

Review

Herbal medicine in ancient Egypt

N. H. Aboelsoud

Department of Complementary Medicine Researches and Applications National Research Center- Cairo, Egypt.
E-mail: neveenster@gmail.com.

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Civilization in Ancient Egypt was not only the pyramids and tombs, but it involved all aspects of human life. Health and wellbeing was one of the most cared arts by the pharaohs. Both the physicians and magicians participated in the field of medical care. From holistic view they conceived health and sickness as an unceasing fight between good and evil. Most of the complementary medicine modalities were originated from ancient Egyptians. One of these modalities is herbal medicine, which is the subject we are going to spot light on in this review. Our comments depended on what Ancient Egyptians recorded in their medical papyri.

Key words: Ebers papyrus, medicinal plants, remedies, prescriptions, ancient Egypt.

INTRODUCTION

Not all of Egyptian medicine was based on wishful thinking, much was the result of experimentation and observation, and physical means supplemented the magical ones. Apart from spiritual healing and herbal medicine, Ancient Egyptians practiced massage and manipulation and made extensive use of therapeutic herbs and foods, but surgery was only rarely part of their treatments (Zucconi, 2007).

According to Herodotus there was a high degree of specialization among physicians (Halioua et al., 2005).

The Egyptians were advanced medical practitioners for their time. They were masters of human anatomy and healing mostly due to the extensive mummification ceremonies. This involved removing most of the internal organs including the brain, lungs, pancreas, liver, spleen, heart and intestine (Millet et al., 1980).

To some extent, they had a basic knowledge of organ functions within the human body. Their great knowledge of anatomy, as well as (in the later dynasties) the crossover of knowledge between the Greeks and other culture areas, led to an extensive knowledge of the functioning of the organs, and branched into many other medical practices. Herodotus and Pliny were among Greek scholars, who got benefit from this cross over and further contributed to the ancient and modern medical records, reached from the time of Ancient Egypt and into the modern era (Sanders, 1963).

Ancient Egyptians were as equally familiar with pharmacy as they were with medicine. According to historical records, Ancient Egyptians involved in the medical and

pharmaceutical profession used to recite certain incantations while preparing or administering medications. They were also familiar with drug preparation from plants and herbs such as cumin, fennel, caraway, aloe, safflower, glue, pomegranates, castor and linseed oil. Other drugs were made of mineral substances such as copper salts, plain salt and lead. Eggs, liver, hairs, milk, animal horns and fat, honey and wax were also used in drug preparation (Rosen, 1979).

In this review we spot some light on Ancient Egyptian medicine particularly herbal remedies and prescriptions to prove that they are in fact the basis of our natural medicine.

SOURCES OF KNOWLEDGE OF ANCIENT EGYPTIAN MEDICAL LIFE

A few papyri have survived, from which we can learn about Egyptian medicine (Nunn, 1996):

- The Edwin Smith Papyrus describing surgical diagnosis and treatments,
- The Ebers Papyrus on ophthalmology, diseases of the digestive system, the head, the skin and specific maladies, a compilation of earlier works that contains a large number of prescriptions and recipes,
- The Kahun Gynaecological Papyrus,
- The Berlin Medical Papyrus,
- The London Medical Papyrus.

- The Hearst Medical Papyrus repeats many of the recipes found in the Ebers Papyrus.

- The Demotic Magical Papyrus of London and Leiden contains a number of spells for treating physical ailments

Thanks to the medical papyri, we know of many of the Ancient Egyptian treatments and prescriptions for diseases. They call for the treatment of many disorders and the use of a variety of substances, plant, animal, mineral, as well as the droppings and urine of a number of animals. They knew how to use suppositories, herbal dressings and enemas and widely used castor oil (Majno, 1975).

A great deal of our knowledge of Ancient Egyptian medicine comes from the Edwin Smith Papyrus, the Ebers Papyrus and the Kahun Papyrus. The Edwin Smith Papyrus (Breasted, 1930) and the Ebers Papyrus (Bryan, 1930) date from the seventeenth and sixteenth centuries BCE. These manuscripts are believed to be derived from earlier sources. They contain recipes and spells for the treatment of a great variety of diseases or symptoms. They discuss the diagnosis of diseases and provide information of an anatomy. They detail the Ancient Egyptian concept of medicine, anatomy, and physiology. The Kahun Papyrus (Ghaliongui, 1975) is a gynecological text that deals with topics such as the reproductive organs, conception, testing for pregnancy, birth, and contraception. Among those materials prescribed for contraception are crocodile dung, honey, and sour milk (Rosalie and Patricia, 2008).

