effects.[2] The root word for pharmacy is the Greek *pharmakia*, meaning sorcery. The secrecy of healing is rooted in the folklore of the Mediterranean world and was transferred to the Arab world through Egyptian medicinal practices. "Egypt became a centre from which civilization spread to the other peoples of the Mediterranean. For long centuries, to be learned in all the wisdom of the Egyptians meant the possession of all knowledge".[3]

The Arabs were exposed to Greek culture long before Islam and in the process learned the theories and practicum of healing. Gotting notes that Arabist practitioners used the same methods as the Greeks and Romans, and that "Diagnosis was based on six criteria: the patient's behavior; the excreta; the other effluvia from the body; swellings; the character of pain and the location of pain".[4] Mapping the heritage of healing in the Persian Gulf, we find "The first of the Arabians, known throughout the Middle Ages as the Prince, the rival, indeed, of Galen, was the Persian Ibn Sina, better known as Avicenna, one of the greatest names in the history of medicine".[5]

Avicenna was a prolific scholar and produced nearly 100 books over the course of his life. Starting in the early eighth century, scientific texts from Greece, Syria, Persia and India were translated to Arabic. According to *The Fihrist of al-Nadim*, Kahlid of Yazid, an Umayyad prince, assembled the Greek philosophers in Egypt to translate Greek and Egyptian medical treatises into Arabic.[6] Gotting maintains in fact, that until the seventeenth century, the medical curriculum of the Christian universities, including those in the British Isles, was based on his writings, though he never traveled outside of central Asia.[7] Avicenna believed in prescriptive theories of hot, cold, moist and dry within the physical body and the personality type. Treatments would focus on balancing these basic elemental qualities. Avicenna's writings support the strategic application of *hijama* — or cupping — to remove blood impurities. In his medical treatises, he outlines the points of application. Specific botanical elixirs and foods prescribed to patients included *hijama* treatments, and were carefully coordinated with the lunar calendar and planetary movements. Avicenna also believed in the practice of heat application. Cautery was central to surgical practice in Arabia. Ibn Sina's famous book *Kitab al-Qanon* (*The Canon*) and the surgical book, *Al-Tasrif li-man 'ajaza' an al-ta'lif* written by the Arab Andalusian surgeon, Abul Qasim Al Zahrawi (Albucasis d. 1013 AD) both recommended cautery.[8]

Alchemy began centuries ago in Greece and China as humans searched for a pure substance that would modify the ageing process. The precursor to modern chemistry, alchemy experienced a renaissance in the Arab world when the Arabs became expert chemists, and the art of pharmacology emerged into the Middle Ages. There is a taxonomic link to alchemical process when examining related Arabic terms. "The Arabic words *al-kimiya* and *al-iksir* were originally the same and used to mean the agent by which baser metals could be changed into gold or silver. Later *al-kimiya* meant the art of transmutation (alchemy) and *al-iksir* meant the medium by which change was effected (elixir)".[9] The notable efforts of the Arabs to safeguard and share the knowledge of healing came to an abrupt end in the 13th century when the Mongol invasion wrought the destruction of manuscripts, and hence, knowledge. The Arab treatises on healing were no longer widely used and were replaced by Persian and later European texts. However, the foundational knowledge and practices of the Middle Ages continued to be used by folk healers across the Arabian Peninsula well into the 20th century.

The Arabs are among the original traders of pharmaceuticals. Medicinal herbs spread through the caravan routes for spice and incense and across the waters of the Gulf to India and Persia. Albinali maintained that when it is known that "the Arabs played a major role in the history of therapeutics, the birth of the Prophet on the 'incense route' of the Koraichite tribes, who ruled the trade in drugs and perfumes assumes great importance".[10] The transmission of plant lore and techniques of healing accompanied travelers to Arabia via religion, commerce, merchants and slaves, establishing a transnational culture of healing that carries folkloric practices from disparate locations into the ports and trading centers of the Gulf.

## FOLK MEDICINE IN ARABIA

### Herbal Healing

Plant lore is prevalent in literature, poetry and proverbs of the Arab world. One of the best-known stories illustrating the anaesthetizing properties of the *Cannabis sativa* plant, *bhang*, appears in the story of Larrikin and the Cook from *1001 Arabian Nights*:

> "*Quoth the Caliph, 'These were the imbroglios of sleep,' and crumbling a bit of bhang into the cup, said to him, 'By my life, do thou drink this cup,' and said Abu al-Hasan, 'Surely I will drink it from thy hand.' Then he took the cup and drank it off and no sooner had it settled in his stomach than his head fell to the ground before his feet.*"[11]

The Arabs and Persians absorbed Greek theories and methodologies into their local treatments and by the 12th century there was an expanded *Materia Medica* based on the works of Dioscorides. Henry G. Greenish provides an account of how the Phoenicians transmit the *Materia Medica* of the Greeks through the ports of the Near East and Far East in *A Text Book Of Materia Medica, Being An Account Of The More Important Crude Drugs Of Vegetable And Animal Origin*. Abu Bakr Muhammad ibn Zakariyya al-Razi produced the 23-volume series *Kitab al-Hawi fi al-tibb*, based on his personal memoirs and notes. *Kitab al-Hawi fi al-tibb* records diseases and treatments, with an emphasis on natural medicine and folk healing applications, and includes 900 case studies. It was translated into Latin in the 13th century, and had a profound influence over European healing practices of the time.

