

Moses Maimonides, Prince of Physicians

Moses Maimonides (Rabbi Moses ben Maimon) was born in Cordoba in 1135 CE into a distinguished rabbinic family. After fleeing the Almohades' invasion of southern Spain, his family wandered around northern Spain, then sailed to Fez in North Africa. After a brief spell in Israel, where they could not settle because of the Crusades, Maimonides' family moved to Egypt and became established in the Fostat district of Cairo. Maimonides became the religious head of the Jewish Community.

Until the age of 30, Maimonides enjoyed a life of studying and writing, supported by his younger brother David who was a dealer in precious stones. However, on a business trip through the Indian Ocean, the vessel carrying David was shipwrecked; tragically he was drowned and most of the family fortune was lost. With this abrupt change in circumstances, it fell to Moses Maimonides to provide for the family. Initially he earned a living teaching logic, but then took up medicine and rapidly acquired an outstanding clinical and academic reputation. His clientele included the Grand Vizier of Saladin, Saladin's son, al-Afdhal and probably Saladin himself.

This article reviews Maimonides' medical career and its relevance to us today. It is not within the scope of this piece to describe Maimonides' undisputed position as the outstanding leader of world Jewry, nor to deal with his colossal religious, legal and philosophical writings; these are worthy of intense study in their own right. Incidentally, all of Maimonides' writings (apart from his religious *magnum opus*, the *Mishne Torah*), were written in Arabic, being subsequently translated into Hebrew and (for the medical texts) Latin.

Maimonides saw the vocation of the physician as a holy and honourable one and trained his son Abraham in his own fields of religious law, philosophy and medicine. He believed that physicians had a duty to be highly competent and knowledgeable and to adopt a critical attitude towards medical theory and practice. Throughout, Maimonides' approach to medicine was scientific rather than the rather ritualistic practices of his contemporaries. As in his approach to law, Maimonides was a great systematiser and codifier of knowledge. He set a high value upon knowledge based on experience. Although he had much respect for and was very well versed in the texts of the accepted authorities (among whom Galen and Hippocrates were pre-eminent), Maimonides felt no obligation to adhere unswervingly to their views if either his logic or his clinical experience taught him differently. For

example, Maimonides did not accept Galen's opinion that diabetes was a rare disease, since he (Maimonides) had personally treated 23 cases. More generally, he warned that:

'... educated men of our time ... do not examine a statement by its contents, but by its conformity to the statement of the previous author without having evaluated the former statement.'

He also recognised a 'disease of intellectuals', who:

'... if they are applauded think they know all branches of knowledge and suddenly become authorities. No-one opposes them and their popularity increases; thus the disease itself becomes worse.'

Maimonides warned his colleagues in his *Extracts from Galen*: 'Do not believe a man's theory without examining it yourself'. In the management of a clinical case, the need for one coherent medical opinion was stressed, at a time when the status symbol of the age was to obtain an ever larger number of medical opinions.

For Maimonides, the starting points for study and medical prescription were health and normal physiology. He was in harmony with the philosophy of his day (and increasingly that of our own) in adopting a 'whole person' approach, striving for a healthy environment, body and mind. Thus, in the last chapter of his treatise on asthma, Maimonides noted that

'... the first thing to consider ... is the provision of fresh air, clean water and a healthy diet. City air is stagnant, turbid and thick, the natural result of its big buildings, narrow streets, the refuse of its inhabitants ... One should at least choose for a residence a wide open site ... living quarters are best located on an upper floor ... and ample sunshine. ... Toilets should be located as far as possible from living rooms. The air should be kept dry at all times by sweet scents, fumigation and drying agents. The concern for clean air is the foremost rule in preserving the health of one's body and soul.'

The psychological contribution to ill health in asthma is also discussed in the same chapter and, in a reply to a letter from Sultan al-Malik al-Afdhal, there is an excellent description of manic-depressive psychosis. It may be that Maimonides' acute awareness of the psychological components of organic diseases followed the profound, year-long depressive illness which he suffered in reaction to the death of his brother. In a letter which he wrote a few years later, he related

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'For nearly a year after I received the sad news, I lay ill on my bed struggling with fever and despair. Eight years have since passed and still I mourn, for there is no consolation . . . He grew up on my knees, he was my brother, my pupil'.