COMMON DISEASES IN ANCIENT EGYPT

Among the common everyday complaints were stomach upsets, bowel trouble and headaches which could go away probably mostly untreated, even if the physicians could offer remedies. The common cold had a special remedy, the milk of a mother who has given birth to a boy, was probably as effective as anything we have got today (Jean-Claude, 1979).

Bilharziasis (schistosomiasis) - a disease difficult not to contract in a country flooded for months every year - a common cause of anemia, female infertility, a debilitating loss of resistance to other diseases and subsequent death. The Ebers Papyrus addresses some of the symptoms of the disease and in two columns discusses treatment and prevention of bleeding in the urinal tract (haematuria). The Hearst Papyrus cites antimony disulfide as a remedy (Hamed, 2009).

Insect borne diseases like malaria and trachoma were endemic; plagues spread along the trade routes and a number of epidemics reported in Egyptian documents are thought by some to have been outbreaks of bubonic plague. Mosquitoes also spread filarial worms which caused the disfiguring elephantiasis. Smallpox, measles, and cholera were easily propagated in the relatively densely populated Nile valley, where practically the whole

population lived within a narrow strip of land, sometimes only a few hundred meters wide, along the river

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(Sandison, 1980).

HERBAL MEDICINE

Herbs played a major part in Egyptian medicine. The plant medicines mentioned in the Ebers Papyrus for instance include opium, cannabis, myrrh, frankincense, fennel, cassia, senna, thyme, henna, juniper, aloe, linseed and castor oil - though some of the translations are less than certain. Cloves of garlic have been found in Egyptian burial sites, including the tomb of Tutankhamen and in the sacred underground temple of the bulls at Saqqara. Many herbs were steeped in wine, which was then drunk as an oral medicine (Patrick et al., 2009).

Egyptians thought garlic and onions aided endurance, and consumed large quantities of them. Raw garlic was routinely given to asthmatics and to those suffering with bronchial-pulmonary complaints. Onions helped against problems of the digestive System.

Garlic was an important healing agent then just as it still is to the modern Egyptian and to most of the peoples in the Mediterranean area: Fresh cloves are peeled, mashed and macerated in a mixture of vinegar and water. This can be used to gargle and rinse the mouth, or taken internally to treat sore throats and toothache. Another way to take garlic both for prevention as well as treatment is to macerate several cloves of mashed garlic in olive oil. Applied as an external liniment or taken internally it is beneficial for bronchial and lung complaints including colds. A freshly peeled clove of raw garlic wrapped in muslin or cheesecloth and pinned to the undergarment is hoped to protect against infectious diseases such as colds and influenza (Kathryn, 1999).

Coriander, *C. Sativum* was considered to have cooling, stimulant, carminative and digestive properties. Both the seeds and the plant were used as a spice in cooking to prevent and eliminate flatulence; they were also taken as a tea for stomach and all kinds of urinary complaints including cystitis. Coriander leaves were commonly added fresh to spicy foods to moderate their irritating effects.

Cumin, *Cumin cyminum* is an umbelliferous herb indigenous to Egypt. The seeds were considered to be a stimulant and effective against flatulence. They were often used together with coriander for flavouring. Cumin powder mixed with some wheat flour as a binder and a little water was applied to relieve the pain of any aching or arthritic joints. Powdered cumin mixed with grease or lard was inserted as an anal suppository to disperse heat from the anus and stop itching (Zucconi, 2007).

Leaves from many plants, such as willow, sycamore, acacia or the *ym*-tree, were used in poultices and the like. Tannic Acid derived from acacia seeds commonly helped for *cooling the vessels* and heal burns. Castor oil, figs and dates, were used as laxatives. Tape worms, were dealt with by an infusion of pomegranate root in water,

which was strained and drunk. The alkaloids contained in it paralyzed the worms' nervous system, and they relin-084 J. Med. Plant. Res.

quished their hold. Ulcers were treated with yeast, as were stomach ailments (Majno, 1975).

Some of the medicines were made from plant materials imported from abroad. Mandrake, introduced from Canaan and grown locally since the New Kingdom, was thought to be an aphrodisiac and, mixed with alcohol, induced unconsciousness. Cedar oil, an antiseptic, originated in the Levant. The Persian henna was grown in Egypt since the Middle Kingdom, and was used against hair loss. They treated catarrh with aloe which came from eastern Africa. Frankincense, containing tetrahydrocannabinol and used like hashish as pain killer, was imported from Punt (Rosen, 1979).