The Bedouins of Arabia play a key role in the transmission of the plant lore and folk medicine of the region — where survival is completely dependent on desert animals and plants. The nature of nomadic existence makes the Bedouins an invaluable primary source for the applications of natural medicine. James P. Mandaville published the seminal text *Bedouin Ethnobotany: Plant Concepts and Uses in a Desert Pastoral World* in 2011. Mandeville worked for the Arabian Research Unit of Saudi Aramco in the 1960s and meticulously documented the Bedouin populations of the Kingdom as part of a government relations project. These tribal groups included the Āl Murrah, Banī Hājir, Al-'Ujmān, Qaḥṭān, Ad-Dawāsir, Shammar, Ar-Ruwalah, Banī Khālid, and Muṭayr. Mandaville's work includes a catalog of Bedouin plant names and vegetation terminology with a supplementary disc of digital images from the plant specimens collected.

Common ailments mentioned include arthritis and joint problems, cold remedies, eye disease, digestive system, reproduction system (especially women's issues), fevers, renal system, skin afflictions, wounds, insect and snake bites, toothaches, psychotropic and animal care. *Appendix A* compares the legacy of Bedouin terminology with classical Arabic and early Islamic classification of the ninth and tenth centuries. The products of folk medicinal trade eventually penetrated settled areas and common pharmaceuticals became available in markets and stores. Appendix B contains plant drug

lists collected in herbalist shops in eastern Saudi Arabia, providing a snapshot of the medicine used by the settled populations. Mandaville reports that many of them were imported from other countries as part of the traditional, dhow-borne plant drug trade that has existed in the Persian Gulf and Indian Ocean for more than a millennium.[12]

Bedouin plant lore is traceable over 1,000 years. The Bedouins have an educational process to teach plant lore to their children, observed and recorded by Violet Dickson in 1955.

Medicinal plants are used to treat sick animals, not just humans, and some of these practices continue today.[13] Plants play an important role in traditional rituals including marriage and death. Among the documented references cataloguing such practices are French anthropologist Dr. Anie Montigney's detailed accounts of the use of flora in northern Qatar, specifically that of her doctoral thesis, *Evolution d'un groupe bédouin dans un pays producteur de petrol: les Āl-Na'īm de Qatar*. Dr. Montigney conducted interviews during her PhD research with the sedentary and semi-sedentary Bedouin tribes of Qatar in 1977. The flora in the regions of Al Khor and Al Uqdah are included. Full text is available through the QUIP database.[14]

## Cupping and cauterizing

Cupping and cauterizing, *al hijama* and *wasim*, are ancient practices still used in folk healing today. Several *hadiths* discuss healing. The narrator Ibn Abbas writes that The Prophet Mohammed, peace and benevolence upon him, said the following, in the *Sahih Bukhari*, Volume 7, Book 71, 584:

> *"Healing is in three things: A gulp of honey, cupping, and branding with fire (cauterizing). I do not like to be (cauterized). I forbid my followers to use (cauterization) branding with fire."*

The variables of cupping depend on the illness, preventative treatment, and practitioner. A Chinese study of cupping therapy notes that it belongs to traditional Chinese medicine, a heritage several thousand years old.

> *"It is used with one of several kinds of cups, such as bamboo cups, glasses or earthen cups, placing them on the desired acupoints on patients' skin, to make the local place hyperemia or haemostasis, which can obtain the purpose of curing the diseases."*[15]

Islamic practitioners combine blood-letting with cupping to remove impurities in the system. Superficial cuts made at the point of contact before applying the cup encourage the "bad blood" to rush to the area, which is subsequently removed from the system.

Cauterizing was widely used in ancient times for closing wounds, medical incisions, in surgical applications and as a "counter-irritant." Cautery involves the heating of metal tools to varying temperatures and branding significant points on the body depending on the ailment. *Healing Hands of Qatar* provides a detailed account of the instruments and applications used in the section entitled Traditional Medicine.[16]

## Qur'anic Healing

*Qur'anic* healing uses the power of holy words in the *Qur'an* to carry the healing properties into the ailing body or spirit. The practice is not always performed by a spiritual healer or *al mutauaa'*, but by someone who is considered *asail* or pure. God chooses *Qur'anic* healers for their spiritual qualities. *Hirz*, *ahjuba*, *yama'a* and *hijab* are *Qur'anic* verses written on paper and sealed in leather enclosures called *hijab*. *Hijab* comes from the root word *hajb*, which means to hide something or separate it from other things. The *hijab* is held in the right hand, secured to the wrist, sealed in a pendant and worn as a protective amulet or placed under the pillow for a set number of days or until the sickness subsides. Sacred words are believed to carry healing properties. The healer writes the prescriptive reference on paper that is then infused with liquid and drunk by the healer. When consumed through a suspension of liquid those properties are used in vocal treatments. The healing properties are then transferred to the patient's body via the breath of the healer's spoken word, through prayers or incantations.