The dietary advice given by Maimonides was surprisingly modern with an emphasis upon cereals, fruit (although not the local fresh fruits which were a likely source of infection because of the poor sanitary conditions) and a low fat intake.

In the fields of physiology and pathophysiology, Maimonides revealed meticulous observational skills and powerful reasoning. Harvey's seminal description of communication between the arteries and veins, which depended for its understanding upon Malpighi's later demonstration of capillaries, appears to have been anticipated by 500 years:

' . . . the arteries of the whole body have openings communicating with the veins. They are taking blood and spirits [oxygen] from each other through narrow and hidden transits'.

In addition, Maimonides noted anuria to be the terminal stage of renal failure, as well as the dangers of circulatory collapse when the kidneys lost their ability to concentrate urine:

'Sometimes no urine at all enters the bladder as the kidneys have ceased to function and so the bladder is empty.' Also: 'The worst amongst the patient's urine is the thin and clear one, similar to water from a well'.

Like the classical medical masters, Hippocrates and Galen, Maimonides gave very precise descriptions of diseases such as pneumonia and hepatitis:

'The basic symptoms which occur in pneumonia and which are never lacking are as follows: acute fever, sticking [pleuritic] pain in the side, short rapid breaths, serrated pulse and cough, mostly [associated] with sputum'.

'The signs of liver inflammation are eight in number as follows: high fever, thirst, complete anorexia, a tongue initially red then turning black, biliary vomitus, first egg-yolk yellow then dark green, right-sided pain ascending to the clavicle . . . and occasionally a mild cough and sensation of heaviness, first right-sided then spread widely'.

Other important observations included digestion being a staged process which began in the stomach prior to 'assimilation' further down the alimentary tract: 'congestion' of the heart in heart failure; the benefits of radical surgery in cancer; of the ligature for bleeding and the importance of psychological aspects in sexual dysfunction.

Maimonides emphasised in many of his writings the desirability of the 'golden mean', ie moderation and balance in physical and mental activity, diet and sleep.

Despite an extremely busy medical practice,



Fig 1. Moses Maimonides (1135–1204 CE). Lithograph; School of Bezalel Jerusalem c1930.

Maimonides' medical literary output was extensive, including the practical summary *Extracts from Galen* and a commentary on the *Aphorisms of Hippocrates*. After their translation into Latin, his *Regimen of health* and *Pirkei Moshe*, a book of aphorisms, became standard textbooks in the European medical schools for nearly two centuries. In addition to the descriptions of disease mentioned above, *Pirkei moshe* contains chapters on normal physiology, the pulse, appearance of the urine, method of investigation, general and specific therapies, infectious diseases, surgery, gynaecology, general hygiene, sports and exercise, baths, diet and pharmacology. Its twenty-fifth chapter is revolutionary—a fearless attack upon all parts of Galen's work which Maimonides considered to be fallacious. In addition to the *Pirkei moshe*, Maimonides also wrote monographs on asthma; haemorrhoids; poisons; the regimen of health and causes of symptoms; on coitus; the names of drugs and a *responsum* on the termination of life. Since for Maimonides the physician's calling was a divinely sanctioned privilege, it is no surprise that there are also many references to medical matters throughout his religious writings, including many guiding principles to enable the layman to lead a healthy physical as well as spiritual life.

Maimonides himself well exemplified the qualities which he felt a physician should display; indeed Osler referred to him as the 'Prince of Physicians'. When he died in 1204 CE Maimonides was mourned by the Jewish, Moslem and Christian worlds. His life epitomised the words of Ben Sira (Eccles 38):

'Honour a physician before need of him.
Him also hath God apportioned.
From God a physician getteth wisdom
And from a king he shall receive gifts.
The skill of a physician shall lift up his head
And he shall stand before nobles.'

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