Minerals and animal products were used too. Honey and grease formed part of many wound treatments, mother's milk was occasionally given against viral diseases like the common cold, fresh meat laid on open wounds and sprains, and animal dung was thought to be effective at times. Lead-based chemicals like carbonates and acetates were popular for their therapeutic properties. Malachite used as an eye-liner also had therapeutic value. In a country where eye infections were endemic, the effects of its germicidal qualities were appreciated (Andreas et al., 1995).

It is interesting to note that ancient Egyptian chemists invented some other drugs, commonly known as household drugs (pesticides), meant to eliminate domestic pests. A popular recipe for pest control was to spray the house with nitron water and firewood coal, mixed with ground "pipit" plant. Goose fat was used to protect against fly bites and fresh oil to cure mosquito bites. Other interesting recipes were made to control reptiles and rodents. For example, a dried fish or a piece of nitron placed at the entrance of a serpent's hole, will keep it inside. A piece of cat fat spread around the house will keep rats away (Sauneron, 1958).

DRUG DOSES

Dozens of drugs for each disease are used by the Pharaohs. During the Modern Kingdom, medical prescriptions were so varied that dozens of them were available for certain diseases. A physician has to choose the most effective medication, based on prescribed criteria. Some drugs were rapid-acting, while others were slow-acting. Some drugs were exclusively applicable during specific seasons. For example, there was an eye medication that was exclusively used during the first two months of winter; another during the third and fourth months, while a third was applicable all the year round (Halioua et al., 2005).

MEDICATION ACCORDING TO AGE

Medications for all age groups are noticed in their pharmacy. In deciding a specific drug for a patient, a

physician normally had to take into account the age of the patient. For treating patients suffering from retention of urine, an adult was given a mixture of water, ale sediments, green dates and some other vegetables, while a child was given an old piece of papyrus soaked in oil applied as a hot band around his stomach. While preparing drugs, chemists had to take into consideration patient's age. Ancient Egyptian physician noted that if the young patient is mature enough, he can take tablets, but if he is still in diapers (an infant), tablets should be dissolved into wet nurse's milk (Jean-Claude, 1979).

QUALITY CONTROL TESTS

A kind of what is called today Quality Control Test was done after preparing a drug; a chemist had to test its quality. Some drugs derived their fame from the fact that it cured a reputed figure of the time. For example, a specific eye ointment was highly popular with ancient Egyptians, simply because it cured one of their kings.

Certain drugs were particularly popular as a universal remedy for all diseases, because they were thought to be made by a deity that's to say "Godly Medications". Of these, they believed that god of the sun Ra', who in his old age suffered from several diseases, made drugs to cure all men.

The truth is that the ancient Egyptian priests and doctors originally made those Godly Medications. One of these was composed of honey, wax and a collection of 14 botanical substances mixed together in equal measures. Of this mixture an adhesive plaster that cured all bodily maladies was made. However, in recognition of the effectiveness of these drugs and in honor of the deities, Egyptian physicians attributed them to the gods (Zucconi, 2007).

MEDICAL PRESCRIPTIONS

Medical prescriptions were written with high skill. A prescription usually began with a description of the medicine, e.g., "Medicine to discharge blood out of wounds", followed by ingredients and measures used in addition to method of preparation and usage whether in tablet form, ointment or by inhaling (Silverburg, 1966).

Below is a small list of the herbs used in some prescriptions (retrieved from Crystallinks website):

- *Acacia (acacia nilotica)* - vermifuge eases diarrhea and internal bleeding, also used to treat skin diseases.
- *Aloe vera* - worms, relieves headaches, soothes chest pains, burns, ulcers and for skin disease and allergies.
- *Basil (ocimum basilicum)* - excellent for heart.

- Balsam Apple (*malus sylvestris*) or Apple of Jerusalem - laxative, skin allergies, soothes headaches, gums and teeth, for asthma, liver stimulant, weak digestion.
- Bayberry (*Myrica cerifera*) – stops diarrhea, soothes

- Turmeric (*Curcuma longa*) - closes open wounds (also was used to dye skin and cloth).
- Poppy (*Papaver somniferum*) - relieves insomnia and headaches, anesthetic, soothes respiratory problems, relieves pain.

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ulcers, shrinks hemorrhoids, repels flies.