The personal experiences of folk healing are not easily accessed. Varying personal accounts of the healers and their patients paint an incomplete sociological picture that requires further documentation. We can look at common Arabic sayings to gain insight into cultural beliefs of the time, "Ask an experienced person, do not ask a doctor" speaks to the trust in the wisdom of folk medicine and suspicion of mainstream, or Western, medical practices. Arabic literature such as the poetic verses of Anatara, express very similar sentiments.

> *"The physician says to thee, 'I can cure thee,' when he feels thy wrist and thy arm; But did the physician know a cure for disease which would ward off death, he would not himself suffer the death agony."*[17]

## FOLK MEDICINE IN QATAR

*The Evolution of Modern Medicine* was a lecture series delivered at Yale University in 1913 by Sir William Osler. Speaking on the origins of medicine, Osler posited that medical heritage arose from sympathy. Citing the medical historian J.F. Payne, he noted that "the basis of medicine is sympathy and the desire to help others and whatever is done with this end must be called medicine".[18] Osler's inclusive concept of "medicine" is a key concept in contemporary studies of folk medicine.

Folk medicine practiced in Qatar is a microcosm of the practices and beliefs of the Arabian world from which it emanates. The methodologies correlate with the needs of the people and the materials that are readily available. Qatar's ports were the gateway of ideas and substances that impacted the folk remedies found locally. Dr. Helga Graham shares stories of these practices in her book *Arabian Time Machine*. In 1976 Graham spent a year in Qatar conducting oral histories. The narrator Zalikha is described as a powerfully built and plain-spoken women who came to Qatar as a slave.

> *"In the past we lived in the desert with the sheikhs. We had no doctors, but there was a woman who helped other women to give birth; she was like a doctor or midwife today. After the birth, we rubbed our stomachs with hot salt from Persia: this tightened the stomach muscles. We boiled fenugreek and other spices and drank this mixture, we also had milk—this was enough to see us through our maternity safely."*[19]

Khalifah al-Sayyid Muhammad Salih Maliki from Barahat Jufairi provides us with biographies of Qatar's prominent folk healers in *Answers to Health Questions from the Top Therapists of Qatar*, or *Buyut laha dhikrayat: jawab kull sail 'inda mu'alijin Qatar al-awail*. The information comes from a series of interviews with his father Al-Sayyid, born in Al Bidda in 1893, who worked as a mullah in Al Wakra and Al Wokair. Al Sayyid highlights important practitioners during the early and mid 20th century with 40 men and 42 women practitioners. Of note are:

- Al Saeed Mohammed bin Saleh is the first officially registered person to practice herbal therapy in Qatar. Mohammed was a merchant of oils, perfumes and herbs, living and working in Barahat Jufairi behind the Al Qebab mosque.
- Abdul Aziz bin Ahmed Al-Thani, Head of State Security in the 1930s and known for his generous and loving nature, is famous for his high success rate of curing ailments with cauterization.
- Juma Al Altshan Al Sulaiti lived in Al Salata and was famous for treating broken bones and healing injuries through massage.
- Issa bin Ghanem Alboudhim Al Maliki lived in Al Hitmi and was famous for *Qur'anic* healing. Alboudhim practiced vocal treatments or *Al Maho* "erase," in which *Qur'anic* verses are written in rose water and saffron in the belly of a dish and filled with *Zamzam* water. The water is consumed in the morning and evening and, imbued with the words of the *Qur'an*, said to transmit healing properties into the body.
- Asma bint Ahmed Al Hitmi from the Al Hitmi fereej treated only women, and specialized in herbs and tonics for preventative care.
- Muktaar was known as the "Doctor of Herbs" in the Iranian Souq.
- Sakineh bint Ahmed Al Jammal, *Umm Ad Dawhah* (mother of Doha), lived in Barahat Jufairi during the first half of the 20th century and reputedly delivered all of the babies in that neighborhood, or *fereej*.

Sa'eed bin Salim Al Badeed Almannai, a captain — or *nakhoda* — worked on pearling ships from the age of six, and bought his own ship when he was 23 years old. Sa'eed was a poet and famous healer in the Gulf, practicing cautery and herbal therapy techniques he learned from his mother. Sa'eed believed in the power of the *Qur'an* to heal the sick, and provides a view of life and sickness at sea through his poetry.