- Belladonna - pain reliever; camphor tree - reduces fevers, soothes gums, soothes epilepsy.
- Caraway (*Carum carvi*; *Umbelliferae*) - soothes flatulence, digestive, breath freshener.
- Cardamom (*Elettaria cardamomum*; *Zingiberaceae*) - Used as a spice in foods, digestive, soothes flatulence.
- Colchicum (*Citrullus colocynthus*) - also known as "Meadow Saffron", soothes rheumatism, reduces swelling.
- Common Juniper tree (*Juniperis phoenicia*; *Juniperus drupacea*) - digestive, soothes chest pains, soothes stomach cramps.
- Cubeb pepper (*Piper cubeba*; *Piperaceae*) - urinary tract infections, larynx and throat infections, gum ulcers and infections, soothe headaches.
- Dill (*Anethum graveolens*) - soothes flatulence, relieves dyspepsia, laxative and diuretic properties.
- Fenugreek (*Trigonella foenum-graecum*) - respiratory disorders, cleanses the stomach, calms the liver, soothes pancreas, reduces swelling.
- Frankincense (*Boswellia carterii*) - throat and larynx infections, stops bleeding, cuts phlegm, asthma, stops vomiting.
- Garlic (*Allium sativa*) - gives vitality, soothes flatulence and aids digestion, mild laxative, shrinks hemorrhoids, rids body of "spirits" (during the building of the Pyramids, the workers were given garlic daily to give them the vitality and strength to carry on and perform well).
- Henna (*Lawsomia inermis*) - astringent, stops diarrhea, close open wounds (and used as a dye).
- Honey was widely used, a natural antibiotic and used to dress wounds and as a base for healing unguents, as was castor oil, coriander, beer and other foods.
- Licorice (*Glycyrrhiza glabra*) - mild laxative, expels phlegm, soothes liver, pancreas and chest and respiratory problems.
- Mustard (*Sinapis alba*) - induces vomiting, relieves chest pains.
- Myrrh (*Commiphora myrrha*) - stops diarrhea, relieves headaches, soothes gums, toothaches and backaches.
- Onion (*Allium cepa*) - diuretic, induces perspiration, prevents colds, soothes sciatica, relieves pains and other cardiovascular problems.
- Parsley (*Apium petroselinum*) - diuretic.
- Mint (*Mentha piperita*) - soothes flatulence, aids digestion, stops vomiting, breath freshener.
- Sandalwood (*Santallum albus*) - aids digestion, stops diarrhea, soothes headaches and gout.
- Sesame (*Sesamum indicum*) - soothes asthma.
- Tamarind (*Tamarindus indica*) - laxative.
- Thyme (*Thymus/Thimbra*) - pain reliever.

THE ROLE OF EGYPTIAN MEDICINE IN HISTORY

Egyptian physicians were much sought after in the Ancient World, despite the fact that little was added to the canon of knowledge after the First Intermediate Period (about 2000 BCE). Ramses II sent physicians to the king of Hatti and many rulers, the Persian Achaemenids among them, had Egyptian doctors in attendance. Their treatments were based on examination, followed by diagnosis. Descriptions of the examination - the most exacting part of a physician's job - are lengthier than both the diagnosis and the recommended treatment (cf. the Edwin Smith Surgical Papyrus) (Breasted, 1930).

The reliance on magic and faith may well have retarded the development of more rational views of the causes of diseases and their cures. On the other hand, the strong belief of the patient in the divine origins of the cure may well have been a large part in its effectiveness, and in the absence of anything better often the only support a physician could give the natural healing processes (Zucconi, 2007).

Egyptian theories and practices influenced the Greeks, who furnished many of the physicians in the Roman Empire, and through them Arab and European medical thinking for centuries to come (Sanders, 1963).

Conclusion

If you *had* to be ill in ancient times, the best place to do so would probably have been Egypt. The Ancient Egyptians were quite advanced in their diagnoses and treatments of various illnesses. Their advancements in ancient medical techniques were quite extraordinary, considering the lack of "modern" facilities, sterilization, sanitation, and researching capabilities.

Along with their strong faith in their gods, the Ancient Egyptians used their knowledge of the human anatomy and the natural world around them to treat a number of ailments and disorders effectively. Their knowledge and research is impressive still today, and their work paved the way for the study of modern medicine. The remedies used by Ancient Egyptian physicians came mostly from nature especially medicinal herbs.

We can surely say that Ancient Egyptians put the bases for natural healings. Still, there is a lot of secrets among pharaohs life and their civilization that going more deep and deep trying to solve their puzzles and secrets will help a lot who are encouraging now the voice of back to nature.

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