> *Those days when our subsistence*
> *depends on the sea,*
> *some dive and others sell pearls.*
> *We travel on deep – sea ships turning*

> *their ropes seaward,*
> *And the waves, from the blowing winds,*
> *boiling.*
> *We dive into the deep sea where we hunt pearls,*
> *though tired, what we carry seems*
> *light as feathers.*
> *During the storm, we look like those*
> *standing on floating wood,*
> *like naked birds, deprived of feathers.*
> *We lived on "Ishriq" (cassia Senna) –*
> *And cautery by a chisel,*
> *or otherwise a huge, jut needle.*
> *Those days, dental diseases were more,*
> *but no doctors to cure.*
> *And if the journey took long,*
> *Some of us get bored of travelling.*[20]

The pearling industry blurred the artificial boundaries that define place. Twentieth-century accounts from the surrounding Gulf region are similar if not identical regarding the types of ailments that occurred then and treatments used to alleviate them. Many divers of that time were cauterized before the diving season, as a preventative step for inner ear problems. Violet Dickson, author of *The Arab of the Desert, Kuwait and Her Neighbors*, and *Forty Years in Kuwait*, arrived in the Persian Gulf in 1920, the bride of the British Political Agent H.R.P. Dickson. Dickson talks about the preventative treatments used by the pearl divers in her interview with *Saudi Aramco World* in 1972.

> *"Before they went on the dives we'd often see men who were sitting and having blood taken from their heads. There was sort of a little glass tube, heated, I think, and a man cut them with a razor and drew out blood with it. They thought it would help with the pressure. Today, of course, you'd never see such a thing."*[21]

If there was such a healing practitioner on board, the divers were "branded" below the earlobe after depressurizing. Divers suffered from chronic ear, eye and skin diseases. Passenger ships carried the risk of smallpox, tuberculosis, meningitis and typhoid, and treatment on board the ship was not always available. Captain Alan Villiers sailed in the Persian Gulf on a Kuwaiti dhow in 1938 documenting what he considered the "last days of sailing." It was reported that "They must be watched carefully, for no Arab, Persian, Indian or Somali *nakhoda* will ever admit that he has had sickness on board".[22] Other documentation in the same record of testimonies includes that by Kuwaiti shipmasters. "According to Nejdi, who scorned all remedies save the burning iron, and the bandage of good *Qur'an* texts, none of his sailors was really ill. In Arabia, he said, the weak died young; anybody old enough to be a sailor was strong. One look at Kuwait, he repeated, and they will all recover".[23]

The chronic skin conditions divers developed came from spending extended time in seawater. The use of *al-yift* as a preventative application to the skin at night is found here and in several other manuscripts. Saif Marzooq Al Shamlan explains the common illnesses on the pearling ships in his book, *Pearling in the Arabian Gulf*. Ailments developed in response to environmental conditions including diet, hygiene, stress, and working hazards. Several types of remedies, including herbal, *Qur'anic*, cautery, and cupping were used to treat them. "The diseases mentioned and others, such as stomach pains, rheumatism, diseases of the penis, toothache and fevers were all treated by traditional ancient Arab medicines, the most important being bitter aloe, solution of '*ashraj al-sanamaki*, gum, *ja'da*, incense, thyme, saffron, rosewater, alum, *yift* and other prescriptions. Furthermore there was branding, which was used for most ailments and which sometimes worked. And there was blood-letting".[24]

Neighborhoods had local folk healing available to them. There was no system of certification, only reputation. There is no indication of a formal registration for folk medicine until after the 1930s. Knowledge and techniques passed down, and refined by each generation, create lineage associated with specific practices. "Folk medicine has a special place in characterizing individual heritage," according to Dhabiya Abdulla Al Sulaiti's *Concise Dictionary of Folk Medicine in Qatar*. It provides detailed accounts of traditional healing practices, common diseases, and remedies, as does the *Doctrine of Signatures*. Herbalists subscribing to the ancient philosophies and texts about plant lore believe the similarities in shape between herbs and anatomical parts are a God-given symmetry, and logical. They also believe in practices that can be termed fabled, (mythological or spiritual treatments).

These beliefs reflect their cultural roots. "There are two divisions of folk medicine, physical and spiritual. Physical includes herbs, tonics, poultices, diets, cauterizing and cupping. Spiritual treatments use the *Qur'an* and prayers wrapped in leather amulets — or *ahjuba* — and offerings to the religious leaders, living and dead".[25] Dhabiya cites the *Diwans* of Qatari poets such as Majid bin Salih Al Khulaifi and Ali Abdulla Al Fayadh as primary sources. Traditional literature expresses the perception of folk medicine from doctor and patient views. Qatari poetry, folktales and songs reference traditional remedies for physical disease, psychological illness, and herbal remedies.

These beliefs imply that there is natural medicine all around us, a belief shared by the Prophet Mohammed, peace and benevolence upon him. Edward G. Browne explains in his *Fitzpatrick Lectures* delivered at Cambridge in 1919, "Although the Prophet declares that for every malady wherewith God afflicts mankind He has appointed a suitable remedy, he subsequently limits the principle methods of treatment to three, the administration of honey, cupping, and the actual cautery, and he recommends his followers to avoid or make sparing use of the latter".[26]

This translation of a story from *Folk Tales in Qatar* illustrates the inherent natural healing properties of locusts, according to the common knowledge of previous generations.

> *Grandparents rejoiced when locust swarms descend on their land, but in small numbers. Hearing of the locusts, they come out early in the morning telling everyone, ya jaradooh! ya jaradooh! ("locusts! locusts!") Locusts are a delightful food that can be cooked or grilled. The most preferable kind is Al maken, which is the pink female before she lays her eggs, while Al Zua'iri, the yellow male, is the least preferable. Locusts are considered medicinal, as long as they feed on healthy herbs and plants. That is why they say "Keep your medicine when it is Faqa' season and drop it when it is locust season.'" Eating locusts is religiously permissible. Locusts are rich in protein and fats.*
>
> *Bedouin used to feed the locusts to their camels and horses to fatten them in lean years. In this case, locusts are both a blessing and a curse. When locusts ate pasture, the Bedouins and the animals ate the locusts to regain the nutrition they had lost.*[27]

Physical healing is an adaptation to a changing environment. The use of botanicals, minerals and animal products reflects the human endeavor to benefit from what is familiar. The spiritual aspect of healing is a belief system. Purposefully passing by the gate of a mosque, or reciting the *Qur'an* in an attempt to recover from illness or ensure protection from the "evil eye" are practices referenced in religious tradition. *Qur'anic* advice: "And we gradually reveal of the *Qur'an* that which is healing and mercy to believers. (*Holy Qur'an*, *Al-Israa*, Surah XVII: 83) Such practices also reveal a wealth of human experience that provides individuals with support at times of weakness, and with such determination at times of uncertainty that cannot be explained by rational thinking".[28] The Gulf Cooperation Council Folklore Center published an important ethnographic field study in 1998 on birthing customs, which articulates the connection between spiritual and physical in folk medicine.

Funded through the research efforts of the Center, field teams surveyed the UAE, Qatar and Kuwait. The resulting report, *Collection and Classification of Customs and Traditions in the Arab Societies in the Gulf: a study of the customs and traditions associated with the lifecycle – birth*, presents data collected between 1987–1992, following the theoretical inquiries of Professors Mahmoud 'Odeh and Mahmoud Al Kurdi. The sociological importance of children and the structure of the family unit in Gulf societies cannot go without mention. "Prolific women are held in high regard, unlike childless wives who are viewed as *mahrumah wa haremah*, i.e. dispossessed and dispossessors".[29] Progeny is a central concern in the community and a useful concept for understanding a group's history, folklore, symptoms, treatments, and superstitions.

Professors Odeh and Al Kurdi divided their study into three sub-sections, conception, postnatal care and parenting. A resounding theme found in all three studies is the power given to the "evil eye" as a cause of health complications and sickness. Traditions define behavioral guidelines and ritual behaviors that seem inherent to a community. This is equally true of healing cultures. Arab societies contain inherent behaviors that protect the process of reproduction. The sociological importance of children brings severe consequences for infertility. "This is what makes the wife, the husband, and their close relatives so desperate in their pursuit of remedy for infertility. Their pursuits range from threatening the wife with the introduction of a co-wife; resorting to *mutauaa'* and *awliyas*, or folk medicine practitioners; or using many other methods believed to overcome sterility".[30] The term *mutauaa'* is rooted in the meaning of volunteer work for the good of the community. It is often applied in a religious context, but it also is applied to community teachers or someone that aids the sick and

poor. Treatments are available for both women and men. Regarding the "evil eye," we find the following: "In Qatar, many patients seek counsel of the *mutauaa'* to read their *fal* or *mandal*, and advise them on the cause of their delayed conception. It is presumed that someone is conspiring against the woman in question. The *mutauaa'* would then break the *amal* or spell".[31] Infertile woman are suspects of envy and, therefore, may cast the evil eye or *al kabsa'*. "The *kabsah* means causing a woman a measure of harm that would lead to the obstruction of pregnancy, or to miscarriage or abortion".[32]

Pregnancy remains secret "for fear of jealousy". Pregnant women remain within the house as much as possible to protect the fetus. Camouflaging the abdomen is a precaution when outside the home. The study describes protection from the "evil eye" and rituals for dispelling the "evil eye" once it is cast. Diet is prescriptive at all stages of pregnancy and follows strict timings. Pregnant women do not physically engage with animals due to the presence of spirits. "The restrictions are more rigorous during the first forty days of pregnancy, during which the infant is thought to be formed. A pregnant woman is not allowed to kill chicken or sheep, or even mice and reptiles; she is strongly advised not to sight these creatures, and should she accidentally do so, she must immediately look into the mirror".[33]

The study discusses many omens of pregnancy. Contact with death in general is not good for the developing fetus. Successful births, on the other hand, are positive signs. The presence of certain animals can cause deformity. Ridiculing will result in physical or emotional afflictions of the fetus. Beauty begets beauty and ugliness will lead to ugliness, so the woman is encouraged to turn away from ugliness of any kind.

The study documents folk healing practices for abortion, infertility due to the presence of twisted hair — or *kash ha'* —; preventing miscarriages; diet in pregnancy; preparations for delivery; choosing the midwife — or *naffase'* —; delivery; treatment of the placenta and umbilical cord; the birth of twins; breastfeeding; post-natal diet and protection of the mother; and care and protection of the child.

A study of birth customs in the Emirates finds that, "Fear of envy reaches new heights after the birth of children, and does not relate only to humans but goes far beyond to include *jinn*. The cautionary and protective procedures are, therefore, aimed at both the humans and the spirits".[34] Post-natal customs focus on protecting the child and future pregnancies. There are important protocols for who, how, when, and what to name a child. The study documents treatments for childhood illnesses, haircuts, clothing, sleep, weaning, and piercings, and male and female circumcision.

The Center's study is highly useful for the descriptive analysis of integrative healing and the sociological responses that drive those practices. The introduction of modern medicine into Arabia accompanied the proselytizing efforts of the Christians, creating a disconnect between patients and healing. Medicine was a foreign agent that logically did not fit with the culture and healing rituals. "They could not understand why, for a bad headache, they should have medicine given them to drink. Why not do like the native doctor, apply a hot iron or a bleeding glass to the spot and so scare away the pain? What good liquids did as medicine when fever was in the system could not be understood".[35] Although this account is in the contexts of Trans-Jordan and not the Center, we know beliefs and healing practices spread along the trade routes from Damascus to Mecca; resounding in the East with the movements of the Bedouin from the area of Kerak.

Dr. Ali Al-Makawi's field study, *Herbal Therapy in Qatari Society*, published July 2011 in *Alma'thurat Alsha'biyya* provides a current analysis on folk medicine. The study analyzes the activities of Qatar's popular medical practitioners. The methodology used is not explicitly stated in the findings. The analysis presents eight categories:

- Popular medical practices
- Popular therapies
- Herbal therapists
- Promotion of herbal therapies
- Medical herbs in Qatar's natural environment
- Diseases healed by herbal therapists
- Patients treated with herbal therapy
- Interaction between herbal therapists and modern medicine

Indicators that link cultural context to the sustained popularity of certain traditional practices continue to grow across all demographics (gender, education, economic rank, marital status, etc.), paralleling those of modern medicine. These include simplicity of practice and the empirical belief in the efficacy of folk medicine, reinforced with the practice of Islam. "The reasons behind this resistance (to modern

medicine), lies in the nature of cultural context within Qatari society and the simplicity of the practices and instruments of popular medicine, as well as in the long lasting confidence in its success, and the incapacity of modern medicine to reach quick and tangible results in some chronic cases such as rheumatism, chest and gastric diseases, diabetes, etc.".[36]

The study conducted in Doha, the population center of Qatar, identified 46 therapists through the census: 21 men and 25 women. Types of therapy and their practitioners are divided into sub-categories:

- Herbal (eight men, six women = 30%)
- Cauterization (four men, nine women = 28%)
- Qur'anic (five men = 12%)
- Cupping (one man, two women = 7%)
- Massage (three women = 7%)
- Orthopedic, circumcision, midwifery, child's nurse (each 4%, total of 16%)

Not all therapists cited practices, as some have been displaced by modern medicine. The traditions of child nursing, circumcision and midwifery have all but disappeared with the modernization of health care clinics and evolving hospital systems. The characteristics of the practitioners are not specific but allude to an inherited process of learning as opposed to a formal education. "Knowledge and expertise in traditional therapies are mainly inherited, although some are acquired such as *Qur'an* therapy where there is a need to learn *Qur'an* verses by heart".[37]

Dr. Al-Makawi reports that traditional treatments develop according to the variables of illness and epidemics. Popular practitioners rely on elements of nature for diagnosis and treatment. The pragmatic approach of traditional folk medicine is to correlate relationships between illness and the everyday world. Diseases and treatments explained in layman's terms are easily accessible to common people. Adhering to the *Doctrine of Signatures*, physical illness is treated through nature, mental or emotional illness through spiritual treatments, and illness seen as related to neurology such as headaches, back pain, toothaches and affliction of the eyes through cupping and cauterization. Al-Makawi's study of herbal therapy in Qatar finds that "Qatar's — and the Gulf's in general — environmental data have several healing and preventive factors that vary from medical herbs and plants, waters to heal wounds, and skin diseases, sands used to treat rheumatism and joint aches by burying, in addition to stones, minerals, reptiles and parts of animals and birds that are ingredients of some healing prescriptions".[38]

Herbal therapy is the most common form of folk medicine used within Qatari society. Diagnostics techniques of herbal therapists integrate theories of bacteriology; the medicinal heritage from Avicenna's work within the four elements (water, earth, air, fire), their four natures (cold-moist, cold-dry, hot-moist, hot-dry) and their four humors (phlegm, spleen, blood, bile); and the medicinal theories of the Prophet Mohammed, that illnesses begin when the stomach is unbalanced; ideally it should be one-third water, one-third food, and one-third air.

Common diseases treated through herbal therapy:

- Gastroenteritis and colic
- Bronchial-pulmonary
- Toxicosis
- Rheumatism
- Dermatological
- Hepatopathy
- Cardiovascular
- Diabetes[39]

Of available alternative therapies, this study finds that Qatari society uses herbal therapies first in treating illness. The local community's use of indigenous flora highlights 13 essential plants and their applications:[40]

- Cauterization is predominantly used when modern treatments fail. As noted by Al-Makawi the practice is used to cure hepatitis, *Boujneed* sickness, sciatica, sterility, and rheumatism.[41]
- Cupping or *hijama* is predominantly used in the treatment of rheumatism, headaches, back pain, optical afflictions and toothaches.
- Orthopedic therapy is seen as part of the heritage of Qatar, one offering a "kind" alternative to under-staffed or over-crowded hospitals, x-ray machines and surgery. Several researchers have

| Transliteration of Arabic | Botanical Name | Applications |
|---|---|---|
| Ashraq | Senna | Laxative and purgative, stomach, kidney |
| Hanthal | Colocynthis | Purgative and diuretic used to treat intestinal parasites, gonorrhea and diabetes |
| Ja'ad | Ajuga iva schreber | Fever, intestinal worms, and diabetes |
| Kaf Mariam | Selaginella lepidophylla | Fertility treatment for women |
| Allenda | Ephedra sinica | Ephedrine used in pharmacopeia |
| Iskhabr | Cymbopogon schoenanthus | Contains essential oils used for rheumatism, colic, kidney stones |
| Al-Sheeh | Artemisia herba-alba | Rheumatism, stomach ache, preventative for intestinal parasites |
| Datura | Datura stramonium | Used in pharmacopeia |
| Soolanem | | Rare plant used in pharmacopeia, efficient sedative, used for heart and liver disease and treatment of fever and diarrhea |
| Neem | Margosa | Seeds used in international pharmacopeia for chronic constrict and dysentery |
| Wedna | Great Plantain | Seeds used in international pharmacopeia for bladder infection, bronchitis and analgesic |
| Khellah | Ammi majus | Active ingredients cure vitiligo, angina and the seeds are diuretic |
| Shay al-Jabal | Mountain tea | Infusion for flu and stomach ache |
| Al-Kama'a | Terfeziaceae | Eye disease |

reported that although the practice is decreasing due to modernization, there is a common consensus in Gulf society that such practice is very useful and in some cases better than modern health care.[42]

- *Qur'anic* therapy follows the premise that "superior factors" such as the "evil eye" are a causal force in illness. Treatments usually take the form of spoken words used as protective amulets or ingested. "It is noteworthy that the number of *Qur'an* therapists increases continuously and includes different social classes."[43]
- Massage is used to treat reproductive-related illness and infertility in women.

## CONCLUSION

There has always been a place for natural healing in all cultures and societies, and it is necessary for modern practitioners to understand the healing arts of the culture in which they operate and take into consideration the patient perceptions of these modalities. Awareness can provide strategies for an integrative approach to health care that will ultimately benefit the physician and patient relationship.

The expense of modern health care makes it inaccessible for the majority of the world's populations. Traditional approaches to healing such as those practiced in Qatar, are the precursors to "novel treatments" that have been emerging in the West for the last two decades. Integrative healing brings balance to treatments that seem foreign at times. Offering alternatives to manufactured pharmaceuticals and the integration of more reliable folk treatments is also good business. Well-established Western educational institutions such as the University of Texas MD Anderson Cancer Clinic provide evidence-based research to develop effective healing systems; they are "one of the 41 National Cancer Institute-designated as comprehensive cancer centers today." While the West looks to the Far East for answers, the Arabs can look closer to home.

### Competing interests

The authors of this study have no competing interests personal or financial.

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### Author contributions

All authors read and approved the final manuscript.

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## PRIMARY SOURCE COLLECTIONS FOR STUDYING ARABIAN MEDICINE AND RELATED FOLK MEDICINE

Archival collections preserve unique records regarding the heritage and development of Arabian medicine and its foundation. These records offer first-hand accounts of people living, working and traveling through the inter-related regions of the Middle East and the Mediterranean. These notebooks, manuscripts, specimens, photographs and ephemeral collections enrich our understanding of healing cultures in the region as they developed over time. Here we highlight some of the more accessible collections that may be of interest to the reader:

- Dr. Norman Lace Corkill worked in the Levant and the Arabian Peninsula as a physician and health and hygiene advisor. The Corkill collection contains images and reports on the health and hygiene in Saudi Arabia in 1948; Palestinian refugees in 1951; Eastern Aden in 1953; Iran in 1963; and Abu Dhabi in 1964. Located at the Middle East Centre Archive, St Anthony's College, Oxford University, U.K.[44]
- Lieutenant Colonel Harold Richard Patrick Dickson was a British military and political agent serving in the Middle East 1908–1958. Dickson spent 30 years in the Persian Gulf working for the Political Department and in later years working for the Kuwait Oil Company. The Harold Dickson's collection contains 17 boxes of documentation and eight photographic albums on disease among the Bedouin. Located at the Middle East Centre Archive, St Anthony's College, Oxford University, U.K.[45]
- Dame Violet Penelope Dickson was a botanist and author of *The Wild Flowers of Kuwait and Bahrain*. Married to British Political Agent Harold Dickson, she spent most of her life in the Persian Gulf countries of Bahrain 1919–20, Persia 1921–29 and Kuwait 1929–36. Her papers contain records on the botanical treatments in use during this time and traditional use of cautery and cupping. Her papers are located at the Middle East Centre Archive, St Anthony's College, Oxford University, U.K. and The Faculty of Oriental Studies, Cambridge University, U.K.[46]
- Claudius Galenus was a prominent physician of the Greco-Roman empire. The Galenus records include writings on the work of Hippocrates and *De probis pravisque alimentorum succis*, or Good and Bad Food Juices, a study on the medicinal use of food by the Romans. His papers are located at the Bodleian Library, Oxford University, U.K.[47]
- Abu 'l-Khayr is the author of *Kitāb al-filāha* treatise on agriculture and is attributed with creating the *'Umdat al-tabīb fī ma'rifat al-nabāt li-kull labīb*, a comprehensive treatise of plants in medieval Islam. The original texts and translations are available through the Filaha Texts Project.[48]
- Dr. C. Stanley G. Mylrea worked as a medical missionary in Bahrain and Kuwait from 1907–47. The Mylrea records include descriptions of the medical practice of the Mission and observations of traditional healing by local practitioners. Located at the Middle East Centre Archive, St Anthony's College, Oxford University, U.K.[49]
- The New National Library in Qatar houses the former Arabian and Islamic Heritage Library, a private collection for H.E. Sheikh Hassan bin Mohammed Al-Thani, PhD. This collection contains significant holding on Islamic scientific heritage: 2,400 manuscripts on Arabic medicine, Persian Astronomy, Arabic literature and pilgrimage.[50]
- Qatar's Ministry of Culture, Arts, and Heritage (MOCAH), Heritage Department Archival collections include 14,000 images, 1500 oral histories, and audio archives of Qatar Radio. Personal interviews include several on traditional medicine in Qatar and the surrounding region. Recorded over a period of several years in the 1980s by the Gulf Cooperation Council Folklore Center, they were acquired by the MOCAH. The visual records show the tools and methods of folk healing and the radio archives include interviews with some of Qatar's prominent healers. Special Collections of *Dar al-Khattub*, contain 2018 Arabic manuscripts and a rare book collection including treatises on medicine and botany.

- Pedanius Dioscorides, a Greek scholar practicing medicine as a soldier, wrote the *Materia De Medica*. This document was based on his travels in service with the Roman legions in Greece, Italy, Asia Minor and France. The seminal treatise of botanical and mineral use in medicine that stood for 16 centuries and was the foundation of modern medicine. This new translation to English was done in 2000 by Tess Anne Osbaldeston and Robert P Wood.[51]
- UNESCO provides access to an illustrated checklist of the plant surveys conducted in Qatar.[52]

## ONLINE RESOURCES

Over the past 50 years *Saudi Aramco World*, the bimonthly magazine dedicated to building awareness of the Arab and Muslim world, published more than 25 articles related to folk medicine. Articles of interest:

- *Rediscovering Arabic Science* by Richard Covington, May/June 2007 [http://www.saudiaramcoworld.com/issue/200703/rediscovering.arabic.science.htm]
- *Flowers in the Sand* by James P. Mandaville Jr., January/February 1968 [http://www.saudiaramcoworld.com/issue/196801/flowers.in.the.sand.htm]
- *A Talk with Violet Dickson* by William Tracy, November/December 1972 [http://www.saudiaramcoworld.com/issue/197206/a.talk.with.violet.dickson.htm]
- *Natural Remedies of Arabia* by Robert W. Lebling and Donna Pepperdine, September/October 2006 [http://www.saudiaramcoworld.com/issue/200605/natural.remedies.of.arabia.htm]

*Al hijama*, *wasim* and *Qur'anic* practice:

- [http://www.usc.edu/org/cmje/religious-texts/hadith/bukhari/071-sbt.php]
- [http://www.biomedcentral.com/1472-6882/10/70]
- [http://www2.si.umich.edu/chico/amulets/home.html]

Online resources for the study of *Qur'anic* practice:

- [http://www.usc.edu/org/cmje/religious-texts/hadith/bukhari/071-sbt.php]
- http://www2.si.umich.edu/chico/amulets/home.html

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